Turbine Data

NREL CART 3			
Optimal tip-speed ratio	λ_{opt}	6.6	ratio of blade tip speed to wind speed
Max Power Coefficient	C_{pMax}	0..4633	largest proportion of wind power that can be extracted
R		20 m	radius of blades
J		613301	inertia of turbine + generator
vCutIn		4 m/s	turbine starts operating at this speed
vRated		11.7 m/s	wind speed to give rated power outpit
vCutOut		25 m/s	turbine shuts down at this speed
rated power		600 kW	rated (design) output power
omega rated	ω_{rated}	4.367 rad/sec	turbine rotation speed at rated power

NREL 5MWatt Reference Turbine			
Optimal tip-speed ratio	λ_{opt}	8.0	ratio of blade tip speed to wind speed
Max Power Coefficient	C_{pMax}	0..4855	largest proportion of wind power that can be extracted
R		63 m	radius of blades
J		897347	inertia of turbine + generator
vCutIn		3 m/s	turbine starts operating at this speed
vRated		11.4 m/s	wind speed to give rated power outpit
vCutOut		25 m/s	turbine shuts down at this speed
rated power		5 MWatt	rated (design) output power
omega rated	ω_{rated}	4.367 rad/sec	turbine rotation speed at rated power