Compare vertical axis and horizontal axis wind turbine.

Point	HAWT (Horizontal Axis Wind Turbine)	VAWT (Vertical Axis Wind Turbine)
Axis Orientation	Rotor shaft is horizontal (parallel to ground)	Rotor shaft is vertical (perpendicular to ground)
Location of Components	Generator & gearbox placed at top (nacelle)	Main components placed near ground level
Wind Direction	Needs yaw mechanism to face wind	No yaw mechanism required (omnidirectional)
Efficiency	High efficiency (uses lift force)	Lower efficiency (drag + lift effects)
Starting	Generally self-starting	Some types not self-starting
Installation Height	Installed on tall towers (strong wind)	Installed closer to ground
Maintenance	Difficult (components at height)	Easier (components near ground)
Stress & Reliability	Lower stress, more reliable	Higher stress, vibration, less reliable