What Is Claimed Is:

1. 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 nascent H_2O;
   b) at least one source of atomic hydrogen;
   c) at least one of a conductor and a conductive matrix; and
   at least one set of electrodes, wherein said reaction mixture is disposed between said set of electrodes,
   a source of electrical power to deliver electrical energy to the reaction mixture to produce a plasma and reaction products;
   at least one system to regenerate one or more reactants from the reaction products and produce another reaction mixture,
   a reloading system configured to deliver each reaction mixture to the electrodes; and
   at least one plasma dynamic converter or at least one photovoltaic converter.

2. The power system of Claim 1, wherein the source of nascent H_2O comprises at least one of bulk H_2O, a state other than bulk H_2O, a compound or compounds that undergo at least one of:
   react to form H_2O, and release bound H_2O.

3. The power system of Claim 1 or Claim 2, wherein the reactants comprise a conductor and one or more compounds or materials that undergo at least one of release of bulk H_2O, absorbed H_2O, bound H_2O, physisorbed H_2O, and waters of hydration, and have nascent H_2O as a reaction product.

4. The power system of any one of Claims 1 to 3, wherein at least one of the source of nascent H_2O and the source of atomic hydrogen comprises at least one of:
   a) at least one source of H_2O;
   b) at least one source of oxygen, and
   c) at least one source of hydrogen.

5. The power system of any one of Claims 1 to 4, wherein the reactants comprise at least one of O_2, H_2O, HOOH, OOH, peroxide ion, superoxide ion, hydride, H_2, a halide, an oxide, an oxyhydroxide, a hydroxide, a compound that comprises oxygen, a hydrated compound, a hydrated compound selected from the group of at least one of a halide, an oxide, an oxyhydroxide, a hydroxide, a compound that comprises oxygen.

6. The power system of Claim 5, wherein the oxyhydroxide comprises at least one from the group of TiOOH, GdOOH, CoOOH, InOOH, FeOOH, GaOOH, NiOOH, AlOOH, CrOOH, MoOOH, CuOOH, MnOOH, ZnOOH, and SmOOH;

the oxide comprises at least one from the group of CuO, Cu_2O, CoO, CO_2O_3, CO_3O_4, FeO, Fe_2O_3, NiO, and Ni_2O_3;

the hydroxide comprises at least one from the group of $Cu(OH)_2$, $Co(OH)_2$, $Co(OH)_3$, $Fe(OH)_2$, $Fe(OH)_3$, and $Ni(OH)_2$;

the compound that comprises oxygen comprises at least one from the group of a sulfate, phosphate, nitrate, carbonate, hydrogen carbonate, chromate, pyrophosphate, persulfate, perchlorate, perbromate, and periodate, MXO_3, MXO_4 (M = metal such as alkali metal such as Li, Na, K, Rb, Cs; X = F, Br, CI, I), cobalt magnesium oxide, nickel magnesium oxide, copper magnesium oxide, Li_2O, alkali metal oxide, alkaline earth metal oxide, CuO, CrO_4, ZnO, MgO, CaO, MoO_2, TiO_2, ZrO_2, SiO_2, Al_2O_3, NiO, FeO, Fe_2O_3, TaO_2, Ta_2O_5, VO, VO_2, V_2O_3, V_2O_5, P_2O_3, P_2O_5, B_2O_3, NbO, NbO_2, Nb_2O_5, SeO_2, SeO_3, TeO_2, TeO_3, WO_2, WO_3, Cr_3O_4, Cr_2O_3, CrO_2, CrO_3, CoO, Co_2O_3, Co_3O_4, FeO, Fe_2O_3, NiO, Ni_2O_3, rare earth oxide, CeO_2, La_2O_3, an oxyhydroxide, TiOOH, GdOOH, CoOOH, InOOH, FeOOH, GaOOH, NiOOH, AIOOH, CrOOH, MoOOH, CuOOH, MnOOH, ZnOOH, and SmOOH, and

the conductive matrix comprises at least one from the group of a metal powder, carbon, carbide, boride, nitride, carbonitrile such as TiCN, or nitrile.

7. The power system of Claim 1, wherein the reactants comprise a mixture of a metal and its metal oxide; or
   a mixture of a metal and a metal halide; or
   a mixture of a transition metal, an alkaline earth metal halide, and H_2O; or
   a conductor, a hygroscopic material, and H_2O.

8. The power system of Claim 1, wherein the conductor comprises a metal powder or carbon powder.

9. The power system of Claim 1, wherein the reactants comprise a mixture of a conductor, a hygroscopic material, and H_2O, and wherein the hygroscopic material comprises at least one of the group of lithium bromide, calcium chloride, magnesium chloride, zinc chloride, potassium carbonate, potassium phosphate, carnallite such as $KMgCl_3 \cdot 6(H_2O)$, ferric ammonium citrate, potassium hydroxide and sodium hydroxide and concentrated sulfuric and phosphoric acids, cellulose fibers, sugar, caramel, honey, glycerol, ethanol, methanol, diesel fuel, methamphetamine, a fertilizer chemical, a salt, a desiccant, silica, activated charcoal, calcium sulfate, calcium chloride, a molecular sieves, a zeolite, a deliquescent material, zinc chloride, calcium chloride, potassium hydroxide, sodium hydroxide and a deliquescent salt.

10. The power system of Claim 7, wherein the metal is at least one of the group of Cu, Ni, Pb, Sb, Bi, Co, Cd, Ge, Au, Ir, Fe, Hg, Mo, Os, Pd, Re, Rh, Ru, Se, Ag, Tc, Te, Tl, Sn, W, Al, V, Zr, Ti, Mn, Zn, Cr, and In.

11. The power system of Claim 1, wherein the reactants comprise a mixture of a metal and its metal oxide, and wherein the metal is at least one of the group of Cu, Ni, Pb, Sb, Bi, Co, Cd, Ge, Au, Ir, Fe, Hg, Mo, Os, Pd, Re, Rh, Ru, Se, Ag, Tc, Te, Tl, Sn, W, Al, V, Zr, Ti, Mn, Zn, Cr, and In.

12. The power system of Claim 1, wherein the reactants comprise a mixture of a metal and its metal oxide, and wherein the metal oxide comprises at least one of alumina, an alkaline earth oxide, and a rare earth oxide.

13. The power system of any one of Claims 1 to 12, wherein the photovoltaic converter includes a photon-to-electric power converter.

14. The power system of claim 13, further including a light distribution system.

15. The power system of Claim 14, further comprising a concentrated photovoltaic device.

16. The power system of any one of Claims 1 to 12, wherein the photovoltaic converter includes a photon-to-thermal power converter.

17. The power system of Claim 16, further comprising a thermal-to-electric power converter.

18. The power system of Claim 1, further comprising a concentrated solar power device.

19. The power system of Claim 1, wherein the photovoltaic converter includes a plurality of multi-junction photovoltaic cells.

20. The power system of Claim 19, wherein the multi-junction photovoltaic cells are triple-junction photovoltaic cells.