

Table 2.3 Renewable energy resources

<i>Renewable source</i>	<i>Resource base TW</i>	<i>Recoverable TW</i>
Solar radiation	90,000	1,000
Wind	300–1,200	10
Biomass	30	15
Wave	1–10	0.5–1
Hydro	10–30	1.5–2
Tidal	3	0.1
Geothermal	30	1
Total world energy consumption		13

Table 8.1 ENERGY DENSITIES ACHIEVABLE WITH SOME ENERGY STORAGE TECHNOLOGIES CURRENTLY IN USE OR UNDER DEVELOPMENT

Storage Device or Medium	Energy Density (W • hr/kg)^a
Gasoline	14,200
Lead–acid battery	25
Hydrostorage (water, 100 m head)	0.27 (270 W • hr/m ³)
Flywheel, steel	48
Flywheel, carbon fiber ^b	215
Flywheel, fused silica ^b	870
Hydrogen	38,000
Compressed air (70 atm)	21 (theoretical maximum, 2000 W • hr/m ³ actually deliverable with some augmentation by fuel)

^a Not including weight of motors and generators or conversion efficiency.

^b Under development.