With the growth of environmental problems and the expected shortage of energy sources for the next decades, it is important to find other more efficient and clean forms of energy. Considering that the energy sources used in the production of electricity are derived from fossil fuels, which are polluting the environment, it is necessary to rely on other sources that are clean and renewable to meet the increasing demand for energy. The sources of renewable energy are solar, hydro and wind energy, biomass, geothermal, and marine energy. In this study, we present a general view of the production of electricity using renewable energies, as well as ways to store hydrogen as a direct fuel source or energy carrier through fuel cell applications (Production, storage and conversion for energy purposes).