

Spanish engineers develop fuel-celled bike

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Spain's Cidetec Technology Center announced Thursday it has designed a prototype for a motorized bicycle powered by fuel cells.

Officials said pedaling is assisted by a motor, powered by a fuel cell that only needs oxygen from the air and hydrogen contained under pressure in a small tank.

The fuel cell employed is of the polymer electrolyte membrane fuel cell type. Researchers said the fuel cell consists of a series of membrane-electrode assemblies layered on top of each other.

Each MEA, generating less than 1 volt of power, is made up of an anodic electrode that breaks hydrogen molecules into protons and electrons. The membrane enables the passage of protons, while the electrons travel

around an exterior electric circuit made up of the equipment itself that is being supplied with power.

Finally, at the cathodic electrode, the electrons recombine with oxygen to produce water, researchers said. That involves an electrochemical reaction that does not generate contaminating waste; there is, thus, no combustion.

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