

**Medanos Solar  
DECOMMISSIONING AND SITE RECLAMATION PLAN  
February 2023**

**Purpose**

This decommissioning and site reclamation plan is provided by Medanos Solar, LLC (the “Project Company”) and will detail the projected decommissioning demands associated with the proposed project.

The purpose of this decommissioning plan is to provide procedures and an approximate opinion of probable construction cost for partial or full closure of the solar facility. Champaign County Zoning Ordinance requires a decommissioning plan and performance guarantees to supplement plans submitted as part of the Special Use Permit Package. This decommissioning plan details provisions for facility deconstruction and site restoration to satisfy the specific guidelines set forth in the Project’s Special Use Permit. This decommissioning plan shall take effect upon facility abandonment, discontinuation of operation, or expiration of the use permit as defined by Champaign County Zoning Ordinance.

**Site Location**

Medanos Solar proposes to build a photovoltaic (PV) solar facility (“Solar Facility”) with a nameplate capacity of approximately 5 MW<sub>AC</sub> (“Project”), in Champaign County, IL. The Facility is located 2710 County Road 1100 N, Homer, IL 61849, Champaign County and within tax parcel identification numbers 26-30-04-300-005, 26-30-04-400-019, and 26-30-04-126-003 (“Property”).

**Anticipated Service Life of the Project**

The facility shall be decommissioned in accordance with this Decommissioning Plan (“Plan”), restoring the site to its agreed-upon post-decommissioned state upon expiration or termination of the Power Purchase Agreement or within twelve (12) months after the end of the useful life of the facility. It is anticipated the Solar Facility will have a maturity date of twenty (20) years but carries an expected useful lifetime of 40 years.

Decommissioning responsibilities include the removal of any perimeter fences, any concrete pads, all metal structures (mounting racks and trackers), all photovoltaic (PV) modules, pipelines, alternators, generators, aboveground and underground cables, transformers, inverters, fans, switch boxes, fixtures, etc. and otherwise restoring the premises to its original condition or mutually agreed upon state. Other Plan activities include the management of materials and waste, projected costs, and a decommissioning fund agreement overview.

**RECEIVED**

**FEB 16 2023**

**CHAMPAIGN CO. P & Z DEPARTMENT**

## Decommissioning Risk Over the Lifecycle of a Project

The probability of an event that would lead to abandonment or long-term interruption is extremely low during the first 15 to 20 years of the Project life. Accordingly, the risk of decommissioning the Project is extremely low during this time frame. The reasons why the risk to decommission the Project is extremely low in the early phases of the Project include, but are not limited to:

- Project owners have sophisticated financing structures that allow the lender or tax equity partner to step in and rectify the event that may lead to abandonment.
- Most critical solar components have original equipment manufacturer (OEM) warranties with terms exceeding five years that include labor and parts. A warranty is an agreement or guarantee outlined by a manufacturer to a customer that defines performance requirements for a product or service. Warranties give customers a form of insurance if the purchased product or service does not adhere to quality standards. These warranties assure the Project owner, financing parties, and other stakeholders, that equipment will perform as expected which minimizes the risk of a decommissioning event. Average warranty lengths for critical solar components range from 5 to 10 years, with production warranties on solar panels extending to 20 to 25 years.
- Solar projects consist of many networked components designed to convert solar radiation into electrical energy. The failure of any single component will not result in a substantial reduction of energy generation that could lead to a decommissioning event.
- Solar projects are required to maintain replacement value property damage insurance coverage and business interruption insurance coverage. Business interruption insurance covers the loss of income that a business suffers after a disaster or equipment failure. Typical solar business interruption insurance covers income loss for twelve months from the date of the event triggering the loss.
- The replacement costs of solar components will typically decline over time, and accordingly, costs to replace failed or damaged equipment after lapsed OEM warranties will not create large financial hurdles for the Project.
- In the early stages of the Project, the resale value of the equipment is significantly higher than the decommissioning costs, resulting in a net positive (revenue).

Considering the reasons stated above, a decommissioning bond early in the life of a solar project life is not required to assure the coverage facility removal and site restoration costs. However, it is noted that the Champaign County Zoning Ordinance requires Financial Assurance be provided to the County.

Solar power is an increasingly popular form of renewable energy around the world and as an alternative to the burning of fossil fuels, solar ranks alongside wind and hydropower as essential energy options for the future of the planet. Solar also offers the additional benefit of being easier to build, operate, and decommission with minimal environmental risks. Recent rises in popularity and use can be linked to lower installation and operation costs and it is expected that this pattern will continue, further reducing the risk of a decommissioning event.

Per Champaign County Zoning Ordinance Section 6.1.1A.4a-d, the decommissioning and site reclamation plan shall provide for:

- a) Removal of above-ground portion of any structure on the subject site; site grading; and interim soil erosion control
- b) Below-ground restoration, including final grading and surface treatment
- c) Any environmental remediation required by State or Federal law
- d) Provision and maintenance of a letter of credit, as set forth in Section 6.1.1A.5

## **Financial Assurance**

To maintain compliance with section 6.1.1A.5 of the Champaign County Zoning Ordinance, the applicant must maintain an irrevocable letter of Credit (LOC) as a form of financial assurance. The Owner shall deliver the LOC to Champaign County prior to project approval.

Per Champaign County Zoning Ordinance Section 6.1.5Q.4a(a-c), no zoning permit to authorize construction of the PV SOLAR FARM shall be authorized until the PV SOLAR FARM owner shall provide the Champaign County with financial assurance to cover 12.5% of the decommissioning cost. On or before the sixth anniversary of the Commercial Operation Date, the PV SOLAR FARM Owner shall provide the Champaign County with Financial Assurance to cover 62.5% of the decommissioning cost, and on or before the eleventh anniversary of the Commercial Operation Date, shall provide Champaign County with Financial Assurance to cover 125% of the decommissioning cost. The decommissioning cost is determined as the independent engineer's cost estimate to complete the decommissioning work described in Sections 6.1.1A.4a. and 6.1.1A.4b. and 6.1.1A.4c. and otherwise compliant with Section 6.1.1A.5.

Per Champaign County Zoning Ordinance Section 6.1.5Q.4d(a), the Applicant shall provide financial assurance in the form of an irrevocable letter of credit as follows: at least once every three years for the first 12 years of the financial assurance and at least once every two years thereafter or, if the PV SOLAR FARM modules have an unlimited warranty of a least 10 years and also have a limited power warranty to provide not less than 80% nominal power output up to 25 years and proof of that warranty is provided at the time of Zoning Use Permit approval, then at least once every five years for the first 25 years of the financial assurance and at least once every two years thereafter, the Applicant, its successors in interest, and all parties to the decommissioning and site reclamation plan shall use an independent Illinois Licensed Professional Engineer to provide updated estimates of decommissioning costs and salvage value, by including any changes due to inflation and/or change in salvage price. The Applicant, its successors in interest, and all parties to the decommissioning and site reclamation plan shall, upon receipt, provide a copy of the adjusted Professional Engineer's report to the Zoning Administrator.

The Decommissioning and Site Reclamation Plan must also include provisions for anticipated repairs to any public STREET that is used during the reclamation process, in accordance with Section 6.1.5Q.2. No negative impacts to public streets is anticipated; per 6.1.5G.3, when decommissioning takes place, the Applicant or its successors in interest shall enter into a Roadway Use and Repair Agreement with the appropriate highway authority.

Champaign County Zoning Ordinance Section 6.1.5Q.4b(f), notes that salvage values must be capped at 70% of the total net estimated salvage value when considering deducting salvage value from the total estimated decommissioning cost. In the event that decommissioning is required, the full salvage value shall be available.

As required by Champaign County Zoning Ordinance Section 6.1.1A.3, Exhibit A, The Engineer's Cost Estimate, outlines itemized costs that include separate estimates for the items in Sections 6.1.1A.4a-c.

### **Further Stipulations for Decommissioning**

Champaign County Zoning Ordinance section 6.1.1A and 6.1.5Q contains additional stipulations and requirements regarding the decommissioning process:

- a) A stipulation that the applicant or successor shall notify the GOVERNING BODY by certified mail of the commencement of voluntary or involuntary bankruptcy proceeding, naming the applicant as debtor, within ten days of commencement of proceeding.
- b) A stipulation that the applicant shall agree that the sale, assignment in fact or law, or such other transfer of applicant's financial interest in the PV SOLAR FARM shall in no way affect or change the applicant's obligation to continue to comply with the terms of this plan. Any successor in interest, assignee, and all parties to the decommissioning and site reclamation plan shall assume the terms, covenants, and obligations of this plan and agrees to assume all reclamation liability and responsibility for the PV SOLAR FARM.
- c) Authorization for the GOVERNING BODY and its authorized representatives for right of entry onto the PV SOLAR FARM premises for the purpose of inspecting the methods of reclamation or for performing actual reclamation if necessary.
- d) A stipulation that at such time as decommissioning takes place the Applicant, its successors in interest, and all parties to the decommissioning and site reclamation plan are required to enter into a Roadway Use and Repair Agreement with the relevant highway authority.
- e) A stipulation that the Applicant, its successors in interest, and all parties to the decommissioning and site reclamation plan shall provide evidence of any new, additional, or substitute financing or security agreement to the Zoning Administrator throughout the operating lifetime of the project.
- f) A stipulation that the Applicant, its successors in interest, and all parties to the decommissioning and site reclamation plan shall be obliged to perform the work in the decommissioning and site reclamation plan before abandoning the PV SOLAR FARM or prior to ceasing production of electricity from the PV SOLAR FARM, after it has begun, other than in the ordinary course of business. This obligation shall be independent of the obligation to pay financial assurance and shall not be limited by the amount of financial assurance. The obligation to perform the reclamation work shall constitute a covenant running with the land.
- g) The decommissioning and site reclamation plan shall provide for payment of any associated costs that Champaign COUNTY may incur in the event that decommissioning is actually required. Associated costs include all administrative and ancillary costs associated with drawing upon the financial assurance and performing the reclamation work and shall include but not be limited to: attorney's fees; construction management and other professional fees;

- and, the costs of preparing requests for proposals and bidding documents required to comply with State law or Champaign COUNTY purchasing policies.
- h) The depth of removal of foundation concrete below ground shall be a minimum of 54 inches. The depth of removal of foundation concrete shall be certified in writing by an Illinois Licensed Professional Engineer and the certification shall be submitted to the Zoning Administrator.
  - i) Underground electrical cables of a depth of 5 feet or greater may be left in place.
  - j) The hole resulting from the removal of foundation concrete during decommissioning shall be backfilled as follows:
    - a. The excavation resulting from the removal of foundation concrete shall only be backfilled with subsoil and topsoil in similar depths and similar types as existed at the time of the original PV SOLAR FARM construction except that a lesser quality topsoil or a combination of a lesser quality topsoil and a subsoil that is similar to the native subsoil may be used at depths corresponding to the native subsoil but not less than 12 inches below grade.
    - b. The native soils excavated at the time of the original PV SOLAR FARM construction may be used to backfill the concrete foundation excavations at the time of decommissioning provided that the soils are adequately stored throughout the operating lifetime of the PV SOLAR FARM. The methods for storing the excavated native soils during the operating lifetime of the PV SOLAR FARM shall be included in the decommissioning and site reclamation plan.
    - c. If the excavated native soils are not stored for use for backfilling the concrete foundation excavations, a qualified soil scientist of Illinois Licensed Professional Engineer shall certify that the actual soils used to backfill the concrete foundation excavations are of equal or greater quality than the native soils or that, in the case of subsoil, the backfill soil meets the requirements of this paragraph. The certification shall be submitted to the Zoning Administrator.
    - d. An Illinois Licensed Professional Engineer shall certify in writing that the concrete foundation excavations have been backfilled with soil to such a depth and with a minimum of compaction that is consistent with the restoration of productive agricultural use such that the depth of soil is expected to be no less than 54 inches within one year after backfilling.
  - k) A stipulation that should the decommissioning and site reclamation plan be deemed invalid by a court of competent jurisdiction the PV SOLAR FARM SPECIAL USE Permit shall be deemed void.
  - l) A stipulation that the Applicant's obligation to complete the decommissioning and site reclamation plan and to pay all associated costs shall be independent of the Applicant's obligation to provide financial assurance.
  - m) A stipulation that the liability of the Applicant's failure to complete the decommissioning and site reclamation plan or any breach of the decommissioning and site reclamation plan requirement shall not be capped by the amount of financial assurance.
  - n) If the Applicant desires to remove equipment or property credited to the estimated salvage value without the concurrent replacement of the property with property of equal or greater

salvage value, or if the Applicant installs equipment or property increasing the cost of decommissioning after the PV SOLAR FARM begins to produce electricity, at any point, the Applicant shall first obtain the consent of the Zoning Administrator. If the Applicant's lien holders remove equipment or property credited to the salvage value, the Applicant shall promptly notify the Zoning Administrator. In either of these events, the total financial assurance shall be adjusted to reflect any change in total salvage value and total decommissioning costs resulting from any such removal or installation.

### **Decommissioning Cost Estimate and Bonding**

An engineer's opinion of probable construction cost and analysis of material salvage value were prepared as part of this decommissioning plan. Exhibit A summarizes probable costs associated with decommissioning including the allowable deduction of salvage values.

Per Champaign County Zoning Ordinance Section 6.1.1A.2, the decommissioning and site reclamation plan shall be binding upon all successors of title, lessees, to any operator and/or owner of Medanos Solar, LLC, and to all parties to the decommissioning and site reclamation plan. Prior to the issuance of a SPECIAL USE Permit, the landowner or applicant shall also record a covenant incorporating the provisions of the decommissioning and site reclamation plan on the deed subject to the LOT, requiring that the reclamation work be performed and that a letter of credit be provided for financial assurance.

Champaign County Zoning Ordinance requires Medanos Solar, LLC to provide a faithful performance bond as a financial guarantee for proper decommissioning. Per Champaign County Zoning Ordinance Section 6.1.5Q.4a(c), the irrevocable letter of credit shall be in the amount of one hundred twenty five percent (125%) of an independent engineer's cost estimate. Furthermore, Medanos Solar, LLC will be required to submit detailed engineering plans at the time of decommissioning, and obtain construction permits as required by appropriate authorities.

Expenses associated with decommissioning the Project will be dependent on labor costs at the time of decommissioning. For the purposes of this report, current RSMeans data was used to estimate labor, material, and equipment expenses.

As required by Champaign County Zoning Ordinance Section 6.1.1A.3, Exhibit A (estimate including salvage) outline itemized costs that include separate estimates for the items in Sections 6.1.1A.4a-c. Exhibits B and C show 5-year average salvage values for steel and copper wire.

Total probable cost of decommissioning in Year 20 (including salvage) is estimated to be **\$169,929**.

Irrevocable Letter of Credit per Champaign County Zoning Ordinance Section 6.1.5Q.4a(c) for decommissioning in Year 20 (including salvage) is estimated to be **\$212,412**.

**EXHIBIT A**

**Medanos Solar**  
**Champaign County, Illinois**  
**Decommissioning Estimate Pro Forma w/ Salvage**

The Engineer has no control over the cost of labor, materials, equipment, or over the Contractor's methods of determining prices or over competitive bidding or market conditions. Opinions of probable costs provided herein are based on the information known to Engineer at this time and represent only the Engineer's judgment as a design professional familiar with the construction industry. The Engineer cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from its opinions of probable costs. LS = Lump Sum, HR = Hours, EA = Each, LF = Linear Feet.

Item	Quantity	Unit	Unit Price	Salvage Deduction (70% of Total)	Total Price (incl. markups)	Total Price	
<b>General Items</b>							
Mobilization	1	LS		\$ -	\$16,540.00	\$ (16,540.00)	
Supervision	210	HR	\$96.00	\$ -	\$20,160.00	\$ (20,160.00)	
Temporary Facilities	1	LS		\$ -	\$2,010.00	\$ (2,010.00)	
Safety	1	LS		\$ -	\$1,360.00	\$ (1,360.00)	
Legal Expenses	1	LS		\$ -	\$360.00	\$ (360.00)	
General Liability Insurance	1	LS		\$ -	\$1,460.00	\$ (1,460.00)	
Contractor's G&A	1	LS		\$ -	\$2,760.00	\$ (2,760.00)	
<b>General Items Subtotal</b>						<b>\$ (44,650.00)</b>	
<b>Civil Items</b>							
SWPPP, Erosion Control Measures (Disturbed Area)	53	Ac	\$670.00	\$ -	\$35,175.00	\$ (35,175.00)	
Seeding	3	Ac	\$1,932.45	\$ -	\$5,797.36	\$ (5,797.36)	
Tilling 6" topsoil/scarifying access road and rough grading existing soil	1	Ac	\$9,229.41	\$ -	\$9,229.41	\$ (9,229.41)	
Remove and Recycle Chainlink Fence, 8' High	7,364	LF	\$5.51	\$ 4,330.03	\$40,599.84	\$ (36,269.81)	
Remove Power Pole	5	EA	\$869.53	\$ -	\$4,347.65	\$ (4,347.65)	
<b>Civil Items Subtotal</b>						<b>\$ (90,819.23)</b>	
<b>Electrical Items</b>							
Removal and Recycle AC Cables	1,799	LF	\$0.96	\$ 54.78	\$1,726.74	\$ (1,671.96)	
Removal and Recycle DC Cables	171,173	LF	\$0.26	\$ 5,212.23	\$44,101.90	\$ (38,889.67)	
Backfill AC and DC trenches	104,358	LF	\$0.33	\$ -	\$34,081.24	\$ (34,081.24)	
Remove and Recycle Inverters	2	EA	\$2,346.04	\$ 7,560.00	\$4,692.08	\$ 2,867.92	
Removed and Recycle Photovoltaic Modules	17,400	EA	\$6.11	\$ 161,251.80	\$106,314.00	\$ 54,937.80	
<b>Electrical Items Subtotal</b>						<b>\$ (16,837.16)</b>	
<b>Structural Items</b>							
Remove and Recycle Piles (10' Wx7 piles @ 25' OC assumed)	3,171	EA	\$6.58	\$ 37,290.96	\$20,865.18	\$ 16,425.78	
Remove and Recycle Support Assemblies	385,809	LB	\$0.04	\$ 40,509.95	\$16,828.26	\$ 23,681.69	
<b>Structural Items Subtotal</b>						<b>\$ 40,107.47</b>	
<b>Reclamation Items</b>							
Contaminated Soils Testing	1	LS		\$ -	\$2,000.00	\$ (2,000.00)	
Reclamation Monitoring and Maintenance	1	LS		\$ -	\$5,000.00	\$ (5,000.00)	
<b>Reclamation Items Subtotal</b>						<b>\$ (7,000.00)</b>	
					<b>Subtotal: \$ 256,209.74</b>	<b>\$375,408.66</b>	<b>\$ (119,198.92)</b>
						<b>Inflation (1.5%/year): \$ (41,344.74)</b>	
						<b>County Administration Costs (2.5% before Salvage) \$ (9,385.22)</b>	
						<b>Total: \$ (169,928.88)</b>	
						<b>Total Cost/MW: \$ (33,985.78)</b>	
<b>Notes:</b>							
1. A site of similar size was used to derive potential quantities for erosion and sediment control (scaling from 36 MW to 5 MW). Quantities were determined by comparing "unit/MW" quantities directly.							
2. Labor productivity and unit rates were derived from RSMMeans Online (Heavy Construction, 2022 data).							
3. Labor, material, and equipment rates are based on the RSMMeans City Cost Index (CCI) for Champaign, IL.							
4. Material salvage values were based off of current US salvage exchange rates.							
5. Equipment rental rates were determined from local rental facilities.							
6. Photovoltaic Module material salvage rate is based on straight-line depreciation of modules (-0.5% per year).							
7. For PV Module Removal/Recycle labor and equipment costs are computed at present values, while salvage value is computed at 20 year depreciated							
8. Material salvage values were determined using the most prevalent salvageable metal in each component. Copper Wire @\$0.87/LB (AC and DC Cables) and Steel @0.84/LF of fence. @\$1.05/pile, and @\$0.15/LB.							
9. Inverter resale value is dependent on the assumption that all inverters will be decommissioned and resold half way through their useful life (every 5 years).							
10. Decommissioning quantities determined on 02/15/2023.							



Date of Expiration 11-30-23

*Jason C. Cooper*

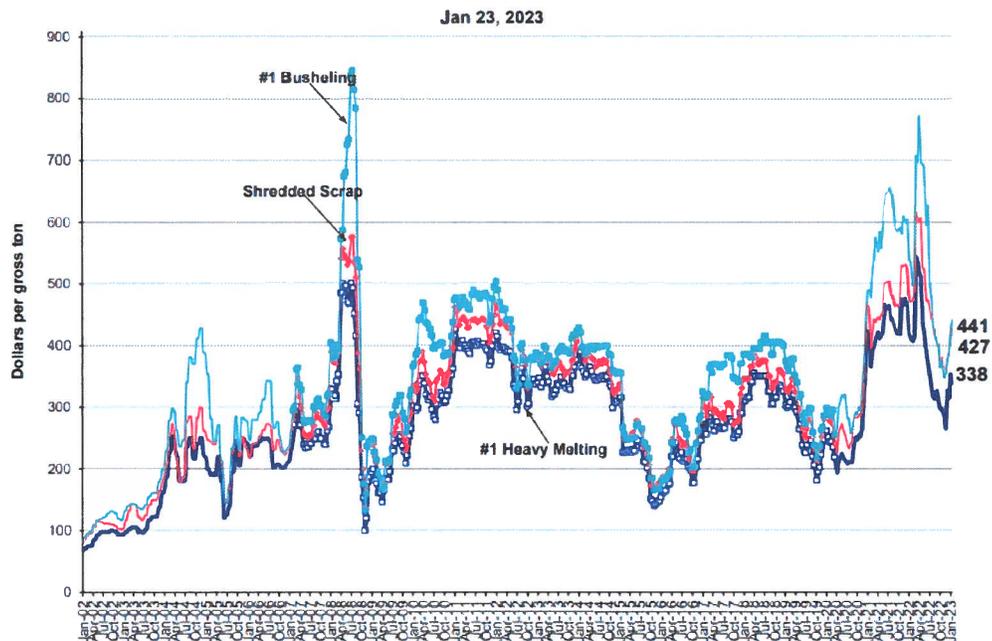
**EXHIBIT B**

**Steel Salvage:**  
 Source: SteelBenchmarker.com

**SteelBenchmarker™ Scrap Price**

**USA, delivered to steel plant**

(AMM scrap price data, Jan. 2002 - Jan. 2007; SteelBenchmarker data begins Feb. 2007)



<b>#1 Heavy Melting Steel (SteelBenchmarker, 5-year average)</b>		
	<b>\$/gross ton</b>	<b>\$/lb</b>
Max (approx.)	\$540.00	\$0.24
Min (approx.)	\$180.00	\$0.08
Avg (approx.)	\$360.00	<b>\$0.15</b>

**EXHIBIT C**

**Copper Salvage:**

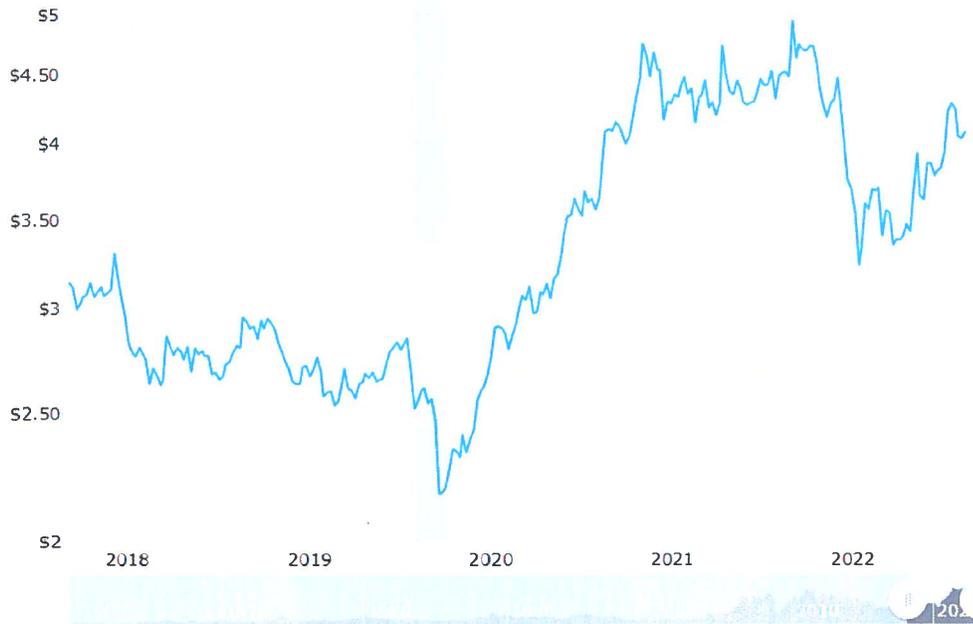
Source: [Macrotrends.net](https://www.macrotrends.net), [iscrapapp.com](https://www.iscrapapp.com)

Show Recessions  Log Scale

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Item	Price	Unit	Notes
Copper (5-year average)	\$3.37	\$/lb	Source: <i>Macrotrends.net</i> (2/13/2023)
Copper Wire (Feb. 2023)	\$1.06	\$/lb	Source: <i>Iscrapapp.com</i> (2/14/2023)
Copper (Feb. 2023)	\$4.08	\$/lb	Source: <i>Macrotrends.net</i> (2/13/2023)
Copper Wire/Copper Ratio	0.260	-	Divided Feb. 2023 spot insulated copper wire price by copper Feb. 2023 spot price (\$1.06/\$4.08)
Copper Wire (5-year average)	\$0.87	\$/lb	Copper 5-year average multiplied by ratio