

# Full power: Alternative energy partnerships flourish in Asia

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Students at Palolo Elementary School share their science projects with Dr. Richard Carlin, head of the Sea Warfare and Weapons Department at the Office of Naval Research, during his visit to discuss the Asia-Pacific Technology and Education Program. The primary goal of the program is to promote commerce and partnerships in the Asia-Pacific region through advancements in research, technology development and education. Credit: US Navy photo by John F. Williams/Released

As President Barack Obama begins a trip to Asia to coordinate with allies and reconfirm America's strategic pivot to the Pacific, officials at the Office of Naval Research (ONR) emphasized today the Asia-Pacific Technology and Education Partnership (APTEP) as an example of strong and growing ties between the United States and its allies in the region.

The APTEP program, centered in Hawaii with partnerships across the Asia-Pacific region, supports the development of [alternative energy](#) technologies. It takes a three-pronged approach, supporting cutting-edge energy research; educating students and teachers in energy-related fields; and supporting businesses trying to bring alternative energy products to the marketplace.

"The president's trip, and the fact that today is Earth Day, make this an important moment to highlight the vital energy partnerships happening in APTEP," said Dr. Richard Carlin, director of ONR's Sea Warfare and Weapons Department. "This program is a unique way to move the U.S. and our allies toward increased energy independence—and support technologies that will help our Sailors and Marines, on the seas and in the field."

Naval experts say that when it comes to developing alternative energy resources to reduce the demand for oil, what benefits the U.S. Navy will produce strong benefits for the nation-at-large, and the world.

The APTEP program supports the energy goals of Secretary of the Navy Ray Mabus, who has noted: "The United States Navy and Marine Corps rely far too much on petroleum, a dependency that degrades the strategic position of our country and the tactical performance of our forces. The global supply of oil is finite, it is becoming increasingly difficult to find and exploit, and over time, costs continue to rise."

The program's three pillars recognize that the world's enormous energy challenges cannot be met by a single approach:

**Commerce:** As budgets have tightened across the Department of Defense, the enormous and mounting costs associated with reliance on oil as a primary means of power and energy have come increasingly into focus. Of APTEP's themes—research, education and commerce—Carlin notes that helping young companies develop commercially-viable technologies is among the most likely ways to keep costs down in the future.

"If we help enable [new energy technologies](#) to reach the marketplace, everybody wins," he said.

One example of the kind of work the Navy is doing to encourage private industry is called Energy Excelsator. That program, based in Hawaii, works directly with companies that are conducting innovative energy research, helping them bring products to market through often-cumbersome regulations and requirements.

**Education:** The nation's science and technology workforce is aging. By 2020, more than 50 percent will be retirement-eligible. Experts say it's urgent to replenish those ranks in order for the United States and its allies to continue to advance in the years ahead.

Part of APTEP's mission, then, involves training teachers—to give them new tools to help engage young minds in scientific education. Included in that process are specific partnerships with educational institutions, so that science and technology can be encouraged throughout a student's educational life.

**Research:** Supporting efforts from micro-grid power management to the development of advanced fuel cells, biomass-to-energy, and more is part

of the APTEP effort at the Hawaii Natural Energy Institute at the University of Hawaii. These kinds of research efforts are particularly important in a state like Hawaii where 90 percent of energy comes from imported oil—but where there are abundant potential sources of [energy](#) in the form of waves, geothermal, wind, solar and more.

These conditions make Hawaii an ideal technology and economic "test bed" for [alternative energy solutions](#).

"In the long term, we are engaged in technology development, things that might be integrated into the state but also have applications in lots of other places—including other parts of the U.S. and the Asia-Pacific region," said the Institute's director, Rick Rocheleau.

Provided by Office of Naval Research

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