

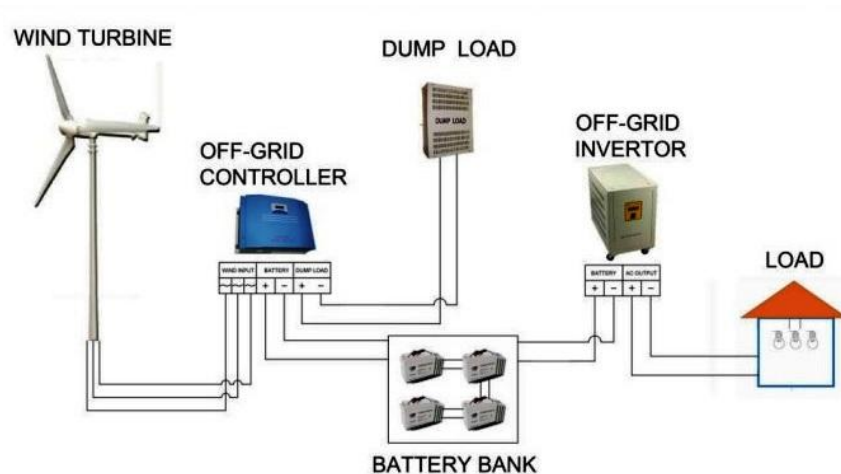
Scope of Work

Wind Turbine Install

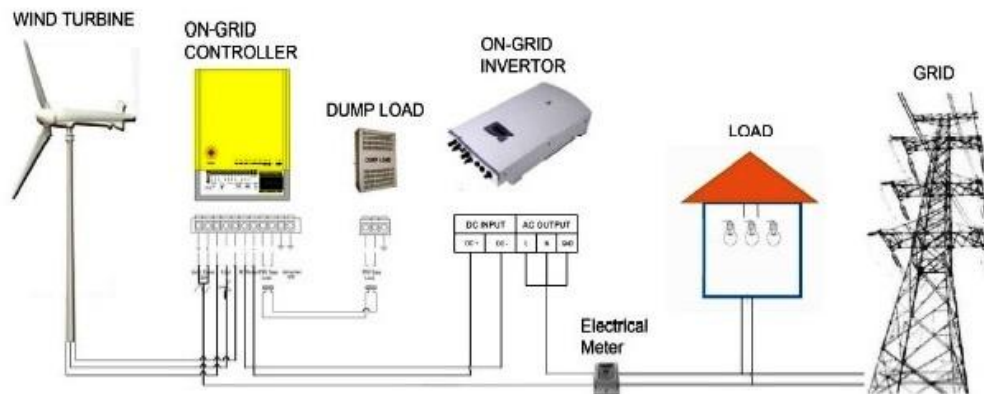


- 1). Determine the site location for the turbine.
- 2). Determine soil type and type of foundation required. (Plans will be provided)
- 3). Determine cable run and length. Electronics will be inside or in an enclosed, vented, cabinet. Most cables from the turbine are 3 live # 6 wires and a ground. Turbine generators are 3 phase A/C . 1 inch conduit can be laid from the turbine base to the electronics.
- 4). Review wiring diagrams.

OFF GRID Diagram



ON GRID Diagram



- 4). Turbines will arrive in crates from a local freight carrier.



- 5). Uncrate and inventory all of the parts. Check with manuals.

- 6). Electronics Setup Sample for two turbines –



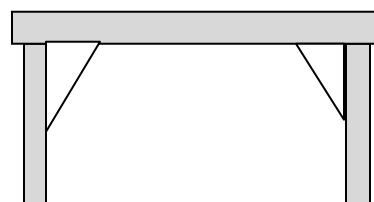
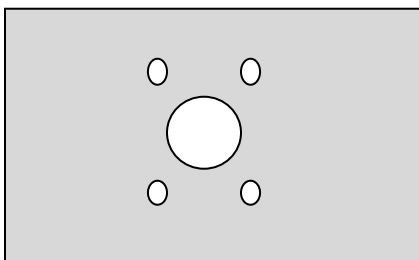
- 6). With the foundation in place and cured as per requirements and the conduit laid, the wiring from the foundation to the electronics can be run. Wiring should come up the center of the concrete pad and enough length to run inside the pole to the generator.



- 7). Assemble the turbine on pallets or a stand that can hold the turbine in place during assembly.



Assembly Stand If Needed



Optional Folding Tower Design



Free Folding Tower

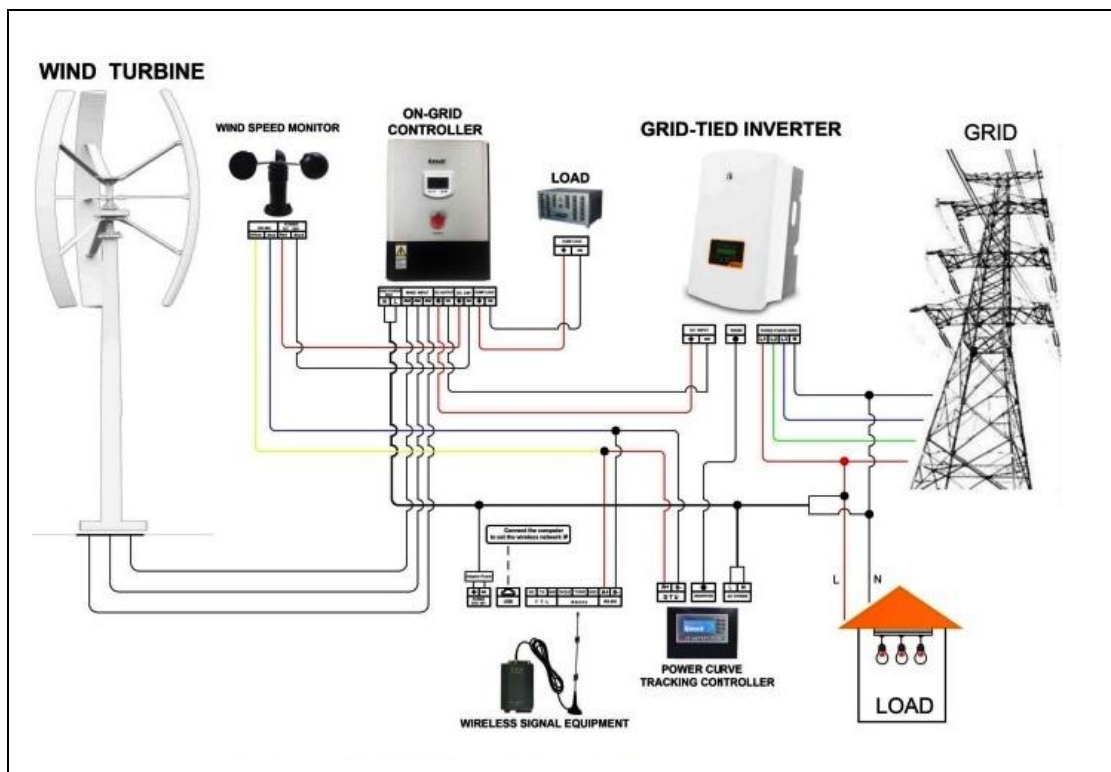
- 8). A crane will be needed for raising the turbines, set in place on the threaded rods and locked down with nuts. One nut to keep the turbine base off of the concrete by 1 inch. And one nut to set in place and a second lock nut on top. Additional washers are needed.



- 8). The turbines will have a cable that will need to be extended that runs down the pole and into the conduit to the inverters.
- 9). A review of all the equipment manuals is required and with questions.
- 10). Once the electronics are set in place. A BWE tech will go over all of the connections and with video and photos, trace all wiring to make sure the units are wired correctly. The controller is the first unit that needs connection to the turbine and plugged into the grid. This unit has the on/ off brake switch, the turbine brake is set to on so the turbine does not rotate.
- 11). Once the turbine units are connected and inspected, we will go into the startup and testing programs.
- 12). We will run a few tests on each turbine for startup, production and braking.
- 13). All turbines come with a WiFi monitoring system that is built into the Inverters. A WiFi signal is required. The WiFi connects to a monitoring website that shows performance and operation.



APVR 序列号: GREEFAFVR3500000				
Voltage-A	未连接	更新时间: 2021/03/08 14:15:15	126.9	Vac
Voltage-B	未连接	更新时间: 2021/03/08 14:15:15	126.4	Vac
Voltage-C	未连接	更新时间: 2021/03/08 14:15:15	126.9	Vac
Current-A	未连接	更新时间: 2021/03/08 14:15:23	0.017	Aac
Current-B	未连接	更新时间: 2021/03/08 14:15:23	0.017	Aac
Current-C	未连接	更新时间: 2021/03/08 14:15:23	0.017	Aac
power-A	未连接	更新时间: 2021/03/08 14:15:23	0.000	kw
power-B	未连接	更新时间: 2021/03/08 14:15:23	0.000	kw
power-C	未连接	更新时间: 2021/03/08 14:15:23	0.000	kw



- 13). If all goes as planned we can let the turbines fly for ½ a day and then check the results.
- 14). If there needs to be any internal adjustments to the firmware, I can go into the turbine remotely via team viewer, with a laptop plugged in, on the internet and make any adjustments.

This is the general installation of a turbine and the electronics.

Suggested Man Hours to be performed.

A. Turbine crate unpacking and inventory check list. –	2 Man Hours
B. Site prep for foundation –	2 Man hour
C. Foundation dig and rebar forms. -	6 Man hours
D. Concrete fill and final set -	6 Man hours
E. Base pole set in place with crane or lift. -	2 Man hours
F. Turbine assembly and mounting -	5 Man hours
G. Electronics install and wiring -	8 Man Hours
H. <u>System Testing / Training</u>	<u>4 Man Hours</u>
Estimated Man hours required –	35 Man Hours

Not included in the turbine kit and required.

- Wiring from turbine to electronics – up to 400 ft. 3 phase # 6
- All wiring between units.- # 8 AWG
- Back hoe to dig foundation, rebar, wire and concrete
- Electrician to connect to the grid, with utility approval.