Meeting global energy needs in a sustainable and environmentally responsible way is one of the grand challenges of our time. While the use of energy based on fossil fuels has enabled great advances and an increase in the standard of living, it has also brought us to the brink of an environmental catastrophe. As a society, we will need to develop strategies that integrate renewable and sustainable energy sources. This presentation will deal with global and national energy issues and how fuel cells and electrical energy storage technologies (batteries and supercaps) can provide some potential solutions.