

Subject: Energyfolks: Lovins on Fukushima, NREL's CREST, CSP, jobs
Date: Tuesday, March 29, 2011 8:35:15 PM PT
From: Gil Masters (sent by <energyfolks-bounces@lists.stanford.edu>)
To: energyfolks@lists.stanford.edu
Category: Stanford

Hi Energyfolks... What have we got today:

1. **Amory Lovins: Learning From Japan's Nuclear Disaster**
2. **New NREL Cost of Renewable Energy Spreadsheet Tool (CREST)**
3. **Weekly Stanford Energy Seminar Schedule: Next one Apr 4 on CSP**

April 11, Burt Richter "What happened in Japan, What does it mean?"

4. **Lorry I. Lokey / Stanford University Undergraduate Summer Internship**
5. **Bright Ideas – New and Upcoming Advances in the Field of Lighting Technology, PEC April 5th**

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JOBS JOBS JOBS JOBS JOBS with help from the Stanford Energy Club

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1. Director of Marketing: PE Five Winds, Boulder, CO
2. Director of Cleantech Outreach: Sierra Club, San Francisco
3. Green Team Associate: Google, Mountain View, CA.
4. Coordinator: Western Grid Group, Western U.S.
5. Summer Internships: Suntech, San Francisco
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8. Computational Post Doctoral Fellow: Lawrence Berkeley Laboratory, Berkeley, CA
9. Multiple Positions: Federspiel Controls, SF Bay Area & East Coast
10. Senior Scientific Engineering Associate : Lawrence Berkeley Lab , Berkeley, CA
11. Intern: International Council on Clean Transportation , San Francisco, CA and Washington, DC
12. Intern: International Council on Clean Transportation , San Francisco, CA and Washington, DC
13. Energy Summer Associate (Internship): Navigant, Nationwide
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15. 2011 Summer Internship: Energy and Environmental Economics, Inc. (E3)
16. Full-time Energy Consultant: Energy and Environmental Economics, Inc. (E3)
17. Full-time Energy Associate : Energy and Environmental Economics, Inc. (E3)
18. Solar Interconnect Engineer: ALTA Devices, Inc. Santa Clara
19. Research Fellow, Energy and Climate (Beijing-based)
20. Transportation & Energy Engineer/Scientist: TIAX LLC, Irvine and Cupertino, CA
21. Energy & Environment EcoVillage Internship, DancingRabbit, NE Missouri
22. Energy Services Products Summer Intern, Solar City, San Mateo, CA

1. Amory Lovins: Learning From Japan's Nuclear Disaster

(Mar 28 GreenTechMedia)

An earthquake-and-tsunami zone crowded with 127 million people is an unwise place for 54 reactors.

As heroic workers and soldiers strive to save stricken Japan from a new horror—radioactive fallout—some truths known for 40 years bear repeating.

An earthquake-and-tsunami zone crowded with 127 million people is an unwise place for 54 reactors. The 1960s design of five Fukushima-I reactors has the smallest safety margin and probably can't contain 90 percent of meltdowns. The U.S. has six identical and 17 very similar plants.

Every currently operating light-water reactor, if deprived of power and cooling water, can melt down. Fukushima had eight-hour battery reserves, but fuel has melted in three reactors. Most U.S. reactors get in trouble after four hours. Some have had shorter blackouts. Much longer ones could happen.

Overheated fuel risks hydrogen or steam explosions that damage equipment and contaminate the whole site--so clustering many reactors together (to save money) can make failure at one reactor cascade to the rest.

Nuclear power is uniquely unforgiving: as Swedish Nobel physicist Hannes Alfvén said, "No acts of God can be permitted." Fallible people have created its half-century history of a few calamities, a steady stream of worrying incidents, and many near-misses. America has been lucky so far. Had Three Mile Island's containment dome not been built double-strength because it was under an airport landing path, it may not have withstood the 1979 accident's hydrogen explosion. In 2002, Ohio's Davis-Besse reactor was luckily caught just before its massive pressure-vessel lid rusted through.

Regulators haven't resolved these or other key safety issues, such as terrorist threats to reactors, lest they disrupt a powerful industry. U.S. regulation is not clearly better than Japanese regulation, nor more transparent: industry-friendly rules bar the American public from meaningful participation. Many presidents' nuclear boosterism also discourages inquiry and dissent.

Nuclear-promoting regulators inspire even less confidence. The International Atomic Energy Agency's 2005 estimate of about 4,000 Chernobyl deaths contrasts with a rigorous 2009 review of 5,000 mainly Slavic-language scientific papers the IAEA overlooked. It found deaths approaching a million through 2004, nearly 170,000 of them in North America. The total toll now exceeds a million, plus a half-trillion dollars' economic damage. The fallout reached four continents, just as the jet stream could swiftly carry Fukushima fallout.

Fukushima I-4's spent fuel alone, while in the reactor, had produced (over years, not in an instant) more than a hundred times more fission energy and hence radioactivity than both 1945 atomic bombs. If that already-damaged fuel keeps overheating, it may melt or burn, releasing into the air things like cesium-137 and strontium-90, which take several centuries to decay a millionfold. Unit 3's fuel is spiked with plutonium, which takes 482,000 years.

Nuclear power is the only energy source where mishap or malice can kill so many people so far away; the only one whose ingredients can help make and hide nuclear bombs; the only climate solution that substitutes proliferation, accident, and high-level radioactive waste dangers. Indeed, nuclear plants are so slow and costly to build that they reduce and retard climate protection.

Here's how. Each dollar spent on a new reactor buys about two to ten times less carbon savings and is 20 to 40 times slower, than spending that dollar on the cheaper, faster, safer solutions that make nuclear power unnecessary and uneconomic: efficient use of electricity, making heat and power together in factories or buildings ("cogeneration"), and renewable energy. The last two made 18 percent of the world's 2009 electricity (while nuclear made 13 percent, reversing their 2000 shares)—and made over 90 percent of the 2007 to 2008 increase in global electricity production.

Those smarter choices are sweeping the global energy market. Half the world's new generating capacity in 2008 and 2009 was renewable. In 2010, renewables, excluding big hydro dams, won \$151 billion of private investment and added over 50 billion watts (70 percent the total capacity of all 23 Fukushima-style U.S. reactors) while nuclear got zero private investment and kept losing capacity. Supposedly unreliable windpower made 43 percent to 52 percent of four German states' total 2010 electricity. Non-nuclear Denmark, 21 percent windpowered, plans to get entirely off fossil fuels. Hawai'i plans 70 percent renewables by 2025.

In contrast, of the 66 nuclear units worldwide officially listed as "under construction" at the end of 2010, 12 had been so listed for over 20 years, 45 had no official startup date, half were late, all 66 were in centrally planned power systems—50 of those in just four (China, India, Russia, South Korea)—and zero were free-market purchases. Since 2007, nuclear growth has added less annual output than just the costliest renewable—solar power—and will probably never catch up. While inherently safe renewable competitors are walloping both nuclear and coal plants in the marketplace and keep getting dramatically cheaper, nuclear costs keep soaring, and with greater safety precautions would go even higher. Tokyo Electric Co., just recovering from \$10-20 billion in 2007 earthquake costs at its other big nuclear complex, now faces an even more ruinous Fukushima bill.

Since 2005, new U.S. reactors (if any) have been 100 percent-plus subsidized—yet they couldn't raise a cent of private capital, because they have no business case. They cost 2-3 times as much as new windpower, and by the time you could build a reactor, it couldn't even beat solar power. Competitive renewables, cogeneration, and efficient use can displace all U.S. coal power more than 23 times over—leaving ample room to replace nuclear power's half-as-big-as-coal contribution too—but we need to do it just once. Yet the nuclear industry demands ever more lavish subsidies, and its lobbyists hold all other energy efforts hostage for tens of billions in added ransom, with no limit.

Japan, for its size, is even richer than America in benign, ample, but long-neglected energy choices. Perhaps this tragedy will call Japan to global leadership into a post-nuclear world. And before America suffers its own Fukushima, it too should ask, not whether unfinanceably costly new reactors are safe, but why build any more, and why keep running unsafe ones. China has suspended reactor approvals. Germany just shut down the oldest 41 percent of its nuclear capacity for study. America's nuclear lobby says it can't happen here, so pile on lavish new subsidies.

A durable myth claims Three Mile Island halted U.S. nuclear orders. Actually they stopped over a year before—dead of an incurable attack of market forces. No doubt when nuclear power's collapse in the global marketplace, already years old, is finally acknowledged, it will be blamed on Fukushima. While we pray for the best in Japan today, let us hope its people's sacrifice will help speed the world to a safer, more competitive energy future.

2. New NREL Cost of Renewable Energy Spreadsheet Tool (CREST)

NREL is pleased to announce the availability of a suite of new analytic tools, the Cost of Renewable Energy Spreadsheet Tool (CREST) for solar, wind, and geothermal technologies, respectively.

In response to a request by several state public utility commissions (PUCs) and the National Association of Regulatory Utility Commissions, NREL commissioned development of the CREST models from Sustainable Energy Advantage (SEA). The models were designed to enable PUCs and the renewable energy community assess projects, design cost-based incentives (e.g., feed-in tariffs), and evaluate the impact of tax incentives or other support structures.

The models and a common User Manual [are available](http://financere.nrel.gov/finance/content/CREST-model) at <http://financere.nrel.gov/finance/content/CREST-model>

- CREST Solar (photovoltaic or solar thermal electric),
- CREST Wind
- CREST Geothermal

3. Weekly Stanford Energy Seminar Schedule: Next one Apr 4 on CSP

Mondays, 4:15 - 5:15 pm, NVIDIA Auditorium, downstairs, Room 14C, Huang Engr Center, Free and Open to All
(Additional Info available at energyseminar.stanford.edu)

Monday April 4
Thomas Mancini, Sandia National Laboratories
The Status of Concentrating Solar Power Development

Monday April 11 (date tentative)
Burton Richter, SLAC National Accelerator Laboratory
What Happened in Japan and What Does It Mean for the Future of Nuclear Energy?

Wednesday April 13
David Stern, ExxonMobil Corporation and
Dan Sperling, University of California at Davis
Low Carbon Fuel Standard

Monday April 18
TS Ramakrishnan, Schlumberger-Doll Research
CO2 Mitigation

Monday April 25
Juan de Bedout, GE Global Research
Power Conversion Systems

Monday May 2
Amory Lovins, Rocky Mountain Institute
Rethinking Electricity

Monday May 9
Clas Jacobson, United Technologies Corporation
Low Energy Building: European Design & Control

Monday May 16
Panel Discussion
Byron Reeves, Professor of Communication and
Carrie Armel, Precourt Energy Efficiency Center
Stanford's ARPA-E Sensor and Behavior Initiative

4. Lorry I. Lokey / Stanford University Undergraduate Summer Internship

EDF Program Overviews:

- Energy
- Health Sciences
- Climate and Air
- Land Water Wildlife
- Oceans

The Lorry I. Lokey / Stanford University Internships at Environmental Defense Fund will support the work of two (2) current undergraduate students of Stanford University. Each year, these internships offer a unique

opportunity to work directly with experts in science, law, economics, computer modeling, public education, and/or other disciplines (please see the 2011 Project Descriptions at right).

A stipend of \$2600 supports each Intern for a period of eight (8) weeks, to take place during Summer 2011 (any 8-week period May-August 2011). These positions are made possible through an endowed fund established by Stanford alumnus Lorry I. Lokey '49.

Environmental Defense Fund is dedicated to protecting the environmental rights of all people, including future generations. Among these rights are clean air, clean water, healthy food and flourishing ecosystems. We are guided by scientific evaluation of environmental problems, and we work to create solutions that win lasting economic and social support because they are nonpartisan, cost-effective and fair.

Completed applications must be emailed to jobs@edf.org by Friday, April 1, 2011. Please include "Lokey Internship – Project #__" in the email subject line.

Questions? Contact Joy Deignan at jdeignan@edf.org or 212-616-1203.

5. Bright Ideas – New and Upcoming Advances in the Field of Lighting Technology, PEC April 5th

Presented by: Women Energy Associates

WHEN: Tuesday April 5th, 6 p.m. to 9 p.m.

WHERE: Pacific Energy Center - 851 Howard Street, San Francisco
Between 4th and 5th, two blocks south of Powell Street BART

PRICE: \$20.00 (Appetizers, No Host Bar); Full Time Students -\$10.00

Energy efficiency is one of the highest priorities in the fight against climate change and lighting technologies will play an ever increasing role in achieving significant energy savings in the built environment. Come join us for an evening in the Pacific Energy Center's Lighting Laboratory and learn about what is over the horizon in new lighting technologies and the policies that will help to implement them. Featuring:

Misti Bruceri - Ms. Bruceri has worked in the energy efficiency field for more than 15 years. As principal of Misti Bruceri and Associates, LLC, established in 2007, Ms. Bruceri has provided technical consulting services to private firms, non-profit organizations, and utilities. Her experience includes: energy efficiency portfolio planning and development, policy analysis, codes and standards advocacy, education and compliance, and all aspects of energy program design, implementation, and management.

Mary Matteson Bryan – Ms. Bryan, P.E., is an independent consultant with over 20 years of experience working in the energy efficiency field. Ms. Bryan has supported Emerging Technology programs for both PG&E and the BPA where she was responsible for assessing the viability of emerging energy efficient lighting technologies, such as LED lighting in outdoor and indoor applications. Additionally, she is engaged in support of two DOE programs that are focused on commercialization of LED lighting, the Lighting Facts program and Commercial Building Energy Alliances.

Angela McDonald - As a Senior Design Principal at HLB Lighting Design, Ms. McDonald's responsibilities include project management and design from concept development to completed installation. Ms. McDonald's interdisciplinary education in theater engineering incorporates her artistic talents with technical training and expertise to provide cohesive and innovative solutions to all types of design challenges. Ms. McDonald is responsible for the daily operation of HLB's San Francisco office.

Please RSVP by March 31, 2011 to: 51 Norwood Ave, Kensington, CA 94707 or bdilts@redshift.com.

Checks payable to: Women Energy Associates

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1. Director of Marketing: PE Five Winds, Boulder, CO

We are looking for an experienced Director of Marketing to play a significant hands-on role in the development and execution of the PE Five Winds go-to market strategy. The person will be responsible for, and heavily focused on, all aspects of demand creation and lead generation.

The position will be based in Boulder, CO. We are requesting submissions by April 1.

I can answer any questions about the position as needed.

ABOUT PE FIVE WINDS

PE Five Winds is the North American presence of PE INTERNATIONAL. With more than 20 years of experience, PE INTERNATIONAL and Five Winds enable businesses to understand their impact on the environment, improve company performance and succeed in the market place. PE Five Winds provides conscientious companies with cutting-edge tools, in-depth knowledge and an unparalleled spectrum of experience in making both corporate operations and products more sustainable. Applied methods include implementing management systems, developing sustainability indicators, life cycle assessment (LCA), carbon footprint, design for environment (DfE) and environmental product declarations (EPD), technology benchmarking, eco-efficiency analysis, emissions management, sustainable procurement program development, and strategic CSR consulting.

Moreover, PE Five Winds offers two leading software solutions, with the GaBi software for product sustainability and the SoFi software for corporate sustainability. Over 1000 companies and institutes worldwide put their trust in PE INTERNATIONAL’s consultancy and software, including market and branch leaders such as Alcan, Allianz, Bayer, Daimler, Deutsche Post DHL, Rockwool, Siemens, Toyota, ThyssenKrupp and Volkswagen.

For more information go to www.pe-international.com or www.fivewinds.com

Gartner review on PE INTERNATIONAL: <http://pe-international.com/international/topics/gartner-report>

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2. Director of Cleantech Outreach: Sierra Club, San Francisco

Job Title: Director of Cleantech Outreach

Department: Office of Advancement

Reports To: Director Climate Recovery Partnership

Supervises: Administrative Assistant and potentially Interns

Context: Directs and coordinates outreach activities to cleantech community as part of broader \$420 million Climate Recovery Partnership.

Scope: Director of Cleantech Outreach is responsible for leading a new effort to strengthen ties between the

Sierra Club and the cleantech business community to coordinate advocacy and other mutually beneficial projects to further the Sierra Club's environmental goals. Develops and maintains relationships with influential members in the cleantech community. Helps create and facilitate a new Cleantech Advisory Panel Director. Is responsible for business development activities designed to enhance the earned income of the Sierra Club through strategic partnerships with the cleantech industry. Travels to the major Sierra Club regions to meet with stakeholders and facilitate projects.

Job Activities:

Identifies key cleantech stakeholders and increase their engagement with the Club primarily through the development of the Cleantech Advisory Panel. Builds, recruits, manages, and supports the Cleantech Advisory Panel.

Works with and coordinates between the Panel and the Sierra Club's energy program staff and senior program staff by taking the advisory board's recommendations and ensuring that the relevant Sierra Club team is hearing that input, responding to it, and ensuring that the response and conversation loop back to the advisors.

Directs business development activities within the cleantech community by helping the Sierra Club run earned income projects and obtain corporate and/or individual funds to work on projects of shared interest.

Plans and implements regional donor and volunteer events and staffs committee meetings as necessary.

Attains funding for a particular Sierra Club program, campaign, or initiative, or outreach to a particular donor constituency.

Plans for capacity to achieve timelines on time. Recruits administrative assistant and recruits and hires interns on an as needed basis.

Supervises staff, assigns work, and establishes priorities; provides guidance and direction; monitors fundraising performance; conducts performance evaluations and provides ongoing feedback; effectively recommends hiring, firing, salary and promotion decisions; and provides training and development.

Performs miscellaneous duties as assigned.

Knowledge and Skills:

Minimum of 5-7 years of experience in general project management, policy and/or cleantech sector.

Strong knowledge of the environment and energy sector from a business and/or policy perspective.

Demonstrated ability to develop and manage relationships.

Strong written and oral communications skills, including public speaking.

Prior experience in event planning.

Able to travel 25% of time.

We would appreciate your participation in a brief survey about the position you are applying for and about yourself. Your responses will be completely anonymous and will be held completely confidential. Take our short survey [here](#).

Note: Due to high traffic, the survey sometimes gets overloaded, transferring the user to the main site instead of the survey page. Please try again at a later time if this happens. Your effort is greatly appreciated.

Please send cover letter and resume to resumes@sierraclub.org. To ensure proper routing of your application, please specify job code Director of Cleantech Outreach - SCHQ #0212-11RF in the subject line. Please do not add or modify anything else beside job code in the subject line.

The Sierra Club offers competitive salary package commensurate with skills and experience plus excellent benefits that include medical, dental, and vision coverage, and a retirement savings 401(k) plan.

The Sierra Club is an equal opportunity employer committed to a diverse workforce.

Note: Positions remain online until they are filled. If you are applying for more than one job, a resume and cover letter are required for each position.

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3. Green Team Associate: Google, Mountain View, CA.

<http://www.google.com/intl/en/jobs/uslocations/mountain-view/rews/green-team-associate-mountain-view/index.html>

Green Team Associate - Mountain View

This position is based in Mountain View, CA.

The area: Real Estate and Workplace Services

Google's Real Estate and Workplace Services is renowned for building and maintaining unique, invigorating environments that allow our employees to focus on innovation. We make sure that Google employees inhabit the most dynamic, innovative – and functional – work settings possible. Our team of real estate, construction, facilities operations and services professionals are naturally inquisitive and spirited, and we thrive in a fast-paced environment – constantly searching for new ways to improve workplace efficiency.

The role: Green Team Associate

In this role, you will work with teams throughout the Real Estate & Workplace Services organization to deploy green strategies and practices in the design, construction and operation of Google’s offices. You will foster continual innovation and market leadership to place Google at the forefront of workplace sustainability. You will collaborate closely with facilities operations teams across Google’s global portfolio to implement industry-leading green building and operations practices. You will also interface with design and construction teams to implement green design strategies and assist with LEED documentation.

Responsibilities:

Implement green facilities operations program based on LEED-EBOM framework to benchmark and continually improve the performance of Google's facilities and operational practices.

Work closely with global facilities management teams to identify opportunities, implement changes and track performance. Track key metrics in cost, resource efficiency and impacts to employee health and productivity.

Provide training and ongoing support to Google employees, vendors, landlords and property managers around the world. Develop tools and resources needed to support program and team globally.

Assist in the development of operational policies to support Google's needs and goals that meet or exceed industry best practices. Work with facilities managers and vendors to adjust SLAs to implement policies.

Work with project teams on new office build outs and renovations to implement Google's Sustainable Design Guidelines. Provide ongoing support to project teams and assist with LEED documentation.

Requirements:

Bachelor’s degree in engineering or other relevant discipline with a strong academic performance preferred.

Master’s degree in a related field a plus.

At least 3 years of relevant work experience.

Demonstrated expertise in green building design strategies & systems.
General understanding of LEED required, LEED-AP preferred.
Strong analytical, written and verbal communication skills and the ability to convey complex data and concepts to diverse audiences.
Ability to collaborate with cross-functional stakeholders and demonstrate influence at all levels.
Proven strength in creative problem solving while balancing multiple projects in a fast-paced environment.

Employment Opportunity
Job Title: Green Building Materials Research Specialist

Google Inc. is committed to providing the healthiest environments possible for their employees. It is known that many building materials contain human toxins and Google's Real Estate and Workplace Services group has embarked upon a project to identify materials that are free of the most harmful substances. Mary Davidge Associates has been engaged to assist Google in the roll-out of this project by working with design teams and product manufacturers to develop a best in class materials library. We are seeking an individual to join our team. The project offers the opportunity to participate in a highly innovative, collaborative process within a cross functional team.

Position:

Contract position averaging 30 + hours per week.

Responsibilities:

- Assess, collect and organize existing building materials data.
- Review materials specifications provided by architecture, design and construction teams.
- Work with product manufacturers to document content of materials and compliance with Google's requirements.
- Maintain and update information on Google Guidelines Site.

Qualifications:

The ideal candidate would be a graduate student or recent graduate with exceptional qualifications in a relevant program. Demonstrated knowledge of building materials and green building strategies desired.
Interest and commitment to sustainability and environmental health.
Knowledge of Living Building Challenge and LEED Certification preferred.
Candidates should be well organized, team oriented and self motivated, possessing strong verbal and written communication skills. They must also have the ability to meet commitments and deadlines within a fast paced corporate environment.

Submit Cover letter and resume to mdavidge@gmail.com

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4. Coordinator: Western Grid Group, Western U.S.

Coordinator, Western Clean Energy Advocates Coalition Position Description February 2011 Western Grid Group

(WGG), a non-profit advocacy organization, works to expand access for clean energy resources, state by state and across the western US. We seek an independent contractor to coordinate development of the Western Clean Energy Advocates (WCEA) coalition. Information about WCEA, its members, goals, principles and its Clean Energy Vision is available on the Western Grid Group website, www.westerngrid.net. The goals of this position are to: Develop the coalition into an influential voice for adoption of policies to advance clean energy. Build environmental, rural, consumer, and business group support for renewable energy development and siting, and more effective working relationships between renewable energy generators and environmental, rural interests, consumer representatives and business groups. Tasks The Coordinator will work with WGG and Coalition members to: Coordinate development and adoption of a strategy for achieving WCEA goals, broad buy-in to and implementation of that strategy. Coordinate meetings and support the work of the WCEA Communications Committee, including the development of coalition messaging and graphics. Convene monthly web meetings, quarterly in-person meetings (preparing meeting agendas and materials) that make coalition activities relevant to member priorities, expand members' knowledge of clean energy development, and deepen interaction among members. Prepare and use meeting follow-up materials to track and to drive coalition work. Support development of WCEA's Clean Energy Vision (CEV), and use the CEV to help expand the coalition and achieve policy goals Assist development and implementation of CEV packaging and messaging to promote the CEV and related policies. Coordinate outreach to expand the coalition. Recruit additional constituencies as members. Assist with formation of committees, as needed, to accomplish WCEA goals. § Serve as main point of contact for work of the coalition. The Coordinator will work with WGG's administrative director, who will manage coalition member services and logistics. Qualifications § Demonstrated experience organizing a campaign or coalition. § Demonstrated experience building trust and improving working relationships among campaign or coalition members. § Excellent written and verbal communication skills. Demonstrated experience articulating a campaign or coalition's core messages. § Experience representing a campaign or coalition to the media. § Knowledge of energy and environmental policy a strong plus. Location and Travel: Western Grid Group (WGG) directors work from their offices in eight western states, and WGG maintains no central office location. Much of the organizing work to be performed will be done via telephone, e-mail and the internet. Travel is estimated to require approximately two, two-day trips per quarter, to participate in WCEA in-person meetings; WCEA committee meetings; and related WCEA and foundation meetings. Time Commitment and Compensation: This is a half-time position (approximately 85 hours/month). Like other WGG staff, the WCEA Coordinator is an independent contractor and not an employee. Compensation consists of cash only and does not include paid holidays, vacation or medical benefits. Compensation is \$40,000. The contractor is expected to provide his/her own computer, internet connection, phone and other equipment necessary to perform the work. About Western Grid Group: Western Grid Group work focuses on transmission planning and policy; on renewables integration and electric system operation; and on related energy policy issues. WGG works collaboratively with wind, solar, geothermal and energy efficiency companies and trade associations, environmental and consumer groups, state and federal regulatory agencies, and the Western Governors Association. WGG principals have more than 50 years' state regulatory experience, and more than 40 years' geothermal, solar and wind project development and trade association experience. They include former commissioners and chairmen of the public utility commissions in CO, MT, NM, NV, OR and UT. Originally formed as West Wind Wires in 2003, WGG now operates as a sponsored project of the Center for Energy Efficiency and Renewable Technologies (CEERT), a 501 (c)(3) public charity. WGG work is funded by foundations and government contracts. To Apply: Please e-mail a letter explaining your interest in this work, your resumé, and an example work product pertinent to the responsibilities of this position to: Alicia Healey, Western Grid Group alicia@westerngrid.net This announcement posted February 2011; applications accepted until the position is filled.

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5. Summer Internships: Suntech , San Francisco

Apply for a Solar Energy Internship in SF

Suntech, the world's largest manufacturer of solar modules, is seeking candidates for its 2011 Americas internship program. Undergraduate and graduate students are invited to apply for summer internships in our San Francisco, California headquarters.

Suntech employees work in a culture based on teamwork and integrity. We are a global team with a passion for making a positive environmental impact and accelerating the pace of worldwide solar energy adoption.

The 2011 internship program will offer current students an opportunity to learn about Suntech and the solar industry while working on important projects that are relevant to our company's continued success. Each intern will be paired with a mentor who will guide him or her throughout the summer.

We invite you to become part of Suntech's energy.

Available Positions

MBA Strategy Intern

This position will learn about the long-term future of the energy industry. He or she will contribute to market forecasts and special projects for the office of the Chief Commercial Officer.

MBA Sales Operations & Strategy Intern

This position will identify and address opportunities and threats to our business, ensuring we grow long-term revenue and profits as effectively as possible. This involves structuring problems, analyzing data, making recommendations and driving implementation / operations - working closely with Suntech's sales, product, engineering and finance teams.

Performance & Environmental Data Intern

The Technical Services group works in conjunction with the Wholesale Generation Sales team by providing analysis, engineering, and technical services. We also assess, price, and mitigate the business risk of supplying PV modules to large-scale solar power projects.

The Intern will assist in the development/selection of a single data platform to house performance related information, develop in-house best practices for data handling, analyze site performance data and produce internal and external reports, work with the Product Development and Engineering teams to analyze actual performance data in order to monitor system performance, improve system design capabilities, and drive product development efforts.

Credit Services Intern

The Credit Services Intern will review the entire customer portfolio to determine what amount of credit is established for each customer, segment by risk rating and possibly other criteria. The intern will learn and review review financial info and other data to determine (or reassess) customer risk rating, assist with A/R accounting, collections, etc.

Project Analysis Intern

The Technical Services group works in conjunction with the Wholesale Generation Sales team by providing analysis, engineering, and technical services. We also assess, price, and mitigate the business risk of supplying PV modules to large-scale solar power projects.

The intern will assist Sales and Technical Managers in the creation and submittal of compelling proposals for Wholesale Generation projects, form working relationships within Suntech to gather information to assemble such proposals, perform energy simulation models using PVSYST software and work with the Product Development and Engineering teams to analyze actual performance data in order to monitor system performance, improve system design capabilities, and drive product development efforts.

Market Research Intern

The Market Research intern will seek to size the market for utility power purchase agreements for large solar projects on both the demand side (utilities) and the supply side (developers), assess total utility scale solar demand based on top-down analysis (RPS, etc.) by state (CA, NZ, AZ, NJ, etc.) and assess total utility scale solar demand based on bottom-up analysis: research individual utility power purchase programs. The Market Research Intern will research and assess transmission capacity/shortage by utility by state, prepare Developer database research: tier 1, tier 2, and tier 3 project developers, Database of Calendar of all relevant utility RFPs and auction dates.

MBA and undergraduate students are encouraged to apply.

Policy Intern

This undergraduate or graduate intern will assist the government affairs and external relations team for Suntech America. The intern will help write weekly updates on state and federal solar policy developments for Suntech departments, the Suntech international company newsletter, and customers. Other task work will include database, tools development, and administrative assistance.

The intern will also perform research as directed on electricity-related legislation and regulation and present to the company. For example, the intern could be asked to research and report on comparative SREC design structures and values, on grid integration issues relating to solar photovoltaics, and so on. Candidates should have energy and climate policy academic training, excellent writing skills, strong quantitative analysis skills, resourcefulness, and self-direction.

Candidates will send a brief writing sample along with a c.v.

Legal Intern

Looking for a legal intern to assist the Legal group at Suntech with reviewing and drafting contracts, researching litigation issues and clean tech policies, assisting with corporate governance matters and securities law compliance, drafting Board of Director minutes, and other legal matters.

Marketing Intern (2)

The Marketing Interns will reorganize collateral at onsite, ship dealer packets, track orders, and create list of dealers, support the development of collateral material and presentations, manage distribution of sales and marketing materials to dealer sales team(s) and support the customer newsletter.

Tradeshaw support will also be a large part of the duties including: import data into NetSuite, follow-up with leads, send material, check lead distribution, send "Thank You" emails as necessary, hand leads to appropriate party as necessary.

Hours & Compensation

Depending on the position, a minimum of 20-30 hours per week during normal business hours is required. We can be flexible with which days you choose to work. Internships will be at our San Francisco, California office.

Internships will start on a rolling basis from May 1 and continue throughout the summer. Dates are flexible.

Compensation will be commensurate with experience.

Work Authorization

Applicants must be authorized to work in the United States to be eligible for internship positions.

Apply Today

Email hr@suntechamerica.com with your resume and short cover letter. Include the position title for which you would like to be considered in the subject line. We expect to receive many responses and unfortunately are not able to reply to those not selected. Please no phone calls.

Suntech is an Equal Opportunity Employer.

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6. Scientific Engineering Associate (Senior or Principal) : Lawrence Berkeley Labs, Berkeley, CA

Job Title:Scientific Engineering Associate (Senior or Principal) Revised 3/14/11

Req Number:25549

Division:Environmental Energy Tech

Department:Building Technologies

We are currently seeking multiple Scientific Engineering Associates to join our Building Technologies Department. The Scientific Engineering Associate will work as a part of a team within the Simulation Research Group in support of research, development and deployment of next generation building energy and control system modeling, as well as simulation and analysis tools for the design and operation of low energy buildings. These positions will be filled at either a Senior or Principal level

The Scientific Engineering Associate will do some or all of the following:

Conduct research, implement and distribute next generation tools for building energy and control system modeling simulation and analysis, in support of the design and operation of low energy buildings.

Develop and implement object-oriented equation-based simulation models of building energy systems and their control algorithms.

Link domain-specific simulation programs to each other for co-simulation in support of rapid prototyping and integrated whole-system level analysis.

Extend the applicability of building system simulation from design to operation.

Use simulation to develop and test energy-efficient control strategies for building systems.

Contribute to the design and execution of experiments to test the performance of building systems, including controls, in the new User Test Bed Facility.

A Principal's responsibility will involve complex technical problems where analysis of situations or data requires an in-depty evaluation of various factors. You will also be expected to work under minimal supervision.

Qualifications

Bachelor's degree or equivalent in mechanical engineering, computer science, architectural engineering or a related building science field, with a minimum 5 years (6-8 for a Principal) of progressively responsible relevant experience.

Expertise in thermal sciences, controls and system simulation.

Two or more years of experience using or developing models for building energy simulation.

Strong knowledge of one or more programming languages, preferably C/C++, Java and Fortran.

Demonstrated expertise in using either whole building energy analysis programs (such as EnergyPlus, TRNSYS, ESP-r, HVACSim+) or system simulation programs for differential algebraic equations (Dymola, JModelica, Modelica, SPARK, Simulink, EES).

Excellent verbal and written communication and presentation skills.

Master or PhD degree in mechanical engineering, computer science, architectural engineering or a related building science field preferred.

Experience in building delivery processes and building operations is also preferred.

Notes

One position is a full-time Career opportunity. The other two positions are full time, one-year term appointments with the possibility of renewal or conversion to Career based on performance, business needs and continuation of funding. These positions will be filled as either a Senior Scientific Engineering Associate or Principal Scientific Engineering Associate based on a number of factors including education and experience.

Note: we may hire one Post Doctoral Fellow, in lieu of one of the Term vacancies. Please review our Post Doctoral posting (Req 25041) for the details of this position.

Effective January 1, 2011, all National Laboratory employees will be subject to a two year pay freeze. This position falls under this provision for Lawrence Berkeley National Lab's fiscal years: 2012-2013 (October 1, 2011 - September 30, 2013).

How To Apply

To apply from this page, click the "Apply Now" link (above), and follow the on-line instructions to complete the application process. As part of the online application process, please submit a single attachment that includes both your resume or CV and a statement of your research interests. Please be sure to reference where you found out about the position.

Berkeley Lab is an affirmative action/equal opportunity employer committed to the development of a diverse workforce.

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7. Mechanical Research Sci/Engr: Lawrence Berkeley Lab, Berkeley, CA

Job Title:Mechanical Research Sci/Engr

Req Number:24931

Division:Environmental Energy Tech

Department: Building Technologies

Bringing Science Solutions to the World

The Building Technologies Department seeks a Research Scientist to develop energy-efficient facade-related technologies and systems for very low energy buildings using simulation tools and field studies and then accelerate widespread market adoption of these technologies and systems.

As a Research Scientist, you will:

Develop, implement, evaluate, and promote existing and next generation facade-related technologies and systems in support of very low energy and Net Zero Energy Buildings.

Develop and implement object-oriented equation-based simulation models addressing thermal and daylighting aspects of facade- and building-related energy systems and their control algorithms.

Develop and apply domain-specific simulation tools to support rapid prototyping of new technologies and systems, and integrated facade-system and whole-building level analysis.

Extend the applicability of advanced simulation tools from design to system commissioning and to operations.

Qualifications

Advanced degree in engineering, physics, or a related building science field.

Demonstrated experience and expertise in facade-related control and system simulations involving daylighting, solar control, ventilation strategies.

Demonstrated experience with laboratory and/or field measurement of thermal and/or optical systems.

Demonstrated strong knowledge of controls development software tools such as Dymola/ Modelica, MatLab/ Simulink and LabView.

Demonstrated strong knowledge of building energy analysis programs (e.g., EnergyPlus).

Strong knowledge of one or more programming languages, preferably C/ C++, Java, Fortran. Ability to write "glue" code using scripting languages (such as Python, Perl or Ruby) to add functionality to workflow.

Experience in development and marketing of advanced building systems.

Excellent verbal and written communication and presentation skills.

Ability to work collaboratively as part of a research team.

Desired Traits

Experience with designing, specifying, implementing, and commissioning use of innovative facade solutions in buildings.

Experience with breadboarding control solutions with sensors, actuators, networking components.

Experience in the building delivery process and in building operations.

Experience with project management and supervising technical support staff.

Notes

This position may be filled as either a career-track or career appointment based upon experience. A career-track appointment is a one-year term appointment that may be renewed and/or converted to career within 5 years based on performance, funding, and continued operational need.

Effective January 1, 2011, all National Laboratory employees will be subject to a two year pay freeze. This position falls under this provision for Lawrence Berkeley National Lab's fiscal years: 2012-2013 (October 1, 2011 - September 30, 2013).

How To Apply

To apply from this page, click the "Apply Now" link (above), and follow the on-line instructions to complete the application process. As part of the online application process, please submit a single attachment that includes both your resume or CV and a statement of your research interests. Please be sure to reference where you found out about the position.

Berkeley Lab is an affirmative action/equal opportunity employer committed to the development of a diverse workforce.

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8. Computational Post Doctoral Fellow: Lawrence Berkeley Laboratory, Berkeley, CA

Job Title:Computational Post Doctoral Fellow-Revised 10/19/10

Req Number:25041

Division:Environmental Energy Tech

Department:Building Technologies

Lawrence Berkeley Laboratory is providing solutions to scientific problems! Are you someone who can make a difference on our team?

We are currently seeking a Computational Post Doctoral Fellow to join our Environmental Energy Technologies Division. As a part of the Building Technologies department, the person in this role will develop the next generation of building energy modeling, simulation and analysis tools for the design and operation of low energy buildings.

The Engineering Post Doctoral Fellow will:

Conduct research and implement software that enables modeling, simulation and analysis of building energy and control systems in support of the design and operation of very low energy buildings. Develop and implement object-oriented equation-based simulation models of building energy systems and their control algorithms. Link domain-specific simulation programs to each other, and conduct simulation-based studies to analyze the performance of integrated building control algorithms.

Qualifications:

Recent PhD in mechanical engineering, computer science, architectural engineering or a related building science field. Expertise in thermal sciences, controls and system simulation. Experience in the use or development of mathematical models for building energy simulation is desired. Demonstrated knowledge of one or more programming languages, preferably Modelica, C/C++, Java and Fortran. Experience in using either whole building energy analysis programs (such as EnergyPlus, TRNSYS, DOE-2, ESP-r) or solvers for nonlinear systems of algebraic and differential equations (Dymola, Simulink, EES). Excellent verbal and written communication and presentation skills.

Notes

This is a full-time, one year appointment with the possibility of renewal based upon performance, business needs and continuation of funding.

How To Apply

To apply from this page, click the "Apply Now" link (above), and follow the on-line instructions to complete the application process. As part of the online application process, please submit a single attachment that includes both your resume or CV and a statement of your research interests. Please be sure to reference where you found out about the position.

Berkeley Lab is an affirmative action/equal opportunity employer committed to the development of a diverse workforce.

25041

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9. Multiple Positions: Federspiel Controls, SF Bay Area & East Coast

Federspiel Controls, SF Bay Area & East Coast US

Federspiel Controls is the leader in dynamic energy management systems for data centers and large commercial buildings. We have proprietary, advanced, artificial intelligence technology that is quickly installed and delivers significant reductions in energy use while improving reliability and operating margins. Federspiel is a privately-held firm and is committed to green energy solutions that make for a more sustainable planet.

The company is seeking experienced professionals who are passionate about energy management, fit well into a collaborative, supportive get-it-done-right culture, and are excited about working in a high-growth company with unlimited prospects. Positions are listed below. Further detail and email address to apply can be found at <http://www.federspielcontrols.com/careers.php>

Energy Efficiency Analysts

Locations: SF Bay Area, East Coast

Focus: Technical customer relationship during pre- and post-sales cycle

Qualifications: Strong energy efficiency experience (HVAC, control systems) and familiarity with database analytics applications (MATLAB, SQL Query)

Sales Representatives

Locations: Major Metros throughout US

Focus: Executive solution selling to Fortune 500 data centers

Qualifications: Highly successful career selling enterprise software

Senior Quality Assurance Lead

Location: SF Bay Area

Focus: Lead the design and implementation of QA systems for testing and releasing our mission critical, energy management software

Qualifications: This job requires previous experience in a lead QA role and demonstrated leadership capabilities. Experience with HVAC and control systems would be a huge plus, as would advanced math skills.

Senior Control Engineer

Location: SF Bay Area

Focus: You'll be a key contributor to our core technology team, developing the next generation of advanced control, optimization and diagnostics algorithms, which provide the artificial intelligence foundation of our enterprise energy management systems.

Qualifications: You'll need to know MatLab and have a background with some of the following: C, C++, Java, Python, Lua, and Go. An advanced degree in Computer Science, Engineering, or Math is probably required.

User Experience Lead

Location: SF Bay Area

Focus: Lead the design of a new, from the ground up, next-generation user experience for our enterprise energy management systems.

Qualifications: You'll need to have a proven track record with user experience projects as well as being a competent pixel artist/polisher. You must have mastery of Photoshop and Illustrator. Experience with SVG, 3D modeling, animation, and rendering would be a huge plus.

Programmer with Web UI Experience

Location: SF Bay Area

Focus: Develop energy management software with a focus on our next-generation web-based user interface.

Qualifications: Linux, C, C++, Python, Lua, Go, HTML5, CSS, WebGL/OpenGL, Javascript, math skills and SQL a plus

Programmer

Location: SF Bay Area

Focus: Develop multiple aspects of our energy management software.

Qualifications: Linux, C, C++, Python, Lua, Go, math skills and SQL. Breadth of skills and flexibility important.

Manager, Data Center Solutions

Location: SF Bay Area

Focus: P&L;ownership of company product line

Qualifications: Strong high technology PM track record at early-stage, high growth company

Implementation Project Manager

Location: SF Bay Area

Focus: Supervise and install large-scale deployments of our advanced energy management system, including management of the customer relationship

Qualifications: Successful experience with simultaneous projects spanning multiple sites. Experience with installation and support of database-driven applications.

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10. Senior Scientific Engineering Associate : Lawrence Berkeley Lab , Berkeley, CA

Job Opportunity in Building Technologies at Lawrence Berkeley Lab - Develop Energy-Efficient Glazing, Shading & Facade-Related Technologies and Systems

The Building Technologies Department seeks a Senior Scientific Engineering Associate to develop energy-efficient glazing, shading and facade-related technologies and systems for very low Energy Buildings using simulation tools, lab testing and field studies and then work collaboratively with industry to accelerate widespread market

adoption of these technologies and systems. Details at: <http://jobs.lbl.gov/details.asp?jid=25518&p=1>.

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11. Intern: International Council on Clean Transportation , San Francisco, CA and Washington, DC

Please circulate these position descriptions to anyone who you think would be interested. The positions are in our San Francisco and Washington DC offices. The electric vehicle internship, working with me, may be combined with other passenger vehicle work to increase the hours from half time to full time over the summer.

<http://www.theicct.org/category/positions/>

The goal of the International Council on Clean Transportation is to protect public health, minimize climate change and improve quality of life for billions of people as the world’s transportation infrastructure grows.

*

12. Intern: International Council on Clean Transportation , San Francisco, CA and Washington, DC

Please circulate these position descriptions to anyone who you think would be interested. The positions are in our San Francisco and Washington DC offices. The electric vehicle internship, working with me, may be combined with other passenger vehicle work to increase the hours from half time to full time over the summer.

Thanks!

Ed

<http://www.theicct.org/category/positions/>

The goal of the International Council on Clean Transportation is to protect public health, minimize climate change and improve quality of life for billions of people as the world’s transportation infrastructure grows.

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13. Energy Summer Associate (Internship): Navigant, Nationwide

Navigant (NYSE: NCI) is a specialized, global expert services firm dedicated to assisting clients in creating and protecting value in the face of critical business risks and opportunities. Navigant professionals combine technical expertise in Disputes and Investigations, Economics, Financial Advisory and Management Consulting, with business pragmatism in the highly regulated Construction, Energy, Financial Services and Healthcare industries to support clients in addressing their most critical business needs. The Company has more than 1,600 professional consultants and more than 2,100 total employees, with a geographic presence in over 40 cities globally. Navigant Consulting has been recognized by BusinessWeek magazine as one of the Top 50 Best Internships and one of the Best Places to Launch a Career. Visit www.navigantconsulting.com. Position: Energy Summer Associate (Internship) Location: San Francisco, CA Practice: Navigant’s Energy Practice includes more than 270 experts focused on issues across the entire energy value chain including renewables, climate change, energy efficiency, demand response, emerging technologies, generation, resource procurement, transmission, markets, performance improvement, fuel sourcing, rates and regulation. Position Summary: The Summer Associate will be part of a team that assists leading energy-related organizations (including utilities, energy companies, government organizations and equipment suppliers) create innovation and exploit technology across the full spectrum of their activities, from setting strategy to developing and deploying cutting-edge products and

applications. This individual will assist the team by: - Assessing technologies and analyzing technology trends - Modeling the cost and performance of advanced technologies - Developing technology strategies for utilities, government, energy companies, and equipment suppliers - Supporting the design and implementation of technology management processes (including portfolio management, technology sourcing, and R&D;management) - Building new technology deployment and commercialization strategies - Communicating solutions and new strategies to clients through technical reports and presentations

Essential Duties and Responsibilities: This individual will provide detailed fact finding, research, and analysis on energy-related activities; perform technology assessments; statistical and economic analyses; data collection and spreadsheet creation and management; prepare reports, presentations and other documents for clients; and work effectively with colleagues and client staff as part of a project team, work independently as needed.

Basic Qualifications: - Working toward a MS degree in an engineering or science discipline - Strong interest in one or more of the following areas: energy efficiency, renewable energy, advanced technologies, and residential and commercial building energy use. - Outstanding analytical and problem-solving skills - Strong verbal and written communication skills - High degree of self-confidence and determination - Highly developed organization and management skills - Ability to manage multiple time-sensitive priorities without diminished effectiveness - Demonstrated proficiency with spreadsheets, databases, word processing, and slide presentation software - Experience developing and using analytical models and simulations

EOE M/F/D/V Interested students who apply via this link: <https://navigantconsulting.recruitmax.com/MAIN/careerportal/default.cfm?szUniqueCareerPortalID=e1cb5ed7-9ae5-4c31-b40c-9d0c0bcc4b54>

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14. Facade Engineer: Arup - Los Angeles Office

Job Title: Facade Engineer
 Location Los Angeles, CA, US
 Discipline: Facade
 Grade: Grade 4
 Job Overview

Role

Our Los Angeles office is seeking an experienced Facade Engineer who will be responsible but not limited to the following responsibilities:

- Participate and actively contribute to design workshops, where cladding solutions are explored and determined. Workshops will be with architects and fellow professionals and with the cladding industry.
- Producing specifications and reports, and coordinating the work of others.
- Commenting on cladding industry submittals.
- Witnessing testing and preparing associated technical reports.
- Carrying out factory visits, site inspections and preparing associated technical reports.
- Supervising and coordinating the work of other team members and coordinating work with building professionals of other disciplines.
- Communicating with clients to establish their needs, and maintaining a dialogue throughout the project.
- Managing project teams to ensure production of deliverables to agreed timelines and within budget.
- Providing technical guidance and mentoring to junior members of the team

Job Requirements

- Design skills associated cladding and envelope detailing.
- Free hand sketching skills are often useful in developing ideas and explaining concepts. Such sketches are often included in our tender information packages.
- Experience of 3d computer modeling packages/2-D CAD is desired, but not essential.
- Excellent communications skills (both written and verbal).
- Ideally degree qualified in architecture or engineering (but not essential), or approaching an appropriate professional qualification.
- Cladding industry experience is desirable, but not essential.
- Able to understand the balance of priorities on differing projects.
- Able to quickly develop successful client relationships.
- Ability to work under pressure and meet strict deadlines.
- Planning and organizational skills.
- Be commercially aware.

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15. 2011 Summer Internship: Energy and Environmental Economics, Inc. (E3)

2011 Summer Internship Program at Energy and Environmental Economics, Inc. (E3)

E3 is a San Francisco-based economics and engineering consulting firm specializing in the electric power industry. E3's areas of expertise include transmission, rate design, integrated resource planning, energy efficiency, renewable energy, distributed generation, and climate change policy. For more information, see www.ethree.com.

The Summer Internship Program at E3 is designed to provide an opportunity for top graduate students to work on emerging energy topics alongside our staff of industry experts. Masters and Ph.D. candidates in science and engineering, economics, business, and policy are all encouraged to apply. The program is highly selective. Ideal candidates will combine enthusiasm for their topics, academic excellence, and relevant work experience.

Successful applicants may choose from a range of topics, and are expected to develop a stand-alone, publishable research product over the course of the summer. Interns will also contribute to active consulting engagements. The approach is designed to achieve the following:

- ☐ Provide students with the opportunity to work on their selected topics in a professional consulting atmosphere in which their research can be put into immediate practice;
- ☐ Provide students with an opportunity to develop a research 'deliverable' that they can use as the basis of future research, publications, and applications;
- ☐ Provide E3 an opportunity to work with top students who may be interested in consulting careers after graduation.

Application Process: Please send the following application materials in electronic form to internships@ethree.com no later than March 18, 2011:

- ☐ E3 Internship application page (Word document is attached in email announcement or can be found at <http://www.ethree.com/careers/internships.html>)
- ☐ Cover letter
- ☐ Resume
- ☐ One faculty reference (name/position, phone and email)
- ☐ Unofficial transcript
- ☐ Research proposal:

Review the list of selected topics (next page), and write no more than a page describing how you would approach the project you would like to spend the summer working on. The project

proposal should give us an idea of what methodology and potential data sources you propose to use. The project proposal will be treated as a preliminary starting point and may change during the course of the internship based on feedback from E3. However, a strong internship application will provide enough detail to demonstrate that you have some grounding in your chosen topic area, and will give some indication of your analytical thought process. Depending on the number of applications received, we will conduct either in-person or telephone interviews. Successful internship applicants will be notified by April 8, 2011 and two interns will be selected.

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Stipend

Graduate student interns earn a stipend of \$3,000 per month. Summer interns are not regular employees of E3.

E3 Location and Logistics

E3 is located in San Francisco's Financial District. Interns are expected to work during E3's regular business hours, which are 9am to 6pm.

Project List

The following projects relate directly to on-going research at E3, and we have a mentor available for each area. Research proposals should reflect one of these topics. Topics not on the list below may be considered if we receive exceptional proposals and can identify an E3 mentor to support the intern in developing the 'deliverable.' If you would like to propose a different topic, email a short description to internships@ethree.com to learn whether there is a fit.

Modeling California's cap and trade policy. In December 2010, the California Air Resources Board approved draft cap and trade regulations under AB32. The proposed regulations affect many aspects of market design, from capped sectors to carbon offsets to permit allocation. The goal of this project is to gain a better understanding of how the proposed regulations will affect the emissions and emissions reduction requirements faced by each sector, for example by comparing the quantity of permits and offsets expected from the proposed regulations to forecasts of sectoral emissions. Ideal candidates would combine California policy and regulatory knowledge with energy, GHG, and economic modeling skills.

Strategic implications of shale gas. Recent shale gas discoveries in North America have dramatically increased resource potential estimates and lowered futures prices for natural gas, a development that some hail as an opportunity to increase natural gas use as a "transition" fuel for reducing GHG emissions. This project will explore the strategic implications of a long-term increase in low-cost natural gas supplies in the US, incorporating possible stranded infrastructure costs for "transitional" generators and impacts on the development of renewable energy markets. Smart grid performance, cost, and benefits. The "smart grid" has attracted interest and investment, but rigorous analyses of the costs and benefits are in short supply. This project would include a survey level analysis of different smart grid technologies and an assessment of their potential value to the electricity system. An example case study is provision of voltage support, which might be provided by capacitors, inverters, distributed generation, energy storage, and/or load management. The analysis would assess the opportunities, barriers, costs, and benefits for each of these approaches as deployed by utilities, energy service providers, or retail customers. Capacity value of renewable generation. Renewable resources can provide generating capacity to help utilities meet peak load requirements. However, under high penetration of renewables, particularly solar, the hour in which the "net peak" load occurs – that is, the hour with the highest need for dispatchable generation – could shift to evening hours during which little or no renewable output is available. California's current "Net Qualifying Capacity" (NQC) rules do not recognize this phenomenon. This project will evaluate the strengths and weaknesses of the current NQC rules

in cases with high renewables penetration, and develop a framework for altering the NQC rules to better reflect the operating performance of renewables under high penetration.

Customer choice. Community Choice Aggregation, Direct Access, and the formation of municipal utilities all offer California retail customers the possibility of purchasing electricity from a provider other than their investor-owned utility (IOU). This project will investigate key questions surrounding retail access. What IOU customer classes would benefit from retail access? How should IOU departing load charges – the charges that departing customers must pay to avoid saddling remaining customers with excessive costs – be determined? How should above-market costs of utility power purchase agreements for relatively expensive renewable energy to meet RPS requirements be allocated?

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16. Full-time Energy Consultant: Energy and Environmental Economics, Inc. (E3)

Job Opening: Full-time Energy Consultant Position

Energy and Environmental Economics, Inc. (E3), an economics and engineering consulting firm in downtown San Francisco specializing in the electric energy industry, is seeking an Energy Consultant to join our team.

E3 is a recognized leader in energy economics and policy analysis. Our practice areas span integrated resource planning, energy efficiency, climate change economics and policy, and renewable energy, providing support to both the supply and the demand sides of the electricity industry. Some of the projects our team is working on:

- ☐ Supporting the implementation of the California Renewable Energy Standard
- ☐ Valuing the cost-effectiveness of energy efficiency and building standards
- ☐ Identifying market opportunities and regulatory hurdles for emerging technologies
- ☐ Testing the economics and business case for smart grid and energy storage
- ☐ Calculating the effectiveness and cost of policies to reduce greenhouse gases
- ☐ Designing retail customer rates and wholesale transmission tariffs

Our practice areas are described further on our website at www.ethree.com.

Founded in 1989, E3 complements its comprehensive knowledge of the industry’s business practices with state-of-the-art analysis techniques, innovative software development, and extensive publications in scholarly journals. Our clientele consists of approximately 1/3rd U.S. and international energy utilities, 1/3rd generation companies, energy service providers, and industrial customers, and 1/3rd regulatory commissions, government agencies, and law firms. E3 has a productive, efficient, and enjoyable work environment. As a small firm, we are looking for employees able to work both independently with minimal direction and also within a team. Many projects will require developing creative solutions to complex analytical problems, along with careful attention to detail, accuracy, and client needs.

Energy Consultant Primary Responsibilities

- ☐ Project research and information/data gathering
- ☐ Extensive use of spreadsheets and engineering-economic models
- ☐ Presentation preparation and delivery
- ☐ Report writing and editing
- ☐ Marketing and business development
- ☐ Regulatory research and support

- ☑ Demonstrated interest in energy analysis, economics, and policy
- ☑ Advanced degree in engineering and/or economics or related technical field
- ☑ 3-5 years experience in energy-related area
- ☑ Strong quantitative, analytical, and statistical skills
- ☑ Very high proficiency in Microsoft Excel
- ☑ Proficiency in SAS and/or Analytica a plus
- ☑ Ability to write and communicate technical analyses clearly and concisely
- ☑ Proficiency in Microsoft Word and Power Point
- ☑ Ability to work independently
- ☑ Desire to work in a small office environment

Compensation

E3 provides competitive compensation that is commensurate with experience and performance.

Application Process

Please include the following materials in your application:

- ☑ E3 Associate or Consultant Application page (Word document attached to email announcement or can be found at <http://www.ethree.com/careers/positions.html>)
- ☑ Cover letter
- ☑ Resume

References and writing samples may be requested at a later stage in the application process.

Submissions may be made to:

recruiting@ethree.com

No phone calls please.

Applications will be reviewed on a rolling basis.

*

17. Full-time Energy Associate : Energy and Environmental Economics, Inc. (E3)

Job Opening: Full-time Energy Associate Position

Energy and Environmental Economics, Inc. (E3), an economics and engineering consulting firm in downtown San Francisco specializing in the electric energy industry, is seeking an Energy Associate to join our team.

E3 is a recognized leader in energy economics and policy analysis. Our practice areas span integrated resource planning, energy efficiency, climate change economics and policy, and renewable energy, providing support to both the supply and the demand sides of the electricity industry. Some of the projects our team is working on:

- ☑ Supporting the implementation of the California Renewable Energy Standard
- ☑ Valuing the cost-effectiveness of energy efficiency and building standards
- ☑ Identifying market opportunities and regulatory hurdles for emerging technologies
- ☑ Testing the economics and business case for smart grid and energy storage
- ☑ Calculating the effectiveness and cost of policies to reduce greenhouse gases
- ☑ Designing retail customer rates and wholesale transmission tariffs

Our practice areas are described further on our website at www.ethree.com.

Founded in 1989, E3 complements its comprehensive knowledge of the industry’s business practices with state-of-the-art analysis techniques, innovative software development, and extensive publications in scholarly journals. Our clientele consists of approximately 1/3rd U.S. and international energy utilities, 1/3rd generation companies, energy service providers, and industrial customers, and 1/3rd regulatory commissions, government agencies, and law firms. E3 has a productive, efficient, and enjoyable work environment. As a small firm, we are looking

for employees able to work both independently with minimal direction and also within a team. Many projects will require developing creative solutions to complex analytical problems, along with careful attention to detail, accuracy, and client needs.

Energy Associate Primary Responsibilities

- ☐ Project research and information/data gathering
- ☐ Maintaining and developing spreadsheet models
- ☐ Developing clear presentations of research methodology and results
- ☐ Technical and statistical data analysis
- ☐ Report writing and editing
- ☐ Other project support as required

Page 2 of 2

Minimum Requirements

- ☐ Demonstrated interest in energy, economic and policy analysis
- ☐ Degree in engineering and/or economics or related technical field
- ☐ 0-3 years experience
- ☐ Very high proficiency in Microsoft Excel
- ☐ Proficiency in SAS and/or Analytica a plus
- ☐ Ability to write and communicate technical analyses clearly and concisely
- ☐ Proficiency in Microsoft Word and Power Point
- ☐ Ability to work independently
- ☐ Desire to work in a small office environment

Compensation

E3 provides competitive compensation that is commensurate with experience and performance.

Application Process

Please include the following materials in your application:

- ☐ E3 Associate or Consultant Application page (Word document attached to email announcement or can be found at <http://www.ethree.com/careers/positions.html>)
- ☐ Cover letter
- ☐ Resume

References and writing samples may be requested at a later stage in the application process.

Submissions may be made to: recruiting@ethree.com

No phone calls please.

18. Solar Interconnect Engineer: ALTA Devices, Inc. Santa Clara

The Solar Interconnect Engineer is responsible for the development of materials and processes for fabrication of PV modules

The Solar Interconnect Engineer will be an integral part of the product development team in a dynamic startup environment, and will be responsible for identifying materials and developing processes for backend fabrication of PV products. The successful candidate, with a strong background in electronic packaging will define and optimize processes and materials for solar interconnects. The engineer will design and execute Design of Experiments, develop reliability testing methods, diagnose and troubleshoot failures and improve the overall performance of solar cell assemblies. In conjunction with equipment engineers, he/she will deploy and qualify automation solutions, and enable transitioning technology to Alta's first manufacturing line.

Knowledge, Skills, and Qualifications:

- -Advanced degree in Materials Science, Mechanical Engineering, Chemical Engineering, Electronics/Electrical Engineering or related discipline, or equivalent experience
- - Experience with new package process/module development in semiconductor/solar industry
- - Experience with interconnect materials, dispense tools and processes
- -Familiarity with DOEs and reliability qualifications
- -Familiarity with solar industry, issues of solar module processing, and product certification procedures is a plus
- -Familiarity with cell and module IV, PL, and EL testing, and environmental testing.

Resumes can be sent to lailam@altadevices.com

19. Research Fellow, Energy and Climate (Beijing-based)

The Carnegie–Tsinghua Center for Global Policy is a joint U.S.–China research center based at Tsinghua University in Beijing, China. The Center brings together senior scholars and experts from China, the United States, and the international community for collaborative research on common global challenges..

The Carnegie-Tsinghua Center for Global Policy is seeking to hire a full-time or a visiting Research Fellow with experience in energy and climate research, policy development and economics in China and Asia. The researcher will be based at the Carnegie-Tsinghua Center for Global Policy in Beijing, China and will report to both the Center’s Director in Beijing as well as Carnegie’s Energy and Climate Program Director in Washington, D.C.

The ideal candidate should have a substantial record of policy-relevant research and writing; proven ability to communicate effectively with energy and climate policy communities; a Ph.D., J.D., or equivalent preferred; post-educational work experience; as well as fluency in Mandarin Chinese and English. The ability to write and publish in both English and Chinese will be highly regarded. The researcher will be expected to organize periodic events and to produce written products on behalf of the Center. The Carnegie-Tsinghua Center will offer the successful applicant a competitive salary and a comprehensive benefits package.

Please include a cover letter specifying primary areas of expertise. Candidates with substantial research experience in either energy economics in China and Asia, climate research and policy development, or both, are encouraged to apply.

Please attach your resume/CV in Chinese and English to yanyanceip@yahoo.com by April 10th, 2011.

20. Transportation & Energy Engineer/Scientist: TIAX LLC, Irvine and Cupertino, CA

We seek individuals to work for TIAX in one of the following two possible capacities: 1) Staff Engineer / Scientist, or 2) Senior Engineer / Scientist. The final determination as to the position filled will depend on the qualifications of available candidates, and other factors. TIAX’s salary and benefits package are highly competitive and are commensurate with the winning candidate’s experience and the position being filled.

The available positions are in TIAX’s Transportation & Energy Systems group, which works with public and private clients to analyze and implement energy, greenhouse gas, and air quality solutions involving advanced transportation technologies and alternative fuels. The Irvine position will be focused in the near-term on air quality impacts of the goods movement in California, including working on cutting-edge, multi-million dollar programs to reduce emissions from heavy-duty diesel vehicles in California. The Cupertino position will support a variety of projects involving emissions assessments, energy analyses, advanced technology evaluations, and

policy analyses. Recent topics encountered in both Irvine and Cupertino office include: alternative fuels and infrastructure, fuel cell and hybrid-electric light- and heavy-duty vehicles, advanced diesel technologies such as NOx and PM after-treatment devices, and greenhouse gas reduction incentives.

The Staff Engineer or Senior Engineer will perform engineering assessments of low-emission technologies and fuels including well-to-wheels analyses, develop analysis tools, collect and analyze technical data, write technical reports and presentations, meet with clients, and occasionally provide engineering services in the field. Both positions have task or project management responsibilities and significant opportunities for career development.

A. BS/MS degree in engineering or related field; 0-3 years of professional experience assessing, analyzing, and/or developing advanced energy technologies or air pollution control strategies in mobile or stationary source applications. Excellent written and verbal skills, with fluency in English and proven ability to work effectively with staff, clients, and the general public. Proficiency with MS Word, MS Excel, and MS Power Point. Eagerness and capacity to learn new skills, take on increasing responsibility, and work with minimal supervision. Experience in development of tools and models will be beneficial.

B. Additional Desired Qualifications for Senior Engineer / Scientist

MS or PhD in engineering or related discipline with 3-10 years of experience. At least two years of experience in project management.

Jeffrey Rosenfeld, Senior Technologist
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ABOUT TIAX LLC

TIAX LLC is a collaborative R&D company. We help our clients accelerate their innovation—linking laboratories to markets to create value for business and improve people's lives. Formed from Arthur D. Little's Technology & Innovation business, TIAX builds on a rich history of collaboration and client success that spans more than 100 years. By integrating business, technology and hands-on laboratory expertise we are sharply focused on implementation and creating sustainable impact for our clients. TIAX has major laboratory facilities at its Cambridge Massachusetts headquarters, and is ISO 9001 registered. We operate California offices in Cupertino and Irvine, with focal areas that include a variety of fields within environmental protection, energy and power generation. These include:

- Emissions Control Technologies
- Advanced Diesel Propulsion Technologies
- Hybrid Electric Propulsion Technologies
- Alternative Fuel Engines and Vehicles
- Hydrogen and Fuel Cells
- Distributed Generation and Micropower

For more information, visit our website at www.tiaxllc.com.

21. Energy & Environment EcoVillage Internship, DancingRabbit, NE Missouri

Solar Thermal - Biomass - Combined Heat and Power - Renewable Energy Deadline to Apply: April 1, 2011
Contact: Tony Sirna - engineering-internship@dancingrabbit.org

Dancing Rabbit (www.dancingrabbit.org <<http://www.dancingrabbit.org/>>) is offering two, 3-month summer research internships in environmental engineering, researching the feasibility of a solar thermal and biomass

combined-heat-and-power system for producing thermal energy and renewable electricity for our village.

Dancing Rabbit (DR) is an ecovillage of 50 people with plans to grow to be as many as 500. The village is powered completely by solar and wind power with all spaces heated by passive solar and wood. We are beginning the design on a new community building scheduled to break ground in 2012 and we will need a source of heat for this new building.

Concurrently we are preparing to install a 35kW wind turbine and a village-wide electric grid to connect our stand-alone photovoltaic/wind systems. This new power source will provide power for future homes, electric vehicles, as well as commercial and small-scale industrial spaces. We would like to add a biomass-fueled electric generator to our portfolio of renewables so that we might provide for power when sun and wind are not sufficient.

Combining these needs, we envision a system that collects thermal energy from the sun, supplemented by a biomass fired boiler which together power electricity generation with resultant heat going to meet the common house's heating requirements.

We are seeking two interns for 3 months this summer to research the feasibility of developing a solar-thermal/biomass-fueled combined heat and power generator at Dancing Rabbit. The goal is to analyze the technology options for small scale solar thermal energy production (parabolic trough, parabolic dish, lenses, reflectors, evacuated tubes, etc.), thermal storage (oil, molten salt, phase change material, etc.), biomass fuel (pelletized waste wood, pelletized prairie grasses, local sustainable forestry, biogas, etc.), and combined heat and power generation systems. In addition, interns will investigate the options and technologies for appropriate uses for thermal energy including space heat, domestic hot water, cooking, heated greenhouses, refrigeration and cooling, etc.

At the end of the project the interns will have produced a paper suitable for publication on the Dancing Rabbit website (and potentially other locations), outlining the technological feasibility and the financial and ecological costs and benefits of the various options. We expect to begin implementation of some version or portion of the best options starting in 2012.

The interns will be supervised by Tony Sirna, Dancing Rabbit co-founder, member of DR's Common House Design Committee, and manager of the BEDR Power Co-op and Wind Turbine project. Tony has a computer science degree from Stanford University. Interns will be expected to work 30 hours per week on the research project with other time available to explore other projects at Dancing Rabbit such as natural building (strawbale, cob, etc.) organic gardening, permaculture, solar electric installation, and ecovillage design and planning. You will also be immersed in the social fabric of the Dancing Rabbit community with opportunities to participate in things like ultimate frisbee, parties, games, musical events, dances, and more.

You will be provided food and a shared room in Skyhouse, a 6-bedroom strawbale home. Food is primarily vegan, organic, homegrown or local, and seasonal. Interns will be expected to help out with cooking and cleaning chores as we all do in Skyhouse and Dancing Rabbit. Life at Dancing Rabbit can be intense and simultaneously challenging and rewarding. You will learn much more than engineering in your time at DR, both in terms of ecological sustainability and community living.

An ideal candidate would be:

- working towards, or have completed, a bachelor's, master's, or PhD in engineering
- self-motivated, responsible, and organized

- able to work well with a team and independently
- a clear communicator, both in writing and orally
- a fast learner, capable of quick and detailed analysis of complex subjects
- skillful in finding information from the internet
- experienced in the use of spreadsheets and doing data analysis
- passionate about sustainability and ecological technology
- excited about community living
- excited to learn about eco living and try new things
- Ideally interns would be able to bring their own laptop computer for use during the internship.

Interns will spend approximately 3 months at Dancing Rabbit working on this project. Starting date is flexible but we hope to have both interns here primarily at the same time.

We are actively seeking a diverse array of candidates and are very interested in candidates traditionally underrepresented in engineering.

This project is funded by Dancing Rabbit's 501c3 non-profit and so funds are limited. **These internships are set up as work in exchange** for learning and room and board, so no compensation is available. All of the interns' basic expenses will be covered while at Dancing Rabbit, but you would be responsible for travel costs to and from DR (or our nearest train station). Minor expenses for things like movies, snacks or special foods, alcohol, etc. are not covered, but are usually quite minor given the nature of our community.

If you are interested in this position please contact us at engineering-internship@dancingrabbit.org for an application or if you have questions.

Tony Sirna

Dancing Rabbit Ecovillage: www.dancingrabbit.org <<http://www.dancingrabbit.org/>>

Intentional Communities: www.ic.org <<http://www.ic.org/>>

22. Energy Services Products Summer Intern, Solar City, San Mateo, CA

SolarCity®, a national leader in solar power system and energy efficiency design, financing, installation, monitoring and related services, was founded with the mission to help millions of homeowners and businesses adopt solar power, protect themselves from rising electricity costs and protect their environment from polluting power sources. The company's first-of-its-kind SolarLease® offering makes it possible for homeowners to switch to clean, solar power for typically less money than they currently pay for electricity. SolarCity also recently launched a new portfolio of energy efficiency offerings alongside of its PV products. SolarCity's 1000+ employees currently serve more than 10,000 customers in Arizona, California, Colorado, Maryland, Massachusetts, New York, Oregon, Pennsylvania, and Texas. More information is available at www.solarcity.com.

The Energy Services Products Summer intern will work closely with the Products and Project Finance teams to support the development of new product offerings with a focus on SolarCity's a new grid interactive energy storage product. In this full-time Summer role you will:

- Be a central member of our product teams
- Analyze competitive products and technologies in the battery and energy storage marketplace
- Identify and create financial solutions for new product offerings and geographic market needs
- Quantify potential revenue sources and incentives for product offerings

- Recommend priority of product features and pilot markets
- Support sales the team in generation of sales proposals for pilot product offering
- Coordinate with the Government Affairs team to evaluate and recommend federal, state and local policy best practices
- Ad hoc analysis including market trends

Requirements

- Bachelor's degree from a top-tier school, ideally in a quantitative or technical field
- Enrollment in or completion of a top-tier MBA, or energy related engineering program
- Ideally, candidate will have some familiarity with grid storage industry players, technologies, policies, economics, and trends
- Familiarity with project finance principles is a plus