



Statement of Qualifications

## **PRYSM Sustainable Solutions**

## A Word From The PRYSM Founders

In 2015, we set out to change the way the renewable power industry develops projects. While spending decades in project development and EPC, we witnessed an absurd amount of money being left on the table in the front-end design phase. We knew there was a problem—engineering firms built specifically for project development services were simply few and far between. PRYSM is here to change that.

We asked ourselves—as a developer or owner, what would we want from an engineering firm? The answers were simple. We would want designs turned around quickly, without compromising quality. We would want a team that is attentive to our needs and not spread thin between numerous projects and encumbered by layers of internal bureaucracy. We would want designs that were tailored to our specific sites, and contract structures that made logical sense for each project. With that, our company vision was born.

Fast. Focused. Flexible.

At PRYSM, we are committed to improving the renewable power industry, and we are always seeking new partnership opportunities. Reach out to us and let's find a way to work together.



Chris Pickett

Managing Partner



Philip Schwarz
Managing Partner

## **Experience The PRYSM Difference**

# Fast. Focused. Flexible.



PRYSM understands that the solar power industry is highly dynamic, and time is a valuable resource to our clients. That is why PRYSM moves at the speed of development. Our team is known for its responsiveness and our ability to mobilize quickly. We can turn around a full preliminary design package in as a little as two weeks.

PRYSM is selective with our clients, and we are committed to managing our workload to ensure that our team can dedicate its full attention to your projects. We have eliminated the layers of middle management and bureaucracy found at traditional engineering firms, and streamlined our design processes as a result.

The needs of each client and project are unique. No one understands this better than PRYSM. We custom design each project to ensure energy and cost optimization, and maximize the ultimate revenue from your Power Purchase Agreements. Our contract structures are flexible in order for PRYSM to perform only the services you truly need, and eliminate any unnecessary or extraneous scopes of work.

## **Technical Advisory Services**

## We deliver value every step of the way.

## Planning

PRYSM knows that successful projects are a product of thorough design and begin with extensive planning. The first step in our involvement is to provide a preliminary design for the project. This includes recommended manufacturers for key components and energy production projections. We also create project schedule and budgetary quidelines.

## Design

The engineering team at PRYSM reviews the project specifications and makes recommendations to improve the energy production forecast. We leverage relationships with industry suppliers to analyze the newest and best technology for your project. As the design progresses, we update the energy production projections to accurately forecast the value of the project.

## **Procurement**

Starting with RFQ development, PRYSM manages the entire procurement process. We host pre-bid meetings, perform a complete bid evaluation and negotiate the award of the contracts. After award, PRYSM provides contract administration, supplier qualifications, audits, expediting and project controls monitoring until the contract is closed.

## Construction

PRYSM provides construction management and safety and quality program oversight during the construction stage of a project. We perform ongoing surveillances and audits for quality assurance, monitor the EPC contractor's schedule and budget, and implement recovery plans when necessary.

# Startup & Commissioning

The PRYSM team has extensive experience commissioning solar power plants. We ensure the EPC contractor adheres to industry-accepted testing procedures. We provide third-party verification of testing results, and draw from our experience to troubleshoot and resolve problems to maintain the committed COD date.

# Operations & Maintenance

PRYSM supports ongoing needs through operations and maintenance agreements. We optimize preventative maintenance schedules in order to minimize the impact to energy production and reduce the owner's costs.

## **Owner's Engineering**

PRYSM offers Owner's Engineering services throughout the lifecycle of a project. This allows our clients to continue their core business while we provide expertise in managing utility-scale solar projects from inception through operation. PRYSM's Owner's Engineering scope includes planning, design, procurement, construction, startup & commissioning and operations & maintenance.

While our services are designed to blend seamlessly throughout the project, we are flexible to provide only the services our clients need. Any of PRYSM's services can be performed separately to compliment your in-house strengths to deliver the best value for the project.

## **Independent Evaluations**

PRYSM utilizes our industry experience and proprietary energy modeling to provide independent evaluations for bankable reports to suit your financial needs. We will combine meteorological data with long-term solar reference stations and field measurements to accurately define the solar resource for your project. The resource assessment forms the foundation of the energy production projections and the independent evaluation report.

If you are looking to acquire an existing plant, PRYSM will perform a detailed surveillance of the facility to find potential factors that will impact the energy production forecast. Our surveillance includes a review of construction quality, maintenance records, and previous energy production. We also test select components to ensure they are functioning properly.

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## **Development Services**

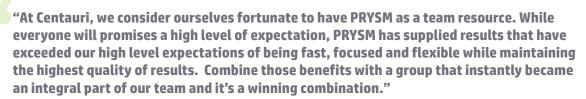
## PRYSM is a full-service engineering firm in solar design.

At PRYSM, we leverage our expertise in project development and engineering to create customized preliminary design packages for our clients. No two projects are alike, and the days of flat, rectangular sites are coming to an end. Cookie cutter designs will no longer work. That is why PRYSM analyzes each individual project site to select the design and technology best suited to optimize your project's energy output while reducing costs in operations, maintenance and construction.

PRYSM's preliminary design packages are built around the company vision—Fast.
Focused. Flexible. Our promise is to work "at the speed of development," which means quick turnarounds of our designs. We are committed to performing an in-depth analysis of each of your specific projects, and ensuring that the projects are designed to the highest engineering standards. We pledge to adapt our services and contract structures to meet your project's and your company's needs.

# PRYSM's preliminary design packages typically include:

Desktop Site Analysis
Site Visits & Site Visit Reports
Fatal Flaw Analysis
Energy Modeling
Preliminary Layouts
Preliminary Single Line Diagrams
Preliminary Substation Layouts
Interconnection/Transmission Analysis
Interconnect Queue Support
Permitting Support
Technology & Equipment Recommendations
Budgetary EPC Pricing



-Scott Lane, Centauri Energy



CENTAURI ENERGY

Have questions about solar design? Contact us at 877.707.7976



## Improve your project with PRYSM's preliminary designs.

#### Development

- Select optimum sites with ease
- More accurate Energy Models
- Lower LCOE projections
- More competitive RFO bids

#### **PPA Acquisition**

- More accurate energy models
- More aggressive and accurate PPA pricing
- Quality designs increase project value

#### **COD Acquisition or Build-Operate-Transfer**

- Reduce EPC contingency
- Lower CAPEX
- Ensure quality EPC installation

#### **Long-Term Ownership**

- Reduce OPEX with optimal plant design
- Reduce energy loss with better basis of design
- Ensure proper 0&M procedures

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## **Custom Design Services**

# PRYSM delivers optimized, custom designs for even the most challenging sites.

In the highly competitive renewables industry, front-end design has advanced from a black box into a critical path for maximizing value. Margins are slim, technology is ever-changing, and rules of thumb no longer apply. The days of off-the-shelf designs and flat parcels are nearing an end. Developers must customize to survive. Iteration, optimization and cost control must be executed rapidly to ensure a project's success. PRYSM believes in a collaborative front-end approach. Our team works alongside the development team to quickly identify major cost impacts and savings opportunities. We then leverage this information to create a customized, optimized plant design that meets both developer's and the offtaker's specific needs... all at the speed of development.

Here are just a few key factors PRYSM considers to help maximize the value of your plant:

#### **Site Perimeter**

- Identify setbacks, fencing and access requirements
- Maximize laydown and staging areas
- Analyze stormwater handling needs

#### **Combiner Boxes**

- Ensure code compliance
- Optimize number of inputs
- Minimize field labor and commissioning by utilizing pre-manufactured components

#### **Transmission Lines and Interconnection**

- Analyze voltage levels and grid requirements
- Provide pricing and loss calculations
- Support interconnection process

#### **Modules**

- Minimize mismatch through positive binning
- Maximize power density and string voltage
- Minimize unnecessary string cable runs and losses
- Optimize module orientation and string configuration
- Minimize handling through staging and automation

### **Site Layout**

- Optimize GCR through iteration
- Identify roadway and 0&M access constraints
- Optimize block size and orientation
- Minimize civil works

#### DC Cabling

- Calculate cable lengths and losses
- Ensure best practices for safety and longevity
- Optimize cable sizing for each homerun
- Compare cost of trenching vs. overhead runs

#### Inverters

- Optimize ILR through iteration
- Optimize inverter to module MPP curve
- Minimize costly field assembly and commissioning by specifying factoryinstalled options
- Identify warranty and 0&M concerns and potential solutions

### Racking/Trackers

- Minimize cable install by specifying factoryinstalled wire management
- Maximize power density and row length
- Minimize AC and control cabling requirements
- Analyze points of failure and O&M concerns
- Ensure compliance with wind and snow loads
- Specify options for rapid commissioning

#### **Foundations**

- Analyze site for potential soil constraints
- Minimize labor cost through automation
- Analyze stormwater handling needs

## **Project Experience**

### The PRYSM Team

PRYSM offers a team of engineers, designers, project managers and construction managers to provide unmatched expertise in the solar PV industry. When you work with the PRYSM team, you are tapping into decades of knowledge and experience with commercial- and utility-scale projects throughout the globe utilizing numerous power generation and energy technologies. Our team has spent countless hours creating innovative designs and solving intricate problems, both in the office and in the field. We have worked on all phases of the project lifecycle, including planning, preliminary design, feasibility studies, permitting, detailed engineering design, construction, startup/commissioning, and operations & maintenance.

## PRYSM Project Experience

TYPE	SIZE	LOCATION
	104 MW	Arkansas, USA
	80 MW	California, USA
	75 MW	California, USA
	144 MW	California, USA
	190 MW	California, USA
	20 MW	California, USA
	10 MW	California, USA
	5 MW	California, USA
	58 MW	California, USA
Solar PV Power Plants	140 MW	California, USA
	20 MW	Connecticut, USA
	52 MW	Louisiana, USA
	52 MW	Louisiana, USA
	10 MW	Oregon, USA
	10 MW	Oregon, USA
	10 MW	Oregon, USA
	10 MW	Oregon, USA
	85 MW	Oregon, USA
	62.5 MW	Oregon, USA

1,100+ MWac DESIGNED and counting...

## Prior Team Experience - Key Projects

BOMW	TYPE	SIZE	LOCATION
32 MW   Gila Bend, AZ   50 MW   Red Rock, AZ   150 MW   Kern County, CA   265 MW   Calexico, CA   30 MW   Lucerne Valley, CA   LA County, CA   40 MW   Kern County, CA   40 MW   Kern County, CA   200 MW   Mojave Desert, CA   10 MW   Howe, TX   100 MW   Peccos, TX   119 MW   Pecco County, TX   119 MW   Pecco County, TX   157 MW   Millard County, UT   300 MW   Gila Bend, AZ   Solar Thermal Power Plants   280 MW   Mojave Desert, CA   280 MW   Mojave Desert, CA   280 MW   Blythe, CA   71 MW   Pasadena, CA   Emporia, KS   440 MW   Boardman, OR   2,400 MW   Boardman, OR   2,400 MW   Aberdeen, OH   600 MW   Manchester, OH   600 MW   Manchester, OH   500 MW   Lawrence, KS   1,159 MW   Sioux City, IA   4,800 MW   Witbank, South Africa   681 MW   Corn-to-Ethanol Plants   88 MMGPY   Madison, IL	Solar PV Power Plants	80MW	Virginia, USA
SO MW   Red Rock, AZ     150 MW   Red Rock, AZ     150 MW   Rem County, CA     265 MW   Calexico, CA     30 MW   Lucerne Valley, CA     Solar PV Power Plants   32 MW   LA County, CA     40 MW   Rem County, CA     50 MW   Mojave Desert, CA     10 MW   Pecos, TX     119 MW   Pecos County, TX     119 MW   Pecos County, TX     119 MW   Pecos County, UT     300 MW   Gila Bend, AZ     Solar Thermal Power Plants   280 MW   Mojave Desert, CA     280 MW   Mojave Desert, CA     280 MW   Remporta, KS     80 MW   Remporta, KS     440 MW   Remporta, KS     450 MW   Remporta, KS     460 MW   Remporta, KS     500 MW   Remporta, KS     681 MW   La Cygne, KS     681 MW   La Cygne, KS     681 MW   La Cygne, KS     681 MW   Remporta, Callette, Calle		100 MW	Chile
150 MW		32 MW	Gila Bend, AZ
265 MW		50 MW	Red Rock, AZ
30 MW		150 MW	Kern County, CA
Solar PV Power Plants		265 MW	Calexico, CA
40 MW   Kern County, CA   200 MW   Kern County, CA   200 MW   Kern County, CA   200 MW   Mojave Desert, CA   10 MW   Howe, TX   100 MW   Pecos, TX   119 MW   Pecos County, TX   119 MW   Pecos County, TX   157 MW   Millard County, UT   300 MW   Gila Bend, AZ   Solar Thermal Power Plants   280 MW   Mojave Desert, CA   280 MW   Blythe, CA   71 MW   Pasadena, CA   Emporia, KS   440 MW   Boardman, OR   2,400 MW   Boardman, OR   2,400 MW   Aberdeen, OH   600 MW   Manchester, OH   500 MW   Manchester, OH   500 MW   San Antonio, TX   600 MW   Lawrence, KS   1,159 MW   Sioux City, IA   4,800 MW   Witbank, South Africa   681 MW   La Cygne, KS   Corn-to-Ethanol Plants   88 MMGPY   Madison, IL		30 MW	Lucerne Valley, CA
200 MW 20 MW Algave Desert, CA 10 MW Howe, TX 1100 MW Peccos, TX 1119 MW Peccos County, TX 1157 MW Millard County, UT 300 MW Gila Bend, AZ Solar Thermal Power Plants 280 MW Mojave Desert, CA 280 MW Mojave Desert, CA 280 MW Blythe, CA 71 MW Pasadena, CA Themporia, KS 440 MW Boardman, OR 2,400 MW Aberdeen, OH 600 MW Manchester, OH 600 MW Manchester, OH 600 MW Lawrence, KS 1,159 MW Mitbank, South Africa 681 MW La Cygne, KS Corn-to-Ethanol Plants 88 MMGPY Madison, IL		32 MW	LA County, CA
20 MW Mojave Desert, CA 10 MW Howe, TX 100 MW Pecos, TX 119 MW Pecos County, TX 119 MW Pecos County, TX 1157 MW Millard County, UT 300 MW Gila Bend, AZ Solar Thermal Power Plants 280 MW Mojave Desert, CA 280 MW Mojave Desert, CA 280 MW Blythe, CA 71 MW Pasadena, CA Natural Gas Combined Cycle Power Plants 650 MW Emporia, KS 440 MW Boardman, OR 2,400 MW Aberdeen, OH 600 MW Manchester, OH Coal Power Plants 600 MW San Antonio, TX Coal Power Plants 600 MW Lawrence, KS 1,159 MW Sioux City, IA 4,800 MW Witbank, South Africa 681 MW La Cygne, KS Corn-to-Ethanol Plants 88 MMGPY Madison, IL		40 MW	Kern County, CA
10 MW Howe, TX 100 MW Pecos, TX 1100 MW Pecos, TX 119 MW Pecos County, TX 119 MW Pecos County, TX 157 MW Millard County, UT 300 MW Gila Bend, AZ Solar Thermal Power Plants 280 MW Mojave Desert, CA 280 MW Blythe, CA 71 MW Pasadena, CA 71 MW Pasadena, CA Emporia, KS 440 MW Boardman, OR 2,400 MW Aberdeen, OH 600 MW Manchester, OH 600 MW San Antonio, TX Coal Power Plants 600 MW Lawrence, KS 1,159 MW Sioux City, IA 4,800 MW Witbank, South Africa 681 MW La Cygne, KS Corn-to-Ethanol Plants 88 MMGPY Madison, IL		200 MW	Kern County, CA
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157 MW Millard County, UT 300 MW Gila Bend, AZ Solar Thermal Power Plants 280 MW Mojave Desert, CA 280 MW Blythe, CA 71 MW Pasadena, CA Natural Gas Combined Cycle Power Plants 650 MW Emporia, KS 440 MW Boardman, OR 2,400 MW Aberdeen, OH 600 MW Manchester, OH 500 MW San Antonio, TX Coal Power Plants 600 MW Lawrence, KS 1,159 MW Sioux City, IA 4,800 MW Witbank, South Africa 681 MW La Cygne, KS Corn-to-Ethanol Plants 88 MMGPY Madison, IL		100 MW	Pecos, TX
Solar Thermal Power Plants  280 MW  Blythe, CA  71 MW  Pasadena, CA  Final Power Plants  650 MW  Boardman, OR  2,400 MW  Coal Power Plants  600 MW  Coal Power Plants  600 MW  Coal Power Plants  600 MW  Aberdeen, OH  600 MW  Coal Power Plants  600 MW  Coal Power Pl		119 MW	Pecos County, TX
Solar Thermal Power Plants 280 MW Blythe, CA 71 MW Pasadena, CA Find MW Remporia, KS 440 MW Remporia, KS 440 MW Remporia, KS Advisation MW Remporia, KS Advi		157 MW	Millard County, UT
280 MW Blythe, CA 71 MW Pasadena, CA Natural Gas Combined Cycle Power Plants 650 MW Emporia, KS 440 MW Boardman, OR 2,400 MW Aberdeen, OH 600 MW Manchester, OH 900 MW San Antonio, TX Coal Power Plants 600 MW Lawrence, KS 1,159 MW Sioux City, IA 4,800 MW Witbank, South Africa 681 MW La Cygne, KS Corn-to-Ethanol Plants 88 MMGPY Madison, IL		300 MW	Gila Bend, AZ
Natural Gas Combined Cycle Power Plants  71 MW Pasadena, CA Emporia, KS 440 MW Boardman, OR 2,400 MW Aberdeen, OH 600 MW Manchester, OH 900 MW San Antonio, TX Lawrence, KS 1,159 MW Sioux City, IA 4,800 MW Witbank, South Africa 681 MW La Cygne, KS Corn-to-Ethanol Plants 88 MMGPY Madison, IL	Solar Thermal Power Plants	280 MW	Mojave Desert, CA
Natural Gas Combined Cycle Power Plants         650 MW         Emporia, KS           440 MW         Boardman, OR           2,400 MW         Aberdeen, OH           600 MW         Manchester, OH           900 MW         San Antonio, TX           600 MW         Lawrence, KS           1,159 MW         Sioux City, IA           4,800 MW         Witbank, South Africa           681 MW         La Cygne, KS           Corn-to-Ethanol Plants         88 MMGPY           Madison, IL		280 MW	Blythe, CA
440 MW Boardman, OR 2,400 MW Aberdeen, OH 600 MW Manchester, OH 900 MW San Antonio, TX Coal Power Plants 600 MW Lawrence, KS 1,159 MW Sioux City, IA 4,800 MW Witbank, South Africa 681 MW La Cygne, KS Corn-to-Ethanol Plants 88 MMGPY Madison, IL	Natural Gas Combined Cycle Power Plants	71 MW	Pasadena, CA
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600 MW		440 MW	Boardman, OR
Coal Power Plants         900 MW         San Antonio, TX           600 MW         Lawrence, KS           1,159 MW         Sioux City, IA           4,800 MW         Witbank, South Africa           681 MW         La Cygne, KS           Corn-to-Ethanol Plants         88 MMGPY         Madison, IL	Coal Power Plants	2,400 MW	Aberdeen, OH
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4,800 MW Witbank, South Africa 681 MW La Cygne, KS Corn-to-Ethanol Plants 88 MMGPY Madison, IL		600 MW	Lawrence, KS
681 MW La Cygne, KS Corn-to-Ethanol Plants 88 MMGPY Madison, IL		1,159 MW	Sioux City, IA
Corn-to-Ethanol Plants 88 MMGPY Madison, IL		4,800 MW	Witbank, South Africa
		681 MW	
	Corn-to-Ethanol Plants	88 MMGPY	Madison, IL
88 MMGPY West Franklin, IN		88 MMGPY	West Franklin, IN

"PRYSM has consistently created value with cutting-edge technical expertise that is grounded in real-world experience, communicated clearly and concisely. PRYSM has been exceptionally responsive, flexible and easy to work with. On several occasions we've counted on PRYSM to deliver rigorous work under tight deadlines and they've done a great job every time. I'd recommend them without hesitation."

-Will Talbott, Solar Development Project Manager **EDP Renewables** 



"We have had the pleasure to work with the PRYSM team over the past year. They are incredibly attentive to our needs and always very responsive which we value greatly. I highly recommend working with PRYSM."

-Frederic Rivollier, Director of Global Engineering Canadian Solar Inc.



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