



Wind Energy Unit Information Packet



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A Wind Energy Unit Application is required by the City of Corpus Christi's Development Services Department to evaluate the location, design, and operation of a proposed wind energy unit as specified in each Land Use and Zoning District. The Wind Energy Unit Application and process provides the City the opportunity to review the proposed wind energy system unit to ensure all applications meet the existing codes and regulations.

The Development Services Staff will review each application using the procedures outlined in Article 27D and Section 29-3.13 of the City's Zoning Ordinance. These sections of the City's Zoning Ordinance can be reviewed on the City's website at www.cctexas.com. Article 27D of the City's Zoning Ordinance also clarifies which uses qualify as a "By-right" use and which uses require a Special Use Exception Permit and review by the City's Zoning Board of Adjustment.

Please use the checklist within this packet to assemble the materials required for the submittal of your wind energy unit application and bring it with you when you submit your application. An appointment is not required to submit your application. It is strongly recommended that you visit with a Development Services Project Manager prior to purchasing a wind energy unit, and at least one month prior to the proposed establishment of the new wind energy unit, to ensure that your project does not require additional review by jurisdictional Local, State, Federal, or Military agencies.

Please keep in mind the following information prior to purchasing a new wind energy unit and while submitting your permit for review and approval:

- ❖ All wind energy units require system certification approved under an Emerging Technology program or any other small wind certification program recognized by the American Wind Energy Association (AWEA) or the U.S. Department of Energy (a list of approved models is included with this packet).
- ❖ City Building Permits, Electrical Permits, and Development Services review are required.
- ❖ All units must be certified by a Texas State registered Engineer, and inspected by the City's Electrical and Building Inspection personnel.
- ❖ Development Services review must be completed and receipt of the City's Building Permit, Electrical Permit, and if applicable, Special Use Exception Permit, must be issued prior to the mounting, pouring of a concrete pad, or construction or assembly of the wind energy system.
- ❖ All wind energy units are subject to permit review and consultation with all applicable Local, State, Federal, and military agencies having jurisdiction within an area, if required.
- ❖ All components of the wind energy unit, including the supporting structure, must meet the minimum wind resistant construction standards of the Texas State Department of Insurance Wind Load Factors for the Corpus Christi area and the Corpus Christi Building Code.
- ❖ Guyed towers, latticed towers, and any experimental, homebuilt, or prototype models, or any model not listed on the City's list of approved manufacturers and models are prohibited within the City limits.

Wind Energy Unit Application Checklist

Application Requirements. Original signatures are required for the applicant and all co-applicants applying for the Special Use Exception Permit, Building Permit, and Electrical Permit for a Wind Energy Unit. If the applicant or co-applicant will be represented by an agent, the original signature authorizing the agent to represent the applicant and/or co-applicant is required.

Permit Application: An application must include plans and specifications sufficient to show that the proposed wind energy unit complies with the standards under Article 27D of the City's Zoning Ordinance, and cannot be deemed complete unless it includes the following items:

- Name, address and telephone number of the property owner of record, applicant and the person preparing the map (if different than owner).
- The approximate generating capacity of the wind energy unit.
- An estimate of the total on-site electrical demands.
- The name of the manufacturer and model being used.
- The name, address, and phone number of the Engineer registered in the State of Texas preparing and providing the certified and sealed engineered drawings for the unit.
- The name, address, and phone number of the individual installing the unit on-site.
- The total system height of the wind energy unit to be constructed, from the natural grade to the highest point of the blade in the upright position for horizontal axis units, or to the highest point of the structure for vertical axis units.
- The phone number and name of a responsible person for the public to contact with inquiries and complaints throughout the life of the project.

System Design Drawings. Certified and sealed engineered drawings prepared by a professional Engineer registered in the State of Texas are required, and must include the following information;

- Design specifications of the wind energy unit, including the tower, base, and footings, and unit components.
- For building or structurally-mounted units, the certified and sealed engineering plans prepared by a professional Engineer registered in the State of Texas must show how the wind energy unit will be installed for the portions of the structure proposed for use in the mounting of the unit, and must state and show that the proposed wind energy unit is compatible with the portions of the mounting structure proposed for use, and does not impose a safety hazard to the main structure or adjacent property or their occupants.
- Drawings that indicate the total finished wind energy unit height from the grade level prior to any modifications, and including any engineered break points on the tower.
- The wind survival speed of the entire unit, including the supporting structure, turbine, rotor blades, covers, and other components.
- Data pertaining to the tower or supporting structure's safety and stability, including any safety results from test facilities.

Written Statements and Additional Documentation. In addition to the site plan, applications for all wind energy units must include proof of the following in the form of written statements and additional documentation accompanying the application:

- A statement verifying that the small or medium wind energy unit will be used solely for on-site consumption of electricity, and any additional energy produced above the total onsite demand can only be sold to an electrical utility that normally provides electrical power to the property, and cannot exceed 50% of the peak annual energy demand onsite.

Wind Energy Unit Application Checklist

- A statement indicating what safety precautions and emergency plan the applicant proposes to utilize in a storm event greater than Category I (74 mph winds).
- A statement from any architectural review board, property owners', or homeowners' association that the proposed unit complies with association requirements and restrictions if applicable.
- A statement that the project site is, or is not, within a protected area surrounding an airport or air installation where air traffic may be a consideration affecting the installation of the unit, if required. (The applicant shall provide evidence of compliance with any applicable aviation regulatory requirements if required).
- Copies of any City, State, Federal, or Military reviews, permits, licenses, biological opinions, biological/environmental assessments, records of decision, memoranda of understanding, exemption, variance, or other authorization or approval related to the proposed wind energy unit, if required.
- Copy of the manufacturer's installation instructions and scheduled maintenance requirements for the proposed wind energy unit.
- Proof that the property is platted.
- For wind energy units that will be connected to an electrical grid, a copy of the fully executed "Application for Interconnection and Parallel Operation of Distributed Generation" is required, and approved by the electric utility service provider that serves the proposed site indicating that the applicant has been approved for the installation of a wind energy conversion unit.

Site Plan. Two copies of a site plan submitted for a wind energy unit are required, submitted on a minimum size of 8½" X 11" sheets for single-family residential use sites (drawing space is included below), and 8½" X 14" sheets for units proposed on a multiple-family, agricultural, industrial, or business use sites. This section of the checklist consists of two parts; the upper portion is a checklist of the items that need to be included on your drawing, at an accurate scale appropriate to show all the details of your proposed lots. The scale you use should be a standard engineering scale (1 inch equals 10 feet, 20 feet, 30 feet, 40 feet, 50 feet or 60 feet) so that the parcel fits neatly within the space provided. The site plan must include the delineation, location, and dimension of the lengths and widths of the following:

- The Site Plan should be drawn so that "north" is to the top of the Site Plan, with the scale used under the north arrow provided.
- Provide the legal description, including tax identification/parcel number, and address of the project site.
- Adjacent existing land uses and zoning designations.
- The locations of all easements, rights-of-way (names included), building, front, side, and rear zoning lot setback lines, and overhead utility lines on the property.
- The location of all underground structures including septic tanks and wells.
- Indicate the dimensions of, and distances between, all existing structures and the nearest existing or proposed property line.
- Indicate the location, height, and the distance of the Wind Energy Unit to all existing structures as well as the distance to the property lines.
- Show the direction of the prevailing winds.
- The type of development on all adjacent properties, including across any streets. Show distance of structure(s) on adjacent properties from the project property lines.
- The location of water bodies, waterways, wetlands, drainage channels, creeks, and rivers within 5,280 feet (1 mile) of the proposed wind energy unit location onsite (This can be represented by an arrow and distance from property).
- One-line diagram for the electrical interconnection.

PROPERTY SITE PLAN
(Reserved for Single-Family Residential Use Drawing)



Wind Energy Unit Application

Date: _____

File (HTE) No. _____

(For Staff Only)

Section 1 – General Information

Property Owner Name(s): _____ Phone No.: _____

Address: _____ City: _____

State: _____ Zip Code: _____ Email Address: _____

Applicant's Name (If different from Owner): _____ Phone: _____

Address: _____ City: _____

State: _____ Zip Code: _____ Email Address: _____

Firm Name: _____ Phone No. _____

Firm Address: _____ City: _____

State: _____ Zip Code: _____ Fax No. _____

Engineers' Name: _____ Phone No.: _____

Address: _____ City: _____

State: _____ Zip Code: _____ Email Address: _____

Firm Name: _____ Phone No.: _____

Firm Address: _____ City: _____

State: _____ Zip Code: _____ Fax No. _____

Name of Company/Service Provider Installing the Unit: _____

Name of Person Installing the Unit: _____ Job Title: _____

Address: _____ City: _____

State: _____ Zip Code: _____ Phone No.: _____

Years of related experience: _____

Number and type of similar systems installed: _____

Section 2 –

Project Description and Location/Legal Data

Physical Street Address of Wind Energy Unit Installation: _____

City: _____ State: _____ Zip Code: _____

Tax IDs of all parcels: _____

Legal Description: _____

Block: _____ Lot: _____ Platted: Yes No (provide evidence) Lot Size: _____

Zoning District: _____ Surrounding Districts: North _____ East _____ South _____ West _____

Flood Zone: _____ Will the unit be insured? Yes No

Which company? _____

Name of responsible party for complaint resolution: _____

Address of responsible party: _____

City: _____ State: _____ Zip Code: _____ Phone No.: _____

Wind Energy Unit Application

Section 3 – Unit Design and Engineering Information

This application is for a (check all that apply);

freestanding unit structure or roof-mounted unit vertical axis unit horizontal axis unit

Total number of units: _____ Unit Manufacturer: _____ Model: _____

For Freestanding Units, Tower Manufacturer: _____

Total unit height (measured from unaltered grade to highest tip or point of unit): _____

Turbine rotor blade diameter: _____

Rated Power/mph: _____ Peak Power/mph: _____ Voltage: _____

Type of braking system: automatic manual At what speed? _____

Battery model: _____ Battery voltage: _____ DC bus voltage: _____

Off the utility grid: Yes No If no, complete Section 4 below.

AC System: Yes No DC System: Yes No Alternative energy source(PV) Yes No

Number of units on this site: _____ Type of additional units: _____

Total estimated energy output (No. of turbines x power output): _____

Projected sound decibel levels of unit: _____ dBAs

Type of structure on-site requiring energy: _____ Size (sq. ft.) _____

Total estimated onsite annual demand of structure requiring energy: _____

Manufacturer rated maximum wind survival speed of wind energy unit (including covers and blades)? _____ Of the supporting structure? _____

Explain emergency plan for predicted storms or hurricanes with winds of 74mph or greater:

Is there a plan for dismantling and disposal? Yes No

Explain dismantling plan: _____

Indicate length (years) of warranty for the following:

Design: _____ Turbine: _____ Inverter: _____ Battery: _____ Supporting Structure: _____

Section 4 – Interconnection/Utility Grid Information

Will the unit connect to a Utility Grid? Yes No

Note: As per Section 27D-6(C)(4) of the City's Zoning Ordinance, no wind energy unit that has the ability to be connected to a power grid may be installed until the applicant has provided evidence of compliance with all State laws and provides a copy of the "Application for Interconnection and Parallel Operation of Distributed Generation", that has been fully executed and approved by the electric utility company. If the unit will connect to the grid, please provide a copy of the "Application for Interconnection and Parallel Operation of Distributed Generation", and answer the following questions:

Inverter manufacturer: _____ Inverter model: _____

Inverter's continuous AC rating: _____ Number of inverters: _____

Total inverter output: _____ (Inverter continuous AC rating x number of inverters)

Inverter's peak efficiency: _____ (Refer to manufacturer's peak efficiency rating)

Inverter location: Indoor Outdoor Location: _____

Utility-accessible AC disconnect switch location on-site: _____

System type and mode of operation: (check applicable)

- Utility interactive (parallel/capable of backfeeding the meter)
- Utility interactive with battery backup (capable of backfeeding the meter)
- Dedicated circuit, utility power as backup (transfer switch)
- Dedicated circuit, battery charging, utility power as backup (transfer switch)
- Stand-alone (system confined to an independent circuit, no utility backup)
- Stand-alone with battery backup (system confined to an independent circuit, no utility backup)
- One-line electrical schematic

Wind Energy Unit Application

Section 3 – Signatures

I certify under penalty of perjury that I am the (check one)

- Legal Owner (all individuals must sign as their names appear on the deed to the land), **OR**
- Owner's Legal Agent or Authorized Agent, and that the foregoing is true and correct. *If property is owned by a corporation, partnership, LLC, LLP or other group of individuals, signee must indicate corporate position or title and submit substantiating documentation (e.g. Agent Authorization Letter signed by all owners/members of the corporation giving the Agent authority to act in their behalf).

(Print) OWNER(S) OF RECORD*

Signature Date

(Print) OWNER(S) OF RECORD*

Signature Date

(Print) OWNER(S) OF RECORD*

Signature Date

(Print) APPLICANT OR AUTHORIZED AGENT

Signature Date

For Staff Use Only

Date Accepted: _____ **Employee's Name:** _____

Fees: _____ **Will the Application Require ZBA Approval?** Yes No

Zoning Board of Adjustment Meeting Date: _____ **Case No.** _____

The Proposed Wind Energy Unit Will Require Review by the Following Agencies:

Federal Aviation Administration: Yes No

For criteria on whether a unit must be reviewed, go to www.oaaaa.faa.gov, click on the "question, click here to contact a representative" link.

Corpus Christi Naval Air Station: Yes No

If located adjacent to or within an AICUZ Zone. Contact: Brian Turk brian.turk@navy.mil

Texas Parks & Wildlife: Yes No

If the unit will be located within, or within 1 mile of, a wildlife park, management area, or region of documented protected species.

Contact: Russell Hooten russell.hooten@tpwd.state.tx.us

Texas General Land Office: Yes No

Lower Coast Field Office, 6300 Ocean Drive, Unit 5848 Corpus Christi, TX 78412-5848.
(361)-825-3030

US Army Corp of Engineers: Yes No

Permit Service Center, Natural Resources Center, Ste. 2800, 6300 Ocean Drive, TAMU-Corpus Christi, Corpus Christi, TX 78412-5841, Toll free: 866 894-3578, (361) 825-3050
permitting.assistance@glo.state.tx.us

Wind Energy Unit Application

Approved Wind Energy Models for use within the City Limits

The American Wind Energy Association (AWEA) has compiled the following list of U.S. manufacturers and suppliers of wind turbines for use in residential, farm, and commercial/industrial applications. Additional approved models can be found under the California Energy Commission Emerging Renewables Program. The AWEA approved and commercially proven U.S. equipment providers*include:

Manufacturer	Company Website	Models (Rated Capacity)
Abundant Renewable Energy	www.abundantre.com	ARE110 (2.5KW), ARE442 (10KW)
Aerostar	www.aerostarwind.com	Aerostar 6 Meter (10KW), Aerostar Independence (10-30 kW)
AeroVironment	www.avinc.com	AVX-1000 (1kW system)
Bergey Windpower Co.	www.bergey.com	BWC XL.1 (1 kW), BWC EXCEL (10 kW)
Cascade Engineering, Inc.	www.swiftwindturbine.com	SWIFT Wind Turbine (1.0 kW)
Endurance Wind Power	www.endurancewindpower.com	E3120 50kW, G3120 35kW, S343 5kW
Energy Maintenance Service	www.energyms.com	E15 (35 kW or 65 kW)
Entegrity Wind Systems		EW50 (50 kW)
Gaia-Wind Ltd	www.gaia-wind.com	11kW
Mariah Power	www.mariahpower.com	Windspire (1.2 kW)
Northern Power	www.northernpower.com	NPS 100 (100 kW)
Proven Energy, Ltd.	www.provenenergy.co.uk	Proven 2.5 (2.5kW), Proven 6 (6kW), Proven 15 (15kW)
ReDriven Power, Inc.	www.redriven.net	2kW 5kW 10kW 20kW
Southwest Windpower Co.	www.windenergy.com	AIRX (400 W), Whisper 100, (900 W), Whisper 200 (1 kW), Whisper 500 (3 kW), Skystream 3.7(1.8 KW)
TechnoSpin Inc.	www.tswind.com	PowerSpin TSW 2000 (2KW), ComSpin C 2000 (2KW)
Urban Green Energy	www.urbangreenenergy.com	UGE-300 (300W rated capacity), UGE-1K (1kW rated capacity), UGE-4K (4kW rated capacity),
Ventera Energy, Inc.	www.venteraenergy.com	VT10 (10kW)
WePOWER	www.wepower.us	Falcon, 1.2kW 3.4kW 5.5kW 12kW
Wind Energy Solutions Canada	www.windenergysolutions.ca	WES 5 Tulipo - (5 Metre Rotor Dia. - 2.5 kW), WES 18 - (18 Metre Rotor Dia. - 80 kW), WES 30 - (30 Metre Rotor Dia. - 250 kW)
Wind Turbine Industries Corp.	www.windturbine.net	23-10 Jacobs (10 kW), 31-20 Jacobs (20 kW)

(* Certified or qualified by recognized agencies as meeting established standards and recommended business practices and/or determined by AWEA's Small Wind Turbine Committee as commercially available with multiple publicly accessible operational installations in the U.S.)