



EnergavTomorrow ora

Ads by Google

[Home Energy Audit](#)

Save Money, Increase Comfort Increase
Resale Value, Save Energy
www.priorityenergyplanning.com

[Lower Your Electric Bill](#)

Up to 50% more solar power. Free
evaluation at 1800-SUNPOWER
www.SunPowerCorp.com

Ads by Google

saintf.com

Feedback - Ads by Google

March 28, 08

New NanoMaterial Directly Converts Radiation into Electricity

Researchers have developed a nanomaterial that turns radiation directly into electricity, which could be used to produce a new era of spacecrafts and even Earth-based vehicles powered by high-powered nuclear batteries. These new batteries may allow passenger vehicles to travel for thousands of miles with little or no maintenance at a fraction of the cost of gasoline and would even be much superior to Plug-in-Hybrids.

Liviu Popa-Simil, from the Alabama A&M University, developed the material along with his team.

Beginning in the 1960s, the US and Soviet Union used thermoelectric materials that convert heat into electricity to power spacecraft using nuclear fission or decaying radioactive material.

Though dispensing with the steam and turbines makes those systems smaller and less complicated, thermoelectric materials have very low efficiency.

Now, US researchers have developed highly efficient materials that can convert the radiation, not heat, from nuclear materials and reactions into electricity.

According to the researchers, the materials they are testing would extract up to 20 times more power from radioactive decay than thermoelectric materials.

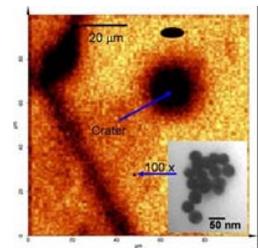
Tests of layered tiles of carbon nanotubes packed with gold and surrounded by lithium hydride are already under way.

Radioactive particles that slam into the gold push out a shower of high-energy electrons. They pass through carbon nanotubes and pass into the lithium hydride from where they move into electrodes, allowing current to flow.

You load the material with nuclear energy and unload an electric current, said Popa-Simil.

According to Popa-Simil, the tiles would be best used to create electricity using a radioactive material, because they could be embedded directly where radiation is greatest.

Devices based on the material could be small enough to power anything from interplanetary probes to aircraft and land vehicles, he said.



I believe this work is innovative and could have a significant impact on the future of nuclear power, said David Poston, of the US Department of Energy's Los Alamos National Laboratory.



• [Ads by Google](#) [Nuclear Station](#) [Green Electricity Au](#) [Solar Cell Voltage](#) [Nuclear Fuel](#) [Iran Nuclear Article](#)