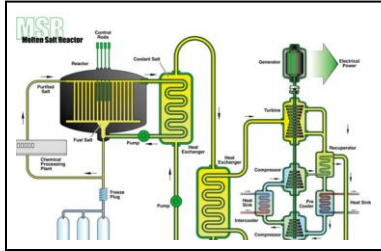


# Near-Term Commercial Clean-Energy

With all these great options... it's time to invest the money and "just do it!"

**MOLTEN SALT NUCLEAR REACTORS (MSRs)** safely operate on liquid Fluoride Thorium, eliminating the need for hazardous uranium or plutonium. MSRs are liquid-fueled reactors that can be used for production of electricity, production of



hydrogen, and production of fissile fuels. They do not produce hazardous radioactive waste. Proven

for 60 years, this type of nuclear reactor is not hazardous and substantially more efficient than uranium or plutonium reactors. Moreover, weapons-grade material is not a possible by-product from an MSR.

[Dr. Alvin Weinberg](#), inventor of the Light Water Reactor (LWR) and progenitor of the Nuclear Era, opposed civil use of LWRs for safety reasons—all validated by Three Mile Island and Fukushima. He promoted inherently safe reactors, which includes MSRs, whose safety does not depend on engineered systems but rather on processes based on laws of nature

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Extensive information resources on MSRs

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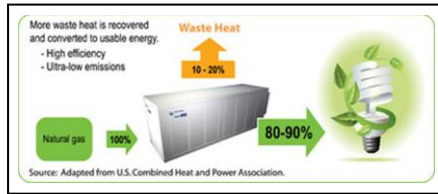
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# Near-Term Commercial Clean-Energy

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**FUEL CELL POWER PLANTS**, proven, already in use, and commercially available *today*. Power utilities (for example, ConEdison, PG&E, PP&L) can realistically consider replacing local distribution substations with fuel cell



energy servers that use natural gas. Easily converted to hydrogen (<http://tinyurl.com/3hggfyq>), local natural gas fuel cell power plants are over twice as efficient as central power plants delivering electricity over the grid, produce far less CO<sub>2</sub>, and are becoming price-competitive with coal-burning power plants.

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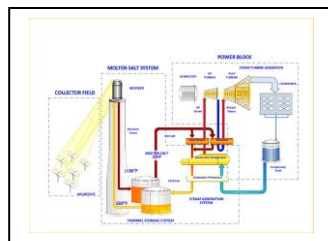
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**MOLTEN SALT SOLAR POWER SYSTEM**, "This solar technology is a genuine alternative to baseload coal, nuclear or natural gas burning electricity generation facilities,"  
—Kevin Smith, CEO, SolarReserve.

This system will provide 24x7 electricity at or below prices from traditional sources.



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# Near-Term Commercial Clean-Energy

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**PLASMA CONVERSION** is a proven technology that provides one Green solution to two problems: it's a safe source of hydrogen fuel, and it can provide

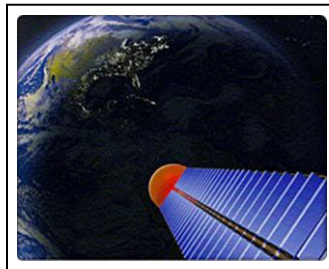


daily local disposal of millions of tons of garbage, including toxic waste, which eliminates the

huge cost of transporting tons of garbage each day 25-125 miles to central garbage sites.

According to InEnTec, "It can transform virtually any waste—municipal, industrial, medical, and hazardous waste—into clean energy products for transportation fuels, electricity generation, and industrial products. With no combustion or incineration, [it] is proven, environmentally beneficial, efficient, cost-effective, and a brighter path to a sustainable future."

**SOLAR POWER SATELLITES**, proposed in the late 60s, supported by NASA, DOE, Boeing and others, this technology has been in various stages of development since the 70s and continues today. Even in the early 1990s, we had both the proven technology and the production capabilities to build solar satellites. Minimal R&D—mostly implementation—dollars are required. Extensive research has already been completed demonstrating environmental safety. Just one SPS can generate at least 10GW of 24x7 electricity.



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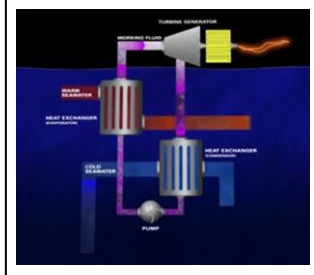
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# Near-Term Commercial Clean-Energy

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**OCEAN THERMAL ENERGY CONVERSION**, Under development by Lockheed Martin for years, a 10 MW prototype is planned for 2012 – 2013,



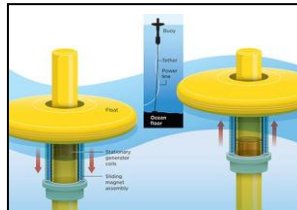
leading to a planned 100MW system in 2015.

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Richard C. Lim, Director. *Use of OTEC In Hawaii*. Department of Business, Economic Development & Tourism. 2011 <http://tinyurl.com/3p5sbv7>

**TIDAL TURBINES**, under development by Oregon State University, convert ocean tide movement to electricity. Already operating on a small scale, funding is needed to accelerate development and implementation. Unlike wind power, tides are constant and could be a major and reliable 24x7 source of clean electricity.



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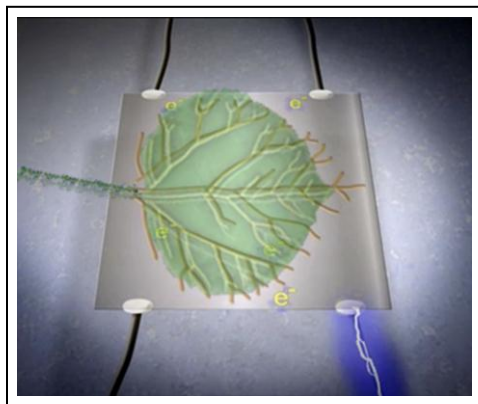
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Directory of Tidal Power Prototypes and R&D <http://tinyurl.com/2nhqa3>

# Near-Term Commercial Clean-Energy

With all these great options... it's time to invest the money and "just do it!"

**ARTIFICIAL PHOTOSYNTHESIS**, already operating in the lab at 2-3 times the efficiency of solar cells and 10 times the efficiency of natural photosynthesis. Replacing silicon solar panels, solar photovoltaic panels can be constructed from artificial "leaves", producing electricity by artificial photosynthesis. These panels will be substantially less expensive to manufacture and produce more electrical power than solar panels made from silicon solar cells. Artificial photosynthesis must be perfected for large scale energy production. Research and development funding is needed to accelerate commercialization of artificial photosynthesis.



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# Near-Term Commercial Clean-Energy

With all these great options... it's time to invest the money and "just do it!"

## IDEA:

Expectations of high ROI motivates development and implementation of various types of power plants, such as nuclear power, massive 20 square mile photovoltaic solar farms, and so forth. So, for all those corporations or individuals who are now investing in UNsafe or UNreliable energy production, why not:

- a) establish a clean-energy investment tax-incentive program specifically so they can
- b) start a consortium, wherein they all (even competitors) invest mega-funds to develop SAFE 24x7 clean-energy production technology and systems, and
- c) on commercialization of these SAFE clean-energy production systems, the members of the consortium share in the resulting profits from the licensing, sale and use of these systems..

This same idea could apply to all those competing oil companies to work together to produce electric or hydrogen/electric cars and associated support technology