

Table W-1. Site Restoration Cost Estimate¹

Cost Estimate Component	219 1.6 MW Turbines			166 3.0 MW Turbines		
	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Turbines and Towers						
Disconnect electrical and ready for disassembly (per tower)	219 units	\$212	\$46,428	166 units	\$212	\$35,192
Remove turbine blades, hubs, and nacelles (per tower)	219 units	\$5,900	\$1,292,100	166 units	\$5,900	\$979,400
Remove turbine towers (per ton of steel ²)	33,945 units	\$82.00 per ton	\$ 2,783,490	31,042 units	\$82 per ton	\$2,545,444
Foundation and Pad Areas						
Remove and load pad-mounted transformers (per tower)	219 units	\$2,782	\$609,258	166	\$2,782	\$461,812
Remove turbine foundations (per cubic yard (CY) of concrete)	6,351 CY	\$52 per CY	\$330,252	6,258 CY	\$52 per CY	\$325,426
Restore turbine site including spur road	219 units	\$2,259	\$494,721	166 units	\$1,877	\$311,582
Met Towers						
Dismantle and dispose (per tower)	7	\$13,537	\$94,759	7	\$13,537	\$94,759
Collector Substations						
Dismantle and dispose (per substation)	3	\$675,593	\$2,026,779	3	\$675,593	\$2,026,779
Operations and Maintenance Facility						
Dismantle and dispose	1	\$179,005	\$179,005	1	\$179,005	\$179,005
Electrical System						
Remove 230-kV generator lead line (per mile)	22.4 miles	\$25,487	\$570,908	21.3 miles	\$25,487	\$946,638
Remove aboveground 34.5-kV collector (per mile) ³	40.4 miles	\$4,228	\$170,811	45.5 miles	\$4,228	\$192,374
Remove below-ground junction boxes to 3' below grade (each)	33 units	\$51	\$1,683	38	\$51	\$1,938

¹ Site restoration costs represent second quarter 2010 dollars, and cost assumptions follow those laid out in January 2011 Oregon Department of Energy Site Restoration Cost Estimating Guide.

² 219 turbines times 253 tons per turbine = 55,407 tons for the 1.6 MW layout; 166 turbines times 300 tons per turbine = 49,800 tons for the 3.0 MW layout

³ The majority of the line will be located underground and will remain in place where below 3 feet- a depth suitable for agricultural use.

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	Quantity	Unit Cost	Total Cost	Quantity	Unit Cost	Total Cost
Access Roads⁴						
20-ft road removal, grading, and seeding (per mile)	56.8 miles	\$55,611	\$3,158,705	48 miles	\$55,611	\$2,686,011
General Costs						
Permits, mobilization, engineering, overhead, utility disconnects (unit cost)	1	\$496,732	\$496,732	1	\$488,805	\$488,805
Restoration Costs						
Grading and seeding around access roads, met towers, O&M facilities and turbine turnouts (per acre)	107	\$8,706	\$931,542	107	\$8,706	\$931,542
Seeding around collector line structures, transmission lines, crane paths and temporary laydown areas (per acre)	197	\$3,398	\$669,406	82	\$3,398	\$278,636
Subtotal			\$15,616,464			\$13,619,735
Performance Bond		1%	\$156,165		1%	\$136,197
Gross Cost			\$15,772,629			\$13,755,932
Administration and Project Management		10%	\$1,577,263		10%	\$1,375,593
Future Development Contingency		10%	\$1,577,263		10%	\$1,375,593
Total Site Restoration Cost⁵			\$18,927,154			\$16,507,118

⁴ HDR corrected an apparent error in cell F189 of the excel workbooks that accompany the Draft Site Restoration Cost Estimating Guide (January 2011). Instead of referencing the correct square yards of access roads for the cost of topsoil (like the Gravel and Grading costs above and below that line) it is incorrectly referencing a much larger number on the 01 Home page tab of the spreadsheet.

⁵ Although not included in the above calculations, as of May 2011 the U.S. Geological Survey (USGS) estimates scrap value at \$380 per ton.