

*In the
News!*

Clean Energy

Activity Timeline

Next Cluster Meeting
May 2011

Details coming soon:
check the [website](#)

Contact Info

CLUSTER CHAIR

Daryl Baltazar
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CLUSTER MANAGER

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DOE Offers \$130 Million for Advanced Research Projects

Up to \$130 million will be available from DOE's Advanced Research Projects Agency-Energy (ARPA-E) in its fourth round of funding, DOE announced on April 20. The funding will support research to find rare earth alternatives and breakthroughs in biofuels, thermal storage, grid controls, and solar power electronics. The five new technology areas will join ARPA-E's seven existing programs in power electronics, battery technologies, building cooling, non-photosynthetic biofuels, grid energy storage, and carbon capture.

Each new area has specific goals. Under the new Plants Engineered to Replace Oil technology area, ARPA-E is seeking to create farm-ready plants that capture more energy from sunlight and convert that energy directly into fuels. If successful, the program will create biofuels for half their current cost, finally making them cost-competitive with fuels from oil. For the High Energy Advanced Thermal Storage program, ARPA-E is seeking advancements in three focus areas: high temperature storage systems to deliver solar electricity more efficiently around the clock; fuel produced from the sun's heat; and HVAC systems that use thermal storage to improve the driving range of electric vehicles by up to 40%.

Also as part of the newest initiatives, ARPA-E is supporting the Rare Earth Alternatives in Critical Technologies, an effort to find replacements for naturally occurring yet scarce minerals with unique magnetic properties that are used in many emerging energy technologies.



ARPA-E seeks to fund early-stage technology alternatives that reduce or eliminate the dependence on rare earth materials by developing substitutes in two key areas: electric vehicle motors and wind generators.

In addition, ARPA-E launched Green Electricity Network Integration, which will fund innovative control software and high-voltage hardware to reliably control the grid. The effort aims to deliver controls able to manage 10 times more available wind and solar electricity than is currently on the grid as well as to develop resilient power flow control to enable more electricity through the existing transmission lines. Finally, Solar Agile Delivery of Electrical Power Technology (Solar ADEPT) will be ARPA-E's portion of the DOE SunShot Initiative, which seeks to reduce the total cost of utility-scale solar systems by 75% by the end of the decade. The Solar ADEPT program focuses on integrating advanced power electronics into solar panels and solar farms to extract and deliver power more efficiently.

See the [DOE press release](#) and the [ARPA-E website](#).



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Thank you for your participation!

[New Clean Energy Cluster Chair!](#)

The Cluster would like to welcome our new Cluster Chair: **Daryl Baltazar**. Daryl has worked in the energy efficiency/sustainability sector for more than eight years. He currently works at DAC Service as their Sales & Business Development Director, helping clients with energy audits, rebates and tax incentives to help bring down their energy bill. Daryl has a BA in International Business and a MA in International Environmental Policy. He is an active Board Member of the International Green Industry Hall of Fame (IGIHOF) and has served on other nonprofit boards such as the Monterey Institute of International Studies, Thimmakka and Green2Gold.

[Blue Tech Valley Water Conference is approaching](#)

Be part of an influential audience! Join industry/civic leaders, investors, members of the academic community, entrepreneurs & end-users as they discuss tangible ways to address water issues.

May 3-4, 2011 ♦ Fresno, CA

Register today! [Click here](#)

Keynote speakers include:

- Woodrow W. Clarke II, MA3, PhD
- Carrie Freeman
- Peter Williams, PhD
- Ed Pinero
- John Picard
- Henrik Skov Laursen

[Recent Nuclear Events & Their Effect on Stocks](#)

How do the recent events in Japan affect the financial industry and renewable energy stocks? Check out a couple of Bank of America/Merrill Lynch documents (from March 2011) that describe what they think will happen to certain clean energy company's stocks. (attached PDF-separate)

- Industry Overview: Alternative Energy
- Industry Overview: Electric Utilities & Competitive Power

[California PACE Program](#)

In an unanimous vote, the Fresno City Council approved the adoption of the California Property Assessed Clean Energy (PACE) program administered by Public Finance Solutions and Engineering (PFSE). The California PACE Program is a versatile energy savings program available for property Owners and delivers cost savings, energy efficiency, and a cleaner environment. PACE utilizes bond financing to provide property owners fixed-rate, property-based, no money down financing for energy and water efficiency retrofit to their properties, significantly reducing energy bills and expenses with instant cost savings.

[Partner Energy](#) is a California-based energy consulting and engineering company contracted by PFSE to educate property owners interested the California PACE program by providing energy audits to help them make informed decisions on projects that cost-effectively reduce energy and water consumption. "People make decisions, and educated people make good decisions," says Tony Liou president of Partner Energy. "We are excited about this opportunity to work with the property owners, contractors, and PFSE to encourage energy and water efficiency. The capital available to pay for energy efficiency is scarce today and the adoption of this program in the city of Fresno and potentially other cities greatly helps to alleviate that hurdle."

Michael Chapin, President of PFSE says "The City of Fresno has made a prominent statement of their commitment to energy efficiency and the creation of green jobs in joining the California Pace program. The California Pace program has up to \$95 million in bond financing authority to finance renewable and energy efficiency retrofits in cities and counties throughout California."

For more information, please refer to www.cityenergysavings.com or www.ptrenergy.com.

Clean Tech Investment Soars During 2010

Despite the weak economic backdrop, the global markets for solar photovoltaics (PV), wind energy and biofuels continued to expand rapidly during 2010, according to the latest report from research firm Clean Edge.

Released today, the report, entitled [Clean Energy Trends 2011](#), reveals that combined global revenue for solar PV, wind power, and biofuels rose 35.2 per cent year-on-year to \$188.1bn (£116.6bn), primarily driven by a doubling in solar installations.

It also predicts the biofuels market will double over the next decade from \$56.4bn in 2010 to \$112.8bn in 2020, while the wind energy market will similarly double in size to be worth \$122.9bn a year by 2020. In addition, the report predicts the solar PV market will grow from \$71.2bn last year to \$113.6bn by 2020, noting that rapid adoption is being driven by falling prices for PV technologies.

The report cites similar research from the Cleantech Group showing that US-based venture capital (VC) investment in clean tech firms recovered strongly during 2010, rising from \$3.5bn in 2009 to \$5.1bn a year later.

The report noted that while VC investment fell short of the record \$6.1bn invested in 2008, clean tech firms accounted for nearly a quarter of all VC activity last year, setting a new record for the sector.

Clean Edge highlighted a number of clean tech sectors that are likely to enjoy increased momentum during 2011, including energy efficient lighting, natural gas technologies, aviation biofuels, green building innovations and viable alternatives to rare earths.

Energy Update California

Efforts to increase energy efficiency and create green jobs are getting an important boost through California's new statewide energy efficiency program, Energy Upgrade California.

With homeowner rebates and incentives of approximately \$4,000, Energy Upgrade California expects to upgrade 100,000 homes, reduce greenhouse gas emissions and create approximately 12,000 jobs statewide.

Homeowners can choose from one of two packages that qualify for rebates and incentives: the Basic Upgrade Package and the Advanced Upgrade Package. The Basic Package consists of seven required elements designed to improve energy efficiency by approximately 10%, and includes a rebate of up to \$1,000. The Advanced Package includes incentives and rebates based on the energy savings achieved. Rebates range from \$1,500 to more than \$4,000 for energy savings from 15-40% (depending on utility provider and energy savings achieved).

Learn more: www.EnergyUpgradeCA.org.

Learn how to [become a "Participating Contractor"](#)

LEED Professional Project Experience

The US Green Building Council (USGBC) Central CA Chapter is partnering with GreenStep and Green-Buildings.com on the LEED Professional Project Experience Program, which provides LEED AP exam candidates with an opportunity to actively work on a LEED registered project, thus qualifying participants to take the LEED AP exam while gaining real world, hands on experience. Check out the flyer for registration information (separate PDF attached).

Registration is limited!

[Stay updated on
the Clean Energy
Cluster website](#)

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Every Thursday
@ the EDC
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906 N Street, Ste.120
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Or online [here](#).

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