



# **CERTIFICATION AND FINANCING PROPOSAL**

## **BAYWA CORAZON SOLAR PROJECT IN WEBB COUNTY, TEXAS**

*Published: October 9, 2020*



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## EXECUTIVE SUMMARY

### BAYWA CORAZON SOLAR PROJECT IN WEBB COUNTY, TEXAS

- Project:** The proposed project consists of the design, construction and operation of a 200-MW<sub>AC</sub> solar park located in Webb County, Texas (the “Project”).<sup>1</sup> The electricity generated by the Project will be sold to a private off-taker pursuant to a long-term power purchase agreement (PPA) and in the wholesale electricity market.
- Objective:** The Project will increase installed capacity of renewable energy resources, which will help reduce future demand on traditional fossil fuel-based energy production and thus help prevent the emission of greenhouse gases and other pollutants from power generation using fossil fuels.
- Expected Outcomes:** The estimated environmental and human health outcomes resulting from the installation of 200 MW<sub>AC</sub> of new renewable energy generation capacity are:
- a) Generation of approximately 537.30 gigawatt-hours (GWh) of electricity during the first year of operation.<sup>2</sup>
  - b) Reduction of approximately 258,338 metric tons/year of carbon dioxide (CO<sub>2</sub>), 195 metric tons/year of nitrogen oxides (NOx) and 219 metric tons/year of sulfur dioxide (SO<sub>2</sub>).<sup>3</sup>
- Sponsor:** BayWa r.e. Solar Projects LLC.
- Borrower:** Corazon Energy, LLC.
- NADB Loan Amount:** Up to US\$130 million.

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<sup>1</sup> MW<sub>AC</sub> stands for megawatts in alternating current.

<sup>2</sup> Source: Information provided by the Sponsor based on the expected P50 electricity production.

<sup>3</sup> CO<sub>2</sub>, NOx and SO<sub>2</sub> calculations are based on the potential emissions avoided as a result of reducing future demand on fossil fuel-based electricity through the use of solar energy equivalent to 537.30 GWh/year and the emission factors for the state of Texas. The emission factors were calculated by NADB based on the power generation portfolio of the state of Texas in 2018. The resulting emission factors are: 0.4808 metric tons/MWh for CO<sub>2</sub>; 0.0003628 metric tons/MWh for NOx and 0.0004082 metric tons/MWh for SO<sub>2</sub>.

# CERTIFICATION AND FINANCING PROPOSAL

## BAYWA CORAZON SOLAR PROJECT IN WEBB COUNTY, TEXAS

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### 1. PROJECT OBJECTIVE AND EXPECTED OUTCOMES

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The proposed project consists of the design, construction and operation of a 200-MW<sub>AC</sub> solar park located in Webb County, Texas (the “Project”).<sup>4</sup> The electricity generated by the Project will be sold to a private off-taker pursuant to a long-term power purchase agreement (PPA) and in the wholesale electricity market. The Project will increase installed capacity of renewable energy resources, which will help reduce future demand on traditional fossil fuel-based energy production and thus help prevent the emission of greenhouse gases and other pollutants from power generation using fossil fuels. The Project is expected to generate approximately 537.30 gigawatt-hours (GWh) of electricity in the first year of operation. As a result, it will help prevent the emission of an estimated 258,338 metric tons/year of carbon dioxide (CO<sub>2</sub>), 195 metric tons/year of nitrogen oxides (NO<sub>x</sub>) and 219 metric tons/year of sulfur dioxide (SO<sub>2</sub>).

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### 2. ELIGIBILITY

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#### 2.1. Project Type

The Project falls into the category of clean and efficient energy.

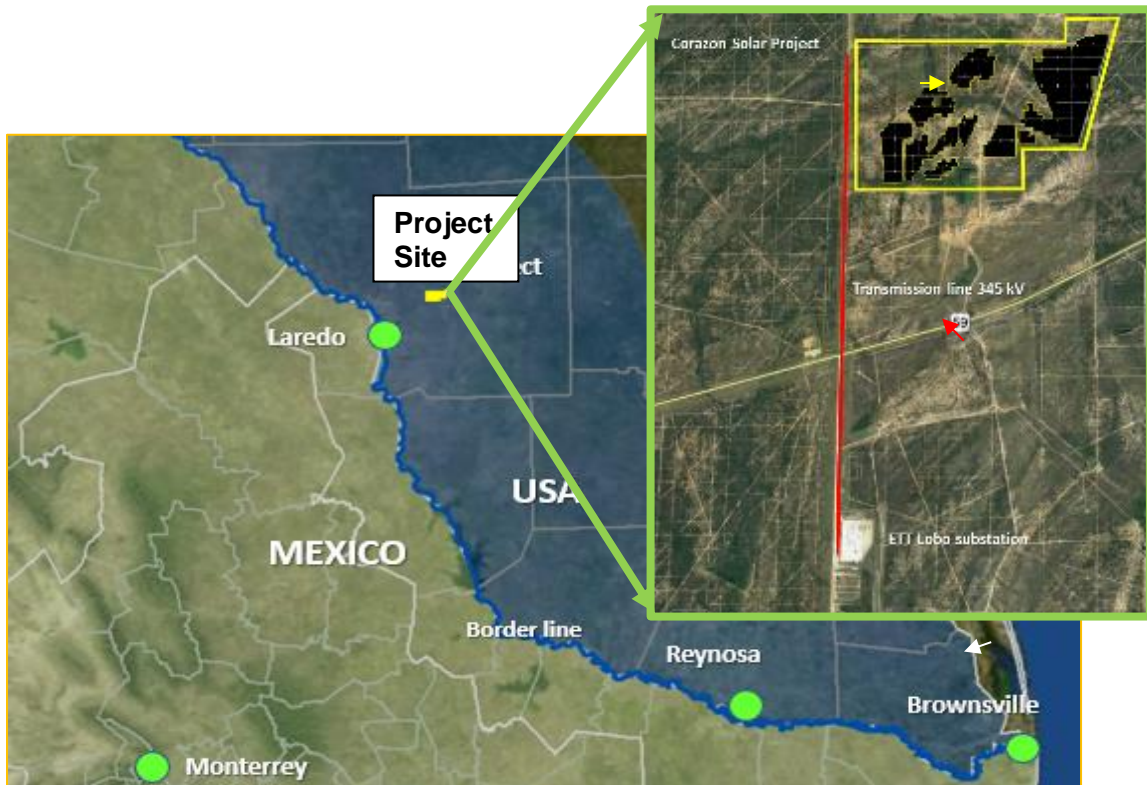
#### 2.2. Project Location

The Project will be developed on approximately 2,000 acres of private land in the southeastern region of the state of Texas. The site of the solar park is located in Webb County, approximately 16 miles northeast of the city of Laredo, which is the county seat, and approximately 18 miles north of the U.S.-Mexico border, at the following coordinates: latitude: 27°36'1.20"N, and longitude: 99°16'7.90"W. Figure 1 illustrates the geographic location of the Project.

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<sup>4</sup> MW<sub>AC</sub> stands for megawatts in alternating current.

Figure 1  
PROJECT LOCATION MAP



### 2.3. Project Sponsor and Legal Authority

The private-sector project sponsor is BayWa r.e. Solar Projects LLC. (BayWa or the “Sponsor”), which will use a special-purpose vehicle, Corazon Energy, LLC. (Corazon or the “Project Company”), to implement the Project. Corazon is a Delaware-based, limited-liability company established in May 2015.

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## 3. CERTIFICATION CRITERIA

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### 3.1. Technical Criteria

#### 3.1.1. General Community Profile

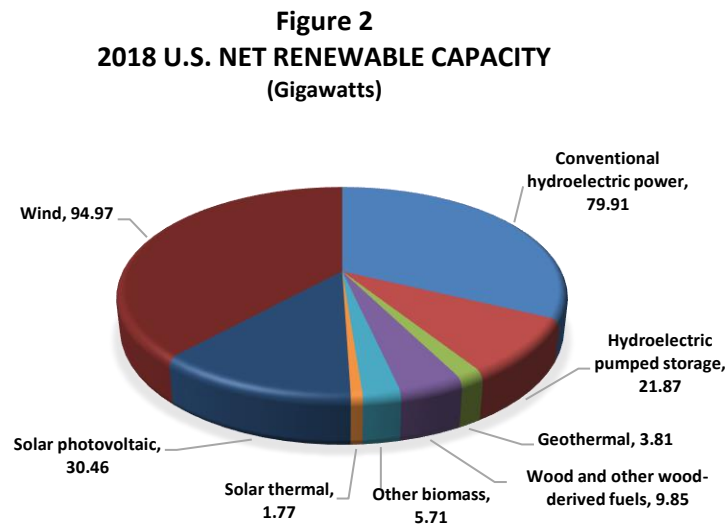
According to the U.S. Census Bureau, in 2019, Webb County had an estimated population of 276,652, which represents 0.95% of the Texas population. The county had an average poverty rate of 25.7% in 2019, which is considerably higher than the 14.9% poverty level estimated for the

state of Texas. The median household income (MHI) in 2019 was estimated at US\$42,293, which is less than the US\$59,570 estimated for the state.

The Project is expected to benefit the communities near the Project site through the creation of approximately 400 jobs during construction and four on-site jobs during operation. Additionally, the electricity generated by the Project is expected to offset generation from other, more polluting sources, thus resulting in cleaner air for the communities. Specifically, the electricity generated by the Project will be equivalent to the annual consumption of 38,074 households (138,970 residents).<sup>5</sup>

### **Local Energy Profile**

According to U.S. Energy Information Administration (EIA), reductions in technology costs combined with the implementation of policies that encourage the use of renewables at the state level (renewable portfolio standards) and at the federal level (production and investment tax credits) are driving down the costs of renewable energy facilities (wind and solar photovoltaic), supporting their expanded adoption.<sup>6</sup> For 2018, wind, solar and other non-hydropower renewable sources are expected to supply more than 10% of the country's power generation.<sup>7</sup> Figure 2 shows the U.S. net renewable capacity in 2018, and Figure 3 shows the U.S. net generation from renewable energy sources.



Source: Chart elaborated by NADB based on EIA electricity capacity reports (<https://www.eia.gov/electricity/data.php#gencapacity>).

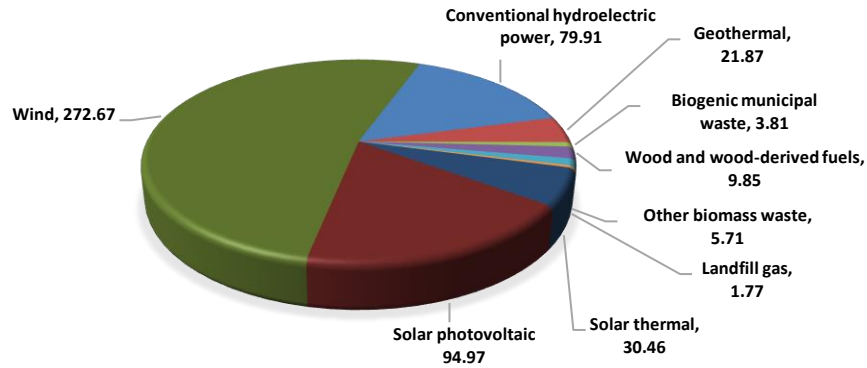
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<sup>5</sup> Calculated based on (i) average annual electricity consumption of 14,112 kilowatt-hours (kWh) per Texas household in 2018 according to U.S. Energy Information Administration (EIA) ([https://www.eia.gov/electricity/sales\\_revenue\\_price/pdf/table5\\_a.pdf](https://www.eia.gov/electricity/sales_revenue_price/pdf/table5_a.pdf)), and (ii) 3.65 persons per household as estimated by the U.S. Census Bureau.

<sup>6</sup> Source: EIA, Annual Energy Outlook 2018.

<sup>7</sup> Source: EIA.

**Figure 3**  
**2018 US NET GENERATION FROM RENEWABLE SOURCES**  
(Thousands of Gigawatts-hours)



Source: Chart elaborated by NADB based on EIA electricity capacity reports  
([https://www.eia.gov/electricity/annual/html/epa\\_03\\_01\\_b.html](https://www.eia.gov/electricity/annual/html/epa_03_01_b.html))

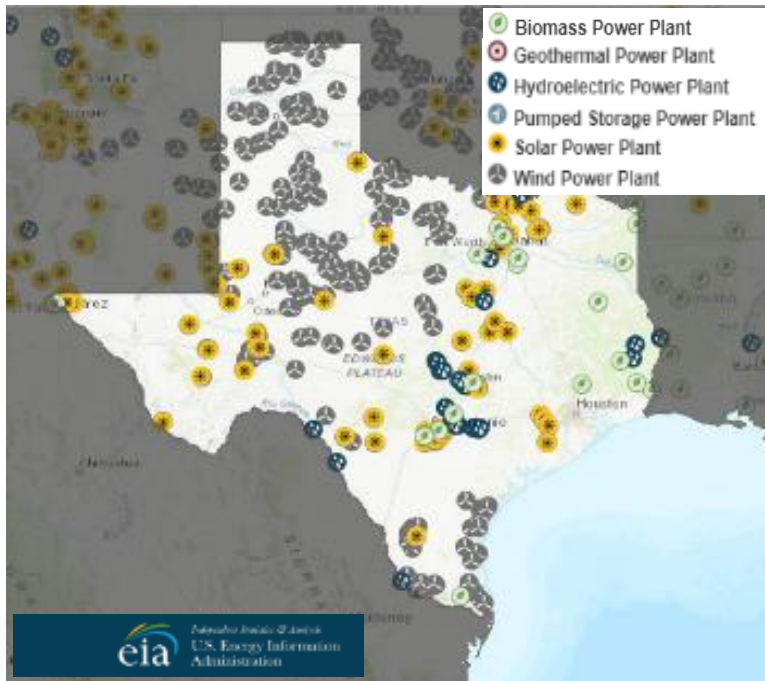
The U.S. Department of Energy (DOE), through EIA, provides a state-by-state reference for information and data covering energy production and demand. Texas produces more electricity than any other state, generating almost twice as much as Florida, the second-highest electricity-producing state in the country.<sup>8</sup> Figure 4 from the EIA website shows the location of the renewable power plants and energy sources in Texas.<sup>9</sup>

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<sup>8</sup>The Texas electricity production portfolio includes coal, natural gas, crude oil, nuclear power, biofuels and renewable energy.

<sup>9</sup> Source: U.S. Department of Energy, EIA, State Energy Profiles – Texas, 2018.

**Figure 4**  
**POWER PLANTS AND ENERGY SOURCES IN 2020**



Source: EIA (<http://www.eia.gov/>)

According to EIA, in 2018, renewable energy sources generated nearly 20% of the net electricity in Texas and accounted for 20% of total utility-scale power generation in the U.S. from all non-hydroelectric renewable sources. The high levels of direct solar radiation in the western part of the state provide Texas with high solar power potential. In 2019, Texas was ranked as the sixth largest solar power producer in the country.

In 1999, Texas established a Renewable Portfolio Standard (RPS) as part of its power industry restructuring legislation under Senate Bill 7, which was designed to increase the delivery of renewable energy and the associated environmental benefits to the people of Texas. The RPS initially mandated that electricity providers collectively provide 2,000 MW of additional renewable energy capacity by 2009. In 2005, the Texas Legislature approved a much more aggressive RPS, increasing the state mandate for total renewable energy to 5,880 MW by 2015 and 10,000 MW by 2025. Texas has already exceeded these goals. In 2018 the state had an installed capacity of 122,159 MW, generating 79,000 GWh of electricity solely from solar and wind sources.<sup>10</sup>

According to the 2018 Texas Renewable Energy Industry Report, the state quadrupled its solar energy generation in two years from 730.8 GWh in 2016 to 3,205 GWh in 2018, with solar accounting for only 0.67% of power generation in the Texas Interconnection Region at the end of 2018, demonstrating that there is considerable growth potential in this sector. Additionally, a

<sup>10</sup> Source: EIA, Texas Electricity Profiles, Tables 4 and 5, <http://www.eia.gov/electricity/state/texas/>.



total of 6.5 GW of existing and planned wind and solar facilities are located throughout the region. Since 2008 the NADB have certified and funded five renewable energy projects that are contributing 610 MW to the Texas RPS. Table 1 shows a breakdown of the sources of energy generation in Texas.

**Table 1**  
**TEXAS ELECTRIC POWER INDUSTRY GENERATION BY SOURCE 2018**

Source	Generation (GWh)	%
Coal	111,723	23.4%
Hydroelectric	1,126	0.24%
Natural gas	239,713	50.2%
Nuclear	41,186	8.6%
Other	460	0.10%
Other biomass	585	0.12%
Other gas	2,526	0.53%
Petroleum	129	0.03%
Solar	3,206	0.67%
Wind	75,700	15.9%
Wood	1,005	0.21%
<b>Total electric industry</b>	<b>477,360</b>	<b>100.00%</b>

The generation of 7.2 GW of battery source in 2018 was not included in total power industry generation. Table developed by NADB based on data from EIA, Texas Electricity Profile 2018. (<https://www.eia.gov/electricity/state/texas/index.php>). Full data tables 1–15.

In the United States, the power grid consists of three regions: the Eastern Interconnection, the Western Interconnection and the Texas Interconnection. The latter, operated by the Electric Reliability Council of Texas (ERCOT), is separate from the rest of the nation, making Texas the only mainland state with its own grid. As a result, the utilities within ERCOT are exempt from most federal regulation.

ERCOT manages the flow of electric power to 26 million Texas customers through a power grid with 46,500 miles of transmission lines and more than 680 generation units. The ERCOT grid covers several counties within the 100-km Texas border region, including Kinney, Starr, Jim Hogg, Zapata, Webb, Dimmit, Maverick, Zavala, Uvalde, Edwards, Val Verde, Crockett, Terrel, Brewster, Presidio, Jeff Davis and Culberson. ERCOT is governed by a board of directors and subject to oversight by the Public Utility Commission of Texas and the Texas Legislature. Its members include consumers, cooperatives, generators, power marketers, retail electric providers, investor-owned electric utilities, transmission and distribution providers and municipal-owned electric utilities.<sup>11</sup>

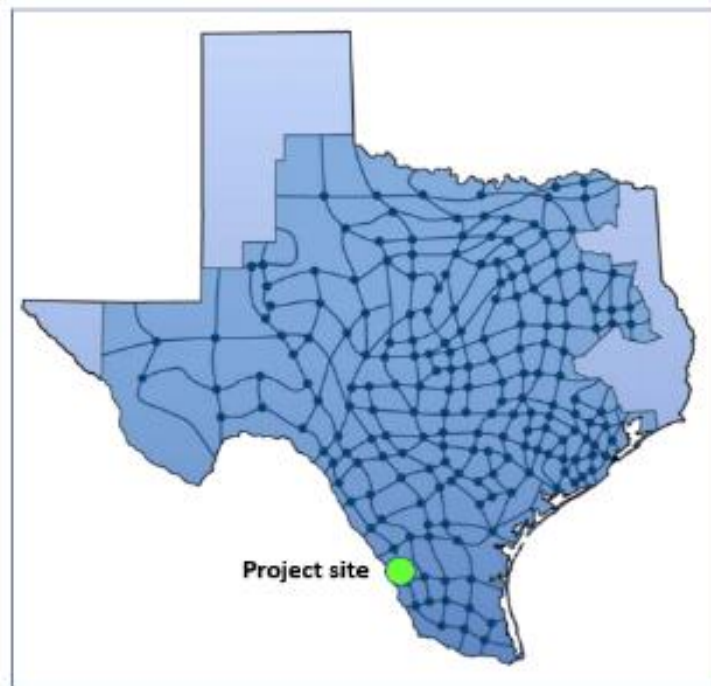
ERCOT operates under a “nodal market” scheme based on more than 4,000 points of interconnection where energy is supplied by generators or obtained by retailers. Figure 3 shows the ERCOT service area and transmission lines.

**Figure 3**

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<sup>11</sup> Source: ERCOT company profile (<http://www.ercot.com/about/profile>).

### ERCOT NODAL MAP



Source: ERCOT

ERCOT's Texas Interconnection Region covers 75% of the state's landmass and 90% of the electrical load. In 2019, 384 billion kilowatt-hours (kWh) of energy were used, a 2% increase compared to 2018. Around 47% of the energy consumed in the state of Texas was generated from natural gas (184 billion kWh).<sup>12</sup>

### 3.1.2. Project Scope

The Project consists of the design, construction and operation of a 200-MW<sub>AC</sub> solar park and includes the following components:

- **Modules:** Approximately 658,000 bifacial monocrystalline photovoltaic modules with a nominal capacity of 400-410 watts will be installed.<sup>13</sup> The panel provider will be a top-tier global provider. These modules are backed by a 12-year product warranty and a 30-year linear power output warranty.
- **Tracking system:** The modules will be mounted on single-axis tracking arrays which will have a 104-degree tracking range, one slewing gear, 480 V<sub>AC</sub> motor and their principal materials will be made of galvanized and stainless steel.

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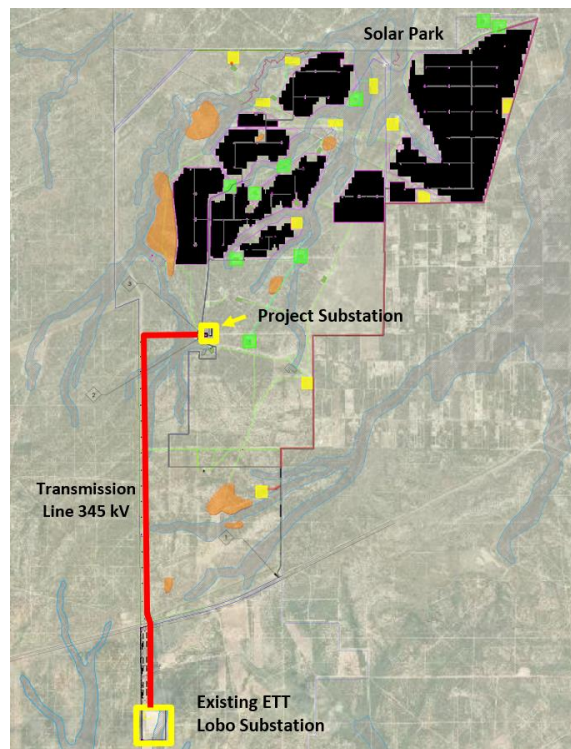
<sup>12</sup> Source: ERCOT Fact Sheet. ([http://www.ercot.com/content/wcm/lists/197391/ERCOT\\_Fact\\_Sheet\\_8.11.20.pdf](http://www.ercot.com/content/wcm/lists/197391/ERCOT_Fact_Sheet_8.11.20.pdf)).

<sup>13</sup> A bifacial photovoltaic module is a double glass module that has the capability of converting solar power into electricity from the reflecting light on the rear side of the module, in addition to the typical conversion of incident light on the front side, providing higher output power, a lower temperature coefficient, less shading loss, and enhanced tolerance for mechanical loading.

- ***Inverters:*** A total of 66 inverters will be installed to transform the direct current from the modules into alternating current, with an efficiency of 97.7% and modular design for easy maintenance. The inverters will transform the electricity to 34.5 kV.
- ***Interconnection:*** A network of underground electric cables will be installed to collect the energy from the modules. One step-up substation will be constructed to transform the electricity from 34.5 kV to 345 kV. The Project will be interconnected to the existing ETT Lobo 345 kV station operated by ERCOT, through a new 3.7-mile aerial transmission line.
- ***Monitoring and control system:*** A SCADA system will be used to monitor, operate and track the park remotely, as well as document the performance of the PV system relative to its projected output.

Figure 5 shows the location of the main components within the project area, as well as the location of the transmission line and interconnection substation.

**Figure 5**  
**PROJECT LAYOUT**



### 3.1.3. Technical Feasibility

The Sponsor evaluated solar modules from various suppliers in order to select the equipment best suited to the characteristics of the Project site and solar resource. The process for evaluating

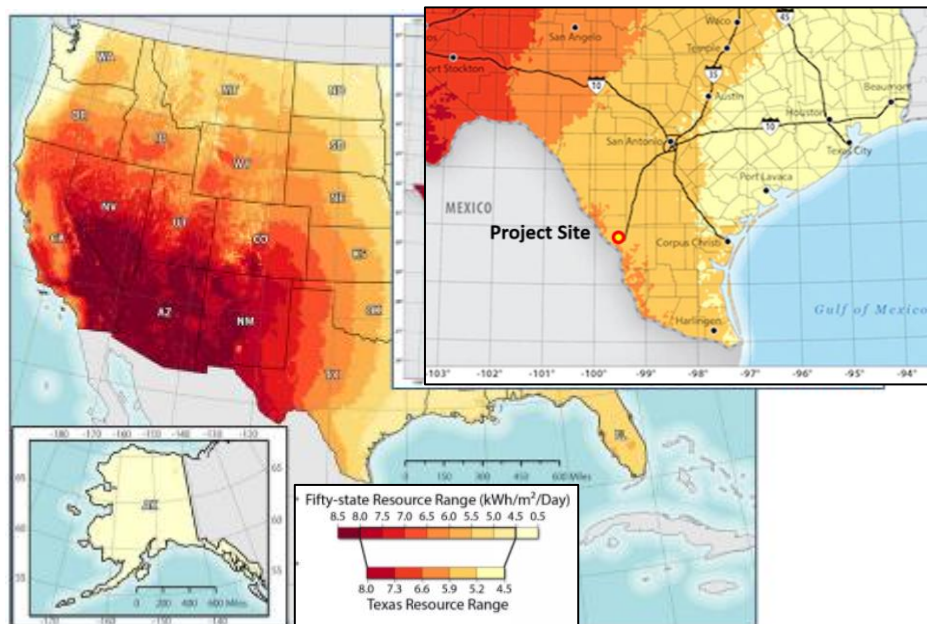
technology took into consideration elements such as technical performance, commercial offering and warranties. Additionally, the viability of the Project was evaluated based on the cost-effectiveness and reliability of the technologies.

The Sponsor selected the bifacial monocrystalline photovoltaic modules. These double-glass modules have the capability of converting incident light on the rear side into electricity, in addition to the electricity generated on the front side. This characteristic makes these modules the best performing and most cost-effective in terms of solar energy generation. The modules also resistant to extreme weather conditions.<sup>14</sup>

### **Solar Resource Assessment**

The Project is located in Webb County, Texas. According to the National Renewable Energy Laboratory (NREL), the photovoltaic solar resource in Webb County ranges from 5 to 6 kWh/m<sup>2</sup>/day (see Figure 5).

**Figure 5**  
**SOLAR RESOURCE POTENTIAL**



Source: National Renewable Energy Laboratory

The energy production of the Project was calculated using Photovoltaic System (PVSyst) software, published by the University of Geneva, Switzerland. It is estimated that the installed capacity of 200 MW<sub>AC</sub> will generate approximately 537.30 GWh of electricity in the first year of operation.

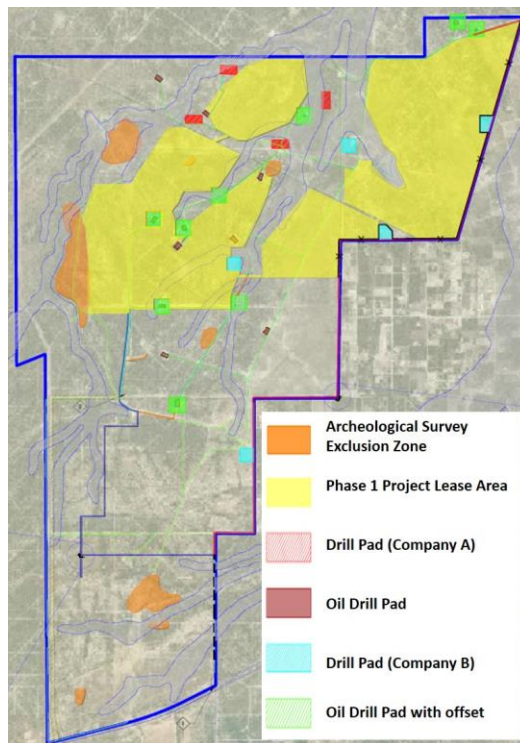
<sup>14</sup> Source: Solar panel provider web page (<http://www.platinumsolardesigns.com.au/brands-and-products/solar-panels/opal-solar/#::~:~:text=Glass%20%2F%20Frameless%20%2F%20Monocrystalline- ,These%20double%2Dglass%20modules%20assembled%20with%20bifacial%20PERCIUM%20cells%20have.energy%20 generation%20as%20well%20as>)

Performance losses due to current conversion, dust and inverter losses were taken into consideration. The energy generation estimate will be vetted by the independent engineer.

### 3.1.4. Land Acquisition and Right-of-Way Requirements

The Project site consists of approximately 2,000 acres of private land. The Sponsor secured the land through a lease and easement agreement executed in December 2017, for a term of up to 45 years in order to develop, construct and operate a solar energy generation facility. The site is currently used for oil and gas extraction and ongoing ranchland activities, as shown in Figure 7.

**Figure 7**  
**EXISTING OIL & GAS INFRASTRUCTURE**



The Project requires county and state clearances to carry out construction and operation activities. On May 26, 2020, the Sponsor obtained a floodplain development permit issued by Webb County for clearing and grubbing a tract of land in Corazon ranch. Additionally, on October 2, 2020, Webb County issued a floodplain permit exemption for grading in areas outside of floodplains.

The Sponsor reviewed information from several sources including the Railroad Commission of Texas (RCC) and Public Geographic Information Systems to determine whether or not oil and gas exploration activities have ever taken place within the Project boundaries and to identify the existence of possible onsite pipelines. The records showed that two of natural gas pipelines are located on the site. No pipeline incidents in the vicinity of the site have been reported.



### 3.1.5. Project Milestones

Construction permits have been obtained, and construction of the Project started in July 2020. The Commercial Operation Date (COD) is expected to occur no later than August 2021. Table 2 presents the status of key milestones for Project implementation.

**Table 2**  
**PROJECT MILESTONES**

Key Milestones	Status
Project site lease agreements	Completed (December 2017)
Environmental impact assessments	Completed (June 2020)
Water resources evaluation	Completed (April 2020)
Biological resources evaluation	Completed (April 2020)
Cultural resources reconnaissance, intensive survey, and site documentation	Completed (November 2019)
U.S. Fish & Wildlife Service clearance for the endangered species act	Completed (February 2020)
TCEQ Construction General Permit Stormwater Pollution Prevention Plan	Completed (July 2020)
Webb County Floodplain Development Permit	Completed (July 2020)
Texas Parks & Wildlife Department project recommendations	Completed (March 2019)
Power purchase agreements	Completed (September 2019)
Interconnection agreement	Completed (January 2020)
Engineering, procurement, and construction (EPC) contract	Executed (September 2020)
Commercial operation date	Expected (August 31, 2021)

NADB procurement policies require that private-sector borrowers use appropriate procurement methods to ensure a sound selection of goods, works and services at fair market prices and that their capital investments are made in a cost-effective manner. As part of its due-diligence process, NADB will review compliance with this policy.

### 3.1.6. Management and Operation

BayWa AG is a globally active group that was founded in Munich in 1923 with a focus on agricultural cooperative trading. Its core segments are currently Agriculture, Energy and Building Materials, along with the development segment Innovation & Digitalization. Baywa AG develops projects and solutions for the basic human needs of food, energy and building globally. BayWa r.e., the renewable energies business unit of the group, has become an important mainstay, with significant international expansion in recent years. In 2014, BayWa r.e. established a U.S. subsidiary, BayWa r.e. Solar Projects LLC (the Sponsor), to develop projects in North America.

BayWa r.e. covers the entire project business, from the planning, development and construction of wind farms and solar parks through to their sale. Services such as the technical and commercial

management of plants and the marketing of the generated electricity on the energy market round off the range of offerings. Its installed capacity is 3,000 MW around the world. BayWa r.e. employs 2,812 people worldwide and reported US\$2.2 billion in revenue in 2019.

Its subsidiary, BayWa r.e. Solar Projects LLC, focuses on utility scale solar/storage development and investment in the Americas, providing turnkey project services for global investors, including development, construction management, operation and maintenance (O&M), and asset management contracts for over 8,300 MW. BayWa group has projects with more than 640 MW of capacity operating or under construction in U.S. and Mexico.

Solar photovoltaic systems are highly reliable and require minimal maintenance. The Sponsor will provide a comprehensive operation and maintenance (O&M) program for the Project through a subsidiary pursuant to an O&M contract entered into with the Project company.

## **3.2. Environmental Criteria**

### **3.2.1. Environmental and Health Effects/Impacts**

#### **A. Existing Conditions**

Historically, the United States has depended to a great extent on fossil fuels for the generation of electricity. These conventional sources of energy adversely affect the environment due to the harmful emissions produced in their processes, including greenhouse gases (GHG) and other pollutants, such as SO<sub>2</sub> and NO<sub>x</sub>. Consequently, there is a need for affordable and environmentally beneficial alternatives to conventional hydrocarbon-based energy sources.

Currently, electricity generation in Texas relies on a mix of technologies, as explained in Section 3.1. According to EIA, in 2018, the generation of nearly 477,360 GWh resulted in the emission of approximately 230 million metric tons of CO<sub>2</sub>, 171,000 metric tons of NO<sub>x</sub> and 203,000 metric tons of SO<sub>2</sub>.<sup>15</sup>

#### **B. Project Impacts**

Renewable energy projects create an opportunity to generate electricity by using sources that do not produce GHG and criteria pollutants (SO<sub>2</sub>, NO<sub>x</sub>, etc.) like those released by fossil-fuel-based plants. Sunlight is a clean form of renewable energy, which means that it can be used continuously without depleting natural resources and does not produce waste byproducts that require disposal or gas emissions that contribute to air pollution. Moreover, solar energy production does not consume or pollute water, although small amounts may be used to clean the panels from time to time. The Project provides an opportunity to displace greenhouse gases (GHG) and other pollutants produced by traditional hydrocarbon-based energy generation, while providing local residents with a safe and reliable energy alternative.

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<sup>15</sup> Source: EIA, Texas Electricity Profiles, (<https://www.eia.gov/state/print.php?sid=TX>)

The Project will reduce the demand for electricity generated by fossil fuel-based power plants, and since solar-based power generation implies zero emissions, it will displace related harmful emissions. The anticipated environmental outcomes from the installation of 200 MW<sub>AC</sub> of new renewable energy generation capacity (or approximately 537.3 GWh) include the displacement of an estimated 258,338 metric tons/year of CO<sub>2</sub>, 195 metric tons/year of NO<sub>x</sub> and 219 metric tons/year of SO<sub>2</sub>.<sup>16</sup>

### C. Transboundary Impacts

No negative transboundary impacts are anticipated as a result of the development of the Project. On the contrary, a beneficial effect is anticipated on air quality due to the decreased demand on fossil-fuel-fired electrical plants in the region.

## 3.2.2. Compliance with Applicable Environmental Laws and Regulations

### A. Environmental Clearance

The Sponsor conducted the following environmental studies to evaluate the potential impact of implementing the Project, as well as the mitigation measures that may be required:

#### Environmental Site Assessment Phases I and II

On January 25, 2018, on behalf the Sponsor, ESE Partners, LLC (ESE) conducted a Phase 1 Environmental Site Assessment (ESA) on 3,925 acres of land, which included: i) a review of historical records; ii) a review of regulatory agency records; and iii) a walk-through site inspection and drive-by reconnaissance of the area. ESE did not identify any known recognized environmental conditions in connection with the site. However, a cattle dip vat was identified in the eastern portion of the site. An inscription on the cattle dip vat indicated that it was constructed in 1920. According to ESE, this kind of construction could contain pesticides such as arsenic.

As a result, on February 25, 2019, ESE performed a Phase II ESA, to test for the presence of chemicals in the soil and groundwater at the site. Assessment activities included drilling four soil borings to 25 feet below groundwater surface (bgs) in the immediate vicinity of the cattle dip vat and four soil borings to 8 feet bgs 100 feet away from the cattle dip vat. The results were compared to Texas-specific soil background concentrations and the TCEQ Texas Risk Reduction Program (TRRP) Tier 1 residential concentration levels. ESE determined that soil and groundwater near the cattle dip vat have elevated levels of arsenic. Therefore, the cattle dip vat, due to the associated arsenic levels found, is considered a recognized environmental condition. However, ESE concluded that there is no evidence that the soil represents a health risk due to direct human

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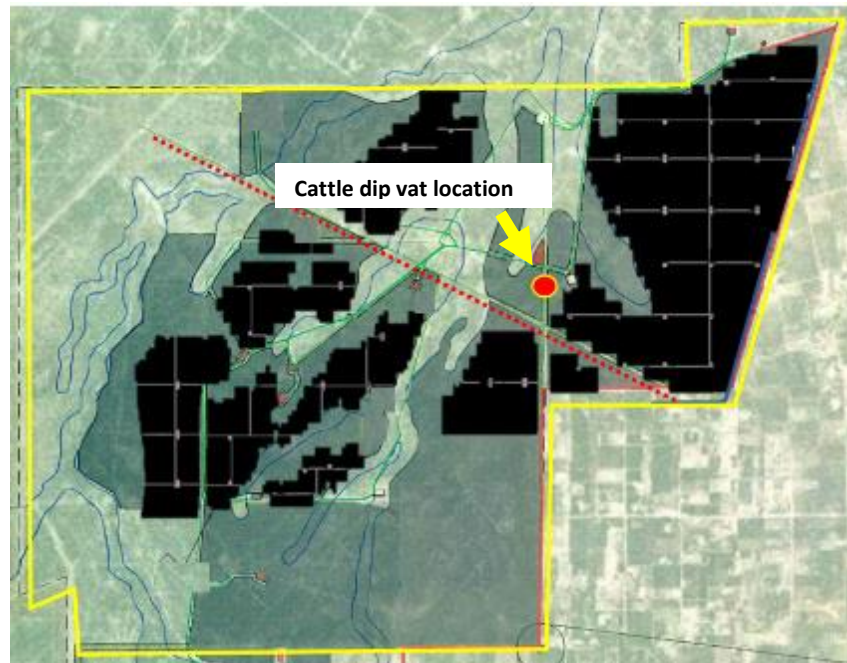
<sup>16</sup> CO<sub>2</sub>, NO<sub>x</sub> and SO<sub>2</sub> calculations are based on the potential emissions avoided as a result of reducing future demand on fossil fuel-based electricity through the use of solar energy equivalent to 537.30 GWh/year and the emission factors for the state of Texas. The emission factors were calculated by NADB based on the power generation portfolio of the state of Texas. The resulting emission factors are: 0.4808 metric tons/MWh for CO<sub>2</sub>; 0.0003628 metric tons/MWh for NO<sub>x</sub> and 0.0004082 metric tons/MWh for SO<sub>2</sub>.



contact as a result of construction activities at the site. NADB will confirm ESE’s findings as part of its due diligence process.

ESE recommends avoiding any disturbance in the vicinity of the cattle dip vat identified in ESA Phase I during any onsite construction activities. The layout of the Project will not disturb the soil in the vicinity of the cattle dip vat. Additional mitigation measures are included in section 3.2.2.B. Figure 8 shows the location of the cattle dip vat.

**Figure 8**  
**CATTLE DIP VAT**



Finally, on June 15, 2020, ESE prepared a second Phase I ESA for an additional 67.51 acres located to the south of the site, for a total Project surface area of 3,992.51 acres. This second Phase I ESA found no evidence of any additional recognized environmental conditions. It is worth noting that the ESAs were performed on a surface area of approximately twice the size of the land needed to develop the Project, as the Sponsor is in the process of developing a second phase of the Corazon Solar Park.

*Biological Resources Evaluation*

The purpose of the study was to identify sensitive biological resources that may occur in the immediate vicinity of the Project site and analyze potential impacts. The species considered for this evaluation are those listed as threatened or endangered by the United States Fish and Wildlife Service (USFWS) and/or the Texas Parks and Wildlife Department (TPWD) found within a five-mile buffer of the Project site. The evaluation determined that no species currently protected by the federal government are likely to be impacted as a result of the Project activities. Nevertheless, species listed by the state authority—such as the South Texas siren, Texas horned lizard and Texas

tortoise—as well as migratory birds protected by the Migratory Bird Treaty Act, may occupy the Project site and be impacted.<sup>17</sup> However, potential impacts can be avoided or reduced through the implementation of best management practices and mitigation measures as described in the following section of this proposal.

### Cultural Resources Assessment

A specialized firm was contracted by the Sponsor to conduct a search of cultural resource records, a pedestrian field survey, archaeological test excavations and a Native American consultation. As a result of a reconnaissance survey, 19 prehistoric sites were identified within the Project site limits, but no standing structures were found. Of the 19 documented sites, four were eligible for listing on the National Register of Historic Places (NRHP), four were deemed to be of undetermined eligibility for listing on the NRHP, and 11 were not eligible for listing on the NRHP.<sup>18</sup> The assessment recommended avoidance of the four archaeological sites that were eligible for listing on the NRHP and the four sites of undetermined eligibility.

### Water Resources Evaluation

The purpose of the water resources evaluation is to assess potential impacts to U.S. waters, including wetlands. Based on a review of the National Hydrography Dataset, the National Wetlands Inventory and historical topographic maps, the assessment concluded that some portions of the Project site are located inside a 100-year floodplain. However as there are no navigable waters within the Project site or in its vicinity, the solar project can be constructed without a permit of the Rivers and Harbors Act. In addition, the Sponsor sent a consultation letter to United States Army Corps of Engineers (USACE) to verify whether a permit was required. On May 18, 2020, the Sponsor received a letter from USACE indicating that the Project will not require a permit.

The Sponsor also obtained a Construction General Permit and a Stormwater Pollution Prevention Plan from TCEQ in July 2020.

## **B. Mitigation Measures**

As part of the environmental assessment conducted for the project site, the agencies recommended the following mitigation measures be implemented.

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<sup>17</sup> The Migratory Bird Treaty Act prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service. ([https://www.fws.gov/birds/policies-and-regulations/laws-legislations/migratory-bird-treaty-act.php#:~:text=The%20Migratory%20Bird%20Treaty%20Act%20prohibits%20the%20take%20\(including%20killing,U.S.%20Fish%20and%20Wildlife%20Service.\)](https://www.fws.gov/birds/policies-and-regulations/laws-legislations/migratory-bird-treaty-act.php#:~:text=The%20Migratory%20Bird%20Treaty%20Act%20prohibits%20the%20take%20(including%20killing,U.S.%20Fish%20and%20Wildlife%20Service.)))

<sup>18</sup> The National Register of Historic Places (NRHP) is the U.S. government's official list of districts, sites, buildings, structures and objects deemed worthy of preservation for their historical significance. Authorized by the National Historic Preservation Act of 1966, the National Park Service's NRHP is part of a national program to coordinate and support public and private efforts to identify, evaluate and protect America's historic and archeological resources. (<https://www.nps.gov/subjects/nationalregister/index.htm>).

Flora

- Restore, replant, or revegetate with native vegetation all areas incurring minor or temporary disturbance (85% survivability required).
- If soil replacement is required, it should be with native soil with similar physical and chemical characteristics.

Protected Species

To minimize impacts to Texas horned lizards, the following mitigation measures are considered:

- Conduct site construction and routine road maintenance activities, especially when ambient temperatures are low from March to October, when the Texas horned lizards are most active.
- Lizards are known to rest on roadsides, and the construction of roads can expose them to predators during low temperatures. Should Texas horned lizards be observed during construction activities, they should be allowed to leave the construction area by themselves.
- From March to October, any excavations, holes or trenches created during construction should be covered overnight or inspected every morning to ensure no lizards have been trapped.
- For newly created roads, speed limits should be established and posted. Driving speed limits on all roads should be stringently enforced.
- Construction and operation personnel should be educated on the potential presence of the state-listed species and trained on the avoidance measures.

To minimize impacts to Texas horned tortoise species, the following mitigation measures are considered:

- Conduct site construction and routine road maintenance with caution, especially when ambient temperatures are low from March to October.
- Construction and operation personnel should be educated on the potential presence of these species and trained on avoidance measures.

The agencies also recommended that a permitted biological monitor sweep any potential habitat ahead of construction equipment during the initial clearing of the site, in order to relocate reptiles outside of the project area or to fenced-off areas following the above recommendation.

Migratory Birds

In accordance with the Migratory Bird Treaty Act of 1918 (MBTA) the impacts of the Project can be avoided through the following mitigation measures:

- Should construction and vegetation clearing occur from March through August, active bird nest surveys should be conducted by a biologist no more than five (5) days prior to planned construction.

- Construction personnel should be made aware of migratory bird species on site, their habits and regulatory status. Biological monitors clearing areas for construction should take these species into account.
- If migratory birds or their nests are present prior to or during construction, actions should be implemented to ensure migratory birds, their nests, eggs and young will not be harmed.

### Aquatic Species

To minimize the impacts to aquatic species, the ESA recommends that development of the Project follow the Texas Parks & Wildlife Department guidelines including the following mitigation measures:

- Conduct channel modification projects only if vegetation impacts are avoided or mitigated and the reconstructed channel provides for a stream floodplain, natural stream meandering, pools and riffles, streamside vegetation, overhead canopy vegetation and appropriate width/depth/velocities.
- For stream maintenance, rocks and boulders are usually part of the natural stream bed and should not be removed unless they cause significant ponding, sediment deposition, or accumulation problems with logs, small debris or garbage.

### Water Resources

- Construction and development activities should be conducted in such a way as to prevent or minimize damage or contamination of any stream, river or lake from debris, sediment, foreign materials or from the manipulation of equipment and/or materials in or near such waterways.
- Water used for wash purposes or any other operation which might cause the water to become polluted with sand, silt, cement, oil or other impurities should not be returned directly to a stream, river or lake or to a ditch immediately flowing into a stream, river or lake. Such waters should be captured and treated prior to release to the natural ecosystem.

## **C. Pending Environmental Tasks and Authorizations**

There are no pending environmental authorizations for the Project.

### **3.3. Financial Criteria**

BayWa will finance the construction of the Project with equity from the Sponsor and a loan from NADB and other lenders. BayWa will operate and maintain the Project under the terms of a long-term O&M Agreement.

The proposed payment mechanism is standard for similar renewable energy transactions in the United States. The source of payment will be the revenue generated from electricity and

renewable energy credit (REC) sales under a long-term Power Purchase Agreement (PPA) with a private off-taker and uncontracted electricity and REC sales in the wholesale spot market. The expected revenue from the sale of electricity is estimated to be sufficient to: (i) cover scheduled operation and maintenance expenses, (ii) pay the debt service on the senior loan, (iii) fund any debt service and other reserves, and (iv) comply with debt service coverage requirements.

Considering the Project's characteristics and based on the financial and risk analyses performed, the proposed Project is considered to be financially feasible and presents an acceptable level of risk. Therefore, NADB proposes to provide to the Borrower a market-rate loan for up to US\$130 million for construction of the Project.

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## 4. PUBLIC ACCESS TO INFORMATION

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### 4.1. Public Consultation

NADB published the draft certification and financing proposal for a 30-day public comment period beginning on October 9, 2020. The following Project documentation is available upon request:

- Texas Park and Wildlife letter;
- U.S. Army Corps of Engineers letter; and
- Texas Historical Commission Letter.

### 4.2. Outreach Activities

NADB conducted a media search to identify potential public opinion about the Project. References to the Project were found on the websites listed below:

- *LMT Online* (November 13, 2019), "*Renewable energy company asks for tax abatement for three Webb Co. solar projects*" The article describes the Project under development in Webb County.  
<https://www.lmtonline.com/local/article/Renewable-energy-company-asks-for-tax-abatement-14832933.php>
- *Energy Central* (November 15, 2019), "*Renewable energy company asks for tax abatement for three Webb Co. solar projects*" The article describes the Project under development in Webb County.  
<https://energycentral.com/news/renewable-energy-company-asks-tax-abatement-three-webb-co-solar-projects>

In summary, these publications highlight the plan to develop the Project. Opposition to the Project was not detected from the available media coverage. The Sponsor has followed all public

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consultation requirements in order to comply with applicable environmental clearance and permitting processes.