

Evaluation & Problems of New Energy

	Solar Power	Wind Power	Waste Power (Biomass Power)
Merits	<ul style="list-style-type: none"> ○No fear of exhaustion ○Emits no CO₂ or other gases in the process of power generation ○Due to neighboring the demand area, there is no transmission loss ○Generate at daytime when the demand rises 	<ul style="list-style-type: none"> ○No fear of exhaustion ○Emits no CO₂ or other gases in the process of power generation 	<ul style="list-style-type: none"> ○No additional CO₂ emission by power generation ○Continuously supplied stable power source among new energies
Demerits	<ul style="list-style-type: none"> ○Due to low energy density*¹, it needs much larger area than thermal and nuclear power generation for the same amount of power generation ○Unstable due to no generation at night and low power output in rainy or cloudy days ○High costs on facilities 	<ul style="list-style-type: none"> ○Due to low energy density, it needs much larger area than thermal and nuclear power generation for the same amount of power generation ○Unstable due to occasional and seasonal volatility in wind directions and speed ○Makes noises when windmills rotate ○Locations where the wind situation is good are unevenly distributed ○High costs on facilities 	<ul style="list-style-type: none"> ○Low generation efficiency ○Needs further environmental burden reduction measures such as dioxin emission control measures and ash reduction
Necessary Site Area ^{*2}	To substitute for a 1,000MW-class nuclear power plant		
	Approx. 58 km ² , almost the same as the area inside the Yamanote Line (Tokyo Loop Line)	Approx. 214 km ² , approx. 3.4 times larger than the area inside the Yamanote Line	
Load Factor	12%	20%	

*1 Energy density: the amount of power generation possible per the size of the space (area) used to generate it, expressed as a number.

*2 Figures from the Study Group on Low Carbon Power Supply System (July 2008)