Cleaner fuels for Europe

New campus news

New oil from Indonesia

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Energy. We almost never see it, but it’s essential to human progress. As the world’s population grows and prosperity increases, energy needs are rising. The good news is we’re using energy more efficiently every day, so much so that by 2040, even though the global economy will be about 140% larger than in 2010, energy demand will rise at a much lower rate. The real challenge is supplying the energy needed for progress while reducing greenhouse gas emissions. It’s what 75,000 ExxonMobil employees work to achieve each day. Energy lives here.
The Banyu Urip project in Indonesia is ramping up to produce 165,000 barrels of oil a day by 2015. Story on page 11.

Photo by Timur Angin

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North American energy: 
Creating opportunity, transforming the world

At an energy conference at Oklahoma State University, ExxonMobil Chairman and CEO Rex W. Tillerson described the enormous impacts of recent energy sector innovation.

The extraordinary changes that are occurring in the North American energy sector represent a remarkable story of investment and innovation, ExxonMobil Chairman and CEO Rex W. Tillerson told attendees at the Eighth Annual Oklahoma State University Energy Conference.

“New technologies and techniques pioneered by our industry are enabling us to unlock new conventional and unconventional resources of energy all across North America,” Tillerson said.

A key example is the safe and environmentally responsible development of Canada’s vast oil sands, where new technologies now allow access to some 170 billion barrels of proven oil reserves. “That’s enough energy to fuel today’s North American passenger-vehicle fleet for more than 45 years,” he said.

Tillerson then cited the Gulf of Mexico, where advanced technologies now enable unprecedented offshore exploration and production.

“A generation ago, my generation of engineers worked at drafting tables with hand drawings of design specs for drilling rigs, while geoscientists hand-interpreted seismic shoots. Today, we use high-speed computers to find resources and design rigs that can operate in more than 10,000 feet of water and drill wells five miles below the ocean floor.”

Historic breakthrough

Tillerson said that the most unexpected technological breakthrough has been the integration of hydraulic fracturing and horizontal drilling. “In less than a decade, innovations in this area have completely rewritten what everyone thought they knew about North America’s energy supplies.”

He noted that the results of this technological breakthrough are more than impressive – they are historic. “Since early 2008, U.S. natural gas production is up about 25 percent, and gas reserves are up more than...”
25 percent. To put it another way, these technologies have put within reach enough natural gas to help power the U.S. economy at current demand levels for about a century.”

Innovations on the oil front are also record-breaking. Since early 2011, U.S. oil production is up more than 50 percent, an increase of 2.8 million barrels each day. According to the U.S. Energy Information Administration, U.S. production will expand another 17 percent by the end of 2015.

“In 2013 alone, domestic oil production increased more than the combined increase in the rest of the world. The United States is now the world’s leading producer of oil and natural gas,” Tillerson said.

**Big economic impact**

The new energy supplies are having a tremendous multiplier effect on the economy. Across America, vast new supplies of energy are spurring economic expansion, creating jobs and strengthening the nation’s international competitiveness. Tillerson said that since the recession began in 2008, employment in the oil and gas fields is up 40 percent. “In every one of the 10 states where energy production is on the rise, overall employment growth has outperformed the rest of the nation. And energy-related economic benefits have touched 32 states that do not have direct energy production.”

He cited New York state as an example. Despite the state's moratorium on hydraulic fracturing, New York has more than 44,000 energy-industry jobs, many of which are a direct result of the Marcellus Shale development in next-door Pennsylvania.

The oil and natural gas industry now supports 9.8 million U.S. jobs, he said. The domestic energy sector accounts for $1.2 trillion of the U.S. economy, which is 8 percent of the nation's gross domestic product.

“In 2012 alone, development of shale gas and tight oil contributed more than $63 billion in federal, state and local taxes. That will likely nearly double by 2020, and that's just the contribution of unconventional development,” Tillerson said.

**U.S. as net exporter?**

Tillerson said that new North American energy supplies provide diversity, flexibility and reliability to the global energy portfolio. “U.S. oil reserves are at their highest levels since 1976. And for the first time in nearly two decades, domestic oil production exceeds imports. China has now surpassed the U.S. as the world’s largest importer of crude oil.”

Even more extraordinary, he said, is that the United States is in a position to become a net exporter of energy. “This completely turns on its head the idea of American energy scarcity that has dominated our public policy discussions since the 1970s.”

Tillerson noted that global energy demand will increase about 30 percent over the next 25 years. “That may not sound high when you first hear it, but it will be like adding more than the current energy demand of Russia, India, Africa, Latin America and the Middle East combined.”

He added that when considering the requirements of billions of people around the world, “it is evident that they will need North American energy and innovation in the decades ahead. It is no exaggeration to say that there is a humanitarian imperative in the global effort to expand energy supplies.”

**A new way of thinking**

Tillerson added that a new mindset in public policy thinking will be needed to sustain this historic energy growth. “We need energy policies designed for a new era of abundance, not policies trapped in fear of scarcity. “We must put in place 21st century policies – policies that recognize that both government and industry have a role to play to turn investment and ingenuity into bold innovation and new venture.”

_The Lamp_
The passionate engineer

New Senior Vice President Jack Williams sees unlimited opportunities for companies that excel in cost control, capital efficiency and safety – and that's good news for ExxonMobil shareholders.

New hires are often attracted to ExxonMobil by the opportunities for careers with multiple assignments around the world and learning the skills required for those jobs. Jack Williams was no exception.

Nine years after signing on, however, Williams’ only move had covered just a few floors within Exxon’s offices at 1555 Poydras Street in New Orleans.

“New Orleans in 1987 was the hub of Exxon’s Upstream operations in the Southeast U.S. and the Gulf of Mexico,” recalls Williams. “So much was going on there. The range of drilling and reservoir management challenges was sufficiently extensive that an engineering hire could develop a solid foundation in the Upstream business without having to go elsewhere.”
A pragmatic start
Williams grew up in Harrodsburg, Kentucky, where his father was a church pastor and his mother a teacher in the local schools. “My parents both worked very hard, routinely going beyond their official duties. Whether it was extra tutoring for a student or a visit to the home of someone having troubles, I saw firsthand what total commitment looked like.”

After graduating from high school, he enrolled at his father’s alma mater, Vanderbilt University, and majored in electrical engineering. “My major decision was more pragmatic than passionate. There were no engineers in the family, but math was a natural for me, and I knew that an engineering degree would lead to some good job prospects. And it didn’t hurt that the higher starting salaries would help me pay off my student loans sooner.”

Within weeks of joining Exxon’s Drilling organization in New Orleans, Williams was out on a drilling rig in Poplarville, Mississippi, working under the tutelage of highly experienced drilling engineers and superintendents. “I wrote drill-well procedures and procured the major well equipment. If the procedures were late or something didn’t look right, I heard about it immediately and very clearly. I quickly got my internal clock set on meeting deadlines and being held accountable, and that’s a very good way to start out. Best of all, over my three years in the Drilling organization, I had a caring supervisor and a great group of mentors watching over me.”

Then came the passion
Williams’ passion for engineering and the oil and gas industry bloomed when he moved those few floors down from Drilling to Reservoir Engineering. “Reservoir engineering is at the heart of the Upstream business. I found it extremely satisfying to study a reservoir that might be 10,000 feet deep and covering a couple of square miles and plan how to manage it for maximum economic recovery. Once again, I had some great mentors and a terrific supervisor who also had a passion for reservoir engineering.”

After the first nine years, Williams hit the road with various technical, supervisory, planning and operations management assignments in Texas, Alaska and Malaysia, along with one more visit back to The Big Easy. “We really enjoyed all the places we lived along the way, but our kids’ favorite was Alaska. They all learned to ski at Hilltop Ski Area right there in Anchorage. Believe it or not, that’s where our daughter first discovered competitive swimming – indoors, of course – which she has continued all the way through college. And the summers were just spectacular – the only problem was going to bed at 10 p.m. with the sun still high in the sky.”

In 2007, Williams was named vice president of engineering for ExxonMobil Production Company, followed by his appointment as ExxonMobil Development Company vice president for Asia projects. With the merger of ExxonMobil and XTO Energy in 2010, he became the first president of ExxonMobil’s XTO Energy Inc. affiliate.

Today, as a newly appointed senior vice president of Exxon Mobil Corporation, Williams serves as the Management Committee contact executive for XTO, ExxonMobil Production Company and ExxonMobil Upstream Research Company (URC).

Major progress at XTO
“XTO today looks significantly different,” says Williams. “Since the merger more than four years ago, we’ve completed numerous acreage acquisitions and trades in the country’s most prolific unconventional plays. One acquisition alone increased our acreage in the Bakken shale of North Dakota by 50 percent. We’ve also transferred to XTO some Production Company fields in the United States that have characteristics similar to un-conventionals.”

Williams notes that XTO has 50 rigs running, with 85 percent assigned to liquids development such as in the Bakken and the Permian Basin. That compares with about 20 percent of XTO’s rigs working in liquid plays immediately after the merger. XTO also retains significant acreage in unconventional gas plays and can shift activity back as the demand for natural gas grows. XTO now accounts for nearly half of ExxonMobil’s U.S. liquids production of about 450,000 barrels per day. “And it’s growing at a fast clip. In terms of the mix of what we are drilling, the earnings contribution and the growth prospects, XTO is very well-positioned.”

XTO-URC partnership
Williams says that XTO’s competitive advantage has been made even stronger by the partnership with URC. “It is unique in the industry to have a large, world-class
research organization working alongside a leading producer in the unconventional plays.”

The XTO-URC partnership is bearing fruit. Williams says that the most tangible example is the XFrac completion technique, which enables faster well completions at reduced cost, lower operational risk and a smaller environmental footprint.

“XFrac can save between $500,000 and $1 million per well, and it has the added benefit of using less water.”

Global opportunities
XTO and the unconventional North American plays are just one part of a worldwide array of growing opportunities for ExxonMobil.

“We are expanding our existing profitable production operations off the coast of Russia’s Sakhalin Island, in deepwater fields offshore Nigeria and Angola, in the subarctic offshore Eastern Canada and in the deepwater Gulf of Mexico. New projects are being added in Indonesia and in Western Canada, plus there’s the PNG LNG project in Papua New Guinea that began producing ahead of schedule earlier this year.”

PNG promises decades of earnings for ExxonMobil, Williams says.

“But that will not come without continued diligence and careful operations by Production. For instance, the project extends nearly 500 miles from the wellheads up in the Highlands to the LNG plant on the coast near Port Moresby. That’s a lot of territory to safely and securely operate and maintain for more than 30 years.”

Who will succeed?
Williams notes that it is an exciting time to be in the oil and gas industry. But the difference in who succeeds and who doesn’t will come down to which companies do the best job of operating safely and reliably, controlling costs and being the most capital efficient.

“The good news for ExxonMobil shareholders is that we have a record of success in addressing these challenges that extends back more than a century. And the technology toolbox that we have to support that effort continues to lead the industry. For example, the Production Company has been systematically working to reduce production downtime for more than a decade. As a result, record uptime performance was achieved in 2013, and we are on track to match that benchmark again this year.”

Then there’s the newly added benefit of having ExxonMobil businesses officing together on the new North Houston Campus. (See related story on page 17.)

“It is hard to overestimate the positive impact this will have on our ability to leverage ExxonMobil’s scale to deploy our considerable talent to the most attractive opportunities and most pressing challenges. Our research people will be only minutes away from face-to-face interactions with associates in Production, Exploration or Development, and also Downstream and Chemical employees for further collaboration.

“As we complete our Upstream move to the campus by the summer of 2015, I am convinced that the opportunities for greater productivity and efficiency will enable us to materially grow our competitive advantage.”
The best of both worlds

Darren Woods, Exxon Mobil Corporation senior vice president, has found career satisfaction in applying the critical thinking skills of engineering to running a business in challenging markets.

If you were to ask new ExxonMobil Senior Vice President Darren Woods where he is from, he couldn't give you a simple answer.

“I was born in Wichita, Kansas, but we moved to Texas shortly after, then headed overseas,” says Woods. “My first memories as a child were in South Korea, followed by several years in the Philippines. We came back to Dallas when I was in elementary school, then moved to San Antonio. I spent my middle and early high school years in Hawaii before we returned to Dallas my junior year.”

With all those moves, you might suspect Woods was from a military family, and you would be close.

“My father worked for the Army and Air Force Exchange Service, headquartered in Dallas,” he says. “It supplied retail services on U.S. military bases. In supporting the military, we went where they went. As a result, growing up I moved every two to three years.”
**Dad’s advice**
The family lived in Dallas when Woods finished high school and transitioned to college. In selecting a major, he followed his father’s philosophy: “Focus on what you like to do, choose a field that will let you do that, and success will follow.”

“I liked problem-solving and had an affinity toward math, so engineering seemed a natural for me. I was interested in the high math and analytics of electromagnetics and, as a result, pursued a degree in electrical engineering at Texas A&M University.”

After graduating, he worked as a technical consultant to the U.S. Air Force on missile navigation systems.

“It gave me an opportunity to work with top engineering firms from around the country and explore all engineering disciplines. After two years, however, it became clear that to be a successful engineer, you had to be part of a successful business. I realized that I didn’t have the necessary business skills and wasn’t going to learn them if I continued at that company.”

**Learning a business**

Woods enrolled at Northwestern University’s Kellogg School of Management and earned an MBA in 1992. Following a campus interview, he joined the Planning group at Exxon Company, International (ECI).

“ECI had a small program to hire a few MBAs with the potential to become international managers,” says Woods. “The company stressed the importance of understanding the business from the ground up before trying to manage it. From Planning, ECI assigned me to the UK affiliate refinery, where I rotated through positions covering plant optimization and operations. I went on to manage the retail business in Scotland and northern England before becoming Supply and Trading manager for the UK and Ireland.

“I next spent a year as Investor Relations manager in Dallas. It was a unique and valuable experience early in my career. I gained a better understanding of the breadth of our business and our philosophies in running it. In addition, the position allowed me to understand the perspectives of various shareholders and outside interest groups.”

Woods’ development continued with appointments to manage the Joliet, Illinois, refinery, ExxonMobil Chemical’s adhesion and specialty elastomers business units, and ExxonMobil’s refining operations in Europe and the Middle East. He later managed the Supply and Transportation group at ExxonMobil Refining & Supply Company before being named that company’s president in 2012.

**The value of integration**

Of the wide variety of positions he has held, Woods says a pivotal point in his career was his experience at ExxonMobil Chemical.

“Unlike the other areas I had worked in, Chemical businesses were managed along a value chain. This gave me the experience of managing work and value creation from beginning to end. When I returned to the Downstream, my years at Chemical helped me to recognize profit opportunities from crude oil supply through refining, marketing, customers and end consumers. We had an opportunity to more effectively leverage the functional companies to compete across the value chain.”

Woods notes that thinking along the value chain has been especially important in understanding the advantages ExxonMobil enjoys in the current North American market. Production growth in the U.S. Mid-Continent and heavy oil produced in Canada have outgrown the transportation infrastructure that moves the oil to market. North American oil prices have thus become “disconnected” from world prices.

“U.S. crude oil prices are being discounted from world prices as the cost of transportation rises due to logistics constraints. Value is moving down the hydrocarbon value chain from producers to those who own pipelines, rail transportation and refineries. With cheaper feedstocks leading to high margins and runs, refineries need more market outlets. ExxonMobil’s fuels and lubes business plays a central role in this.

“Because ExxonMobil’s operations are fully integrated, we are positioned to capture value at every point along the value chain, from production through refining, marketing and sales to customers. Through our own rail and pipeline capacity and through commitments with third parties, we can get all of our own production to market. With more refining capacity than production, we can also capitalize on the current market ‘disconnects’ and run additional discounted crude.”

**EMRE’s critical roles**

In addition to serving as Management Committee contact executive for ExxonMobil Refining & Supply, Woods is the contact executive for ExxonMobil Research and Engineering Company (EMRE).

He notes that EMRE is at the center of ExxonMobil’s efforts to apply new technology to convert more hydrocarbon molecules to higher-value products, including diesel fuel, lubricants and chemicals.

“Demand for diesel continues to grow – in line with economic growth around the world,” says Woods. “At the same time, demand for heavier, ‘bottom of
the barrel’ fuels, such as fuel oil and marine bunker fuel, continues to decline. The clearest examples of how ExxonMobil, through EMRE’s leadership, is responding to these trends include advances in hydrocracking technology, which allow us to convert heavier fuels to diesel at industry-leading cost."

Beyond introducing new technology, Woods says EMRE is central to the company’s efforts in maximizing value through competitively advantaged capital investments.

“Our engineers continue to identify opportunities to fully leverage our facilities and existing technology to increase shareholder value. The announced project at the company’s Antwerp refinery in Europe is a good example of this.”

Equally important is EMRE’s role in helping ExxonMobil manage risks in its day-to-day operations.

“With experts in modeling, materials, inspection processes and risk management, EMRE performs the invaluable service of assessing risk in our operations and developing effective measures to mitigate them.”

**Best-ever progress**

Woods adds that the company’s disciplined approach to operational risk management extends to its overall commitment to Safety, Security, Health and Environment, for which he also serves as contact executive.

“We continue to show great progress in reducing safety and environmental incidents, progress that in several areas reached best-ever levels last year. We have done a lot to improve our facilities, systems and procedures.

“In addition, our organizations are working hard to ensure that everyone involved in conducting our business recognizes the risks associated with their activities and is taking the appropriate steps to protect themselves, their co-workers and the environment. It’s a challenging task – but well within our company’s capabilities.” 

Darren Woods

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“Diesel is fueling the growth of economies all around the world. A clear example of how ExxonMobil, through EMRE’s technology leadership, is meeting the increase in diesel demand is our advances in hydrocracking technology.”

Darren Woods
New oil from Indonesia

The multibillion-dollar Banyu Urip project will provide significant long-term economic and quality-of-life benefits for Indonesians.

ExxonMobil and its partners will soon complete development of the Banyu Urip field in the Cepu Block in East Java, Indonesia. With a cost of more than $3 billion, the project is already producing approximately 40,000 barrels of oil a day through early production facilities, and is ramping up to 165,000 barrels of oil a day by 2015. Recoverable resources are estimated at more than 450 million barrels, and at full production, Banyu Urip will be Indonesia’s largest oil project.

“This effort is truly a partnership among ExxonMobil, PT Pertamina and our other co-venturers, as well as the government of Indonesia, local governments and our neighbors adjacent to the operations,” says Raymond Jones, vice president of ExxonMobil Development Company. “Together, we’re creating long-term benefits for the Indonesian people that will advance their lives for years to come. The increased economic output, the new jobs and the new community development programs all will have multiplier effects on other industries and on local communities. Overall, the Banyu Urip project is an important step forward for Indonesia.”

Discovered in 2001
ExxonMobil discovered the Banyu Urip field in 2001. Four years later, a production-sharing contract and an operating agreement were signed naming ExxonMobil as operator with 45 percent interest. Other co-venturers are the national oil company Pertamina (45 percent) and four local government companies (combined 10 percent).

The field’s first production began in December 2008. As wells have been completed and...
Banyu Urip by the numbers

- 165,000 barrels a day of peak oil production targeted in 2015
- 450 million barrels of recoverable oil reserves
- More than $3 billion total project and drilling investment
- $30 billion in estimated revenue Banyu Urip will generate for the Government of Indonesia
- Five Indonesian-led engineering, procurement and construction consortiums execute project scope
- More than 460 Indonesian companies contracted for project activities
- More than 10,000 Indonesian workers at peak construction
- 2 million training hours completed through more than 2,500 courses
- 1,000 area youths trained in welding, plumbing, carpentry and other skills
- 25,000 community members benefited from water and sanitation programs
- 10,000 women received loans from ExxonMobil’s microfinance program
- 3,000 teachers trained, serving 33,000 students in 90 refurbished schools
brought on line, production has increased to approximately 40,000 barrels a day. Today, nine of the project’s planned 48 wells are producing.

Banyu Urip comprises several key components. To limit the environmental footprint and to reduce cost, the project’s 48 wells are on three well pads. Produced oil will move to an onshore central processing facility for removal of water and natural gas, then enter a 20-inch pipeline that will carry the oil 60 miles to an offshore mooring tower connected to a floating storage and offloading (FSO) vessel. The mooring tower and FSO are 14 miles offshore in the Java Sea.

Better community health
ExxonMobil has contributed to improved health for residents near the Banyu Urip project through direct action and by helping local health providers increase the range of their services.

For example, in 2008 the company launched a community-based clean water program. To bolster the program’s sustainability, the community formed a committee to manage the budget, construct and monitor water facilities, and handle water distribution. In nearby Ngasem Village, a new water tower has become the key source of potable water. A pipeline network distributes the water to households, benefiting more than 25,000 community members in 18 villages in East and Central Java.

In another health initiative, more than 100 midwives have been trained on how to be safer birth assistants. They have also received information about good nutrition for mothers and infants.

Oil will be stored aboard the vessel, named Gagak Rimang after the horse of a mythical Indonesian warrior. More than three soccer fields long, it can store up to 2.2 million barrels of oil. From the FSO, the oil will be offloaded onto tankers for transport to domestic and international markets.

Banyu Urip’s offshore pipeline is linked to the FSO by a 3,800-ton mooring tower, anchored into the seabed in about 100 feet of water.

The tower features a complex swivel capability that allows the FSO to rotate freely with shifting winds, waves and currents without disrupting the flow of oil coming aboard the vessel from the pipeline.

A win for national content
One of the noteworthy aspects of Banyu Urip is the involvement of national and local Indonesian
businesses and workers.

“From day one, we’ve focused on skill-building and knowledge development by training and hiring Indonesian nationals, including our neighbors living near the project,” says Dan Wieczynski, project executive. “We’ve used over 460 national and local suppliers, and each one has gained valuable experience that will serve them well in the future. At peak construction, the project employed more than 10,000 Indonesians, the majority of the national workforce coming from communities neighboring the Banyu Urip field.

“All of our wells were drilled using two rigs that were the first ever manufactured in Indonesia,” Wieczynski adds. “The mooring tower that we recently installed was built entirely on Java Island.”

ExxonMobil’s approach to training and hiring Indonesians resulted in an overall workforce composition that was more than 90 percent Indonesian. In addition, a number of Indonesian trainees worked as expatriates at ExxonMobil operations in Angola, Cameroon, Malaysia, Nigeria and the United States. They’ve now returned home to help run the Banyu Urip operations.

Job training is just one of the company’s contributions to improved education for residents in communities near the project. Additional training was provided to more than 3,000 teachers, in turn benefiting 33,000 local students. The company also provided funding to refurbish 90 area schools.

**Exemplary worker safety**

Wieczynski notes that safety has been more than just a priority at Banyu Urip.

“It’s been a core value that shaped decision-making at every level,” he says. “Many of our workers are new to industry, having come from local agricultural occupations, so we started at the ground level and implemented training programs and safety systems to ensure that our workforce executed safely.

“We implemented the company’s Operations Integrity Management System (OIMS), which guides the activities of each of our employees and contractors. OIMS is embedded in every work process at every level. It’s the basis of our commitment to create an environment where nobody gets hurt. To ensure that happens, we’ve conducted more than 1,800 safety training sessions with employees and contractors, resulting in more than 64 million work hours with world-class safety performance. In fact, Banyu Urip is one of ExxonMobil’s safest projects ever,” Wieczynski says.

**Everyone benefits**

The Banyu Urip project is a successful partnership that will help meet Indonesia’s growing energy needs. It will also benefit the nation’s economy by transferring technology, industry values and innovative work practices.

But perhaps the biggest impact will be in the communities surrounding the project, says Country Manager Jon Gibbs.

“What has been most exciting for me is seeing firsthand how this project contributes to the community’s quality of life. Our neighbors now have access to education in classrooms that are better suited for teaching. Women have access to microloans to expand personal business opportunities. We’ve also provided greater access to clean water to local homes. These examples, and many more, have made me very proud of what our partnership has achieved.”
Communicating energy issues

ExxonMobil Perspectives seeks to promote an understanding of the energy industry and its issues.

Editor’s note:
Ken Cohen discusses the decision in 2010 to launch ExxonMobil Perspectives, a blog focusing on policy issues of importance to the petroleum industry.

What was the impetus behind publishing a policy blog?
We wanted a web presence that would enable us to build energy literacy and influence public-policy debates in real time. In an age of digital media and round-the-clock news cycles, we recognized that a tool that enabled us to directly engage the public would be useful.

How does it work?
The blog allows us to articulate positions on critical policy issues and gives us a place in the debates in Washington and the state capitals.

For instance, a number of the blogs have been about our support for increasing efficiency and reducing emissions. Many people were surprised to learn about our work with other companies and the Environmental Defense Fund to fund research into methane emissions.

We are strong backers of ensuring that sound science is used to guide policy. By highlighting such efforts, the blog makes it clear that we are dedicated to making straightforward, positive and well-sourced contributions to public dialogue. The blog also makes it clear that we expect our critics to do the same, and that leads to more substantive and respectful debates.

Is anyone paying attention?
We get a lot of feedback – from journalists, policymakers and other interested parties. So we know it is having an impact.

Our blog posts are often provided to members of Congress, administration officials and their staffs so that they know our position on sensitive issues. It’s a good way for us to communicate with journalists who are covering oil and gas issues by putting a focus on how investment leads to innovations and technological advances.

We also use the blog to plant a flag on an issue, to say what the
corporation believes is a sound pathway forward for policies that will support our society’s shared aspirations for the safe, secure and environmentally responsible production and use of energy.

Can you give an example of this impact?
The blog’s value has proven itself on a host of issues. Trade is one of the most recent. We have been able to point to study after study after study from groups across the political spectrum showing the value of free trade in energy.

We have been working to alert policymakers to the fact that we live in a new era – an era of abundance. North America’s energy leadership has positioned us to be an energy exporter – which will mean more investment in energy production, more jobs, and stronger economic growth for us and our energy trade partners. The blog has helped get that message out.

How do you decide what topics you cover week in and week out? We are constantly on the lookout for headlines and stories that illustrate how energy and free markets are the foundation for economic growth and technological advancement.

For instance, we explored ExxonMobil’s $150 billion contribution to the global economy over the first three quarters of 2014 in the form of expenses, taxes, capital expenditures, dividends and share buybacks. Such numbers help provide a better understanding of our quarterly earnings and what we mean to economic growth – beyond just the value of the products we provide to consumers.

We also look for stories and studies that the media might have missed showing what sound energy policies could mean for job creation, international trade, environmental progress and energy security. For instance, over the past two years, we have had many posts on the records being set in energy production flowing from hydraulic fracturing and horizontal drilling.

The public issue slate for the industry and our company is wide-ranging. Some are perennial issues like industry earnings, access to resources and the impact of new regulations. Others can be more immediate and pressing like LNG and crude oil exports. Some are timeless, like ExxonMobil’s commitment to safety and environmental stewardship.

Talk about the energy literacy angle of the blog. We target a smart and educated audience, but there is still a large amount of confusion and misinformation when it comes to what people know – or think they know – about our industry.

That’s why energy literacy and economic understanding are so important. Many people never really focus on the tremendous size and scale of our industry and the world’s energy needs. Even fewer people appreciate the place that ExxonMobil and the other investor-owned oil companies occupy in a highly competitive global industry. They are confused about how we can best promote energy security and why “energy independence” is a chimera and would undermine our economy and our relations with other nations.

For these and a host of other issues, we offer the blog as a clear and principled voice. We want to get people thinking, and we want them to understand some of the fundamental realities governing energy – and therefore our future. If they are doing that, then the blog is serving a useful purpose.

To read Perspectives, go to: exxonmobil.com/blog.
The future is here

New ExxonMobil campus promotes collaboration and teamwork.

Scott Francis, senior safety advisor with ExxonMobil Development Company, used to spend a lot of time emailing colleagues back and forth during the course of a business day. Today, at the new ExxonMobil Campus in North Houston, he meets with those same colleagues at the nearest open work table, in a small library or in the Hub – a village green designed to promote community in each campus building.

“We power up our laptops or iPads and share information face-to-face, instead of waiting for return emails and phone calls,” Francis says.

These types of impromptu, serendipitous meetings are exactly what campus designers and project team members envisioned when developing the new site 25 miles from downtown Houston. From open stairwells and workspaces to common coffee hubs...
and a variety of meeting areas, campus buildings create natural interactions among people.

**Competitive advantage**

By the end of the year, more than 3,600 employees will call the new campus home, moving from office locations throughout the Houston area. Another 6,400 will relocate to the campus by mid-2015 – including 2,000 employees from Fairfax, Virginia – bringing ExxonMobil’s upstream, downstream, chemicals and functional teams together in one location.

For Sara Ortwein, president, ExxonMobil Upstream Research Company, it will be the first time in her 34-year career that researchers will be located right next to the businesses they support. “I get excited when I think of the possibilities,” says Ortwein. “Proximity will enable even stronger relationships across our groups, allow for rapid testing of technologies, and help to ensure that the products we deliver are timely and directly address the needs of the business. There is no doubt that this will provide a competitive advantage and accelerate cycle times for discovery and implementation.”

**Construction on schedule**

The massive construction project – comparable to building a college campus similar in size to Houston’s 102-year-old Rice University in just five years – is on schedule, with seven of 14 initial office buildings to be occupied by the end of 2014.

Ultimately, the campus will consist of 14 office and six specialty buildings designed around a central three-acre commons.

A child development center – the Explorers Club – opened in August. Designed for total enrollment of 280 children ages 6 weeks to pre-kindergarten, the center features a science- and math-centered curriculum developed by a team of education specialists and ExxonMobil scientists and engineers. The center offers a safe, secure environment where parents can easily drop by to have lunch with their children or just check in, a convenience that promotes employee flexibility, productivity and peace of mind.

At the 100,000-square-foot Wellness Center, which opened at the end of October, employees have access to the latest fitness offerings, including yoga, spinning, Pilates classes, and new cardio and resistance machines, with personal training available. The center also is home to the Medical and Occupational Health Clinic, where employees have
access to travel health services and work-related injury and illness management. Employees can visit the Wellness Center any time during the workday, a step designed to improve health and wellness.

Two dining venues in the center of the campus – Shade Market (which opened in March) and Sizzle (opening in January) – offer 14 cuisines, from French, Indian and Mediterranean to New York deli, coastal and sushi. Other popular eating spots include a café and demonstration kitchen in the Wellness Center and two cafés that serve popular drinks, such as specialty coffees. In total, when completed in mid-2015, the campus will offer 26 different dining options. All venues will offer healthy food and beverage options, consistent with the company’s Culture of Health program, which encourages healthy behaviors leading to lower health care costs.

The Mercantile, specifically designed to provide employees with easy ways to handle day-to-day activities and errands, also is now open. The “Merc” includes banking and dry-cleaning services, a pharmacy, an optical store, hair and nail salons, gourmet food and gift shops – and a concierge service, designed to enhance employee productivity.

**Tech savvy**

Employees have access to the latest technology at the campus, and can quickly connect with others to share new ideas and work on common challenges. Three of the campus’ meeting centers, several computer visualization labs and two IT solution centers are now open. Meeting rooms feature an IT helpline where, with the push of a button, employees can contact an IT Solution Center for support or in-person assistance. With Wi-Fi pervasive across the campus, employees can use their computers in courtyards and other outdoor spaces, expanding work locations beyond traditional office areas.

The signature building of the 385-acre campus – the Energy Center – is a state-of-the-art meeting and learning center that will showcase the corporation’s heritage, people, technology and leadership. Featuring a floating cube positioned 80 feet above an outdoor plaza, the building is on track for completion in June 2015.

With employee moves to the campus having begun in March 2014, the business lines have already seen increased collaboration and efficiency enabled by open work environments, multiple meeting options, increased access to new technology and sheer proximity to colleagues.

“The opportunity to leverage the campus potential and capture strategic benefits as we all come together is enormous,” says Bryan Milton, president, ExxonMobil Global Services Company. “We can see the future; it’s right here, and it’s exciting.”

*theLamp*
The campus will feature 14 office buildings, such as this recently completed one in the Wellness Quad. Outside courtyards will expand work locations beyond traditional office space.

Photo by Lynda Ingram
For most of his 33-year career, Jim Robin worked in an office with four walls and a door. So when he learned that his ExxonMobil Information Technology (EMIT) team was piloting a new activity-based work environment — one where he could choose where to work each day — he was not a happy camper.

"Wouldn't an open environment be disruptive?" Robin recalls thinking. "How would I personalize my space? What if I needed to make a private phone call? These were just a few of my reservations."

Today, the EMIT data consultant is one of the biggest advocates of the Workplace Evolution 3 (We3) environment. We3 is ExxonMobil’s latest innovation in designing facility space to increase collaboration, improve productivity and reduce costs.

"Every doubt I had has been allayed," says Robin. "I look forward to coming to work."

**Flexibility to choose**

Evolving from previous design concepts of private offices and open-plan workspaces, We3 supports the different work styles and dynamics of a new generation of employees.

"In an activity-based work environment, employees are no longer required to work at an assigned desk or location," explains Bryan Milton, president, Global Services Company. "They have the flexibility to choose different workspaces that are best suited to perform different tasks throughout the day and different locations depending on their collaboration needs that day."

In developing the We3 design, ExxonMobil visited the collaborative office environments of many leading companies, such as Microsoft and Cisco as well as other energy companies.
According to a recent global cross-industry survey, 75 percent of companies are implementing some form of flexible workspace design.

“We3 reflects the needs of a multigenerational, multicultural workforce and leverages the latest in workplace technology,” Milton says.

Where will I work today?
Differing from a traditional open-space plan with dedicated seating, We3 seating is organized around “neighborhoods” – a collection of spaces that support individual work groups or departments. While a neighborhood provides a “home base,” employees may move freely within and among neighborhoods, depending on their work and with whom they might need to collaborate that day.

Flexible spaces and seating include those designated for specific types of work.

For example, focus rooms allow for individual, closed-office, concentrative work. If a high amount of collaboration from others is needed, groups of various sizes can use team tables, huddle rooms and think tanks to meet and share ideas.

“The space provides opportunities for people to bump into each other, so to speak,” says Mike Schwehr, Global Real Estate manager. “People meet each other, talk about something, engage with each other and come up with new ideas. From collaboration comes results.”

Within the We3 space at the new Houston campus, Michele Snider, ExxonMobil Environmental Services Safety, Health and Environment coordinator, now interacts with more people than she would normally encounter in a traditional work setting.

“You have a lot more access to your peers and the next level of management. Before, you would send an email and wait for a response. Now you can immediately ask a question of a colleague nearby, get an answer and move forward. That’s been the biggest benefit.”

Robin agrees. “I’m more productive here. I don’t look at it as not having a desk anymore. I now have a variety of desks to choose from. I can walk over and talk to someone for a quick exchange or meet ad hoc in a huddle room to work through an issue. The environment leads to better group interaction and information exchange.”

Early results capture improvements
Using employee surveys and seat sensors to track how space is being used in the We3 environment, ExxonMobil found:

- Collaboration space use: Up 59 percent
- Access to outdoor views: Up 30 percent
- Employee pride: Up 20 percent
- Environmental footprint: Down 32 percent
- Operating costs: Down 17 percent
High-tech, high-touch
Pervasive technology throughout the We3 workspace fosters employee connections via broadband Wi-Fi. Employees use phones that allow them to make telephone calls over the Internet using a computer rather than from a dedicated device. Apple TV and ClickShare, a plug-in device, enable easy sharing of content from a laptop, smartphone or tablet onto a large screen.

“The environment really brings data and information to people firsthand so they can collaborate on a work product,” says Jan Jorissen, We3 program manager. “It’s easy to organize informal discussions with people versus sitting in a private office, sending out a meeting invitation and waiting for people to accept. Work happens in much more real time.”

Reduced footprint
Besides increased collaboration and improved productivity, the We3 space reduces the company’s footprint, lowering costs and impact on the environment.

“With the same amount of space, we can support 20 to 25 percent more employees,” says Kevin Gerrity, We3 portfolio manager. “The shift to We3’s activity-based working environment results in reductions in square footage, equating to millions of dollars of cost savings in office real estate.”

Gerrity says the space meets the needs of a changing workforce.

“In today’s business, people work in teams. Some may travel or work remotely at times, so they don’t need an office every day. Others will be on vacation. We know, on average, that one-third of employees are not in their offices on any given day. In developing space for employees, we conduct a mobility analysis to understand a group’s work patterns to determine if We3 is a good fit. In most cases, it is.”

Competitive advantage
Currently, some 300 employees are working in the We3 environment at pilot offices in Houston and at the new ExxonMobil campus in North Houston. Over the next two years, the company will expand the concept to satellite offices near the new campus and to sites in Singapore and Calgary. This will increase the number of employees working in the new environment to 3,000.

We3 also meets the needs and expectations of the future workforce.

“Students coming out of college today are used to working in teams in collaborative spaces,” Gerrity notes. “The next generation of workers is more attracted to a variety of work, the ability to travel and the opportunity to earn good salaries. Having an assigned office isn’t high on the list.”

ExxonMobil sees We3 as a truly strategic asset.

“Collaboration is increasingly important for business success,” Schwehr says. “More and more work groups are looking to modify their space to We3 to take advantage of the collaboration and productivity improvement opportunities. This type of work environment is crucial to keeping our company competitive.”
We3 relies on technology, so employees can be more mobile, flexible and better connected – anywhere and anytime – at work.
The ExxonMobil Future Leaders Academy in Houston read like a Who’s Who list of the nation’s top universities: Columbia, Georgia Tech, Louisiana State University, Stanford, Texas A&M, Tuskegee University and the University of Texas at Austin – to name a few.

Similarly impressive was the list of participating ExxonMobil executives.

Alan Kelly, president, ExxonMobil Fuels, Lubricants & Specialties Marketing Company, welcomed the 32 students to Houston during an opening dinner. Sara Ortwein, president, ExxonMobil Upstream Research Company, and Mark Albers, Exxon Mobil Corporation Senior Vice President, shared personal thoughts on leadership during tours of the Upstream Research labs and the new ExxonMobil campus in North Houston. Steve Pryor, president, ExxonMobil Chemical Company, and Neil Duffin, president, ExxonMobil Development Company, hosted students at dinner and final lunch gatherings.

Attracting top students

The academy, begun as a recruiting pilot in 2013, brings top-tier minority students together with ExxonMobil senior management over a two-day period to inspire and educate them about careers in science, technology, engineering and math (STEM).

ExxonMobil started the academy in response to two major concerns.

First, demand for engineers is projected to grow significantly. According to U.S. Department of Labor statistics, industry will add approximately 250,000 engineering positions over the next 10 years.

Second, there is a serious need to foster more diversity in the engineering field. A recent government report found that women comprise half of the U.S. workforce but only 14 percent of engineering positions.

Research conducted by Change the Equation showed African-American, Hispanic and Native
American students also earn disproportionately fewer degrees in STEM fields.

“The academy exposes top engineering students to the company so they get to know who we are and we get to know them,” says Rosendo Cruz, ExxonMobil Public & Government Affairs manager for U.S. Production. Cruz helped develop the Future Leaders Academy pilot for the company’s upstream business.

“But it’s more than a recruiting program,” says Cruz. “It also provides them with leadership skills they can take back and use in their education and later in their careers, no matter where they may end up working.”

Students invited to the academy are recipients of ExxonMobil-supported scholarships through associations that support academic and professional advancement of minorities, such as the Society of Hispanic Professional Engineers, the National Society of Black Engineers and the LOFT (Latinos On Fast Track) Institute.

After two days of presentations and tours, the students interview with members of the ExxonMobil recruiting team on the final day for summer internships across the corporation.

In the two years ExxonMobil has run the program, 52 students have participated, with internships having been offered to approximately 50 percent of those attending the sessions.

**Motivation to excel**

The level of senior executive involvement and their messages on leadership at the 2014 academy made an impact.

Ortwein’s talk about the importance of reputation, results and relationships for business success especially resonated with Christy Lopez, an electrical engineering major at New Mexico State University.

“This program helped me see how I can make a difference on a personal level,” says Lopez, a sophomore who will intern at ExxonMobil’s Baytown Refinery next summer. “Sara’s talk has given me more confidence as a woman entering this field.”

When Albers told students that they had an opportunity to change the world through a career in energy, that struck a chord with Christopher Graham, a University of Arkansas chemical engineering major.

“I want to have an influence and do something that changes the world in an effort to help other people. Why not be that engineer or scientist who finds a way to use energy more efficiently or discovers a renewable energy resource that benefits our environment? That’s my aspiration.”

This type of motivation is exactly the goal of the academy.

“We’re hoping to inspire students to excel and reach their potential,” says Cruz, whose own interest in becoming a civil engineer was sparked 22 years ago after visiting the Baytown Refinery as a high school sophomore.

**A key message**

For Carolyn Ramirez, a chemical engineering sophomore at the University of Texas at Austin, the academy opened her eyes to the wide range of opportunities.

“I want to use my chemical engineering skills to advance the energy industry, to help develop new kinds of energy and to make the sources we already have safer and cleaner. I can accomplish all that by working at a company like ExxonMobil,” says Ramirez, who will intern at the Baton Rouge Refinery next summer.

For Ortwein and other executives, that’s a key message they want to impart.

“Our world needs more scientists and engineers to solve our future challenges,” Ortwein says. “The academy offers us an opportunity to give them a peek at what they can do if they are successful in their studies. They can come to work for a great company like ExxonMobil or go to work doing something else, but it’s important for them to see how much of a mark they can make. And it gives me hope for the future when I meet young adults so bright and energetic, and so ready to make a difference.”
Developing the next generation of geoscientists

ExxonMobil is working to stem the shortfall of geoscientists predicted within the next decade. Through outreach programs for kindergartners to postgraduate students and teachers, the company hopes to spark interest in technical careers.

As a geology major at Appalachian State University, Hëhëwutei “Cody” Amakali aspired to work in the mining industry. But a field course to Wyoming’s Bighorn Basin, sponsored by ExxonMobil and the Geological Society of America (GSA), convinced her to change career plans.

“It was my first exposure to petroleum geology, and I fell in love with it,” says the senior geoscientist with ExxonMobil Exploration Company.

Today, Amakali assists the instructors for that same field course to the Bighorn, where undergraduate and graduate students as well as faculty get a firsthand look at how petroleum geologists explore for oil.

The course is one of more than 20 outreach efforts ExxonMobil supports globally to promote geoscience careers and stem a projected shortfall of geoscientists.

Filling the talent pipeline

According to the Bureau of Labor Statistics, there are 297,000 geoscience jobs in the United States. With 143,000 geoscientists expected to retire in the next 10 years, and the job growth rate projected to outnumber graduates with geoscience degrees, the American Geosciences Institute (AGI) predicts a net deficit of more than 135,000 geoscientists by 2022.

It’s a global problem. The geoscience community as a whole is responsible for finding the resources society needs, which includes the oil and gas resources ExxonMobil itself requires. The corporation has some 1,500 geologists and geoscientists working in exploration, production and research positions worldwide.

“Geoscientists and other technical experts are key to oil and gas exploration and production,” says Nick Way, ExxonMobil Geosciences recruiting manager. “By understanding the geology of a basin, our exploration geoscientists evaluate prospective areas to identify the highest-quality opportunities to lease and subsequently explore.

“When they make a discovery, development and production geoscientists and engineers work as a team to determine the best way to develop and produce the resource. Considering the importance of this collaboration across so many technical specialties, it’s critical that we have diverse geoscience candidates available so that we can hire the best and most creative individuals.”

The company’s multi-pronged approach to
attract students to geoscience careers ranges from elementary through high school classroom programs and teacher training, to college- and graduate-level scholarships and field courses. Many of these courses are run at professional geoscience organizations, including AGI, GSA and the Society of Exploration Geophysicists (SEG).

Starting early
“It’s important that we capture student interest early on,” says Bob Stewart, Geoscience recruiting supervisor.

Besides classroom geoscience training for elementary and middle school teachers, the company also gets students out into the field to discover the science behind the rocks. One of the largest and most successful pre-college outreach programs is GeoFORCE, a University of Texas at Austin outreach to minority high school students. ExxonMobil has contributed more than $1 million since the program started in 2005.

Minority honor students from southwest Texas and the Houston area go on geological field trips across the country to educate and excite them about earth sciences.

“At the 475 students who have completed the program, 100 percent have graduated from high school, and 96 percent of them have gone on to college, with 64 percent pursuing studies related to science, technology, engineering or math (STEM),” Stewart says.

Reaching minorities
While ExxonMobil is funding programs that promote geoscience in general, GeoFORCE and similar outreach programs encourage the participation of minority, underrepresented and women students. ExxonMobil awarded more than $450,000 in grants and scholarships for minority students in the U.S. in 2014.

“While 30 percent of the U.S. population is minority, only 9 percent of the U.S. STEM workforce is minority,” Way says. “We can’t lead in advancing technology with a large segment of our population drastically underrepresented in STEM fields.” (See story, page 25.)

Amakali, a Lakota Sioux American Indian, recently taught a course on geoscience career opportunities at the national convention of the American Indian Science and Engineering Society (AISES). She is among more than 30 ExxonMobil geoscientists worldwide who volunteer to teach classroom and field courses for high school to post-graduate students.

Engaging postgraduate students
One of the most successful programs for master’s- and Ph.D.-level students is the SEG/ ExxonMobil Student Education Program (SEP), which shares the breadth and challenges of an oil industry career. ExxonMobil will provide $1 million over the next five years for the worldwide program.

“The students get hands-on experience in the type of work geophysicists do for an oil company,” says Sue Nicholson, International Geoscience recruiting coordinator and one of 10 ExxonMobil volunteers who teach the two-day SEP course.

Elsa Velasco, SEG University and Student Programs manager, says a high rate of students attending the courses stay in the geoscience field. “Students get a glimpse at how fascinating the world of geoscience is. ExxonMobil employees help them understand that geoscience is not a job; it’s a passion. Sometimes we have engineering majors attend the course who later graduate as geophysicists.”

Making an impact
And that’s a win for ExxonMobil, as well as a host of other industries that depend on the geosciences, including the mining, environmental and engineering geology fields.

Geoffrey Feiss, GSA Foundation president, says geoscience often gets overlooked because most parents or high school counselors aren’t as familiar with the field as they are with careers in chemistry or biology.

“In Houston, you’re likely to have a geologist or petroleum engineer live down the street. But if you grow up in locations where the oil and gas industry doesn’t have a strong presence, you probably have never met a geologist.

“It’s important that we communicate to students interested in careers in science and technology that there are amazing opportunities in geoscience,” Feiss says. “ExxonMobil is helping us attract more students to geoscience in general, and that helps other industries, too.”

The efforts appear to be working. Over the past five years, there’s been an uptick in undergraduate students majoring in the geosciences.

“We’re headed in the right direction,” Way says, “which means that ExxonMobil will have the geoscientists we need to run our business in the future.”

ExxonMobil’s Bob Stewart, recruiting supervisor, and Cody Amakali, senior geoscientist, lead field studies in geology for students.
A growing supply of domestic natural gas from shale resources in Texas, North Dakota, Pennsylvania and other states is a key reason why ExxonMobil Chemical Company is expanding its Baytown, Texas, complex.

Construction of a new steam cracker with eight furnaces at Baytown and new premium polyethylene facilities at the company’s nearby Mont Belvieu plastics plant began this fall, with completion set for 2017. The new steam cracker will use heat to convert ethane – a component of natural gas – into ethylene, the base chemical for numerous products, from computer and car parts to fiber for clothing and carpets.

“This project would not be feasible without abundant, affordable supplies of U.S. natural gas,” says Steve Pryor, president of ExxonMobil Chemical Company. “We’ll use the gas to power the new equipment and provide feedstock for our ethylene production.”

Pryor says the chemical industry and other industrial sectors account for nearly 30 percent of U.S. natural gas consumption.

“Shale development gives us a double benefit because the resulting gas is a clean energy source as well as the key raw material for making plastics and other essential products.”

Baytown is ExxonMobil’s largest ethylene production facility worldwide, and the new steam cracker will increase capacity by up to 1.5 million tons of ethylene a year. The project will provide ethylene feedstock for downstream chemical processing, including at two new 650,000-tons-a-year, high-performance polyethylene lines at Mont Belvieu plastics, where the company already can produce 1 million tons of polyethylene per year.

When coupled with the company’s global sales and technology support network, this expansion will enable ExxonMobil Chemical to supply the rapidly rising world demand for high-value polyethylene products. ExxonMobil Chemical projects that by 2025, North America could double exports of polyethylene, polypropylene and paraxylene, the three largest petrochemicals by volume.

Environmental benefits

The new facilities will be constructed within the existing Baytown and Mont Belvieu plants, with no increase in the sites’ permitted emission limits. The products to be produced will help ExxonMobil customers reduce their environmental impact.

“Our customers will use our advanced plastics to make stronger, thinner packaging that reduces energy consumption, reduces greenhouse gas emissions and reduces waste,” Pryor says.

Ron Curry, the U.S. Environmental Protection Agency’s regional administrator, says his agency is “working to control greenhouse gas emissions and promote clean energy in new projects coming to communities across Texas.” Projects such as ExxonMobil’s Baytown expansion “show that economic development and environmental protection can go hand-in-hand,” Curry says.
Major economic impact

The project’s economic impact will be substantial. It will increase regional economic activity by about $870 million annually and create more than $90 million a year in additional tax revenues for local communities.

The expansion also will provide a big boost to Houston-area employment. Some 10,000 workers will be needed during the construction phase, and the new facilities will create another 3,800 related jobs in nearby Houston communities. (See story on page 33.) When fully operational, the expansion will add 350 permanent jobs at the Baytown complex.

“All this new employment means great opportunities for workers with technical skills who are interested in energy and chemical manufacturing,” says Pryor. “The average annual wage in the Texas chemical industry is about $100,000. So these are high-paying jobs that lead to fulfilling and rewarding careers in an industry that’s vital to our American economy.”

Above left: ExxonMobil’s Carol Brogan, a planner at the Mont Belvieu Plastics Plant, inspects a sample of polyethylene pellets.

At right: The new steam cracker will increase capacity of ethylene production at Baytown by up to 1.5 million tons a year.
Cleaner fuels for Europe

ExxonMobil is pushing ahead with major upgrades at two refineries to convert fuel oil to lower-sulfur diesel and other higher-value products.

Being a refiner in Europe today is not easy. Industry overcapacity and government rules for ever-cleaner fuels are combining to produce extremely low profit margins and industrywide losses. Despite this challenging environment, ExxonMobil recently announced plans for major upgrades at two of its European refineries: Antwerp, Belgium, and Slagen, Norway.

"These projects demonstrate our long-term view and our disciplined approach toward business investments," says Jerry Wascom, president of ExxonMobil Refining & Supply Company. "They will strengthen the competitiveness of our European refineries so they can successfully deal with the challenging industry environment that we expect will continue for some time."

Wascom notes that the refining industry in Europe faces a shortfall in capacity to convert fuel oil into cleaner fuels, particularly diesel.

"Europe's demand for diesel is growing and will remain high in the coming decades, especially for trucking and other commercial transportation," he says. "We're positioning ourselves to successfully meet that rising demand with increased volumes of lower-sulfur diesel and other clean fuels."

**$2 billion-plus at Antwerp**

ExxonMobil will install a new delayed coker unit at the Antwerp Refinery to upgrade residual oil that's currently blended into fuel oil or asphalt. The new coker will instead produce higher-quality finished products, such as marine gas oil and lower-sulfur diesel. Construction
Improving on excellence
Both the Antwerp and Slagen refineries have records of excellent environmental performance. Thanks to previous improvements, both are among the world’s most energy-efficient refineries. The new investments promise to make things even better.

One example: Sulfur dioxide emissions at Antwerp will be reduced by 75 percent due to construction of a new Tail Gas Clean-up Unit to be built as part of the delayed coker project. This follows Antwerp’s 2010 commissioning of a diesel hydrotreater that reduced the sulfur content of diesel fuel by more than 95 percent.

Moving forward with such upgrades in the face of a very challenging business environment speaks to ExxonMobil’s disciplined approach to strategic investments that strengthen the long-term value of the company’s assets.

“These investments will enhance our integrated downstream and chemical portfolio in the region,” says Todd Sepulveda, manager of the Antwerp Refinery. “We’ll be well-positioned to meet the region’s growing demand for cleaner transportation fuels.”

Upgrade at Slagen
At the Slagen Refinery in Norway, ExxonMobil will install a new processing unit to produce high-quality vacuum gas oil, which is a higher-yield feedstock used to create finished products such as lower-sulfur diesel. The new unit is a residual flash tower that will improve the refinery’s overall crude distillation process by replacing production of heavy fuel oil with lighter, higher-value gas oil.

Vacuum gas oil is an intermediate product that will be sold to other refineries for use as feedstock for upgrading to finished products such as gasoline and diesel.

“This is an investment for our future,” says Tore Reva, manager of the Slagen Refinery. “It will position us to supply higher volumes of cleaner fuels for northwest Europe and will sharply improve our refinery’s production slate.”

Construction will begin in 2015 and is expected to be completed in about one year.

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Community college initiative

The Baytown expansion creates a need for an estimated 10,000 workers with technical skills. To help ensure such skills are available, ExxonMobil has committed $1 million to a vocational training initiative at nine community colleges.

“In most cases, skilled jobs like instrument technicians and machinists don’t require a four-year degree,” says Woody Paul, manager of the ExxonMobil’s Baytown Olefins Plant. “But they do require math and science skills, along with specific vocational training. That’s why we’re partnering with community colleges to substantially expand such training in the Houston area.”

The training will provide technical skills to high school graduates, returning military veterans and others. The program has earned state and federal recognition for recruiting and training instrument technicians, welders, pipefitters, electricians and other skilled workers for the chemical industry. During the next five years, 50,000 students and educators are expected to be involved.

To learn more about this vocational training and career opportunities, visit www.energizehouston.org. Prospective students can apply online or enroll at any of the nine schools for classroom instruction, dual-credit courses, internships, certificate programs and two-year degrees.

Gulf commitment

ExxonMobil will invest more than $4 billion in deepwater Gulf of Mexico exploration and development through 2016. This commitment will create new jobs and generate new government revenue while supplying new energy to meet future demand.

The company has operated safely in the Gulf of Mexico for more than 80 years. This experience includes drilling the first well in federal waters to drilling Hadrian South, the deepest well in the Gulf in more than 7,600 feet of water. At 230 miles offshore, the Hadrian South development will employ a subsea production system with flowlines to the Anadarko-operated Lucius platform.
Campaign aims to inspire future engineers

As more engineers – and more kinds of engineers – are needed to address 21st century challenges, ExxonMobil has launched a nationwide initiative seeking to inspire the next generation of these professionals.

The Be An Engineer campaign aims to highlight the meaningful contributions that engineers make to the world as well as provide resources to help young people pursue this discipline as a career.

The campaign rolled out in September with a series of advertisements, social media posts and other ongoing communications.

Long a champion of engineering and technical disciplines, the company is working with the engineering community to help illuminate the profession, which historically has lower unemployment rates and higher starting salaries than many other professions.

For more information, visit BeAnEngineer.com.

More growth at Singapore

Less than one year after a major expansion at the Singapore refining and petrochemical complex, ExxonMobil Chemical has broken ground on a new project.

The company is building two new specialty polymers units to manufacture premium halobutyl rubber and Escorez resins. The projects, due for completion in 2017, are in response to growing demand for these products in fast-growing Asia-Pacific markets.

“With this expansion, we have reaffirmed our confidence in Singapore and our commitment to supplying the chemical products that support the region’s economic growth,” says Steve Pryor, president of ExxonMobil Chemical Company. “We are confident in Singapore’s strong business climate and operating environment.”

When completed, the new plants will create about 140 new jobs across the spectrum of engineers, technicians and other technical roles at the Singapore complex, which has more than 2,000 employees. The integrated refinery and chemical plants are ExxonMobil’s largest facility of its kind in the world.
100% of U.S. operating rooms use advanced plastics made from oil and natural gas.

Today, almost every material found in hospitals is engineered from oil and natural gas. From products like halobutyl rubber that ExxonMobil invented to advanced plastics that our scientists continue to enhance, medicine wouldn't be modern without energy.

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