

# Land required for generating electricity

FREEING  
ENERGY

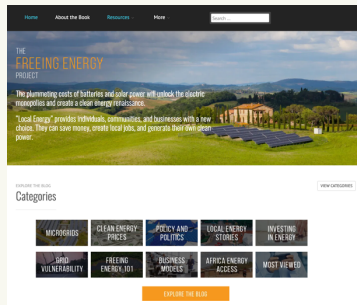
Land use	Electricity generated <i>per acre</i> over 75 years	Electricity generated <i>per acre</i> over 25 years	Acres per GWh per year <sup>1</sup>	Reclamation options
Solar	<b>25.00 GWh</b>	8.33 GWh	3 ( <i>perpetual</i> )	Remove panels or dual-use <sup>2</sup>
Nuclear (mining)	16.66 GWh	16.66 GWh	0.06 ( <i>only once</i> )	Very high cost (radioactive)
Coal (mining)	11.11 GWh	11.11 GWh	0.09 ( <i>only once</i> )	Costly (<15% reclaimed)
Wind	2.90 GWh	0.96 GWh	26 ( <i>perpetual</i> )	Remove turbines or dual-use <sup>2</sup>
Hydro	2.50 GWh	0.83 GWh	30 ( <i>perpetual</i> )	Drain dam + restoration
Biomass	0.40 GWh	0.13 GWh	188 ( <i>perpetual</i> )	Replant trees

Sources at <http://fep.link/g104>

<sup>1</sup> a GWh is the same as a million kilowatt hours | <sup>2</sup> reclamation may not be necessary because land can be simultaneously used for other purposes  
Data was gathered from multiple sources and studies. It was normalized here to be illustrative. Actual project land use varies widely by geography.

# The Freeing Energy Project

- ⚡ The mission of the Freeing Energy Project is to educate and inspire energy fans towards accelerating the transition to clean, sustainable energy like solar, wind, and batteries.
- ⚡ The project has a deep focus on the consumerization of energy technology and its ability to enable affordable, reliable, self generation, or as we call it, local energy.



Check out the  
[FreeingEnergy.com](https://FreeingEnergy.com)  
website



Bill Nussey's [TED talk](#) on  
Local Energy



The Freeing Energy podcast  
series on Apple Podcasts

# For more information on this slide

## Sources

- ⚡ <https://www.freeingenergy.com/math/solar-pv-land-acres-hectares-miles-m118/>
- ⚡ <https://www.freeingenergy.com/math/wind-land-acres-hectares-miles-m119/>
- ⚡ <https://www.freeingenergy.com/math/coal-land-strip-mining-acres-hectares-m126/>
- ⚡ <https://www.freeingenergy.com/math/uranium-nuclear-mining-land-acres-m128/>
- ⚡ <https://www.freeingenergy.com/math/hydro-land-acres-hectares-miles-m124/>
- ⚡ <https://www.freeingenergy.com/math/biomass-bioelectricity-land-acres-m127/>

## Additional info on this slide

- ⚡ Check out the source page via this shortcut: <http://fep.link/g104>
- ⚡ Filecode: LandGWh

