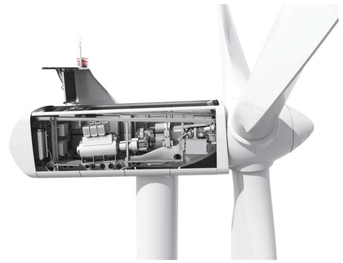
The Turbine

This wind energy project will consist of one Vestas V90 wind turbine. Vestas, a Danish company, is a long time pioneer in wind energy technology. It's V90 model was introduced in 2004, and since then over 1500 of these machines have been installed world wide.

The Nacelle



The housing that contains all of the generating components of the turbine. Inside you will find the generator, gearbox, drive train and brake assembly.

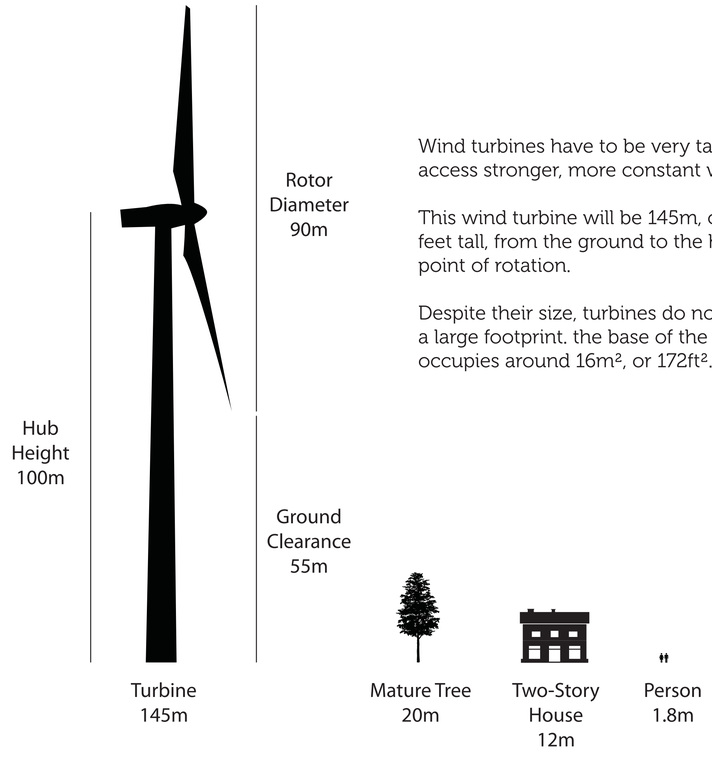
The Blades

The V90 blades are about 45 metres, 150 feet, long. Each of the three are made using lightweight composite marerials to improve energy efficiency.

The longer the blade, the more wind it is able to capture energy from. The total swept area of the rotor is over 1.5 acres.

Because they are so long, the tips of the blades can travel at very high speeds. However, the entire rotor spins at a maximum of 16rpm, which appears quite relaxed to the observer.

The Height



Wind turbines have to be very tall to access stronger, more constant winds.

This wind turbine will be 145m, or 475 feet tall, from the ground to the highest point of rotation.

Despite their size, turbines do not have a large footprint. the base of the turbine occupies around 16m², or 172ft².

Manufacturer Specs

Generator Max Capacity: 1.6MW
Cut-in Wind Speed: 4m/s
Cut-out Wind Speed: 25m/s
Maximum Output at: 12m/s
Operating Temperature Range: -20C to 40C
(-30C with cold weather package)

Sound Power
min: 95.6 dB(A)
max: 103.5 dB(A)

Rotor Diameter: 90m
Swept Area: 6362m²
Revolution Speed: 9.3 - 16.6 rpm
Brake System: Blade Pitch Control + Hydraulic Disk Brake

Tower Height: 100m, Tubular Steel

1.6MW Community Wind Project
Bucklaw, NS

Scotian WindFields
Community Owned. Naturally.

PROJECT DETAILS