

# Career *currents*

Exploring Today's Energy Careers with the NEED Project

Vol. 4, No. 2 Jan. 2009

*Career Currents provides educators and students with resources to introduce energy careers. Each issue focuses on a different sector of the energy industry. No single issue is meant to be all-inclusive to either the sector profiled or all careers in energy. This issue focuses on professionals working in the fields of energy analysis and human resources.*



## NEED welcomes Guy Caruso to Board of Directors

NEED welcomes Guy Caruso to our Executive Board of Directors. Guy has over 35 years of energy experience, with particular emphasis on topics relating to energy markets, policy, and security.

Guy currently works as a senior adviser in the Center for Strategic & International Studies (CSIS) Energy and National Security Program, having served as executive director of the CSIS Strategic Energy Initiative from 1998 to 2000. CSIS is a private, nonpartisan organization dedicated to providing world leaders with strategic insights on, and policy solutions to, current and emerging global issues.

Prior to rejoining CSIS, Guy served as administrator of the Energy Information Administration (EIA), the statistical agency within the U.S. Department of Energy (DOE) that provides independent data, forecasts, and analyses regarding energy, upon appointment to the job in February 2002 by President George Bush.

He first joined DOE as a senior energy economist in the Office of International Affairs and soon became director of the Office of Market Analysis. Other leadership roles during his tenure at DOE included director of the Office of Oil and Natural Gas Policy in the Office of Domestic and International Energy Policy and director of the Office of Energy Emergency Policy Evaluation. Prior to joining DOE, Guy worked at the Central Intelligence Agency (CIA) as an international energy economist in the Office of Economic Research.

In addition, before joining EIA, Guy served as director of the National Energy Strategy (NES) project for the U.S. Energy Association (USEA). During this time, he spearheaded the USEA publication "Toward a National Energy Strategy," which was released in February 2001 and a follow-up study entitled, "National Energy Strategy Post 9/11," which was released in July 2002.

Guy has also worked at the Paris-based International Energy Agency (IEA), first as the head of the Oil Industry Division, where he was responsible for analyzing world oil supply/demand and developments in the oil industry, and later as director of the Office of Non-member Countries, where he directed studies of energy-related developments.

Guy holds a B.S. in Business Administration and an M.S. in Economics from the University of Connecticut. He also earned a Masters of Public Administration from Harvard University. Guy and his wife, Donna, reside in Virginia. They have two daughters, Dawn and Lisa.

Welcome to the Board, Guy!

## In This Issue

Sponsor Spotlight: ConocoPhillips .....	2
Sponsor Spotlight: Society of Petroleum Engineers .....	3
Career Chat with an International Energy Analyst.....	4-5
Career Chat with an Oil Market Analyst .....	6
Career Chat with a Human Resources Advisor..	6-7
"Wonders of Plastics" Essay Contest .....	8

## Sponsor Spotlight: ConocoPhillips

### The NEED Project

National Energy Education Development  
P.O. Box 10101  
Manassas, VA 20108  
TEL 1-800-875-5029  
FAX 1-800-847-1820  
EMAIL [info@need.org](mailto:info@need.org)  
WEB ADDRESS [www.need.org](http://www.need.org)

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NEED welcomes your questions, comments, and suggestions. Please contact [info@need.org](mailto:info@need.org).

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ConocoPhillips centers its business on one core purpose: to responsibly deliver energy to the world. To do this, the company finds, produces, refines, markets and ultimately supplies energy resources to individuals and businesses worldwide. In addition, ConocoPhillips is working to develop energy sources and new technologies.

Finding energy solutions to meet tomorrow's needs will require the commitment of the next generation. That's why ConocoPhillips has partnered with the NEED Project to equip teachers with tools and information that they can incorporate into daily classroom activities to improve their students' energy knowledge. By fostering energy education and beginning a dialogue in classrooms across the United States, ConocoPhillips hopes to instill in the country's youth not only a desire to learn, but also a desire to be proactive about energy issues.

ConocoPhillips believes that solutions to several long-term energy issues cannot be attained without a heightened energy awareness among today's youth. That's why they have worked with NEED to develop an educational outreach program designed to improve energy education in classrooms across the United States.

During 2008, ConocoPhillips and NEED presented one-day energy classroom workshops for K-12 teachers in 24 cities across 15 states. In addition, ConocoPhillips sponsored training opportunities for educators through workshops at national and regional educator conferences. During 2009, ConocoPhillips and NEED will continue to host one-day energy workshops in 25 cities across 21 states.



*Above, NEED Training Director, Keith Etheridge, leads teachers during a ConocoPhillips sponsored workshop.*

ConocoPhillips has created a free online energy workshop. The videos in the energy workshop teach the fundamentals of energy and demonstrate hands-on experiments to explore the forms and sources of energy that power our country today and will help meet demand into the future. Go to <http://www.conocophillips.com/energyworkshop> to view the online energy workshop.

ConocoPhillips has also created a television commercial featuring NEED. It is currently being broadcast nationwide. In addition, ConocoPhillips is running a print ad featuring NEED in a variety of national publications, including *Newsweek*, the *Wall Street Journal*, *Time*, *Fortune*, and the *New York Times*.

## Sponsor Spotlight: The Society of Petroleum Engineers

Energy4me, an energy education outreach program presented by the Society of Petroleum Engineers (SPE), hosts one-day teacher workshops at select SPE conferences where NEED conducts training using NEED materials. Teachers who attend tour technical exhibits and learn from industry experts. Workshop participants also receive Energy4me's first book for K-12 students, *Oil and Natural Gas*. This is an information-packed book colorfully-illustrated about the story of petroleum and natural gas, and how it shapes our world. Energy4me also provides books for NEED teacher workshops that are sponsored by other organizations or companies.

In 2008, Energy4me distributed more than 6,000 *Oil and Natural Gas* books to teachers, students and schools through teacher workshops, Energy4me speaker programs, and corporate sponsorships. In 2009, the books will be available in five additional languages, including Spanish.



Students learn how petroleum and natural gas shape our world using SPE's Energy4me book *Oil and Natural Gas*.

SPE's 79,000 members in 119 countries are available to serve as speakers for K-12 classrooms and career fairs worldwide. Energy4me is currently working with NEED to reach even more classrooms in 2009. Recognizing that both speakers and educators are busy professionals, Energy4me recently developed the Energy4me Kit with ready-to-go presentations, videos, and classroom activities. Visit [www.energy4me.org](http://www.energy4me.org) for additional program details or to request a guest speaker. The website offers educator resources, including downloadable activity sheets, and information on energy



Teachers attending a one day workshop in Denver tour technical exhibits and talk with industry experts during an SPE conference.

sources and careers. Energy4me also provides senior level executives to address such venues as NEED's national teacher workshops and the U.S. Energy Information Administration's Energy Industry Study Program.

Energy4me is interested in working with other organizations to provide factual, non-biased energy education resources for students, educators and the public through website and printed materials. Please contact [energyped@energy4me.org](mailto:energyped@energy4me.org) if your organization is interested in participating.



## Career Chats: Energy Analysts

*The U.S. Energy Information Administration (EIA), created by Congress in 1977, is the independent statistical agency within the U.S. Department of Energy. EIA's mission is to provide policy-independent data, forecasts, and analyses to promote sound policy making, efficient markets, and public understanding regarding energy and its interaction with the economy and the environment.*

*The agency collects data on energy reserves, production, consumption, distribution, prices, technology, and related international, economic, and financial matters. This information is disseminated as policy-independent data, forecasts, and analyses. EIA publishes long- and short-term energy forecasts. EIA programs cover data on petroleum, natural gas, electricity, coal, renewables and alternative fuels, and nuclear energy. Visit [www.eia.doe.gov](http://www.eia.doe.gov) for more information.*

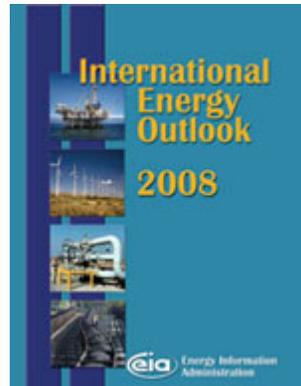
### Linda Doman, International Energy Analyst

Linda Doman works as a Senior International Energy Analyst for the U.S. Department of Energy's Energy Information Administration located in Washington, D.C. Linda has B.A. degrees in Mathematics and Anthropology from Franklin & Marshall College in Lancaster, PA, and a M.S. degree in Statistical Computing from The American University in Washington, DC.

#### *Describe what you do.*

I coordinate publication of the EIA long-term outlook for world energy markets. This assessment is published annually in the International Energy Outlook. The latest edition, the International Energy Outlook 2008 (IEO2008) was

released in June 2008. The outlook provides projections of regional energy supply and demand by energy source through 2030. In addition to the projections of energy use, we also provide a forecast of carbon dioxide emissions related to the combustion of fossil fuels by energy source.



#### *Explain how your work involves law and policy issues relating to the energy industry.*

Because EIA is a policy-neutral organization, we do not specifically set government policy. We do, however, respond to requests received from the Executive and Legislative branches of the U.S. government to assess the impact of various policy proposals on future energy markets. Most of these requests are specific to the domestic energy markets, but given the global nature of energy—especially world oil markets—the impact of changes in policy could have a profound impact on both the United States and the world economies.

One area of particular interest to lawmakers today is what the impact a change in behavior by the Organization of Petroleum Exporting Countries (OPEC) may have on future supplies of petroleum and other liquid fuels. In the IEO2008, we include long-term liquids supply and demand scenarios based on

different future OPEC supply behavior paths.

#### *Did any special course work or training help you gain your current position?*

A strong background in statistics and computer science helped me qualify for a job in EIA's Office of Statistical Standards (now the Statistics and Methodology Group), where I began my career. After several years of working on the agency's model archive program—verifying that all energy forecasting model results released by EIA could be replicated and making sure copies of the model were stored in a safe place in case they were needed (for example, under circumstances of a fatal system crash)—I was offered a position in EIA's long-term forecasting office, working on the international program.

In addition to the mathematical, statistical tools, and computer skills, I firmly believe strong writing skills have helped me advance to my current position. Clearly, the ability to explain the results of a statistical or econometric model to a general audience is just as important as being able to generate numbers using complicated techniques.

#### *What do you think of the energy industry now that you work in it? Would you follow the same career path again?*

Energy is an especially exciting field to be covering today. With the strong price volatility—both on the upside and the downside—seen recently, trying to understand the reasons for the price movements and anticipating their movement into the long-term future has become very challenging. The impact of high energy prices on the potential for alternative fuels, such as the new interest in nuclear

power and the robust growth in biofuels and other renewable energy sources, is proving to be of increasing importance to the world's future energy markets.

Frankly, I never actually planned a career in energy. I simply needed a job after I graduated from college and was looking during a time of recession. The Federal government happened to be hiring Mathematical Statisticians and Computer Scientists, for which I had the necessary academic qualifications. That said, it has always been an interesting and rewarding field to work in and I would not change my decision to stay at the Energy Information Administration.

*Please share some of the opportunities you've had.*

I have had the opportunity to assume responsibility for one of EIA's premiere publications, the International Energy Outlook. It is the Department of Energy's only long-term international energy outlook.

I have had the opportunity to travel as a representative of EIA to Paris, Tokyo, New Delhi, and Beijing, as well as a number of U.S. venues. It has been very valuable to me to interact with international representatives in other parts of the world to get perspective on the different ways we view world energy markets, as well as the commonalities among those of us who work in the field—on the analytical and the industry sides.

I have also had the opportunity to write several articles published on the topic of international energy and have served in the past as a referee for articles submitted to *The Energy Journal*.

*What challenges do you face in your profession?*

Communicating the intricacies of energy markets to people who have only cursory knowledge of (or

interest in) these markets can be frustrating. People tend to want simple explanations of complex issues, which can be very difficult to do.

*Please share some benefits to your profession?*

Energy will continue to be an important part of the U.S. and world economies. As a result, the work I do is not only interesting, but also offers long-term security. With world dependence on fossil fuels, especially petroleum and other liquids, understanding changes in policies, regional economic growth, and geopolitical developments will be key to assessing future trends. The main benefit of being part of my profession is that energy markets continue to change; so the work is almost never boring!

*What is a typical day of work like for you?*

I generally begin by reviewing some of the daily energy publications we subscribe to, to keep on top of current market developments. I answer emails and voice mail that I receive about our international programs from EIA customers (including those from academia, industry, government, and the general public).

When our publication is in production, there are a number of activities that I must see to: making or assessing recent energy model runs; writing text for the IEO publication or reviewing text written by others; presenting preliminary results at internal office briefings within EIA; preparing presentation materials for our annual press conference release of the long-term outlook; and a number of other tasks that—on any one day—will have to be completed to facilitate publication or presentation of the IEO results.

There are also projects that have to be handled on a quick-turnaround

basis, such as addressing Congressional questions about the international energy market outlook, preparing talking points for presentations of EIA material by our management, and reviewing papers prepared outside of EIA that include an international component.

*Do you ever interact with the public?*

People are genuinely interested in global energy these days, so I get a lot of phone calls and emails from people looking for more data or for explanations about the data and forecasts that EIA releases.

*What is the most rewarding part of your job?*

The most rewarding part of my job is when the IEO production cycle is completed and the publication returns from the printer. I get a real sense of accomplishment when I can physically hold the printed edition! We also host a press conference for the IEO each year, and it is always exciting to see what press coverage we get. IEO2008 was actually featured in an opening story for NBC Nightly News this year! It is especially satisfying when I see that the report is quoted in the press or by officials in the Department of Energy or elsewhere.

To gain a deeper understanding of the work of an energy analyst, use NEED's *Energy Analysis* curriculum, at [www.need.org/Guides-Title.php](http://www.need.org/Guides-Title.php). In this unit, students graph data, research historical events, and analyze graphs from the Energy Information Administration's publication, *Energy Perspectives*, to determine and explain energy trends in the U.S.

## Doug MacIntyre, Oil Market Analyst

Doug MacIntyre is the Director of Energy Markets and Contingency Information for the U.S. Energy Information Administration (EIA), in Washington, DC. Doug has a B.S. in Management Science Statistics from the University of Maryland at College Park, and a M.S. in National Resource Strategy from the Industrial College of the Armed Forces, National Defense University (Fort McNair, Washington, DC).



### *Describe what you do.*

I head up a Division of about 15 to 20 people. Our Division's main products are: Short-Term Energy Outlook, Country Analysis Briefs, and the Financial Reporting System products. I also started something called This Week In Petroleum (TWIP) in January 2002 that has become one of EIA's most popular products. My Division contributes to TWIP at least once a month.

While EIA is a policy-neutral organization, we provide data and analysis to policymakers to help inform them in their deliberations. I have provided data and analysis used in much of the energy legislation written over the last couple of decades.

### *Describe your typical day of work.*

I work from 7:00 am to 4:30 pm on a good day. I start off with getting caught up on e-mail, although this usually doesn't take too long as I would have checked my work e-mail several times the previous evening at home. I rarely end up working on something that day that I had previously planned. Usually something comes up that requires my immediate attention.

### *Does this job require any special training?*

Much of what I've learned is from on-the-job training. When I joined EIA, I was the only "young" person, so I became everyone's "assistant", learning much about a diverse set of issues.

### *Do you ever interact with the public?*

I answer phone calls and e-mails from the public, but other than putting out reports on the Internet that people read, my interaction with the public is via the media (print, radio, and TV).

### *Tell us about an exciting experience.*

I have been able to travel overseas and to Alaska on more than one occasion. But by far, the most exciting experiences have been advising high-level policymakers and getting regularly on television, including shows on CNBC. I have briefed both the Secretary of Energy and the Secretary of Commerce. I have also been on CNBC, Bloomberg TV, CNN, and other local television news.

### *What challenges do you face working as an energy analyst?*

Trying to stay current with an ever-changing market, while operating on a limited budget, is a challenge. However, this career provides a lot of motivation to me to be working on oil market issues that affect people on a day-to-day basis.

### *What's the most rewarding part of your job?*

I like that I can help inform people about oil markets and what to prepare for. It is also rewarding getting to know some of the people I have met in the U.S. Government.

### *What does your future hold?*

I see myself as a "lifer" here at EIA, so I suspect I will still be here as I'm probably about 15 years away from retirement.

### *Would you follow the same career path again?*

Analyzing oil markets is very exciting and really connects me to day-to-day real life events affecting many people. I would certainly pick this career again, knowing what I know now.



## Career Chat: Human Resources

### Keats Moeller, Senior Advisor of Recruiting & Staffing

Keats Moeller is a Senior Advisor of Recruiting & Staffing for the ConocoPhillips Company in Houston, TX. Keats holds several degrees: a BBA in Marketing and a MS in Management from Texas A&M in College Station, TX, and a MBA in Finance/Marketing from Southern Methodist University in Dallas, TX.

### *Describe what you do.*

I work in the university recruiting group at ConocoPhillips. I have an exciting job working with, and identifying, the next generation of top talent for ConocoPhillips. I have the opportunity to meet and work with college students from across the nation and around the world.



*Above, Keats Moeller works at ConocoPhillips as a senior advisor in recruiting and staffing.*

ConocoPhillips has an amazing internship program for college students from a variety of disciplines—accounting and finance, marketing, communications, human resources, engineering and geosciences. While college students are at ConocoPhillips for their summer internships, the focus is on a meaningful assignment. However, ConocoPhillips also pairs each student with a mentor and provides learning opportunities, to introduce students to other new hires and to experts in our company. I coordinate speakers for these events on topics such as the energy landscape, sustainable development and learning about different aspects of our company such as exploration, production, and refining, and the importance of communicating our energy policy. In addition, I coordinate community service activities so that our interns are able to participate in a hands-on way.

#### *Describe your typical day of work.*

When I first get into my office in the morning, I review my calendar for the day, then catch up on e-mails and voicemail. From there, my days vary and may include preparing for our university recruiting activities, preparing for our summer interns, or even working with faculty and staff at universities.

#### *Did any special course work or training help you gain your current position?*

There are many ways I prepared for my current job. Throughout school, I took a variety of courses that gave me a broad exposure to business and science. In addition, I got involved in a number of student organizations, which was a great way to build my ability to work in teams and to hold leadership roles. One of the most valuable experiences I had while in school was working in internships in my field of study. Internships gave me the opportunity to get a first-hand look at companies and to apply what I had learned. The great thing was that I was able to make a real contribution to a company—and then when I went back to school, my coursework made even more sense! Once I was in industry, I have had the opportunity to continue learning through each of the jobs that I have held.

#### *Please share some of the opportunities you've had.*

One of the most amazing opportunities has been all of the people that I have met—from college students and new employees to our experienced employees. I've even had the opportunity to travel with the CEO, Vice President and the Controller of our company.

#### *What challenges do you face working in human resources?*

One challenge of my profession is identifying and preparing for the workforce of tomorrow. The energy industry is an exciting and interesting place that is always changing. Students have a number of choices of where to begin their career. My challenge is in sharing the opportunities available in our company and industry!

Visit [www.conocophillips.com/careers/UnivRecruit/index.htm](http://www.conocophillips.com/careers/UnivRecruit/index.htm) for information on university recruiting.

#### *What's the most rewarding part of your job?*

The most rewarding part of my job is working with students. I truly believe in the opportunities that we have to offer at ConocoPhillips. It is exciting to be able to introduce and share our company with our newest employees.

#### *What's the most surprising part of your job?*

One of the most surprising aspects of my job has been to see the number of employees we have who have been at our company for over 20 years—and how engaged these employees are and how willing they are to share their experiences with new and potential employees.

#### *Would you follow the same career path again?*

The energy industry is an exciting place to work. One of the most rewarding aspects is knowing that I am involved in a company that is making a difference in the world we will live in. I feel very fortunate to work with the phenomenal talent that ConocoPhillips attracts.

Careers in energy are interesting and dynamic and I would definitely encourage young people to consider these careers! My advice would be to focus on doing well in school and to get involved in organizations as a way to learn more about teamwork, leadership, and an area of interest. Once you are in a company, your technical skills are important, but so is your ability to interact with others and to build relationships.

*Below, Keats with the 2007 summer interns at a house painting community service project.*



## 2009 “Wonders of Plastics” Essay Contest

The Central Indiana Society of Plastics Engineers (SPE) is sponsoring an Indiana essay contest open to all junior high and high school students. The 500-1000 word essay must be submitted to the local Central Indiana SPE Section by February 2, 2009.

Suggested topics include: Plastics in the environment, Creative use of recycled plastics, What plastic has done for me, How plastics improve our lifestyle, Plastics’ usefulness in society, How plastics benefit humankind, Why the bad reputation of plastics is wrong, and Advantages of plastics in food packaging.

The teacher of the winning entry will be awarded \$300 to be used solely for plastics education.

The winning entry will be personally awarded \$200 from the local Central Indiana SPE Section President in March 2009. In addition, the winning entry at the Section level will be published and publicized in the Section newsletter and forwarded to the Society’s headquarters to compete with winning essays from Sections around the world. The international first prize consists of a \$1,000 honorarium and a plaque for the student and a \$1,000 honorarium for their school. The winning essay will be printed in SPE’s official magazine, *Plastics Engineering*.

Information about the international essay contest is available at <http://www.4spe.org/essay-contest>.

For required submission forms or more information, contact Ray Amos of the Central IN Section Society of Plastics Engineers at [amosr@bsci.com](mailto:amosr@bsci.com) or (812) 829-5385.

