Formulae for maximum power in wind or water or waves. This is the maximum power any device is able to extract.

Wind Turbine $P = \frac{16}{27}\frac{1}{2}\rho A v^3$	ρ density of air (1 kg/m3) A area of wind collected (m2) v wind speed (m/s)
Hydro (head) $P = \rho g H Q = \rho A\sqrt{2g^3H^3}$	ρ density of water (1000 kg/m3) *g* gravity (9.81 m/s2) Q flow (m3/sec) *H* water head (m)
Hydro Kinetic $P = \frac{16}{27}\frac{1}{2}\rho A v^3$	ρ density of water (1000 kg/m3) *g* gravity (9.81 m/s2) v water speed (m/s) *A area of rotor blades*
Tidal Barrage $P = \frac{1}{4T}\rho g A H^2$	ρ density of water (1000 kg/m3) *g* gravity (9.81 m/s2) *H* water head (m) *A area of lagoon* *T time of tide change (secs)*
Water Wave (deep – oceans) $P^* = \frac{1}{4}\rho g a^2\sqrt{\frac{g\lambda}{2\pi}}$	ρ density of water (1000 kg/m3) *g* gravity (9.81 m/s2) *a* wave amplitude (m) λ wavelength (m)
Water Wave (shallow – coast) $P^* = \frac{1}{2}\rho g a^2\sqrt{gd}$	ρ density of water (1000 kg/m3) *g* gravity (9.81 m/s2) *a* wave amplitude (m) d depth of water (m)

Note P^* is per metre along the crest length, this in Watts/m.

Technology	Cost	Power
StreamDiver (Diglis)	EU 500,000	750KW
Classic Wind Turbine	$ 1 million	1 MW
Large Hydropower	$ 3 Billion	1.5 GW
Simec Atlantis AR1500 Hydro Kinetic	$1.5 million	1.5 MW
Rolls Royce Modular Nuclear	$ 2 Billion	470 MW
Tidal	$ 918 million	240 MW

Data from particular installations to give some idea of cost of power. For a comparison, you could compare the ***cost per kilowatt****.*