



# **CERTIFICATION AND FINANCING PROPOSAL**

## **FORT DUNCAN ENERGY STORAGE PROJECT IN MAVERICK COUNTY, TEXAS**

*Published: July 18, 2024*



## CONTENTS

<b>EXECUTIVE SUMMARY</b> .....	<b>2</b>
<b>1. PROJECT OVERVIEW AND EXPECTED OUTCOMES</b> .....	<b>3</b>
<b>2. ELIGIBILITY</b> .....	<b>3</b>
2.1. Project Type .....	3
2.2. Project Location.....	4
2.3. Project Sponsor and Legal Authority.....	4
<b>3. CERTIFICATION CRITERIA</b> .....	<b>4</b>
3.1. Technical Criteria.....	4
3.1.1. General Community Profile .....	4
3.1.2. Energy Storage in the U.S.....	5
3.1.3. Project Scope .....	8
3.1.4. Technical Feasibility .....	9
3.1.5. Land Acquisition and Right-of-Way Requirements .....	11
3.1.6. Project Milestones .....	11
3.1.7. Management and Operation.....	12
3.2. Environmental Criteria.....	13
3.2.1. Environmental and Health Effects/Impacts .....	13
3.2.2. Compliance with Applicable Environmental Laws and Regulations.....	14
3.2.3. Environmental and Social (E&S) Due-diligence.....	16
3.3. Financial Criteria .....	17
<b>4. PUBLIC ACCESS TO INFORMATION</b> .....	<b>17</b>
4.1. Public Consultation .....	17
4.2. Outreach Activities .....	17

## EXECUTIVE SUMMARY

### FORT DUNCAN ENERGY STORAGE PROJECT IN MAVERICK COUNTY, TEXAS

#### Project Summary

<b>Project Name:</b>	Fort Duncan Energy Storage Project.
<b>Project Sector (Type):</b>	Sustainable energy (energy storage)
<b>Objective:</b>	The purpose of the Project is to increase the energy storage capacity of the Texas grid, which will allow the system operator to manage the grid more efficiently and reduce the use of ramp-up/ramp-down fossil-fuel power generating plants. The Project will also help integrate electricity generated by intermittent renewable energy sources, such as solar and wind, and will support a more reliable power grid by minimizing power disruptions and reducing energy losses resulting from mismatches in supply and demand.
<b>Expected Outcomes:</b>	The installation of an energy storage facility with a capacity of 100 megawatts of alternating current (MW <sub>AC</sub> ) is expected to produce the following results. <ul style="list-style-type: none"><li>▪ Avoid the emission of approximately:<sup>1</sup><ul style="list-style-type: none"><li>○ 29,930 metric tons/year of carbon dioxide (CO<sub>2</sub>).</li><li>○ 23 metric tons/year of nitrogen oxides (NO<sub>x</sub>).</li><li>○ 16 metric tons/year of sulfur dioxide (SO<sub>2</sub>).</li></ul></li><li>▪ Store and deliver up to 73,742 megawatt-hours (MWh) of energy per year.<sup>2</sup></li></ul>
<b>Population to Benefit:</b>	211,551 residents (66,110 households). <sup>3</sup>
<b>Sponsor:</b>	Recurrent Energy, LLC.
<b>Borrower:</b>	Fort Duncan BESS, LLC, as Construction Borrower. Fort Duncan BESS Class B, LLC, as Term Borrower.

<sup>1</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 charging and discharging 73,742 MWh/year of electricity from the sale of energy based on the Texas energy matrix. The related emission factors are: 0.405876 metric tons/MWh for CO<sub>2</sub>; 0.0003178 metric tons/MWh for NO<sub>x</sub> and 0.000227 metric tons/MWh for SO<sub>2</sub> (source: <https://www.eia.gov/electricity/state/texas/>).

<sup>2</sup> Estimation based on information provided by the Sponsor. The Project is expected to complete 365, two-hour charge/discharge cycles per year.

<sup>3</sup> Population benefited calculation are based on the information published by U.S. Census Bureau for Texas which reports in 2023 a total of 12,395,364 housing units and 3.2 persons per household average. The average electricity consumption per household for the calculation was 1,115 kWh per month based on the annual consumption of 165,917 million kWh for the residential sector in Texas, as reported in 2023 by the U.S. Energy Information Administration (EIA).

# CERTIFICATION AND FINANCING PROPOSAL

## FORT DUNCAN ENERGY STORAGE PROJECT IN MAVERICK COUNTY, TEXAS

---

### 1. PROJECT OVERVIEW AND EXPECTED OUTCOMES

---

The proposed project consists of the design, construction and operation of a 100-MW<sub>AC</sub>, two-hour duration battery energy storage system (BESS), with a step-up substation and a switchyard substation for interconnection in Maverick County, Texas (the “Project”). Electricity from the grid will be stored and delivered through a 200-foot gen-tie line that interconnect the switchyard substation and the BESS.<sup>4</sup> The electricity and products generated or enabled by the BESS (ancillary services) will be sold in the wholesale electricity market operated by ERCOT.<sup>5</sup>

The purpose of the Project is to increase the energy storage capacity of the Texas grid, which will allow the system operator to reduce the use of ramp-up/ramp-down fossil-fuel power generating plants and manage the grid more efficiently. The Project will also help integrate electricity generated by intermittent renewable energy sources, such as solar and wind, and will support a more efficient and reliable power grid by minimizing power disruptions and reducing energy losses resulting from mismatches in supply and demand. The Project is expected to store up to 73,742 MWh of energy a year. As a result, the Project will displace the emission of an estimated 29,930 metric tons/year of CO<sub>2</sub>, 23 metric tons/year of NO<sub>x</sub> and 16 metric tons/year of SO<sub>2</sub>.<sup>6</sup>

---

### 2. ELIGIBILITY

---

#### 2.1. Project Type

The Project falls within the eligible category of energy storage under the sector for sustainable energy.

---

<sup>4</sup> A gen-tie line is a 138 kV transmission line built to connect the switchyard for the purpose of interconnecting the Project into the power grid.

<sup>5</sup> Ancillary services are those required to support the reliability of the electricity grid. For ERCOT these services include regulation up, regulation down, responsive reserves and non-spinning reserves.

<sup>6</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 charging and discharging 73,742 MWh/year of electricity from the sale of energy based on the Texas energy matrix. The related emission factors are: 0.405876 metric tons/megawatt-hour (MWh) for CO<sub>2</sub>; 0.0003178 metric tons/MWh for NO<sub>x</sub> and 0.000227 metric tons/MWh for SO<sub>2</sub>.

## 2.2. Project Location

The Project will be developed on 31.8 acres of private land in Maverick County, Texas. The Project is located approximately 4.8 miles northeast of the U.S.-Mexico border and 6 miles East of the city of Eagle Pass. The Project will be constructed at the following coordinates: latitude: 28°42'0.12"N and longitude: 100°24'8.40"W. Figure 1 illustrates the geographic location of the Project.

**Figure 1**  
**PROJECT LOCATION MAP**



## 2.3. Project Sponsor and Legal Authority

The private-sector project sponsor is Recurrent Energy, LLC (the “Sponsor” or “Recurrent”), which will use a special-purpose vehicle, Fort Duncan BESS, LLC (“Fort Duncan” or the “Project Company”), to implement the Project. Fort Duncan is a Texas-based, limited-liability company established in March 2022.

---

# 3. CERTIFICATION CRITERIA

---

## 3.1. Technical Criteria

### 3.1.1. General Community Profile

According to the U.S. Census Bureau, as of July 2023, Maverick County had an estimated population of 57,762 inhabitants, representing approximately 0.2% of the Texas population. The poverty rate in Maverick County was 21.9% in 2022, considerably higher than the state

average of 14%. Median household income (MHI) for the same year was estimated at US\$48,497, compared to the state average of US\$73,035.<sup>7</sup>

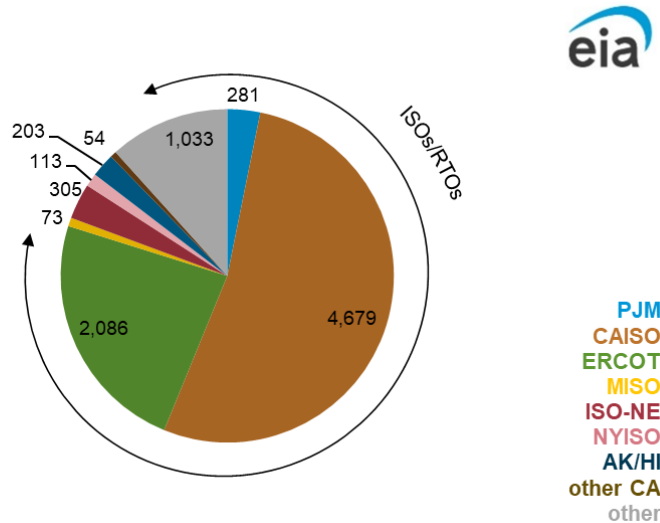
The electricity stored and delivered annually by the BESS will be equivalent to serving up to 211,551 residents (66,110 households). Additionally, the Project is expected to benefit nearby communities through the creation of approximately 38 jobs during construction, as well as 2 full-time positions during operation.

### 3.1.2. Energy Storage in the U.S.

The transition to a low-carbon, and eventually zero-carbon grid, provides challenges and opportunities as increasing amounts of renewable energy are incorporated into the electric system. One of the main challenges is the intermittent nature of renewable energy sources, such as wind and solar. Grid operators must have the capability to regulate and maximize the efficient use of electricity in the grid from both baseload and intermittent sources. One of the simplest and most efficient solutions is the implementation of energy storage systems.

Energy storage is a key tool for providing more flexibility to power grids in the United States. In July 2023, the U.S. Energy Information Administration (EIA) released the latest figures on the capacity of large-scale battery storage systems. According to the EIA, at the end of 2022, the total installed capacity of large-scale BESS in the U.S. was 8,827 MW, a 79% increase over the amount reported in 2021. Figure 2 shows the capacity of large-scale BESS in the U.S. in 2022.

**Figure 2**  
**U.S. LARGE-SCALE BATTERY STORAGE ENERGY CAPACITY**  
**BY REGION IN 2022 (MW)**



Source: EIA, 2022. *Form EIA-860 Early Release, Annual Electric Generator Report*  
 Note: ISO=independent system operator; RTO=regional transmission organization

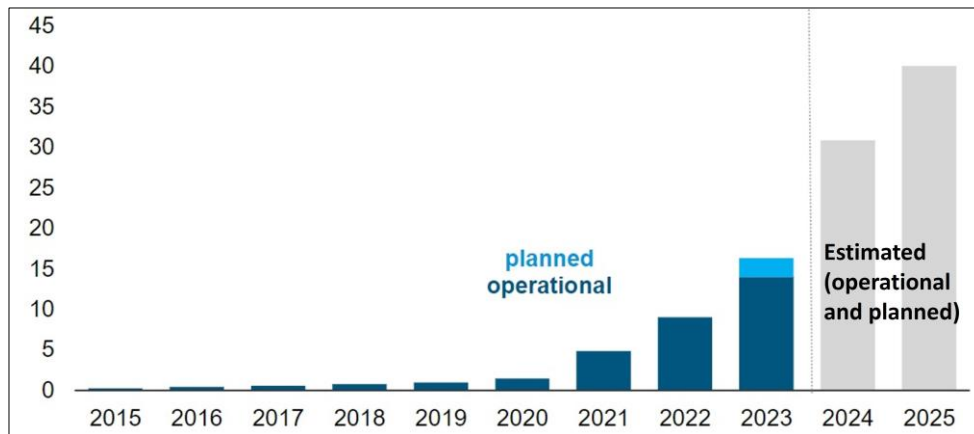
<sup>7</sup> Source: U.S. Census Quick Facts, <https://www.census.gov/quickfacts/fact/table/maverickcountytexas.TX/PST045223>.

As shown in Figure 2, about 77% of large-scale battery storage capacity in the U.S. is installed in the regions covered by the California Independent System Operator (CAISO) and ERCOT. The Project will be constructed within the ERCOT service area, adding to the 2,086 MW of existing capacity serving Texas.<sup>8</sup>

The market for installing BESS in the U.S. is steadily growing, and its legal framework has evolved. In February 2018, the U.S. Federal Energy Regulatory Commission (FERC) issued FERC Order 841, which requires ISOs and RTOs to remove barriers to the participation of electric storage resources in the capacity, energy and ancillary service markets.<sup>9</sup> Each ISO/RTO under FERC jurisdiction was required to revise its tariff to include market rules that recognize the physical and operational characteristics of battery storage resources and to implement the revisions upon approval of tariff compliance by FERC.<sup>10</sup>

According to EIA, battery storage capacity has been increasing since 2021. Project developers have reported to EIA their plans to continue the installation of large-scale BESS in the United States, reaching more than 30 GW by the end of 2024 and to install an addition 9 GW by the end of 2025.<sup>11</sup> Figure 3 shows the trend as reported in 2023.

**Figure 3**  
**U.S. BATTERY STORAGE CAPACITY (GW)**  
**(2015-2025)**



Source: EIA. *Preliminary Monthly Electric Generator Inventory*, November 2023.

<sup>8</sup> Source: EIA, *Battery Storage in the United States: An Update on Market Trends*, July 2023, (<https://www.eia.gov/analysis/studies/electricity/batterystorage/>).

<sup>9</sup> Independent system operators (ISOs) and regional transmission organizations (RTOs) are independent, federally regulated non-profit organizations that ensure reliability and optimize supply and demand bids for wholesale electric power.

<sup>10</sup> Source: EIA, *Battery Storage in the United States: An Update on Market Trends*, August 2021, ([https://www.eia.gov/analysis/studies/electricity/batterystorage/pdf/battery\\_storage\\_2021.pdf](https://www.eia.gov/analysis/studies/electricity/batterystorage/pdf/battery_storage_2021.pdf)).

<sup>11</sup> Source: EIA, *U.S. Today in Energy*, December 2022, (<https://www.eia.gov/todayinenergy/detail.php?id=54939>).



The strongest growth in large-scale battery storage over the past few years has been in Texas, Arizona, Nevada, New Mexico, Florida, Hawaii, Colorado, and Montana.<sup>12</sup> Even though several states do not have policy requirements related to storage, many states, including all four border states, are expected to continue showing strong growth in large-scale battery storage in the coming years.<sup>13</sup> More specifically, of the 20.8 GW of new BESS that is expected to be installed from 2022 to 2025 in the U.S., 38% will be located in Texas (7.9 GW).<sup>14</sup>

**Texas Energy Profile**

As reported by EIA, in 2022, power generation in Texas relied on a mix of energy technologies as shown in Table 1.

**Table 1  
 TEXAS POWER INDUSTRY CAPACITY BY SOURCE IN 2021 AND 2022**

Source	Capacity (MW) 2021	Capacity (MW) 2022
Natural gas	70,901	71,025
Wind	34,370	39,343
Coal	18,141	18,141
Solar	8,838	11,365
Nuclear	4,980	4,980
<b>Battery storage</b>	<b>792</b>	<b>2,077</b>
Hydroelectric	706	715
Wood	309	309
Petroleum	243	640
Other	224	224
Other gas	179	24
Other biomass	65	53

Table developed by NADBank based on data from the EIA, Texas Electricity Profile 2022 (Full data tables 1-17) (<https://www.eia.gov/electricity/state/texas/index.php>).

As indicated in Table 1, over the past two years renewable generation capacity has been on the rise in Texas, with the most significant growth in BESS capacity, which increased nearly 260% from 792 MW in 2021 to 2,077 MW in 2022. At the end of 2022, Texas reported 2,077MW of installed capacity in large-scale BESS and 5.2 GW was reported by ERCOT in 2023.<sup>15</sup>

The proposed Project will contribute to the growth of energy storage capacity in the Texas grid, which will allow the system operator to manage the grid more efficiently by reducing the use of ramp-up/ramp-down fossil-fuel power generating plants, as well as energy losses resulting from mismatches in supply and demand. Likewise, it will support the transition to

<sup>12</sup> Source: EIA, *Battery Storage in the United States: An Update on Market Trends*, August 2021, ([https://www.eia.gov/analysis/studies/electricity/batterystorage/pdf/battery\\_storage\\_2021.pdf](https://www.eia.gov/analysis/studies/electricity/batterystorage/pdf/battery_storage_2021.pdf)).

<sup>13</sup> Ibid.

<sup>14</sup> Source: EIA, U.S. battery storage will significantly increase by 2025, (<https://www.eia.gov/todayinenergy/detail.php?id=54939>).

<sup>15</sup> Source: ERCOT. Fact sheet. June 2023, ([https://www.ercot.com/files/docs/2022/02/08/ERCOT\\_Fact\\_Sheet.pdf](https://www.ercot.com/files/docs/2022/02/08/ERCOT_Fact_Sheet.pdf)).



a greener, more sustainable grid by helping integrate electricity generated by intermittent renewable energy sources, such as solar and wind.

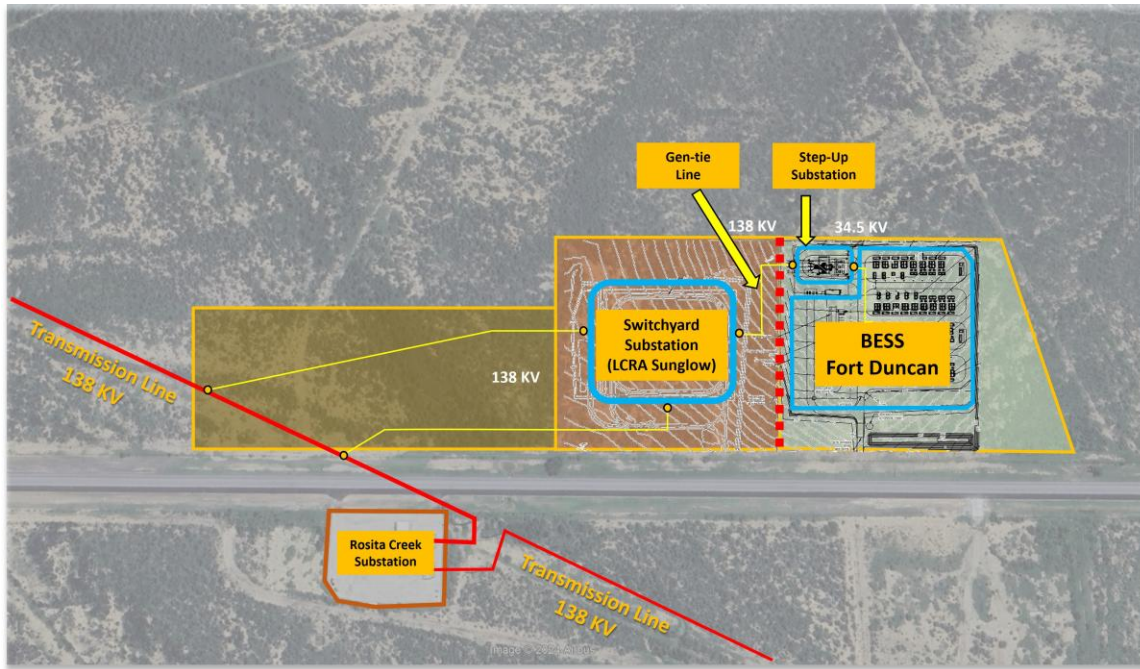
### 3.1.3. Project Scope

The Project consists of the design, construction and operation of a 100-MW<sub>AC</sub> BESS, with a step-up substation and a switchyard substation for interconnection. The preliminary system configuration includes the following components:

- BESS: The Project will include 88 utility-scale units to store energy from the grid. Each unit has a battery capacity of 2,750 kilowatt-hours (kWh) and has a manufacturer-integrated liquid cooling energy storage system for heat dissipation. Liquid cooling and humidity control ensures higher efficiency and a longer battery cycle.
- Energy Management System: This system will integrate meters, sensors, and control devices to optimize and track the BESS performance remotely and in real-time. Operational reports can be generated by this component.
- Power conversion system (PCS). The Project will include an array of 35 inverters units as part of the PCS for converting and conditioning power with the functionality to switch between charging and discharge mode. The inverters operate under a bidirectional energy conversion between the BESS and the Step-up substation.
- Step-up substation. The substation will include a main transformer to convert the voltage level (138kV<sub>AC</sub>/34.5kV<sub>AC</sub>) during the BESS charging and discharging cycles. The Step-up substation will be located between the Gen-tie line and the BESS system.
- Gen-tie line. The Project includes the construction of a 200-foot overhead gen-tie line at 138kV<sub>AC</sub> to allow the interconnection between the Step-up substation/BESS and the Sunglow switchyard.
- Switchyard substation (Sunglow). The Sunglow substation will connect the Project to the grid operating at a single voltage level (138 kV<sub>AC</sub>) to carry the energy required to charge/discharge the BESS.

Figure 4 shows the general layout of the Project components.

**Figure 4**  
**PROJECT LAYOUT**



### 3.1.4. Technical Feasibility

The Sponsor evaluated BESS components from different top-tier suppliers in order to select the equipment best suited to the characteristics of the Project site. The technology evaluation process included an analysis of the characteristics, reliability and performance of all system components, as well as a power conversion analysis and a review of product certifications, supplier warranties, etc.

The batteries selected by the Sponsor are based on lithium-ion phosphate ( $\text{LiFePO}_4$ ) technology, which is considered one of the safest, best understood and most efficient methods of energy storage on the market. It is the technology most commonly used for this application given its high-cycle efficiency and fast-response time. The performance of the battery represents a favorable balance between cost, energy density, degradation and cycle life, making it an optimal choice for stationary grid-tied energy storage solutions. Even more importantly,  $\text{LiFePO}_4$  is safer than other commonly used lithium-ion alternatives (i.e., cobalt-based alternatives), ensuring safe and worry-free operations. At the end of 2019, over 90% of energy storage capacity was provided by lithium-ion-based batteries. Once the batteries reach the end of their useful life, the Sponsor will recycle them in accordance with applicable regulations.

According to the Project independent engineer opinion, the technology selected for the Project appears to include the relevant certifications for standalone BESS and the proposed

method of design and construction appears to have been developed materially in accordance with generally accepted BESS industry practices.

**3.1.5. Land Acquisition and Right-of-Way Requirements**

The site consists of a total of 32 acres of private land secured by the Sponsor in March 2023 to construct the BESS (Battery Energy Storage System) facility, step-up substation, switchyard substation and related infrastructure for Project interconnection. The Project site is an open vacant land covered with shrub vegetation and surrounded by undeveloped land across the state highway US-277. A Texas Department of Transportation permit for the access roads onto State right of way is required for construction tasks and the Sponsor is preparing to submit the permit application.

**3.1.6. Project Milestones**

The NADBank loan will be used for the construction of the Project, which started in June 2024, with commercial operations beginning no later than June 2025. Table 2 presents the status of key milestones for Project implementation.

**Table 2  
 SUMMARY OF PROJECT MILESTONES**

Milestone	Status
Engineering, procurement & construction (EPC) contracts	Complete (June 2024)
Interconnection agreement	Executed (December 2022)
Build and sell Transmission agreement	Executed (December 2022)
Phase I Environmental site assessment	Completed (March 2023)
Cultural Resource review	Completed (June 2022)
Stormwater Discharges Construction Permit (TXR150000)	Completed (June 2024)
Texas Department of Transportation Permit (TXDOT)*	In Process (anticipated July 2024)
County Building Permit	Completed May 2024
Commercial operation date (COD)	Expected June 2025

(\*) The project will require an access road onto state right of way; however, the Sponsor will utilize a temporary driveway to start the Project construction until the permit is issued.

With respect to the local permits required for Project implementation, Maverick County requires a building and site plan review for any building 100 square feet or larger. The Sponsor submitted the permit application in April 2024 and the County reviewed the site plan depicting proposed Project facilities. The plan was approved in May 2024 and Maverick County granted the construction permit.

The Sponsor also confirmed that the Project location and its structures do not exceed obstruction standards and would not be a hazard for air navigation, Therefore, no submittal to the Federal Aviation Administration is warranted.

### 3.1.7. Management and Operation

One contractor will conduct the engineering and construction of the Project under two EPC agreements: one agreement includes the BESS portion of the Project, while the other agreement includes the switchyard construction. The O&M duties of the Project will be conducted through two separate O&M agreements.

#### EPC Agreements

The scope of the EPC agreement for BESS includes the design of BESS and inverters, installation, commissioning, testing for substantial completion and final acceptance. The terms include providing all labor, equipment, and materials to design, construct, interconnect, and start-up, commission, and test the Project. The EPC Agreement includes an obligation to provide security to the site, provide reports to the Sponsor, including the construction progress, quality assurance, and status of deliveries related to the Project. Based on the Project independent engineering opinion, the EPC agreement includes generally accepted industry provisions in the BESS industry.

In addition, prior to execution of the EPC Agreement, the Sponsor signed one Early Site Work Services Agreement for commencing work on preliminary studies, drawing sets and procurement. According to the independent engineer review, the EPC contractor has the capability to fulfill their respective responsibilities to develop and construct facilities of similar size and technology as the Project.

The Project interconnection will include the construction of the Project switchyard under a Build and Sell Agreement between the Project Company and the Interconnecting Utility. Under the Build and Sell Agreement the Project Company will construct the Switchyard substation for the Interconnecting Utility. Under the agreement, the Project Company will design, procure, and construct the interconnection facility. The Project will deliver electrical energy under the terms of an ERCOT Interconnection Agreement between the Project Company and the Interconnecting Utility.

#### Operation and Maintenance (O&M)

The O&M of the BESS portion of the Project will be through a Long-Term Service Agreement (LTSA) incorporating preventive and corrective works and including guarantees for energy storage capacity, availability, and efficiency terms. The remaining equipment will be carried out under a second Operation and Maintenance Agreement, which includes the step-up substation, switchyard and related equipment.

The Project will be operated and maintained in accordance with accepted industry practices, with required replacements and the equipment will be operated and maintained according to the equipment manufacturer's recommendations. The commercial operation date for Project is expected in June 2025. The maintenance activities to be performed include:

- Perform visual inspections of the BESS units, inverters and the step-up transformer;
- Set battery maintenance, system check, calibration and grounding;

- Complete minor repairs of connectors and sensors;
- Storage capacity, availability and efficiency verification and tests;
- Inspection of cable entry, grounding, sealing and dust removal;
- Reporting, diagnostics and recommendation activities;
- Download monitoring data from BESS;
- Auxiliary equipment maintenance and inspection;
- Failure or malfunction detection and corrective actions; and,
- Monitoring the substation.

## 3.2. Environmental Criteria

### 3.2.1. Environmental and Health Effects/Impacts

#### A. Existing Conditions

Historically, the United States has relied to a great extent on fossil fuels for the generation of electricity. According to the EIA, in 2022, the main sources of power generation in Texas were natural gas (48.7%), followed by wind (21.8%) and coal (16.2%).<sup>16</sup> The conventional sources of energy represent more than 60% of this energy mix and adversely affect the environment due to the harmful emissions produced by their processes, including greenhouse gases (GHG) and other pollutants, such as SO<sub>2</sub> and NO<sub>x</sub>. Considering the 2022 energy portfolio, Texas generated nearly 525,563 GWh of electricity, resulting in the emission of approximately 213 million metric tons of CO<sub>2</sub>, 157,025 metric tons of NO<sub>x</sub> and 126,396 metric tons of SO<sub>2</sub>.<sup>17</sup> Consequently, there is a need for affordable and environmentally friendly alternatives to conventional fossil-fuel-based power generation.

#### B. Project Impacts

Battery storage systems help smooth out the delivery of intermittent resources, such as wind and solar, by storing energy and delivering it when demand increases. They also help prevent emissions by reducing the need for fossil-fuel power plants to regulate constant changes in energy supply and demand. As the energy supply mix becomes cleaner with low- and no-carbon resources, energy storage will help integrate that supply mix into the grid more easily and reliably.

The Project will contribute to the storage and supply of clean energy, increase the capacity of the Texas energy mix to meet supply needs and reduce the demand for electricity generated by fossil fuel-based power plants, thus reducing emissions. The anticipated environmental outcomes from the installation of a 100-MW<sub>AC</sub> battery storage system (or approximately 73,742 MWh per year) include the displacement of an estimated 29,930 metric tons/year of CO<sub>2</sub>, 23 metric tons/year of NO<sub>x</sub> and 16 metric tons/year of SO<sub>2</sub>.

---

<sup>16</sup> Source: EIA, Texas Electricity Profiles, (<https://www.eia.gov/electricity/state/texas/index.php>).

<sup>17</sup> Source: Ibid.

### 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 regional 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 several studies to determine potential impacts to environmental or cultural resources in the Project area, as well as to identify any mitigation measures that might be required. The studies and efforts conducted by the Sponsor for the proposed Project, summarized below, exceed applicable regulatory requirements for this type of development activity and utilize best management practices to identify and avoid potential impacts on protected and endangered species.

- Phase I Environmental Site Assessment

In March 2023, an independent consultant completed a Phase I Environmental Site Assessment of the Project site.<sup>18</sup> No recognized environmental conditions of any kind were identified in connection with the Project site or on adjoining properties.

- Critical Issues Analysis

In August 2022, an independent consultant completed an analysis to identify wetlands, biological resources and ecologically significant areas that may contain or occur at the Project site. Based on available information, the consultant concluded that the Project site does not contain wetlands or waterbodies features likely to qualify as federally regulated waters of the U.S. According to Federal Emergency Management Agency (FEMA) and the analysis findings, the BESS and Switchyard area is designed as an area of minimal flood hazard; a portion of the transmission line will be constructed under an area designated as zone A, which is a 1% chance flood hazard. According to the Sponsor and the Project design, the transmission structures (poles) will not be placed in the flood zone. Therefore, additional studies are not required.

- Threatened and Endangered Species

As part of the August 2022 Critical Issues Analysis, an Endangered Species Act consultation (ESA) was conducted. The purpose of the consultation was to identify the potential occurrence of federally listed threatened and endangered species within the Project site and to avoid impacts to those species.

---

<sup>18</sup> In accordance with ASTM International (ASTM), *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (Designation E1527-13).



While the consultant reported that no endangered species or designated critical habitats were identified within the Project area, there is a moderate potential for the monarch butterfly to occur. In addition, local records documented that the Texas horned lizards and Texas tortoises have known occurrences and/or the high likelihood of occurrence, respectively, in the Project area and there is a likelihood for suitable habitat to be found within the Project area for both species. Additionally, black bears have a moderate likelihood of occurrence. However, no significant constraint is expected to the Project based on the implementation of best management practices to avoid impacts.

Additional information regarding best management practices and recommendations by the consultant are included in the mitigation measures section.

- *Avian Nest*

In consideration of the Bald and Golden Eagle Protection Act, the consultant found that these birds have not been reported or documented recently in Maverick County, therefore nest surveys are not recommended for the Project area. However, birds protected by the Migratory Bird Treaty Act are present in the Project area and a good-faith effort to avoid and minimize impacts to migratory birds, such as nest surveys prior to earth work or vegetation removal, should be made.

In June 2024, prior to clearing vegetation at the site, one nest was identified, and an appropriate avoidance buffer was established.

- *Cultural Resource Background Review*

An evaluation of the Project site was performed in June 2022 to identify the potential existence of cultural resources or historical landmarks. The study indicated that no historical markers, tribal lands, or cultural resources were found within the Project area.

Efforts to identify any protected or threatened species and their habitat in the interest of avoiding and minimizing impacts will be ongoing throughout Project construction. The Project complies with applicable laws and regulations. Any necessary mitigation measures are proposed and described in the next section.

### *Permitting*

The Project requires a Texas Commission on Environmental Quality (TCEQ) Stormwater Discharges Construction General Permit (TXR150000). As part of the permit application, a Stormwater Pollution Prevention Plan (SWP3) was prepared and submitted to the TCEQ. The SWP3 includes the activities to be carried out as part of Project construction and includes a description of best management practices to be performed in order to minimize potential impacts during construction, such as dust control and waste management, as described in the mitigation measures section. The first draft of the SWP3 was completed in February 2024 and finalized in June 2024. Finally, the TCEQ permit was issued in June 2024.



Texas Department of Transportation (TXDOT) requires a driveway permit to construct permanent access roads. The Sponsor currently expects the permit to be issued in July 2024.

A local building permit and site plan is required, in April 2024 the Sponsor submitted for plan review to Maverick County's and it was approved in May 2024.

According to the independent engineer's review, the permits identified are considered standard for energy storage projects located in Texas, and it does not appear that permitting activities will cause significant impacts to the Project schedule or budget.

## **B. Mitigation Measures**

Based on the biological analysis conclusions, the project proposed will be implemented on private land with low risk of adversely affecting the human or natural environment. Additionally, no federally or state-listed threatened and endangered species are expected to pose significant constraints to the Project. However, the Sponsor will implement best practices to reduce the impacts on the environment through the following voluntary mitigation measures recommended by the specialist consultant contracted.

- *Fauna*. Species-specific measures for the Monarch butterfly, Black Bear, as well as the Texas Horned Lizard and Texas Tortoise are described below.

**Monarch Butterfly.** Best management practices to avoid impacts include:

- Revegetating cleared areas with native grasses;
- Implementing procedures to prevent and manage weeds and other noncompatible habitat vegetation; and
- Implementing procedures for mowing and vegetation management, to minimize impacts to this species.

**Black Bear.** Project construction crews and other on-site staff should be educated about the potential occurrence of the black bear and advised to leave the bear undisturbed and remove themselves from work areas.

**Texas Horned Lizard and Texas Tortoise.** Both species are either known to occur or have high potential to occur within the Project area; therefore, the Sponsor will incorporate the following good-faith mitigation actions to avoid the take of these state-listed species:

- In accordance with the Texas Parks and Wildlife Code, the Sponsor should employ a permitted biologist to survey, collect, and relocate, as appropriate, species present within the Project area prior to and during construction.
- Slow vehicular traffic during active periods for these species, particularly during periods of high temperatures.
- Educate construction crews and on-site Project staff that, during all phases of construction and maintenance, to alert the biologist of any Texas Horned Lizards or Texas Tortoises found within the Project area for proper relocation.

- *Dust control.* Preventive measures must be taken during times when exposed soil is susceptible to wind erosion. In areas where bare soil is exposed, water or other dust palliatives must be applied to soil to limit the soil erosion. In addition, appropriate speed limits should be established within the Project site to limit the generation of dust.
- *Solid waste.* Preventive measures of solid waste management include the proper disposal of in accordance with applicable Federal, State, and local regulations. Waste materials must be collected and disposed of in a designated waste container. Waste containers lids must be closed and inspected regularly.
- *Hazardous waste.* Materials classified as hazardous waste must be used, stored, transported, and disposed of according to the manufacturer's specifications and Federal, State and local regulations. The Project contractors and subcontractors must be made aware of this requirement and must alert site staff of this requirement.

The Sponsor will conduct the above set of best practices and mitigation measures within the Project's construction phase.

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

No environmental authorizations are pending for the Project.

## **3.2.3. Environmental and Social (E&S) Due-diligence**

### **A. Project E&S Risk Category**

Based on the NADBank's Environmental, Social and Governance (ESG) policy for evaluating and classifying potential ESG risks in its financial operations, NADBank determined that the proposed Project and its investments fall within the B category, which is assigned when transactions typically involve projects with adverse environmental and social impacts that are few in number, generally site-specific, largely reversible and readily addressed through mitigation measures, and follow international best practices. The potential adverse environmental impacts of the Project on human populations or environmentally important areas are considered to be a medium risk.<sup>19</sup>

### **B. E&S Due Diligence Conclusions**

NADBank reviewed the Project documentation to determine the Environmental and Social risks associated with the project's implementation and concluded that the Sponsor, Project location, planning, design, and environmental documents, as well as the Project tasks, have acceptable environmental and social practices in place aligned with the regulations applicable to the energy storage industry.

---

<sup>19</sup> Source: NADBank Environmental, Social and Governance (ESG) Policy, ([https://www.nadb.org/uploads/content/files/Policies/NADBank%20ESG%20Policy%20\(Eng\).pdf](https://www.nadb.org/uploads/content/files/Policies/NADBank%20ESG%20Policy%20(Eng).pdf))

### **C. Summary of Proposed Mitigation Measures**

No additional mitigation measures are needed since the Sponsor provided the documentation to support compliance with its E&S obligations.

### **3.3. Financial Criteria**

Project construction will be financed with equity from the Sponsor and a loan from NADBank and other lenders. The proposed payment mechanism for the loan is standard for similar energy storage transactions in the United States. The source of payment will be the revenue obtained from the sale of electricity and ancillary services in the wholesale electricity market operated by ERCOT. Project revenue is estimated to be sufficient to: (i) cover scheduled O&M expenses; (ii) pay the debt service on the senior loan; (iii) fund any debt service and other reserves; and (vi) 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, NADBank proposes to provide a market-rate loan for up to US\$60.0 million to the Project Company for construction of the Project.

---

## **4. PUBLIC ACCESS TO INFORMATION**

---

### **4.1. Public Consultation**

On July 18, 2024, NADBank published the draft certification and financing proposal for a 30-day public comment period. The following Project documentation is available upon request:

- Phase I Environmental Site Assessment, March 2023.

### **4.2. Outreach Activities**

The Sponsor has published its investments, operations, and business through its official website. In addition, the Sponsor provided Project information related to the interconnection agreement, and the general facility description has been published by the Public Utility Commission of Texas. The information is unrestricted and available for public consultation.

NADBank also conducted a media search to identify potential public opinion about the Project. The following articles or references to the Project and the Sponsor were found. No public opposition to the Project has been detected.

*Energy Storage News*, (June 17, 2022), "Canadian Solar subsidiary Recurrent buys 400MWh standalone storage projects in ERCOT," (<https://www.energy-storage.news/canadian-solar-subsi-dary-recurrent-buys-400mwh-standalone-storage-projects-in-ercot/>).

*Renewable Energy World*, (June 16, 2022), “Recurrent acquires 400 MWh of battery storage under development” (<https://www.renewableenergyworld.com/storage/recurrent-acquires-400-mwh-of-battery-storage-under-development-in-texas/#gref>).

The Sponsor has followed all public consultation requirements in order to comply with applicable environmental assessment and permitting processes.