

CCRRA SOLAR PROJECT



KATRINA POPE

Centre County Recycling and Refuse Authority

WHY SOLAR?

Environmental Impact

- Reduction in greenhouse gas emissions
- Preservation of natural resources

Rate Stability



PROJECT PARTNERS



PA Solar Center

Jon Bunyaratapan
Program Manager
Pennsylvania Solar Center



Envinity

Cam Willison,
Manager of Commercial Solar
Development



Penn State University

Scott Harford, P.E.
Energy Engineer (Utilities)
Penn State Facilities Engineering
Institute



PROJECT PARTNERS



West Penn Energy Fund



Isaksen Solar

Ryan Rego
Co-Founder & CEO



OUR SOLAR JOURNEY



PROJECT DETAILS



FINANCING OPTIONS



- **POWER PURCHASING AGREEMENT**

A Power Purchase Agreement (PPA) is a long-term contract between an electricity generator and a customer, usually a utility, government, or company.

- **FINANCED**

Equipment financing allows businesses to acquire equipment by borrowing funds and making regular payments to the lender.

- **OUTRIGHT PURCHASE**

Outright purchase involves paying the full cost upfront to own the equipment immediately.

OUTRIGHT PURCHASE CONSIDERATIONS



- **AVAILABLE GRANT FUNDING**

- **OWNERSHIP OF SRECS**

- **REBATES**

Act 129 – Effective November 14, 2008, HB 2200 was signed into law as Act 129 of 2008. The Act expands the Commission’s oversight responsibilities and imposes new requirements on electric distribution companies (EDCs), with the overall goal of reducing energy consumption and demand.

IRA Act - The Inflation Reduction Act of 2022 (IRA) is a United States federal law which aims to reduce the federal government budget deficit, lower prescription drug prices, and invest in domestic energy production while promoting clean energy.

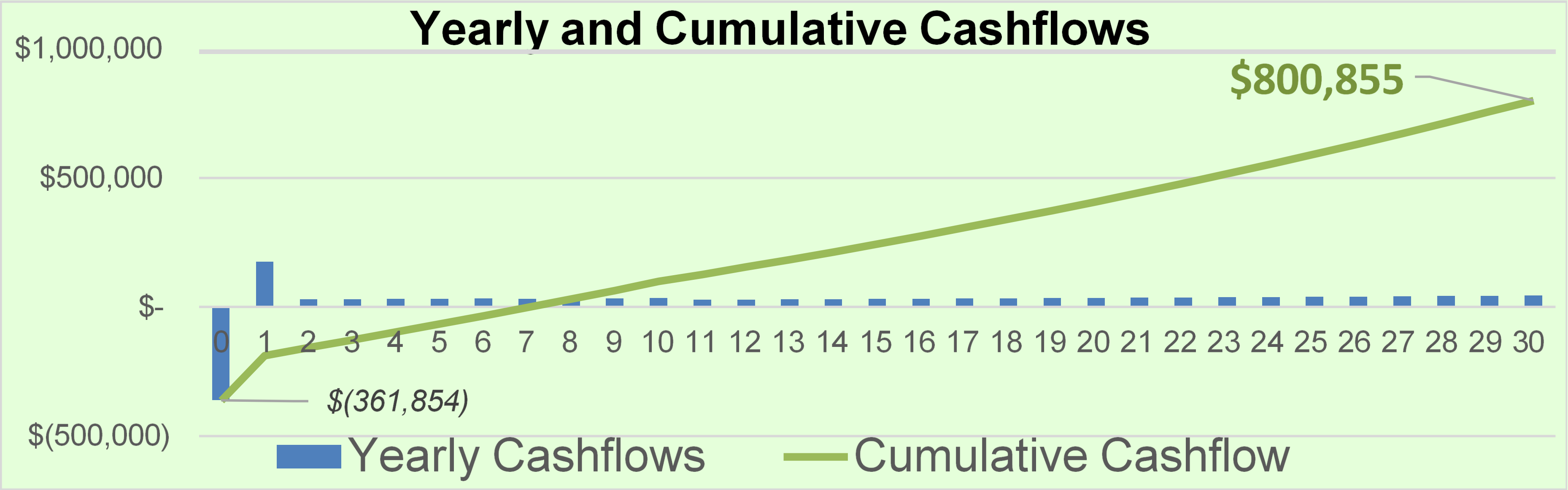
SOLAR PRO FORMA

CLEAN ENERGY FUELS COMPONENT

Fractional Install Cost ¹	\$361,854
Direct Pay Credit 30% ²	\$108,556
Cash Value of Depreciation ³	\$0
WPPSEF Grant ⁴	\$8,785
Act 129 Rebates from Utility ⁵	\$27,523
<i>Total Cost w/ Credits</i>	<i>\$216,990</i>
Project Payback Total System	7.1 years
IRR	13.1%

Biennial O&M Allowance ⁶	\$1,153
First Year Energy Savings (kWh)	275,231
First Year Energy Coverage	100%
First Year Electric Bill Savings ⁷	\$22,018
First Year SREC Value ⁷	\$8,257
Current Price \$/kWh	\$0.080000
Levelized Cost of Energy \$/kWh	\$0.031027
Project NPV at 6.5%	\$183,492

1. Total Install Cost includes base fee of \$1,166,929 plus all potential add-ons (3 phase relays and extended warranties). ‘Fractional’ means that this is the portion of cost estimated to be attributable to the usage of Clean Energy Fuels.
2. Federal tax credit increased to 30% by Inflation Reduction Act. Direct Pay provision allows tax-exempt entities to receive the cash value of the credit. Tax-exempts use IRS Form 990 to claim the tax credit.
3. Depreciation – Not applicable to tax-exempt entities.
4. WPPSEF – Grant provided by the WestPenn Energy Fund. Amount is based on preliminary discussions between Envinity and WPEF. Envinity will assist the CCRRA in applying for and administering the grant.
5. Act 129 rebates through FirstEnergy - **\$0.10/kWh** for first year’s production if WestPenn application submitted by 3/31.
6. Biennial O&M Allowance is based on the base fee for a Biennial O&M Plan and includes 3% annual escalation. See attached O&M Plan Agreement for further details.
7. Assumes 3% annual utility cost inflation and a flat \$30 SREC value for the first 10 years, followed by \$0 SREC value.



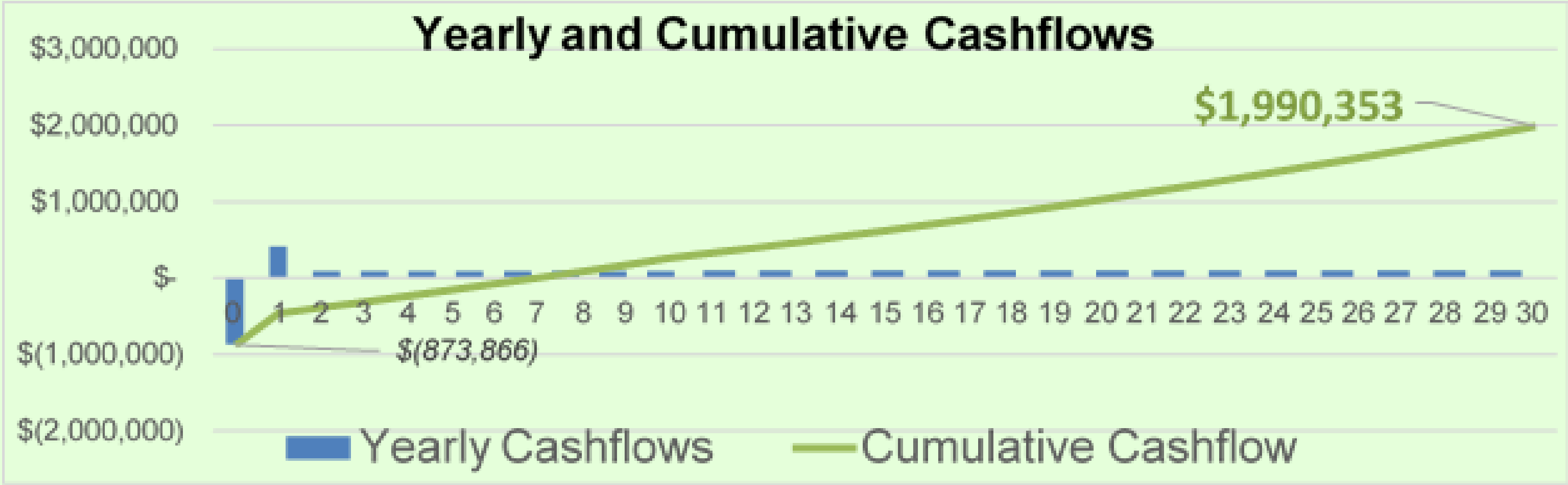
SOLAR PRO FORMA

CENTRE COUNTY RECYCLING AND REFUSE

Fractional Install Cost ¹	\$873,866
Direct Pay Credit 30% ²	\$262,160
Cash Value of Depreciation ³	\$0
WPPSEF Grant ⁴	\$21,215
Act 129 Rebates from Utility ⁵	\$55,116
<i>Total Cost w/ Credits</i>	<i>\$535,375</i>
Project Payback Total	6.9 years
System IRR	13.3%

Biennial O&M Allowance ⁶	\$2,785
First Year Energy Savings (kWh)	664,650
First Year Energy Coverage	121%
First Year Electric Bill Savings ⁷	\$56,520
First Year SREC Value ⁷	\$19,940
Current Price \$/kWh	\$0.080000
Levelized Cost of Energy \$/kWh	\$0.031700
Project NPV at 6.5%	\$465,165

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PROJECT PROGRESS



THE HICCUPS

- MYSTERY METER
- WEST PENN POWER DELAYS
- INSURANCE REQUIREMENTS

THE AFTERTHOUGHTS

- MANAGING SRECS
- TRANSFORMER UPGRADES

THANK YOU



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Bellefonte, PA 16823

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www.centrecountyrecycles.org

Vision and Mission

Our vision is that Pennsylvania becomes a leader in renewable energy through rapid and broad expansion of in-state solar generation.

We will accomplish this by providing trusted guidance to usher *all Pennsylvanians* into the clean energy economy in order to create more resilient communities.

Guiding All Pennsylvanians into a Clean Energy Future





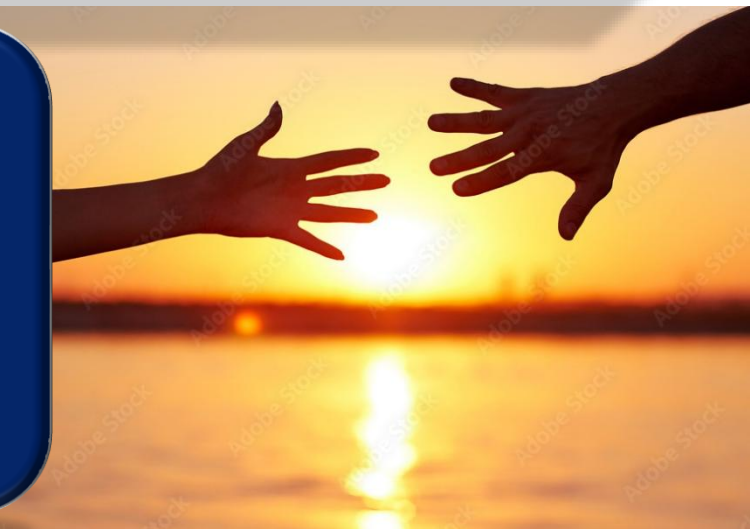
TRANSFORM

Walking the Walk
Technical Assistance to the
Commercial Sector



EDUCATE

**Outreach, Public
Awareness & Resources**
Statewide Solar Resource Hub &
Savvy Communications



ADVOCATE

**Policy Education &
Advocacy**
Supporting Robust Solar Policies





Walking the Walk

Technical Assistance to the
Commercial Sector



Galvanizing our **Energy Transition** through **Solar (GET Solar)**



The **GET Solar** initiative instills organizations and communities with confidence in the process of going solar, **using trusted tools & resources** that connect organizations to qualified professionals making the process **straightforward & simple.**

Why Go Solar?

- Creates predictable energy costs
- Provides revenue
- Free up money to serve your mission
- Incentives have never been better

The PA Solar Center can help you every step of the way!

GET Solar Process

1

Basic solar feasibility and high-level savings analysis

2

Competitive bids from qualified solar developers for each organization interested in solar

3

Review and compare solar proposals with *GET Solar* team using apples-to-apples comparison tools

4

Develop a financing strategy and work with solar developer to complete the project

CCRA GET SOLAR TIMELINE

- **August 2023 CCRRA Introduction to PA Solar Center**
- **September 2023 CCRRA Board approved PA Solar Center MOU & Feasibility Study Completed**
- **October 2023 Request for Proposal (RFP) Developed & Released**
- **December 2023 Proposal Review & Interviews with Developers**
- **January 2024 CCRRA awards contract to Envinity**

Next Steps



- Submit an intake form to get a solar feasibility report at:
pasolarcenter.org/get-solar
- Reach out with questions to:
Alexis Takoushian, Program Manager
alexis@pasolarcenter.org

 **G.E.T. Solar Intake Form**

Not sure if your business or non-profit's property is right for solar? Fill out the pre-screening form and we will let you know if your property is a good candidate for solar and the G.E.T. Solar program. We are here to answer any of your questions about the process of going solar!

[Start](#)

The Process of Going Solar

Centre County Recycling And Refuse Authority

ENVINITY 

DESIGN | BUILD | ENERGY

Established in 2005

Cam Willison – Envinity, Inc.

Manager,

Commercial Solar Development

Email:

cwillison@envinity.com

Phone:

(814) 933-7435

Offices: State College (HQ) Pittsburgh

About Envinity

Local, Long-Term Presence

- Headquartered in State College with an office/warehouse in Pittsburgh
- Building solar in PA since 2005
- In-house electricians, project managers, engineers, tradespeople, and service technicians

Three Divisions

- Solar
- Building Energy Solutions – Energy efficiency engineering
- Design Build – Energy-efficient construction

Philosophy - "Boots on the Ground, Calculators in Hand, Powered by Data"

- Trust and long-term partnership
- Transparency
- Dependability – limited use of subcontractors
- Sustainability and longevity – Copper wire, steel conduit, & expansion couplings on long rooftop conduits

Discovery: 1 – 2 weeks

Detailed Conversation:

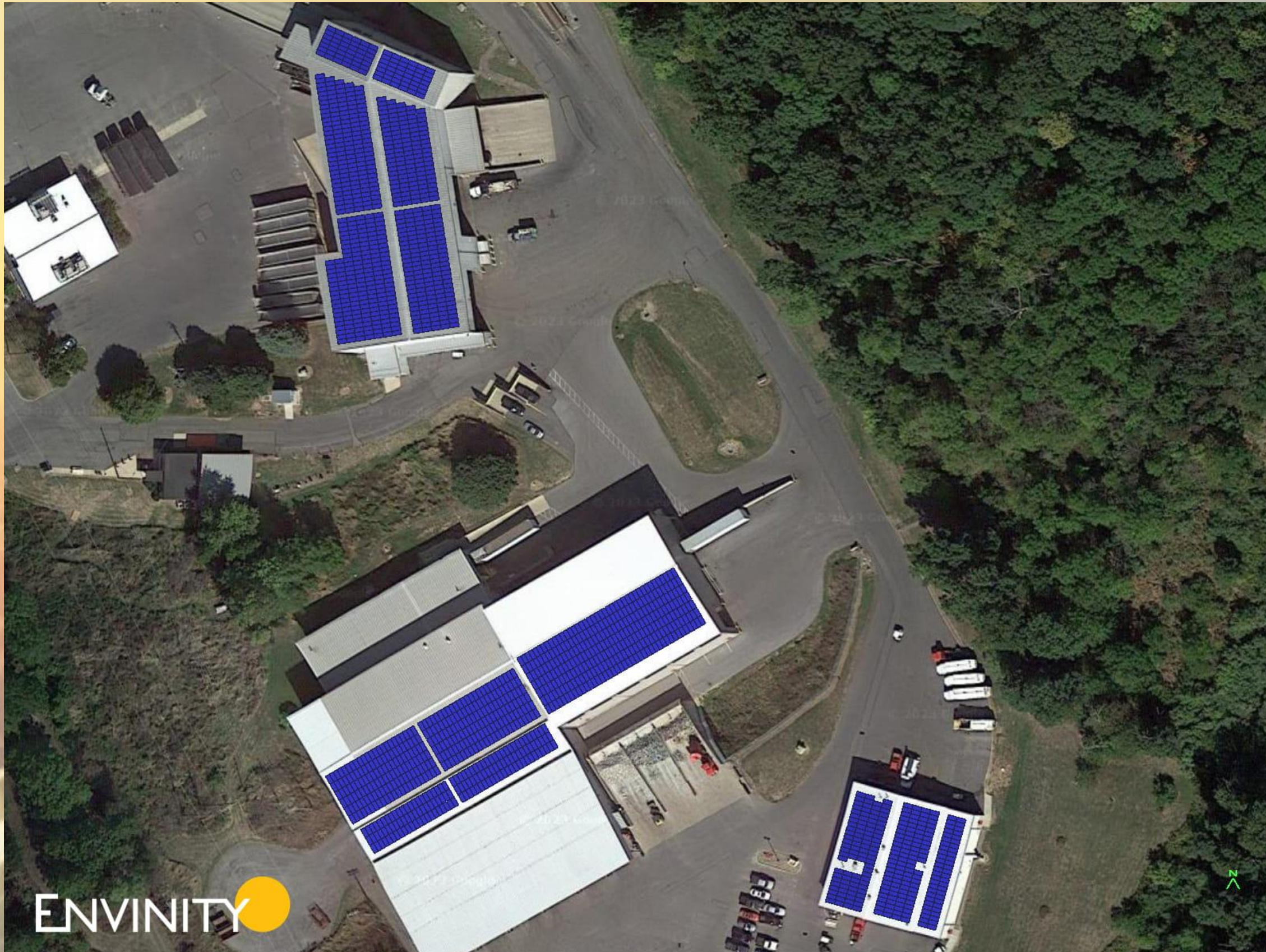
- What is driving the interest in solar?
- How would solar impact your business?
- Decision-making process timeline?
- Project ideation
- Review possible solar solutions
- Funding strategy for the project?

Data Collection:

- Site visit & drone photography
- Guidance on solar system siting.
- If a roof is involved – age and condition.
- Copy of electric bill(s).



Preliminary Design and Cost Analysis: 2- 3 weeks



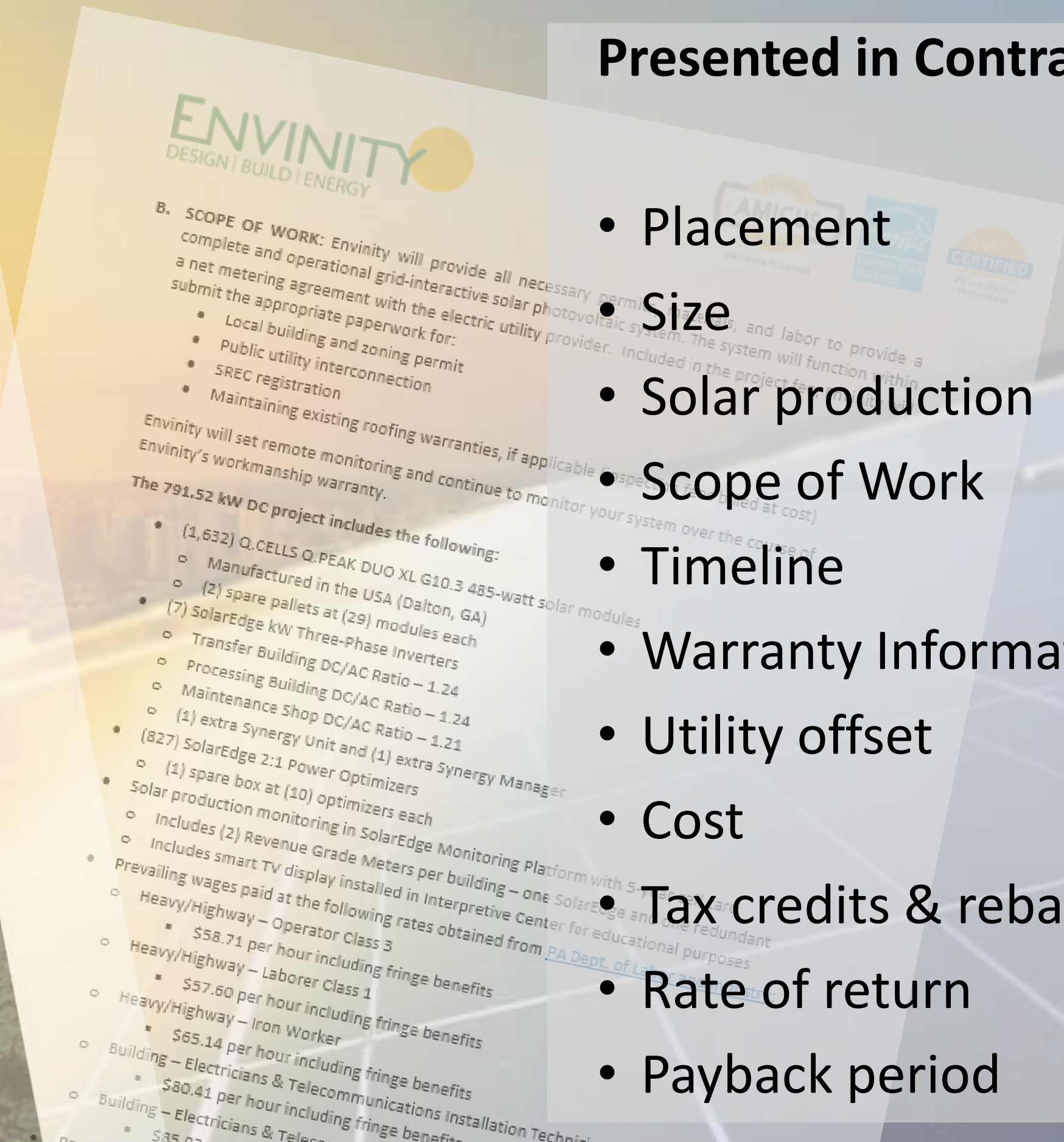
Review System Information

- Placement
- Size
- Solar production
- Utility offset
- Cost
- Tax credits & rebates
- Annual & long-term savings
- Rate of return
- Payback period

Final Design and Cost Analysis: 3 - 5 weeks

Presented in Contract Format

- Placement
- Size
- Solar production
- Scope of Work
- Timeline
- Warranty Information
- Utility offset
- Cost
- Tax credits & rebates
- Rate of return
- Payback period



Acceptance of Installation Agreement: ?

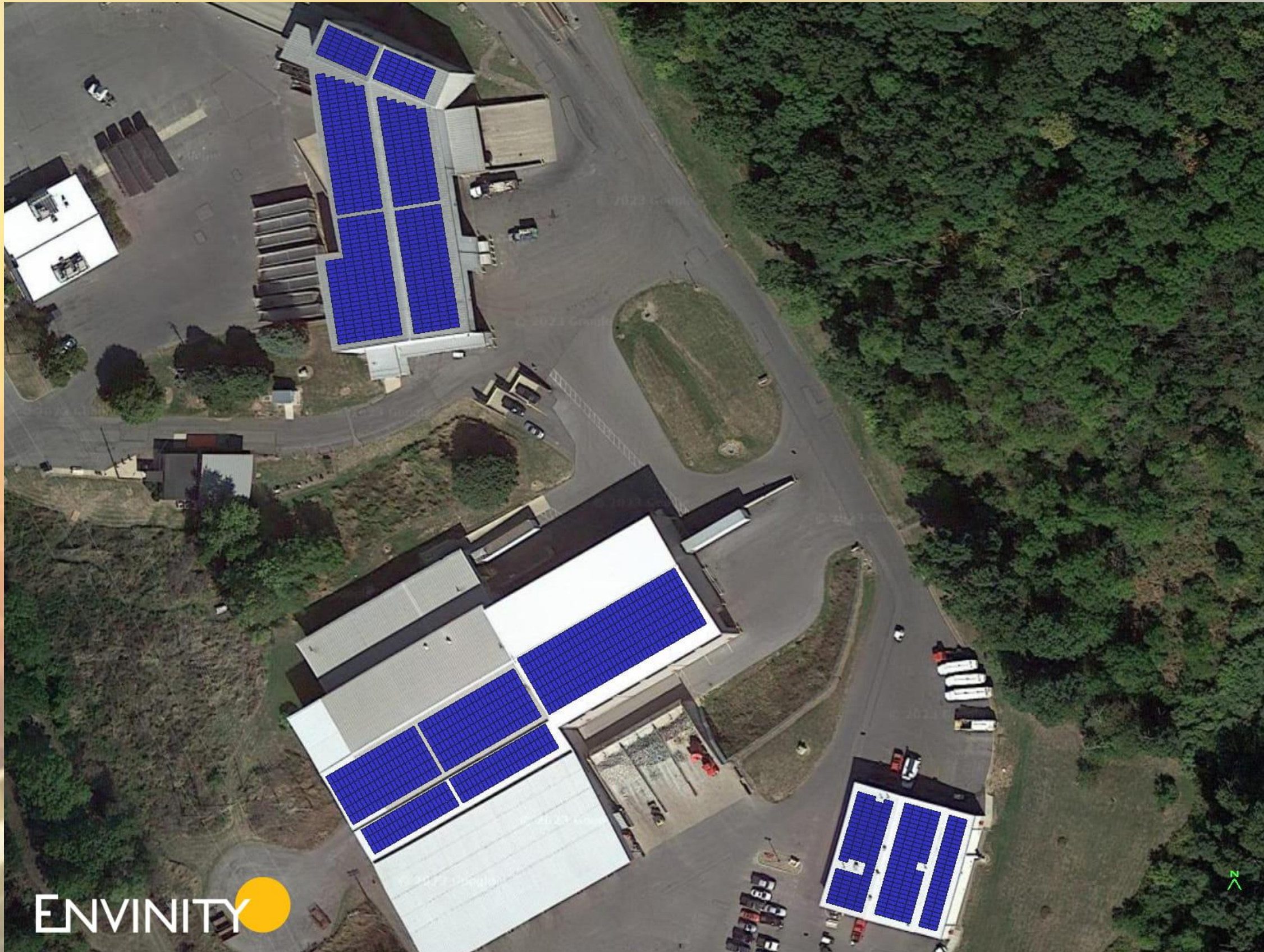
Upon receipt of Signed Installation Agreement

2 – 5 months

- Final engineered drawings
- Utility Interconnection application
- Building Permit application



Project Construction



Upon approvals of utility interconnection and building permits

1 week – several months (project specific)

- Site construction
- Commissioning of system
- Utility permission to operate
- Establishing system monitoring
- Registering for SRECS

ENVINITY

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