

WHAT IS “BLUE ENERGY?”

BLUE ENERGY = Renewable marine resources that can be harvested to produce energy:

Tides / Waves / Ocean currents / Ocean temperature differences...

It is also called “**OCEAN ENERGY**”.

Tidal energy.

Tidal barrages built on estuaries can trap huge amounts of water when the tide comes in. When the water is released, it drives turbines inside the barrage to produce electricity via a generator.

Wave energy.

The energy of waves can be captured by mechanical systems like these long, oscillating floating devices to power turbines and generate electricity.

Ocean current energy.

Ocean currents drive tidal turbines, which are like wind turbines except they float in mid-water or are tethered to the seabed. Their rotor blades spin a power generator connected to the onshore grid via a cable.

Ocean thermal energy.

The temperature difference between surface water and deep water is leveraged to produce vapor, which drives a generator to produce electricity.

All blue energy resources are renewable, and their energy production potential is enormous, given the sheer size of the oceans.

Their development faces a number of hurdles, however, including high investment costs, maintenance challenges for some open-sea installations and competition for sea space from the fishing industry.

Summary:

—> Blue energy or ocean energy = Marine resources that can be harvested to produce energy, such as tides, waves, currents and temperature differences.

—> Renewable resources with enormous energy production potential, given the sheer size of the oceans.

—> Hurdles: high investment costs, maintenance challenges and competition for sea space.