	RVCR TECHNOLOGY WIND POWER GENERATOR	CONVENTIONAL 3-BLADE WIND TURBINE
1	High Efficiency Positive Displacement Mechanism	Less efficient Rotary axial flow mechanism
	Air pressure differential due to wind force utilized for power generation	Kinetic energy of Wind utilized for power generation
2	Installation Advantage	High Elevation Disadvantage
	Installation at ground level & no high elevation placement required	Required to be placed at higher wind velocity levels at high elevations above the ground level
3	No Yaw gearbox	Complicated & Costly Yaw gearbox required
	Position independent of wind direction	To position the Wind Turbine for aligning with wind flow
4	No Synchronous gearbox required	Costly & Complicated Synchronous gearbox required
	Simple RPM control by quantitative control of Air-flow	Difficult & Complicated RPM Control
5	Smaller diameter Vanes	Large turbine blade span required
	Air Pressure differential utilised hence, surface area can be maximised in two Dimensions	Large blade span is required to capture lift force
6	Lesser Stress Level on components	High Stress levels on turbine blade roots
	No Cantilever effect & Simply supported vanes	Turbine blade is a huge cantilever hence, high stress levels
7	Easy Roto-dynamic Variable Expansion	Complicated Variable pitch mechanism
	Easy cam-profile and follower based mechanism	Costly & cumbersome blade pitch control mechanism
8	Simplified Metallurgy	Costly Material of turbine blades
	Vanes & mechanism parts encased in protective casing	Specialised metallurgy required for corrosive atmosphere in off-shore

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		installation
9	Multi-segment assembly	Single Casting design
	Low level of working stresses	For high working stress limitations
11	Less frictional loss	High Frictional loss
	Lesser no. of rotating components	Large no. of moving parts due to special mechanisms
12	No open rotating parts	Wind pattern alteration
	Animal hazards are prevented	Hazard to birds
13	Embedded Installation possible	Standalone installation required
14	Easier foundations & Layout	Heavy foundation required
		End-loading Cantilever, high length columns required
15	Easy transportation & logistics	Difficult Transportation
16	Shorter Transmission	Long Transmission distances
	Can be installed at the location of power demand hence reduced Transmission losses	Results in increased transmission losses by longer transmission structures
17	Quick installation & dismantling	Elongated installation time
	Simple design and ground level installation	Complicated design and
18	Lesser No. of components	Large No. of Components
	Ease of manufacturing and assembly	Cumbersome assembling and installation procedures
19	Easy maintenance	High maintenance costs
	Ground level installation & Simple mechanism with replaceable parts results in easier, cost-effective maintenance	Elevated & isolated Location along with complicated mechanism results in costly maintenance
20	Quieter operation	Noisy Operation

	Lesser mating Parts & contacts	Large number of gears & contacts make noisy operation
21	Airflow control	Wind Airflow Control not possible
	Induced Airflow by wind & hence easy control	Atmospheric Wind control independent of any human control
22	No lock-down required	Complicated lock-down in storm conditions
	Encased ground level machinery with airflow bypass device requires no lock-down procedures	Stalling creates high stresses & high chances of damage.
		Requires costly robust design structure
23	No Large Centrigugal forces	Large Centrifugal forces
		Heavy robust design handle large Centrifugal forces of elongated rotating blades
24	Simplified feedback system	Complicated feedback system required
	Minimal functional variables hence easy	Large no of variables to be controlled for efficient functioning
25	Customised sizing advantage	Uni-directional sizing
25	Gyroscopic effect eliminated	Complicated Gyroscopic effect