

# Decommissioning Estimate/Plan



Date: 6/6/2024  
Calculated By: MT

0 DIETRICH ROAD  
KANE COUNTY, IL

This Decommissioning Estimate has been prepared by New Leaf Energy in an attempt to predict the cost associated with the removal of the proposed solar facility. The primary cost of decommissioning is the labor to dismantle and load as well as the cost of trucking and equipment. All material will be removed from the site, including the concrete equipment pads, which will be broken up at the site and hauled to the nearest transfer station.

No salvage values have been assumed in this calculation.

The following values were used in this Decommissioning Estimate:

<b>System Specifications</b>		<b>Equipment &amp; Material Removal Rates</b>	
Number of Modules	13,200	Module Removal Rate (min/module)	1
Linear Feet of Racking (ft)	49,500	Rack Wiring Rem. Rate (min/mod)	0.25
Number of Inverters	20	Racking Dismantling Rate (min/LF)	0.2
Number of Transformers	2	Inverter Removal Rate (hr/unit)	0.5
Number of Tracker Motors	9	Transformer Removal Rate (hr/unit)	1
Electrical Wiring Length (ft)	4,569	Motor Removal Rate (hr/unit)	1
Number of Foundation Piles	3,000	Rack Loading Rate (min/LF)	0.1
Length of Perimeter Fence (ft)	5,989	Elect. Wiring Removal Rate (min/LF)	0.5
Number of Power Poles	5	Pile Rem. Rate (piles/day)	300
Access Rd Material Volume (YD)	1,593	Fence Removal Rate (min/LF)	1
Total Disturbed Area (SF)	43,985	Days req. to break up concrete pads	1
Total Fence Weight (lbs)	4,252	Days req. with Rough Grader	1
Total Racking Weight (lbs)	310,200	Days req. with Fine Grader	2
Total Foundation Pile Weight (lbs)	405,000	Total Truckloads Required	29
Total Solar Module Weight (lbs)	792,000	Round-Trip Dist. to Trans. Sta.(miles)	36
		Round-Trip Time to Trans. Sta. (hr)	1.5

  

<b>Labor and Equipment Costs</b>	
Labor Rate (\$/hr)	\$ 35.00
Operator Rate (\$/hr)	\$ 47.00
Bobcat Cost (\$/hr)	\$ 101.90
Front End Loader Cost (\$/Day)	\$ 845.77
Excavator Cost (\$/Day)	\$ 1,365.46
Trucking Cost (\$/hr)	\$ 127.38
Backhoe Cost (\$/hr)	\$ 101.90
Power Pole Removal Cost (\$/pole)	\$ 1,500.00
Grader Cost (\$/day)	\$ 1,324.70
Gravel Export Cost (\$/YD)	\$ 8.00
Loam Import Cost (\$/YD)	\$ 20.00
Seeding Cost (\$/SF)	\$ 0.10
Fuel Cost (\$/mile)	\$ 0.50

Labor, Material, and Equipment Costs

**1. Remove Modules**

The solar modules are fastened to racking with clamps. They slide in a track. A laborer needs only unclamp the module and reach over and slide the module out of the track.

$$\text{Module Removal Rate} \cdot \text{Total Number of Solar Modules} \cdot \text{Labor Rate} = \text{Module Removal Cost}$$

**Total = \$ 7,700.00**

**2. Remove Rack Wiring**

The modules are plugged together in the same manner as an electrical cord from a light is plugged into a wall socket. The string wires are in a tray. A laborer needs only unplug the module, reach into the tray and remove the strands of wire.

$$\text{Wire Removal Rate} \cdot \text{Total Number of Solar Modules} \cdot \text{Labor Rate} = \text{Rack Wiring Removal Cost}$$

**Total = \$ 1,925.00**

**3. Dismantle Racks**

Tracker module racking primarily consists of torque tubes and a driveline. These are supported on driven piles. The torque tubes and driveline unbolt from the foundation piles.

$$\text{Linear feet of Racking} \cdot \text{Rack Dismantling Rate} \cdot \text{Labor Rate} = \text{Rack Dismantling Cost}$$

**Total = \$ 5,775.00**

**4. Remove and Load Electrical Equipment**

Electrical equipment includes transformers, inverters, and tracker motors.

$$(\text{Number of Inverters} \cdot \text{Inverter Removal Rate} + \text{Number of Transformers} \cdot \text{Transformer Removal Rate} + \text{Number of Motors} \cdot \text{Motor Removal Rate}) \cdot (\text{Operator Rate} + \text{Bobcat Cost}) = \text{Electrical Equipment Removal Cost}$$

**Total = \$ 3,126.90**

**5. Break Up Concrete Pads**

Concrete pads are broken up using an excavator and jackhammer.

$$\text{Number of Demolition Days} \cdot (\text{Excavator Cost} + \text{Operator Cost}) = \text{Total Concrete Pad Removal}$$

**Total = \$ 1,221.77**

**6. Load Racks**

Once the racking has been dismantled, it will be loaded onto trucks for removal from the site. The trucking cost associated with this line item represents the additional time a truck will be needed during loading. Please see item # 13 for the cost of trucking off-site.

$$\text{Linear feet of Racking} \cdot \text{Rack Loading Rate} \cdot (\text{Operator Cost} + \text{Front End Loader Cost} + \text{Trucking Cost}) = \text{Total Rack Removal Cost}$$

**Total = \$ 22,792.69**

**7. Remove Electrical Wiring**

Electrical wiring will be removed from all underground conduits.

$$\text{Cable Length} \cdot \text{Cable Removal Rate} \cdot (\text{Operator Cost} + \text{Backhoe Cost}) = \text{Total Cable Removal Cost}$$

**Total = \$ 5,669.37**

**8. Remove Foundation Piles**

Foundation piles will be pulled out of the ground and loaded onto a truck to be removed from site.

$$(\text{Total Number of Piles} / \text{Daily Pile Removal Rate}) \cdot (\text{Operator Rate} + \text{Excavator Cost}) = \text{Total Pile Removal Cost}$$

**Total = \$ 26,121.90**

**9. Remove Fencing**

Fencing posts, mesh, and foundations will be loaded onto a truck and removed from site. Trucking costs included in this line item are for the removal process. Trucking to a recycling facility are included in item #13.

$$(\text{Total Length of Fence} \cdot \text{Fence Removal Rate}) \cdot (\text{Operator Rate} + \text{Bobcat Cost} + \text{Trucking Cost}) =$$

**Total = \$ 27,576.85**

**10. Remove Power Poles**

Power poles will be removed and shipped off site.

$$\text{Number of Power Poles} \cdot \text{Pole Removal cost} = \text{Total Power Pole Removal Cost}$$

**Total = \$ 7,500.00**

**11. Gravel Road Reclamation**

Reclamation of the gravel access road will entail removing the gravel material and exporting it off site. The area will then be backfilled with loam and graded.

$$(Days\ with\ Rough\ Grader + Days\ with\ Fine\ Grader) \cdot (Grader\ Cost\ per\ Day + Operator\ Cost\ per\ Day) + [Roadway\ Material\ Volume \cdot (Gravel\ Export\ Cost + Loam\ Import\ Cost)] =$$

*Gravel Road Reclamation Cost*

**Total = \$ 49,715.43**

**12. Seed Disturbed Areas**

Seeding cost includes labor and materials for reseeding all disturbed areas including the reclaimed gravel road area, former electrical areas, and areas disturbed by racking foundation removal.

$$Seeding\ Cost \cdot Disturbed\ Area =$$

*Total Seeding Cost*

**Total = \$ 4,398.49**

**13. Truck to Transfer Station**

All material will be trucked to the nearest Transfer station that accepts construction material. The nearest transfer station is Winnebago Landfill

$$(Total\ Truckloads \cdot Roundtrip\ Distance \cdot Fuel\ Cost) + (Total\ Truckloads \cdot Round\ Trip\ Time \cdot Trucking\ Cost) =$$

*Total Trucking Cost to Transfer Station*

**Total = \$ 6,062.81**



Salvage Values

Salvage Value Not Included

Racking Disposal Cost

**1S. Racking Disposal Cost**

The racking can be disposed of at the Transfer Station. They will be trucked to Winnebago Landfill.

$$(Total\ Racking\ Weight)/2000 \cdot Cost\ per\ Ton\ of\ disposal =$$

**Total =**                      \$    33,660.00

Panel Disposal

**2S. Solar Panel Disposal Cost**

The panels can be disposed of at facilities which except electronics. They will be trucked to Winnebago Landfill.

$$(Total\ Panel\ Weight)/2000 \cdot Cost\ per\ Ton\ of\ disposal =$$

**Total =**                      \$    59,400.00

**Summary of Decommissioning Costs and Salvage Values**

Line Item	Task	Cost
1	Module Removal	\$ 7,700.00
2	Rack Wiring Removal	\$ 1,925.00
3	Rack Dismantling	\$ 5,775.00
4	Electrical Equipment Loading and Removal	\$ 3,126.90
5	Break Up Concrete Pads	\$ 1,221.77
6	Load Racks	\$ 22,792.69
7	Electrical Wiring Removal	\$ 5,669.37
8	Foundation Pile Removal	\$ 26,121.90
9	Fence Removal	\$ 27,576.85
10	Power Pole Removal	\$ 7,500.00
11	Gravel Road Reclamation	\$ 49,715.43
12	Seed Disturbed Areas	\$ 4,398.49
13	Trucking to Transfer Station	\$ 6,062.81
		Subtotal = \$ 169,586.21

Additional Item	Task	Value
Salvage Values Not Included		
1S	Racking Disposal Cost	\$ 33,660.00
2S	Solar Panel Disposal Cost	\$ 59,400.00
		Additional Item Subtotal \$ 93,060.00
		<b>Present Value Total = \$ 262,646.21</b>



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