



Alternative Energy

Alternative Energy Technologies provide “low carbon” alternatives to fossil fuels. All can contribute to reducing CO₂. No single technology predominates in the UK but all play a part in meeting the future demand or displacing other equipment that is more “energy intensive” when reaching the end of its commercial life.

Often sources of Alternative Energy promote operation in severe environments. Monitor contributes to the Alternative Energy Technology development programme by offering complementary coatings which extend the life of operating equipment functioning in such environments.

Wave & Tidal

Tidal Power arises from the gravitational pull of the sun and moon causing water levels to change. This change in level creates currents and that energy can be harvested by the use of sub-surface turbines. A tidal turbine can produce more than four times the energy per square metre of a wind turbine.

Wind Power

Manufacture of wind turbines on a commercial scale started in the 1980s. It is currently the fastest growing sector of the power generation industry, with anticipated industry expansion rates consistently being exceeded since the early 1990s.

Biomass Technologies

Of the available technologies, biomass firing has a high priority because of the modest technological risk involved and the ready availability of waste biomass in many countries. Biomass fuel can be supplied from a variety of sources, and in a variety of forms. Sources include waste biomass, either from agriculture/forestry operations (e.g. wheat straw) or from the green element of municipal or industrial waste and farmed biomass, “energy crops” from land-based agriculture or from the sea.



Biomass Technology

Monitor has developed a series of composite coatings to combat the aggressive environments associated with biomass incinerators. High chloride, ash build up, high temperature oxidation and solid particle erosion effects have all been successfully abated.



Wind Power

Monitor currently has a series of coatings which combat problems of corrosion and wear on components such as Nacelle Housing, supports, cast iron hubs. Cathodic protection of the main shaft, tower and foundations, wear protection in the gearbox and various established technologies associated with the generators are available.



Wave and Tidal

Cathodic protection using thermal spray of supporting columns and monopiles is available to prevent severe corrosion of these components immersed in sea water. Various components currently made from stainless steel are being substituted with high nickel chrome alloys applied by thermal spray as they are particularly resilient to sea water corrosion and adverse wear.



Surface Engineering in extreme environments