causing a fuel gas to intermittently flow in contact with the anode layer to provide electrical energy;

wherein the intermittent flow of the fuel gas includes periods of fuel flow separated by at least one period during which the flow of the fuel is interrupted and the anode layer is exposed to an oxidizing atmosphere.

19. A method for producing electrical energy, comprising:

providing a solid oxide fuel cell, the solid oxide fuel cell including a layer of ceramic ion conducting electrolyte defining first and second opposing surfaces; a conductive anode layer in contact with the first surface of said electrolyte layer; and a conductive cathode layer in contact with the second surface of said electrolyte layer; wherein said electrolyte layer is disposed between said anode layer and said cathode layer; wherein said conductive anode layer comprises a cerium-modified doped strontium titanate material; wherein the cerium-modified doped strontium titanate material comprises an A-site dopant selected from the group consisting of lanthanum, scandium, yttrium and combinations thereof; and wherein cerium is present in the cerium-modified doped strontium titanate material in an amount of at least about 2 atomic percent;

causing air or other oxidizing gas to flow in contact with the cathode layer; and

causing a fuel gas to flow in contact with the anode layer to provide electrical energy;

wherein the fuel includes a carbon-containing gas; and

wherein the fuel cell produces electrical energy for a period of at least one hour.

20. A method for producing electrical energy, comprising:

providing a solid oxide fuel cell, the solid oxide fuel cell including a layer of ceramic ion conducting electrolyte defining first and second opposing surfaces; a conductive anode layer in contact with the first surface of said electrolyte layer; and a conductive cathode layer in contact with the second surface of said electrolyte layer; wherein said electrolyte layer is disposed between said anode layer and said cathode layer; wherein said conductive anode layer comprises a cerium-modified doped strontium titanate material; wherein the cerium-modified doped strontium titanate material comprises an A-site dopant selected from the group consisting of lanthanum, scandium, yttrium and combinations thereof; and wherein cerium is present in the cerium-modified doped strontium titanate material in an amount of at least about 2 atomic percent;

causing air or other oxidizing gas to flow in contact with the cathode layer; and

causing a fuel gas to flow in contact with the anode layer to provide electrical energy;

wherein the fuel is a sulfur-bearing fuel; and

wherein the fuel cell produces electrical energy for a period of at least one hour.

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