

Shine Texas RFP webinar

ROCKY MOUNTAIN INSTITUTE

January 24th 2018, 1–2pm CT

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Transforming global energy use to create a clean, prosperous, and secure low-carbon future.

Request For Proposals (RFP) for 13.25 MW of distribution-scale solar PV and battery storage

On behalf of:



Prepared by:



Please see www.rmi.org/shine for more information

Objectives of this webinar

- Clarify RFP process for Bidders
- Explain the use of the Financial Evaluation Model
- Enable Bidders to provide accurate bids by reviewing sites and assumptions
- Avoid need for Bidders to bear expense of in-person visits for round 1 bids

Agenda

- Rocky Mountain Institute's Shine vision
- Overview of RFP process
- Explanation of financial evaluation model
- Review of sites
- Review of economic modeling assumptions
- Clarifications
- Questions & answers

Rocky Mountain Institute's Shine Program

Rocky Mountain Institute's Shine Program aims to unlock the 0.5–10 MW distribution-scale solar market



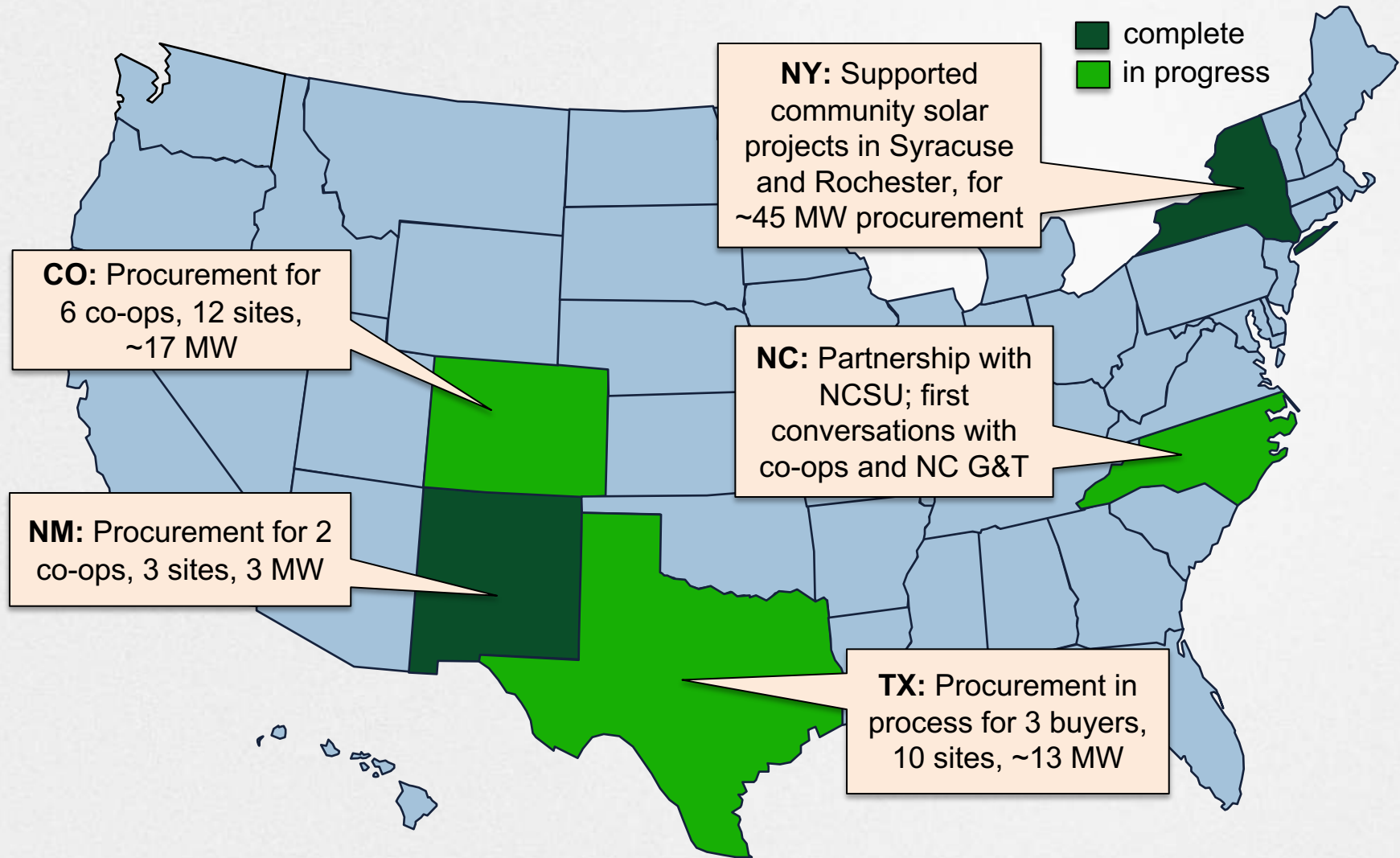
OUR VISION

To provide clean, affordable electricity to every American.

OUR MISSION

Work with communities, utilities, campuses, and solar developers to install 1 GW of distribution-scale solar by 2020 at 30-40% lower costs, making distribution-scale solar the most attractive renewable option.

Rocky Mountain Institute's Shine Program has helped electricity buyers around the nation contract solar at >20% lower prices



RMI removes barriers to make distribution-scale solar a multi-GW market by 2020

Requirements

Costs must decline for solar to deliver significant economic value in more markets

- Electricity buyers are cost-sensitive
- New Mexico & Colorado experience: low costs induce demand

Solar offerings must be easy to access and easy to understand

- Limited staff available for market research and procurement
- Need to access apples-to-apples offerings

Buyer decision makers nationwide must be aware of solar's economic opportunity

RMI's activities

Aggregate demand

Competitive procurement

Support utility-supported development

Procurement support

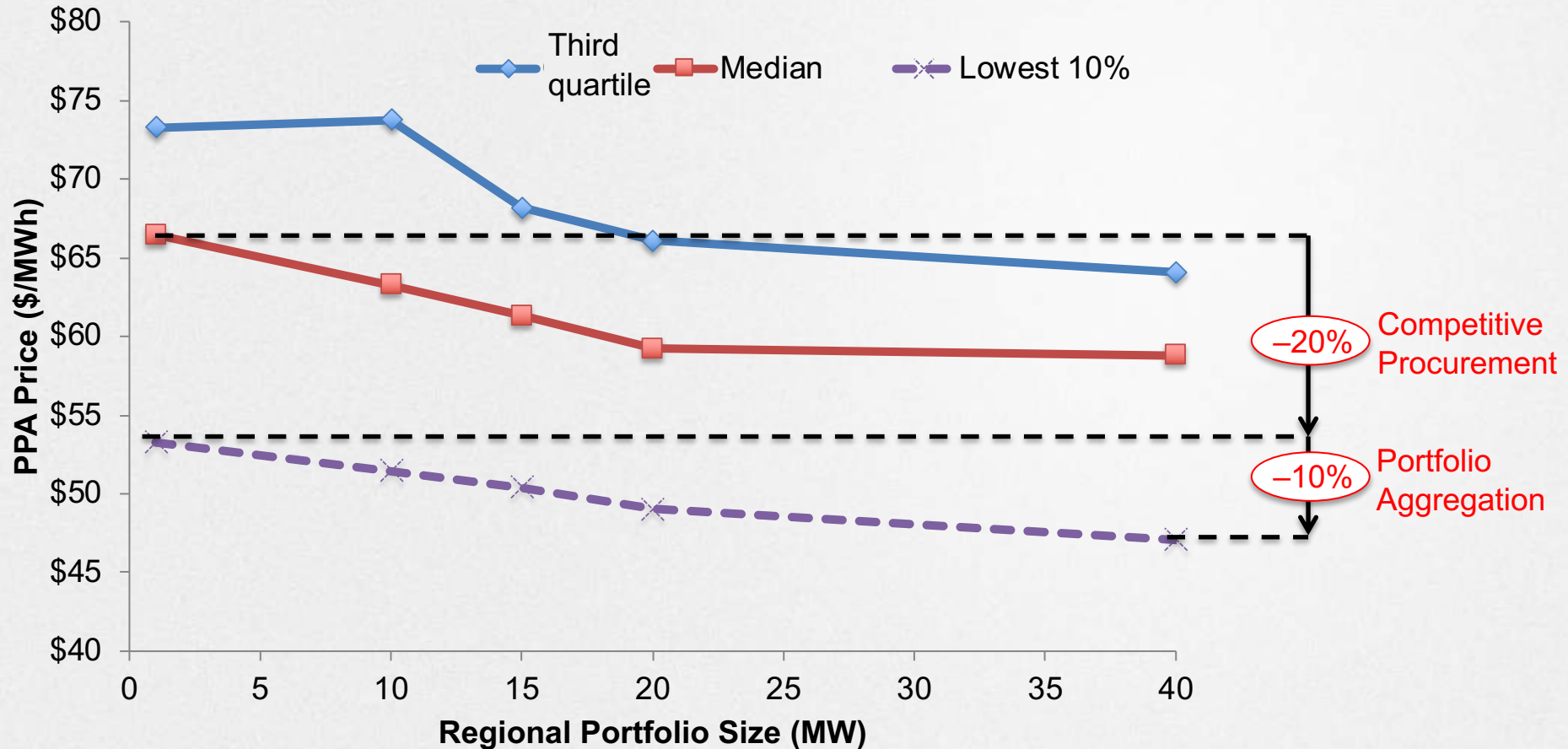
Structured bidding process

Publication of (anonymized) RFP results

Outreach and education

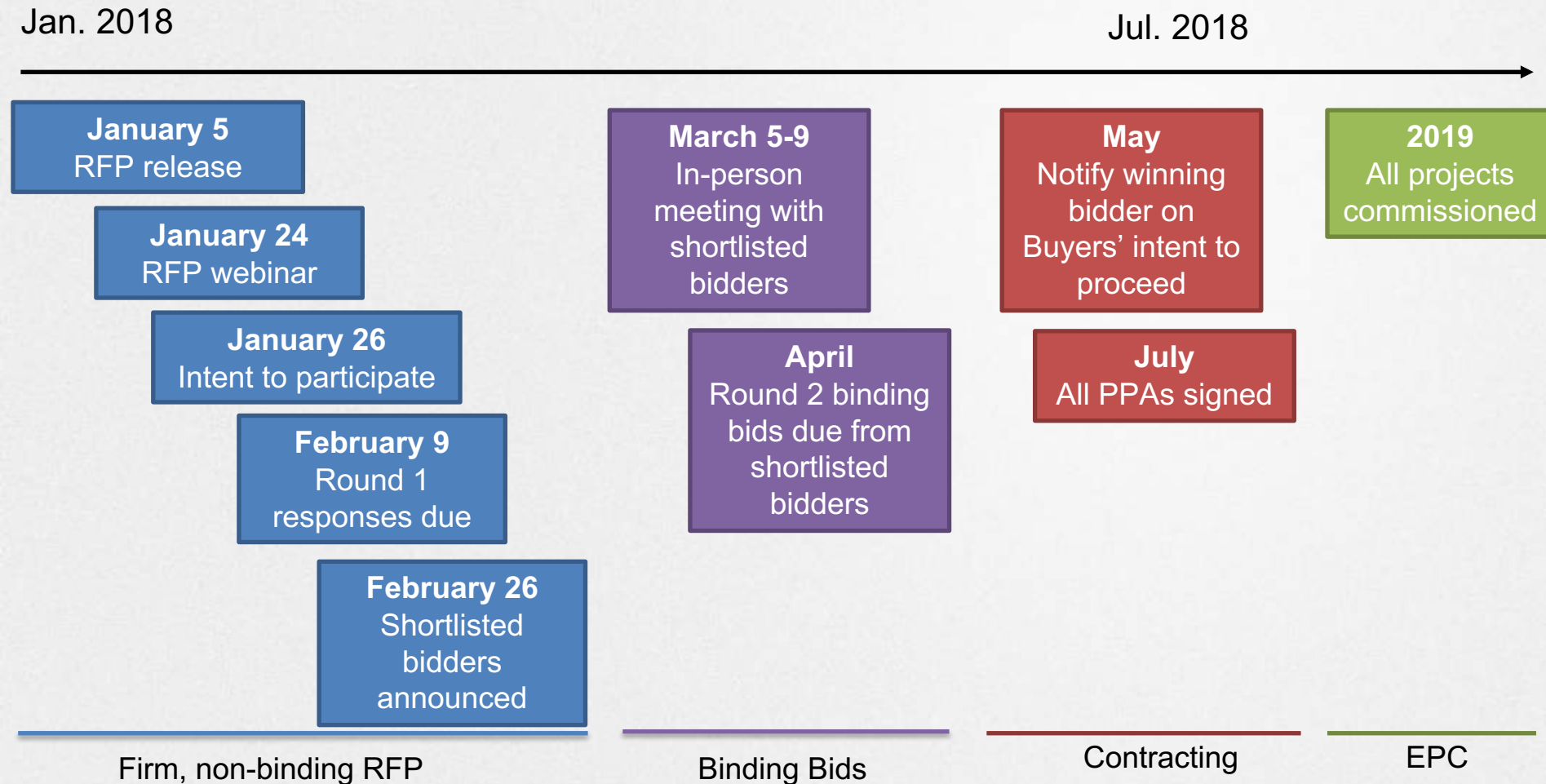
An aggregated, competitive procurement lowers PPA prices

PPA prices for **1 MW project** at different portfolio sizes in 2017 Colorado RFP



Process for this RFP

After round 1 bids, a handful of Bidders will be shortlisted for round 2 binding bids



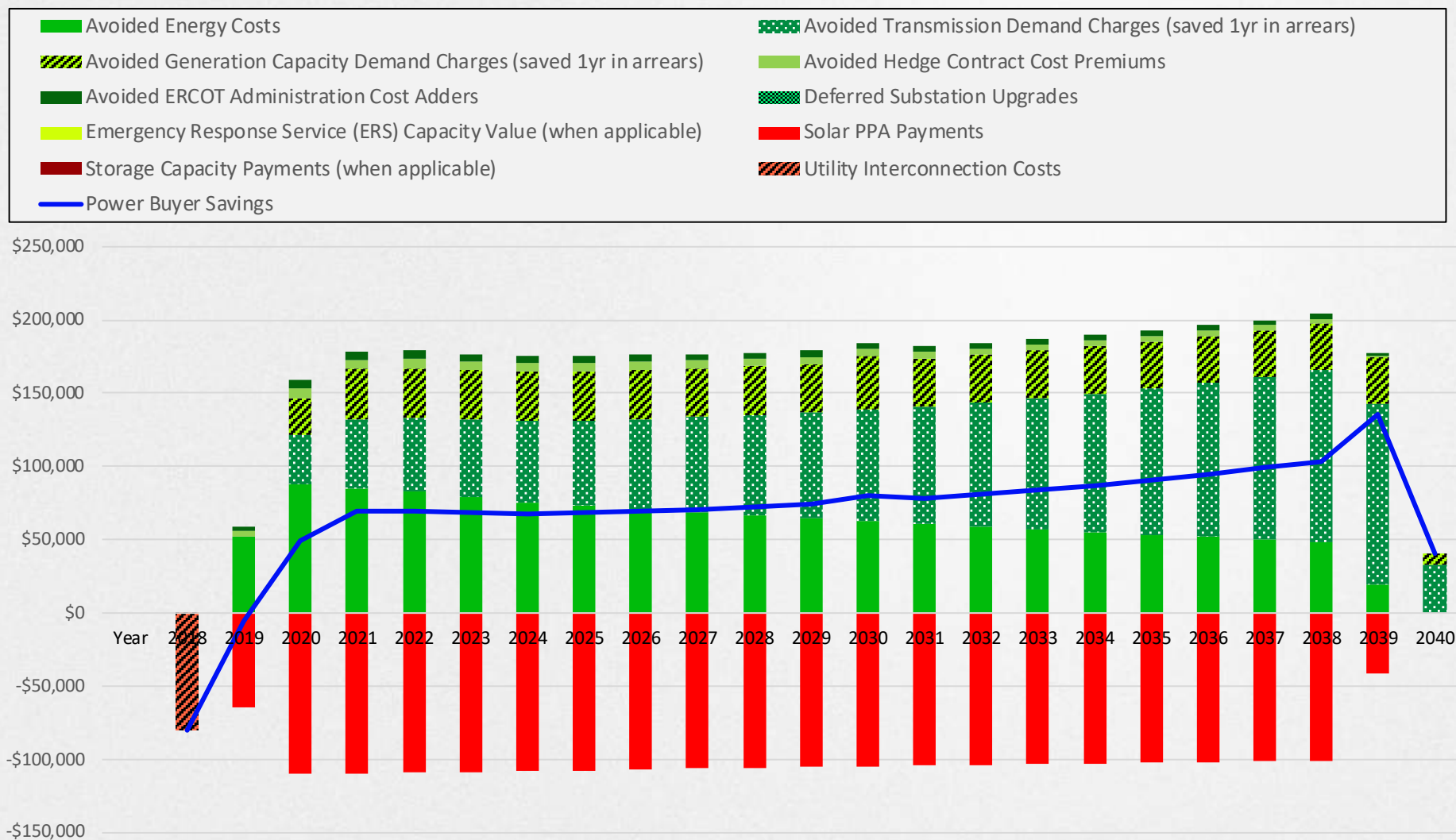
*Target timeline. All dates are subject to change.



Value of solar and battery storage

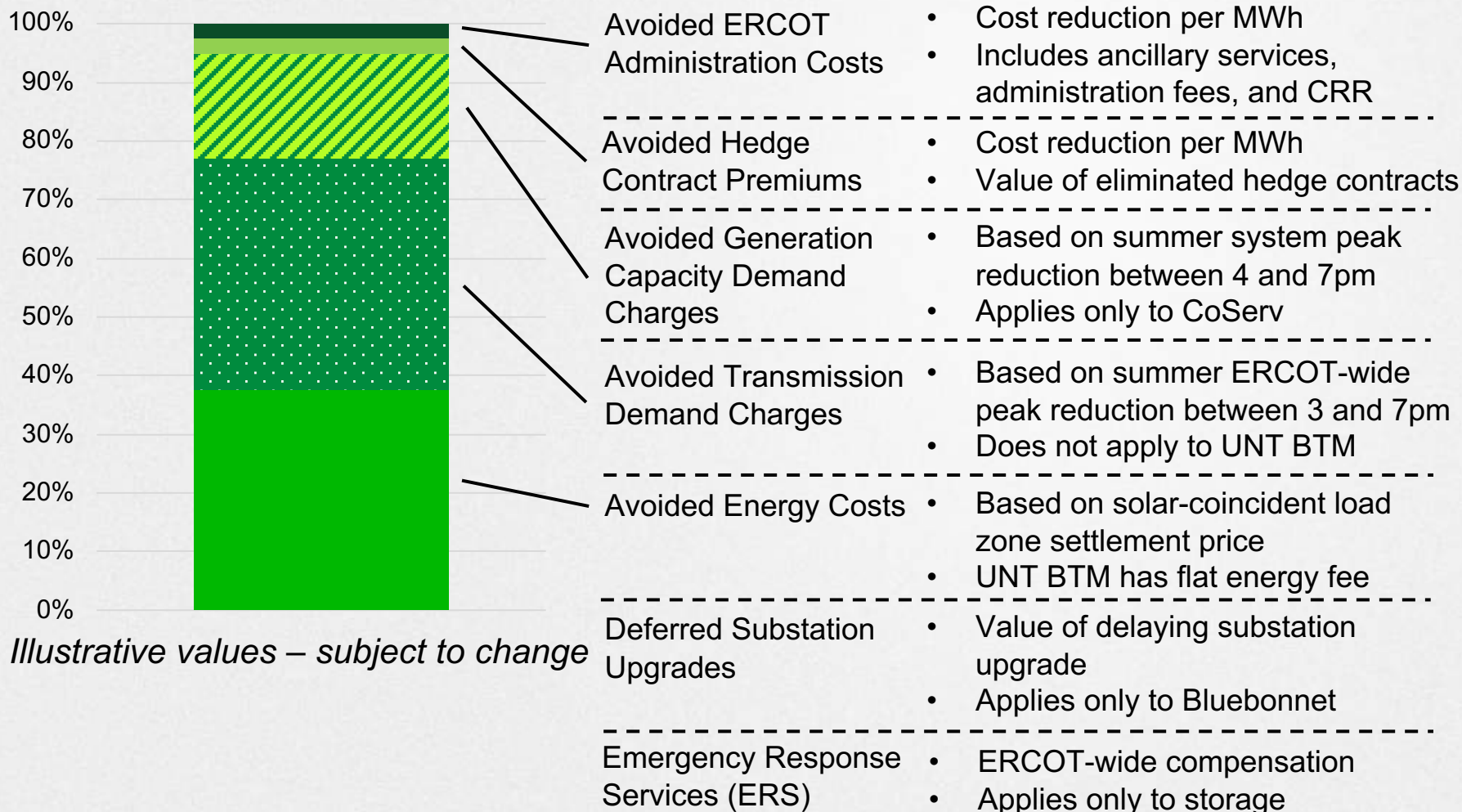
Solar and storage provide a stack of values to Buyers (1/2)

Annual Costs and Savings to Power Buyer



Solar and storage provide a stack of values to Buyers (2/2)

Value streams' contribution to lifetime present value (CoServ)



*Please see RFP Appendix C for more detail



The most beneficial bid for Buyers may not be the lowest-priced

Sample economic results for one of the Buyers in this RFP

Bid type	PPA price (set by Bidder)	20-year NPV (via RMI's model)
Fixed tilt*	40	\$766k
Single-axis tracking*	45	\$967k

A higher-priced system may deliver **more** value to Buyers.

*Identical technical assumptions (e.g., system losses) with exception of tracking type.

Bidders can use RMI's Financial Evaluation Model to evaluate different system designs*

1. Economic modeling based on assumptions

- Use assumptions in *RFP Appendix B* to create one or more bids per project.
- Determine PPA price and 8,760 production for one or more bids per project.

2. Evaluate NPV for 8,760 production model

- Paste 8,760 production profiles and PPA prices into RMI's *Financial Evaluation Model* (INPUTS production and INPUTS menu tabs), to see NPV (Dashboard tab).
- Compare NPVs of different system designs.

3. Submit highest-NPV bids via RFP bidsheet

- Submit your highest-value bids per site, including 8,760 profiles, via RMI's *RFP Bidsheet*.

Site review

RMI Shine's approach to site information

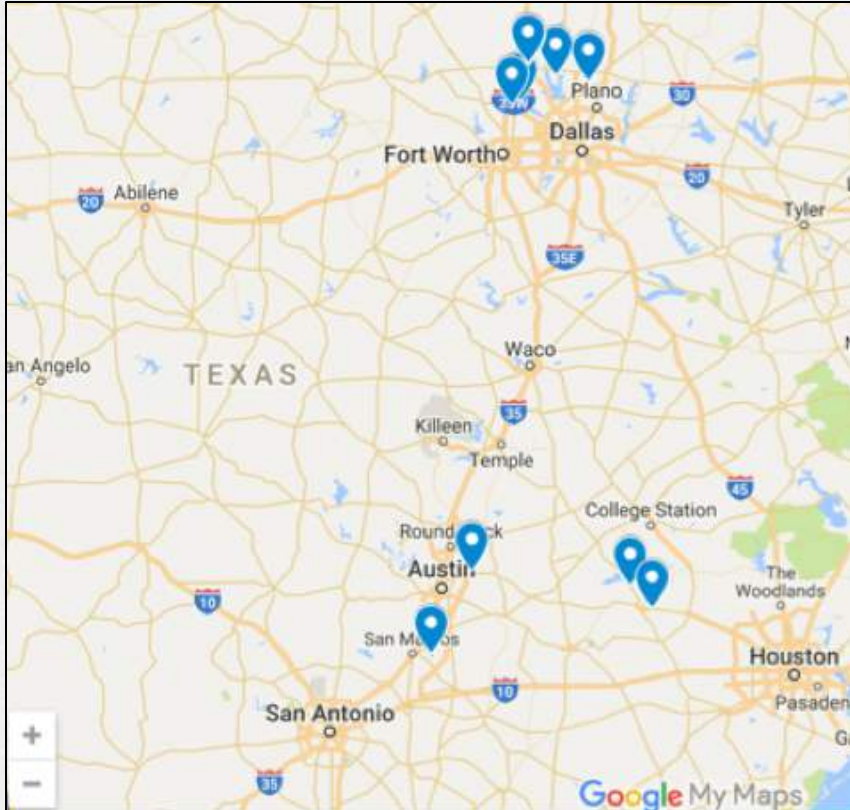
In this RFP webinar, RMI is not reviewing specific sites. Rather, we ask Bidders to use the assumptions provided in Appendix B.

This has three motivations:

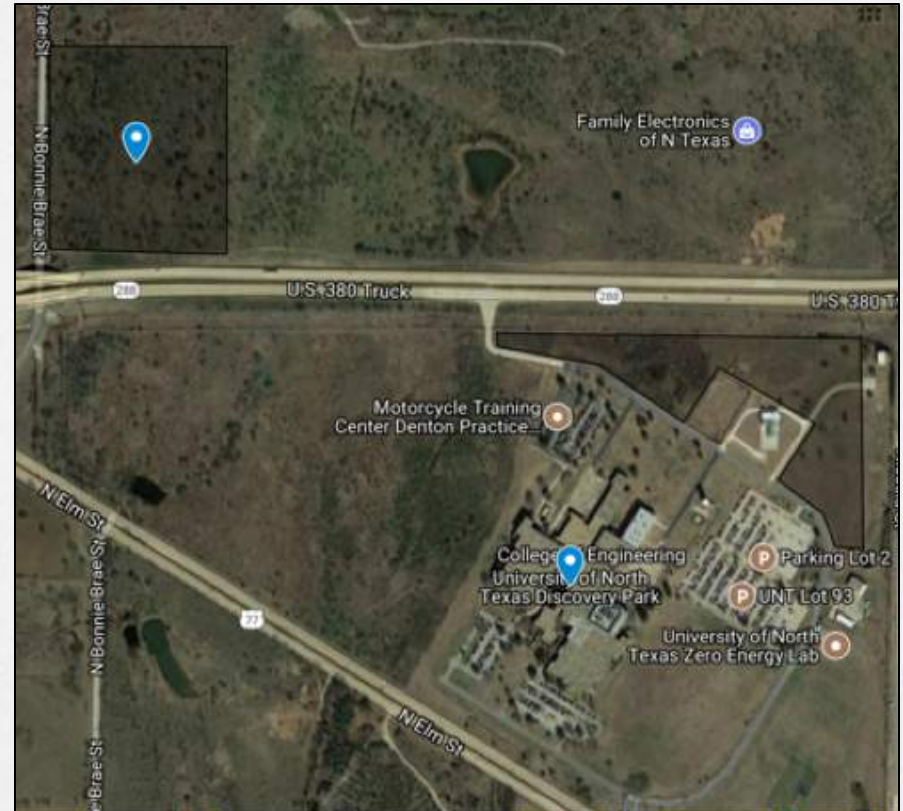
1. No Bidder benefits from being overly aggressive in their assumptions, because all Bidders use the same assumptions.
2. Buyers see economic benefit estimate before making investments in e.g. geotech studies or site control.
3. Minimize Bidders' time investment to prepare round 1 bids, by not requiring detailed technical models.

Site overview

Round 1 of this RFP is issued for 10 locations in central Texas*



For some of these locations Buyers have identified available land



In Round 1 of this RFP, RMI is not providing detailed KMZ files per site. Bidders should be able to create bids using the assumptions provided by RMI.

*The list of sites is available at <https://goo.gl/uaApSk>

To minimize Bidders' time to complete a Bid, we ask Bidders to use standard cost assumptions (1/3)

Excerpt from RFP Appendix B for one of the sites

Project name	Maxwell Service
Latitude	29.87
Longitude	-97.81
Solar requested - lower bound (MW-AC)	0.99
Solar requested - upper bound (MW-AC)	1.98 (2x 0.99)
Site type	Land owned by co-op, available at no cost to Bidder
Land cost (\$/acre-year lease)	0
Interconnection costs (\$)	\$20,000
Site acreage	~10 acres in south corner may be most suitable for solar, but it is split by pipeline easement. If pipeline easement causes issues, solution may be to build in the northwest of the parcel, however parcel is less level there.
Soil type	Heiden clay
Site conditions	Southern-most corner has only pasture/smaller shrubs (max 8 feet).
Features on site	Transmission line on southeastern edge along TX-142 and pipeline easement through southeast of parcel. [...]
Water drainage close to site	No, but contains old cattle drinking ponds in northeastern area.
Slope	Site has high slope areas; however, southern corner bordering Rt. 142 with > 15 acres with only modest ~4% avg. slope toward the southwest with modest undulations
County property tax (% of value)	2.05% for improvement

For some sites, the RFP bidsheet asks for two project sizes.

Detailed interconnection studies have not been completed.

Geotech studies will be available to shortlisted Bidders in Round 2.

Please assume no property tax exemptions are possible.

The majority of sites is controlled by Buyers and available at no cost. Only two Bluebonnet sites require land payments.

Buyers will pay for all upgrades up to the low voltage side of the transformer. The winning Bidder is asked to pay only for interconnection studies. This value is indicative.

Appendix B specifies whether property taxes are levied only over the asset value (improvement), or also over the land value.

To minimize Bidders' time to complete a Bid, we ask Bidders to use standard cost assumptions (2/3)

- UNT's Discovery Park: FTM site is a project request for a solar array to be built on the distribution grid of Denton Municipal Energy, UNT's power provider
- All projects are ground mount, with the exception of CoServ's Roanoke substation site (this will be on top of a large warehouse less than 10 years old). Upon request, Bidders may be allowed to exclude this site from their bid without a negative impact on evaluation.
- When modeling PPA prices, please provide prices for 5 portfolio assumptions—individual project; 8 MW AC, 12 MW AC, 20 MW AC, and 40 MW AC portfolios. See tab 10 of the RFP bidsheet for more information.
- All PPAs should be offered with maximum 20-year PPA, 0% escalator. Bidders are responsible for operations and maintenance.
- Expected COD is before end of 2019. In tab 11 of the RFP bidsheet you can submit a PPA price if COD is delayed till end of 2020.
- For all sites owned or controlled by the Buyers, no land lease is necessary. Site will be made available at no cost to Bidder.
- Permitting happens with counties; none of the requested sites are on subdivisions. Winning Bidders does not have to tell the county.
- Environmental impact assessment: not completed, assume no issues. No site is a habitat for endangered species, and there are no known or probable archaeological findings on any site.

To minimize Bidders' time to complete a Bid, we ask Bidders to use standard cost assumptions (3/3)

- Geotechnical studies: please use the information in Appendix B. No detailed geotech is available in this round. You can assume piles can be driven easily to 12' with typical reject rates.
- Bidders are asked to pay only for interconnection cost studies. Please assume \$20,000 per site. All interconnection hardware to the low-voltage side of the transformer will be paid for by the Buyers.
- All sites are outside the 100-year floodplain.
- All sites have good access to roads. No site requires development of any access road.
- Title survey will take place after Round 1. Please assume that the site belongs to the owner specified in the table above.
- Each vendor should model a \$0.015/W-DC fee for RMI, \$0.005/W-DC due upon PPA signing, \$0.01/W-DC due upon COD. This fee will be paid only by the winning vendor.
- Electricity off-takers have a strong preference for top-tier modules, inverters, racking systems, and tracking systems (if included in proposed project).
- Electricity off-takers do not have a preference for fixed-tilt versus single-axis tracking solar PV. However, RMI's financial evaluation model indicates that systems with high production during late afternoon summers create a disproportionate amount of value. Bidders can use RMI's model to identify the highest net value system design.
- Electricity off-takers require the associated RECs.

Clarifications

RMI asks Bidders not to have contact with landowners

- 8 out of 10 sites in this RFP are controlled by Buyers.
- For the remaining 2 sites (both Bluebonnet), we ask Bidders not to reach out to land owners, as this might drive up prices.
- Instead, we ask Bidders to use the land cost assumptions in Appendix B for these 2 sites.
- Bidders who violate this rule will not be considered in this RFP and will be blacklisted from all future RMI RFPs.
- If Bidders already have had contact with landowners in proximity to Bluebonnet's Shadow Glen or Chappell Hill substations, we ask Bidders to disclose this in Appendix E at time of sending "Intent to Participate".

Import tariff and implications on module prices

- President Trump has decided to levy a 30% import tariff on solar cells and modules starting February 6th 2018.
- We ask all Bidders to provide details on the expected impact of an import tariff on PPA prices, and if they have taken any precautionary measures, in tabs 5 and 7 of the RFP bidsheet.

RMI expects submitted bids to incorporate tariff decision and associated impact on module prices.

For solar-and-storage, Buyers are interested in contracts that share risk.

1. Fixed monthly \$/kW capacity savings contract. — All risk with Buyer
 2. Guaranteed savings contract. Bidder guarantees a certain annual savings to Buyer.
 3. Guaranteed kW-reduction. Bidder guarantees a peak reduction during certain hours to the Buyer.
 4. Shared savings contract, using a mutually agreed upon M&V solution.
- Shared risk between Bidder and Buyer

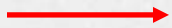
RMI asks for different possible contract structures for solar-and-storage in tab 6 of the RFP bidsheet.

For purposes of NPV evaluation, we ask Bidders to submit a \$/kW-month price.

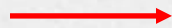
Next steps

Please send an email to shine@rmi.org by this Friday January 26th, 5pm MT if you intend to participate

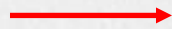
shine@rmi.org



Insert Company
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[Bidder name] intends to participate in Shine Texas RFP

Shine Application

[Bidder name] intends to participate in Shine Texas RFP

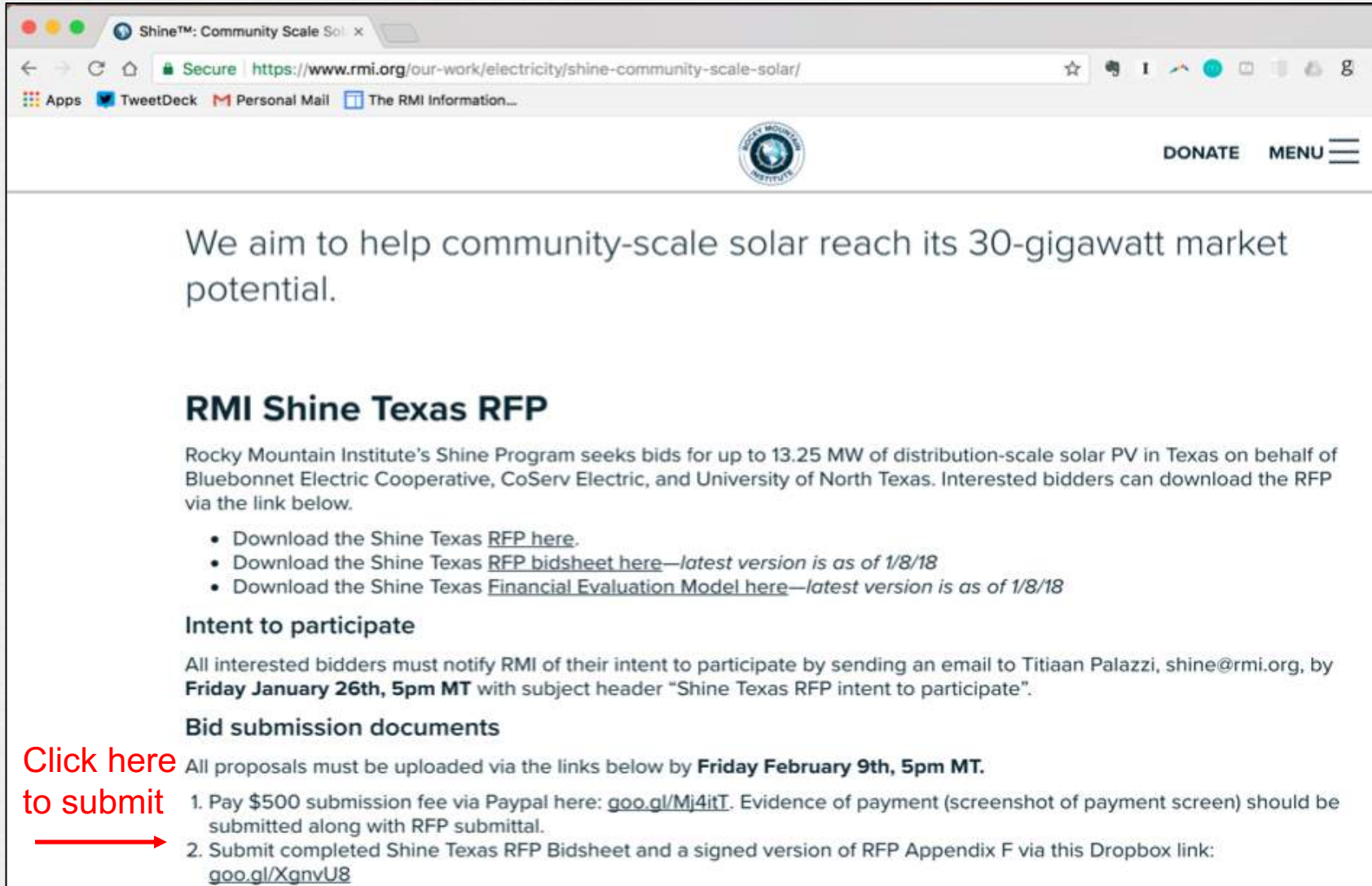
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Please submit your documents by February 9th, 5pm MT

Go to: www.rmi.org/shine



The screenshot shows a web browser window with the URL <https://www.rmi.org/our-work/electricity/shine-community-scale-solar/>. The page features the Rocky Mountain Institute logo and navigation links for 'DONATE' and 'MENU'. The main heading reads 'We aim to help community-scale solar reach its 30-gigawatt market potential.' Below this is the section 'RMI Shine Texas RFP', which states that the program seeks bids for up to 13.25 MW of distribution-scale solar PV in Texas. It provides three links for downloading documents: the RFP, the RFP bidsheet (latest version as of 1/8/18), and the Financial Evaluation Model (latest version as of 1/8/18). The 'Intent to participate' section requires interested bidders to notify RMI by email to Titiaan Palazzi by Friday, January 26th, 5pm MT. The 'Bid submission documents' section states that all proposals must be uploaded by Friday, February 9th, 5pm MT, and lists two steps: paying a \$500 submission fee via PayPal and submitting the completed RFP Bidsheet and signed Appendix F via a Dropbox link.

We aim to help community-scale solar reach its 30-gigawatt market potential.

RMI Shine Texas RFP

Rocky Mountain Institute's Shine Program seeks bids for up to 13.25 MW of distribution-scale solar PV in Texas on behalf of Bluebonnet Electric Cooperative, CoServ Electric, and University of North Texas. Interested bidders can download the RFP via the link below.

- Download the Shine Texas [RFP here](#).
- Download the Shine Texas [RFP bidsheet here](#)—latest version is as of 1/8/18
- Download the Shine Texas [Financial Evaluation Model here](#)—latest version is as of 1/8/18

Intent to participate

All interested bidders must notify RMI of their intent to participate by sending an email to Titiaan Palazzi, shine@rmi.org, by **Friday January 26th, 5pm MT** with subject header "Shine Texas RFP intent to participate".

Bid submission documents

All proposals must be uploaded via the links below by **Friday February 9th, 5pm MT**.

1. Pay \$500 submission fee via Paypal here: goo.gl/Mj4itT. Evidence of payment (screenshot of payment screen) should be submitted along with RFP submittal.
2. Submit completed Shine Texas RFP Bidsheet and a signed version of RFP Appendix F via this Dropbox link: goo.gl/XgnvU8

Click here
to submit



Questions?

Please write to Titiaan Palazzi, tpalazzi@rmi.org,
by Friday February 2nd 2018,
with subject “Shine Texas RFP Q&A”.