PHOTOVOLTAIC POWER GENERATION SYSTEMS AND METHODS REGARDING SAME

CROSS-REFERENCES TO RELATED APPLICATIONS

This application claims the benefit of priority of U.S. Provisional Application Nos. 61/947,019, filed March 3, 2014; 61/949,271, filed March 7, 2014; 61/968,839, filed March 21, 2014; and 61/972,807, filed March 31, 2014, all of which are herein incorporated by reference in their entirety.

The present disclosure relates to the field of power generation and, in particular, to systems, devices, and methods for the generation of power. More specifically, embodiments of the present disclosure are directed to power generation devices and systems, as well as related methods, which produce optical power, plasma, and thermal power and produces electrical power via an optical to electric power converter, plasma to electric power converter, photon to electric power converter, or a thermal to electric power converter. In addition, embodiments of the present disclosure describe systems, devices, and methods that use the ignition of a water or water-based fuel source to generate optical power, mechanical power, electrical power, and/or thermal power using photovoltaic power converters. These and other related embodiments are described in detail in the present disclosure.

Power generation can take many forms, harnessing the power from plasma. Successful commercialization of plasma may depend on power generation systems capable of efficiently forming plasma and then capturing the power of the plasma produced.

Plasma may be formed during ignition of certain fuels. These fuels can include water or water-based fuel source. During ignition, a plasma cloud of electron-stripped atoms is formed, and high optical power may be released. The high optical power of the plasma can be harnessed by an electric converter of the present disclosure. The ions and excited state atoms can recombine and undergo electronic relaxation to emit optical power. The optical power can be converted to electricity with photovoltaics.

Summary

According to an aspect, the present disclosure refers to a power system that generates at least one of direct electrical energy and thermal energy comprising:

at least one vessel;

a reaction mixture comprising reactants comprising:

a) at least one source of H2O not hydrogen bonded in the solid, liquid, or gaseous state;