

Powering Smallsburg Activity – Overhead 1: Types of Power Plants

Type of Power Plant	Requirements (i.e., fuel, sunshine, etc.)	Cost (high or low?)	Environmental Concerns	Renewable/ Non-Renewable	% of Current U.S. Electrical Production
Hydroelectric	A valley with a sizable river	Low	Construction of the dam and rising water levels affect people living upstream of the dam. The dam also disrupts the ecology of the stream.	Renewable	7%
Photovoltaic (PV)	A lot of sunshine (not good for cloudy places)	Very High	Needs energy storage (intermittent energy source) which increases cost significantly	Renewable	0.1%
Wind Turbine	A consistently windy place	High	Some people think they are ugly (a form of visual pollution). Some studies suggest that wind turbines kill birds. Needs energy storage like PVs.	Renewable	0.4%
Nuclear	Uranium	Low	There are concerns about transporting uranium to/from plant, and the storage (for centuries) of the radioactive used fuel rods. Uranium must be mined.	Non-renewable	20%
Coal	Coal	Very Low	Current coal plants give off significant amounts of carbon dioxide (global warming), sulfur dioxide (acid rain), nitrogen oxides (acid rain and smog), and mercury (birth defects); some newer plants significantly reduce these emissions. Coal must be mined, and these mines are often unsightly and potentially damaging to the environment.	Non-renewable	50%