

Direct Current technology is best

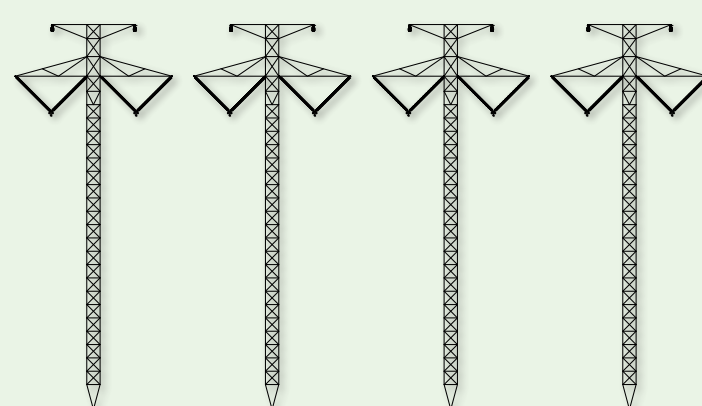
for the TransWest Express Transmission Project



Generation
Wyoming



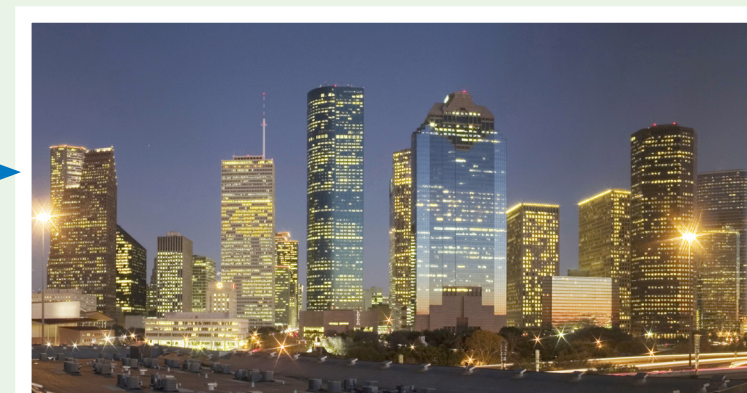
Substation Converter
Wyoming



DC Transmission Line
Over 700 miles

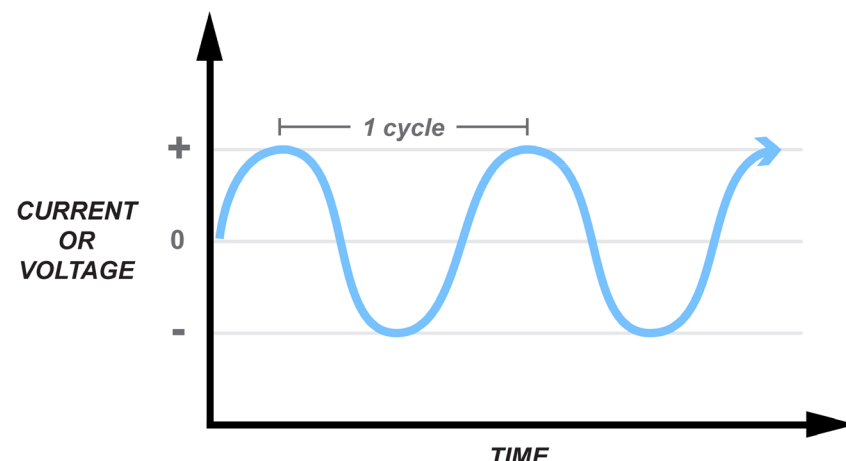
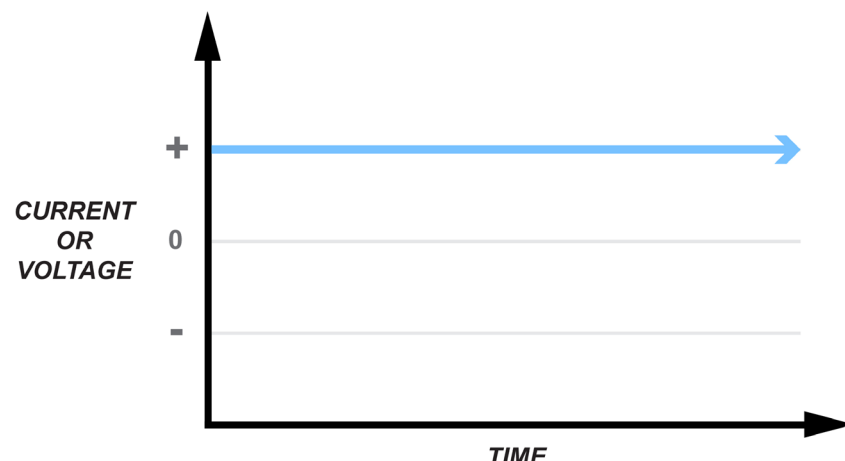
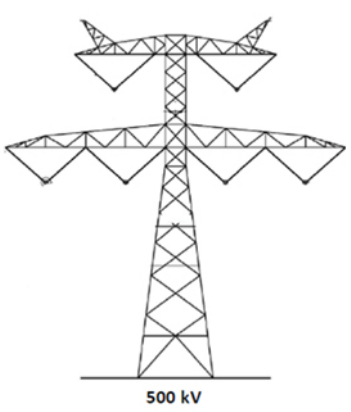
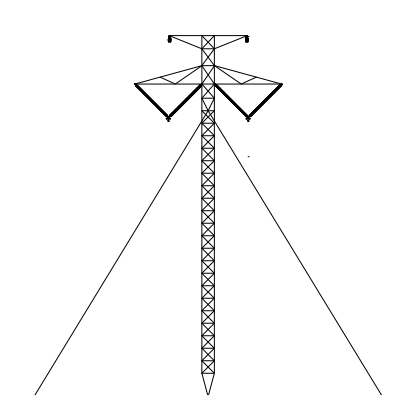


Substation Converter
Nevada



Customers
Arizona, Nevada, California

Differences between transmission technologies

	Alternating Current (AC)	Direct Current (DC)
Technical difference		
Common uses	<ul style="list-style-type: none"> Household wiring Most electrical utility systems 	<ul style="list-style-type: none"> Battery powered devices Long distance electric transmission
Line design	 <p>Six conductor bundles for 3,000 MW</p>	 <p>Two conductor bundles for 3,000 MW</p>
Station design	<ul style="list-style-type: none"> Several substations located every 50-75 miles 	<ul style="list-style-type: none"> Two substations and AC/DC converters located at either end of the line Ground electrode backup system
System costs	<ul style="list-style-type: none"> Relatively expensive lines Lower substation costs Less efficient over greater distances 	<ul style="list-style-type: none"> Less expensive lines Fewer but more expensive substations More efficient over greater distances