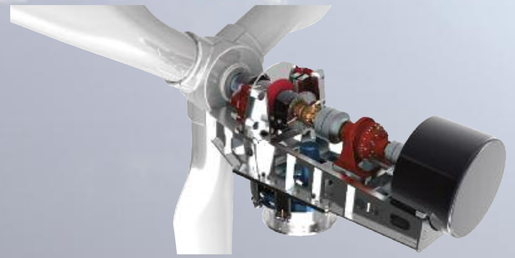
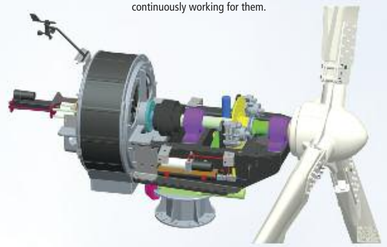
CF50e, CF75 and CF100

- Common Platform
- Active Pitch with Constant Speed Regulator
- Active Yaw
- Enhanced Generator Technology
- Independently Powered Blade Pitch Motors
- Superior Quality, Longevity and Performance



Controller/GSM

C&F have developed their own microprocessor to control their range of turbines. The microprocessor is GSM enabled, allowing the machine to be remotely monitored and controlled over the internet or even by mobile phone. This facility allows us to monitor your turbine 24 x 7 at our monitoring / data centre, ensuring that your turbine is operating to its full potential at all times. This provides the customer with peace of mind that their investment is continuously working for them.



Connection Options (Grid Tie or Off Grid Connections)

We offer a complete hybrid solution including backup DC power, battery storage and control systems.

Carbon Credits

Leading the way in the renewables field, C&F Green Energy is currently establishing a carbon credits system for its customers. Once your turbine has been installed, the generated power is monitored on an ongoing basis. C&F will then issue the customer with an accredited certificate detailing the carbon credits produced each year. This could, in turn, be offset against a carbon tax.

C&F Green Energy

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C&F GROUP
Global Contract Manufacturers

C&F Green Energy is part of the globally renowned Irish owned C&F Group. C&F was first established in 1989 in Galway, Ireland and now employs over 1,500 people in 7 sites worldwide. With manufacturing locations in Ireland, Germany, the UK, The Czech Republic, the Philippines and China, C&F is a global company with a local face.

The proof of our engineering capabilities can be seen from our customer list which includes IBM, EMC, BMW, Mercedes, Ford, VW, Thermo King to name but a few, all of which have awarded us multiple global contracts.

C&F Green Energy was officially established by the C&F Group in 2006. The group recognised the need to provide a more powerful and safer wind energy solution for the home, farm and business owner. With its experience in the manufacturing area, C&F set about designing an innovative wind turbine that would combine unrivalled performance and power with clean aesthetics and reliability.

With this in mind the company has assembled a world class team of industrial design experts in this field to deliver solutions based on innovation and engineering excellence. The group's success is attributed to its unrivalled levels of workmanship quality, streamlined manufacturing processes and un-surpassed levels of customer care and retention. This team has developed an innovative range of small to medium-sized turbines that incorporate the same advanced technologies that are used in Mega-Watt sized machines. Leveraging off the company's expertise in manufacturing and design and its global reach, has enabled C&F Green Energy to offer this advanced technology at very competitive prices.

Our commitment to customer service and our confidence in our products are evident in the fact that all customer contracts will be directly with C&F Green Energy and all warranties will be carried by C&F Green Energy. This includes the market leading warranty that is available for 10 years. As founder and CEO of the C&F Group, I am determined to make C&F Green Energy the world leader in small and medium sized generation. We build the best turbines in the world.

John Flaherty
CEO C&F Group

C&F Tooling Ltd., Ireland
C&F Green Energy, Ireland
C&F Automotive Trading as Iralco, Ireland
C&F Manufacturing (UK) Ltd.
C&F Automotive Germany GmbH
C&F Manufacturing CR. S.R.O., Czech Republic
C&F Manufacturing Philippines Corporation, Philippines
C&F Manufacturing China
C&F Manufacturing USA Inc.

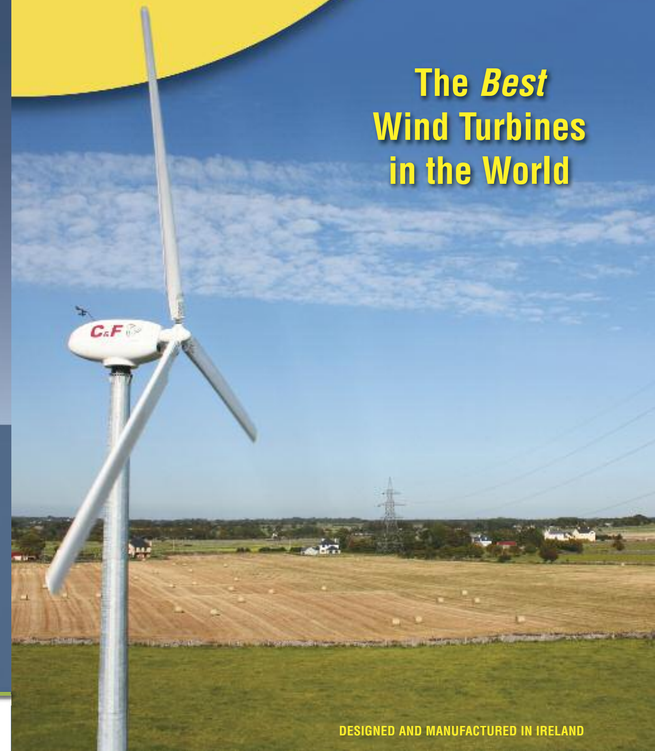
IT Industry
Automotive Industry
Refrigeration Industry
Air Conditioning Industry
Wind Energy Industry

Delivering world class manufacturing processes all over the world

ESTABLISHED IN 1989. IRISH OWNED.

C&F Green Energy

The *Best* Wind Turbines in the World



DESIGNED AND MANUFACTURED IN IRELAND

Blade Pitch Control
(Pitch Actuator)

The blades are automatically controlled to optimise aerodynamic performance under different operating conditions. Bigger blades give more power but demand a more sophisticated control mechanism. C&F have developed mega watt turbine control technology, giving us optimal control over each model. This enables power production at the lowest wind speed, as well as at the highest wind speeds. The overall result is the most efficient small and medium turbines available in the world today.

Yaw Actuator, Wind Vane Cup Anemometer

A wind direction vane and cup anemometer are monitored by the turbine microprocessor, which then activates the yaw motor to align the turbine into the wind. This feature usually employed on large turbines, optimises performance and energy yield.

Mechanical Brake

All C&F turbines employ a hydraulic rotor brake system. Multiple calipers are used on the CF15 to CF100 range. The braking system is designed to gently bring the turbine to a halt. Critically, the braking system is based on a failsafe operation principle, such that if grid power is lost, the brake automatically engages.

Blades

The structural design of the blades has been optimised for performance, strength and durability. Blade construction of the 6-20kW range is a polyurethane foam core, wrapped in glass fibre, and infused with vinyl ester. Blades in the 50e-100kW range are glass fibre reinforced epoxy for ultimate fatigue strength and performance. All blades conform to IEC 61400-2.

Mast

All C&F turbines employ a monopole tower which can withstand hurricane force winds. The turbine is erected using a hydraulic ram, which facilitates ease of installation and service. The CF50e, CF75, and CF100 turbines are erected by a crane.

C&F Green Energy

SPECIFICATION SHEET

Rotor Diameter	8 m
Hub Height	15m / 20 m
Max. Power	6 kW
An. Yield @ 5 m/s	17,000 kWh
Rated Wind Speed	8.0 m/s
Min active wind speed	1.2 m/s
Cut out wind speed	30m/s
Annual Carbon Saving	8 - 14 Tonnes
Noise @ 5 m/s at 60m	42 dBA
Max RPM	220 rpm
Method of Installation	Hydraulic Tilt Installation

GSM Controlled as Standard

Single Phase / Three Phase

CF 6e

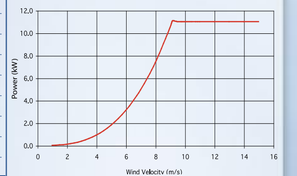
SPECIFICATION SHEET

Rotor Diameter	9 m
Hub Height	15m / 20m
Max. Power	11 kW
An. Yield @ 5 m/s	24,000 kWh
Rated Wind Speed	9.0 m/s
Min active wind speed	1.2 m/s
Cut out wind speed	30m/s
Annual Carbon Saving	14 - 19 Tonnes
Noise @ 5 m/s at 60m	42 dBA
Max RPM	220 rpm
Method of Installation	Hydraulic Tilt Installation

GSM Controlled as Standard

Single Phase / Three Phase

CF 11



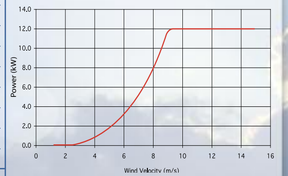
SPECIFICATION SHEET

Rotor Diameter	9 m
Hub Height	15m / 20m
Max. Power	12kW or 2 x 6kW
An. Yield @ 5 m/s	24,500 kWh
Rated Wind Speed	9.5 m/s
Min active wind speed	1.2 m/s
Cut out wind speed	30m/s
Annual Carbon Saving	14 - 19 Tonnes
Noise @ 5 m/s at 60m	43 dBA
Max RPM	220 rpm
Method of Installation	Hydraulic Tilt Installation

GSM Controlled as Standard

Single Phase / Three Phase

CF 12 (Twin6)



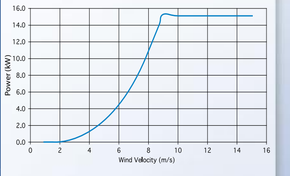
SPECIFICATION SHEET

Rotor Diameter	11.1 m
Hub Height	15m / 20m
Max. Power	15 kW
An. Yield @ 5 m/s	34,000 kWh
Rated Wind Speed	9.0 m/s
Min active wind speed	1.5 m/s
Cut out wind speed	30m/s
Annual Carbon Saving	19 - 23 Tonnes
Noise @ 5 m/s at 60m	34 dBA
Max RPM	90 rpm
Method of Installation	Hydraulic Tilt Installation

GSM Controlled as Standard

Single Phase / Three Phase

CF 15



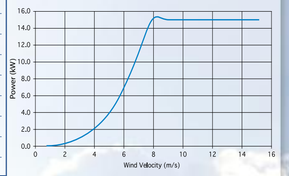
SPECIFICATION SHEET

Rotor Diameter	13.1 m
Hub Height	20 m
Max. Power	15 kW
An. Yield @ 5 m/s	43,400 kWh
Rated Wind Speed	8.0 m/s
Min active wind speed	1.5 m/s
Cut out wind speed	30m/s
Annual Carbon Saving	24 - 28 Tonnes
Noise @ 5 m/s at 60m	35 dBA
Max RPM	90 rpm
Method of Installation	Hydraulic Tilt Installation

GSM Controlled as Standard

Single Phase / Three Phase

CF 15e



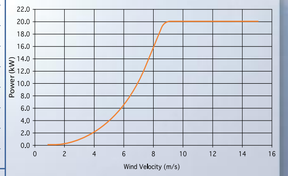
SPECIFICATION SHEET

Rotor Diameter	13.1 m
Hub Height	20 m
Max. Power	20 kW
An. Yield @ 5 m/s	47,500 kWh
Rated Wind Speed	9.0 m/s
Min active wind speed	1.5 m/s
Cut out wind speed	30m/s
Annual Carbon Saving	26 - 30 Tonnes
Noise @ 5 m/s at 60m	35 dBA
Max RPM	90 rpm
Method of Installation	Hydraulic Tilt Installation

GSM Controlled as Standard

Single Phase / Three Phase

CF 20



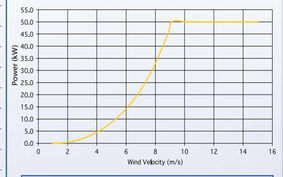
SPECIFICATION SHEET

Rotor Diameter	20m
Hub Height	25m / 30m / 35m
Max. Power	50kW
An. Yield @ 5 m/s	117,250 kWh
Rated Wind Speed	9m/s
Min active wind speed	2.2m/s
Cut out wind speed	30m/s
Annual Carbon Saving	70-80 Tonnes
Noise @ 5 m/s at 60m	37dBA
Max RPM	50rpm
Method of Installation	Crane

GSM Controlled as Standard

Three Phase

CF 50e



Speed Control: Blade Pitch Control, Electromagnetic Braking, Failsafe Hydraulic Braking.

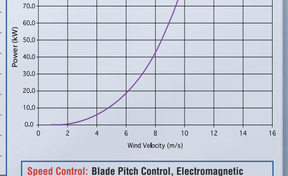
SPECIFICATION SHEET

Rotor Diameter	22m
Hub Height	30m / 35m
Max. Power	75kW
An. Yield @ 5 m/s	149,000 kWh
Rated Wind Speed	9.5m/s
Min active wind speed	2.5m/s
Cut out wind speed	30m/s
Annual Carbon Saving	90-100 Tonnes
Noise @ 5 m/s at 60m	37dBA
Max RPM	50rpm
Method of Installation	Crane

GSM Controlled as Standard

Three Phase

CF 75



Speed Control: Blade Pitch Control, Electromagnetic Braking, Failsafe Hydraulic Braking.

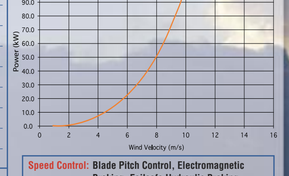
SPECIFICATION SHEET

Rotor Diameter	24m
Hub Height	30m / 35m
Max. Power	100kW
An. Yield @ 5 m/s	182,000 kWh
Rated Wind Speed	10m/s
Min active wind speed	3m/s
Cut out wind speed	30m/s
Annual Carbon Saving	105-120 Tonnes
Noise @ 5 m/s at 60m	36dBA
Max RPM	45rpm
Method of Installation	Crane

GSM Controlled as Standard

Three Phase

CF 100



Speed Control: Blade Pitch Control, Electromagnetic Braking, Failsafe Hydraulic Braking.