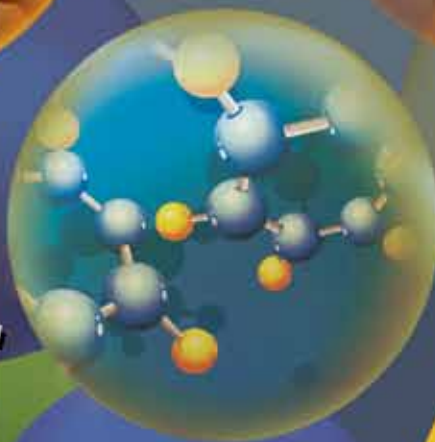
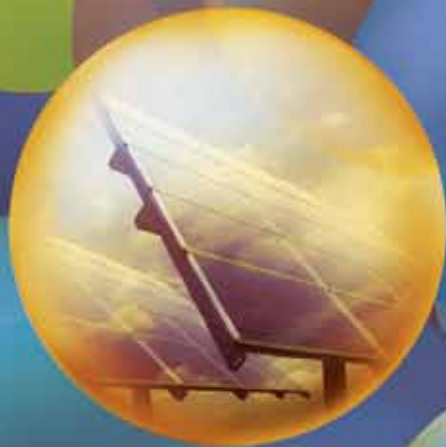


2011 Annual Review

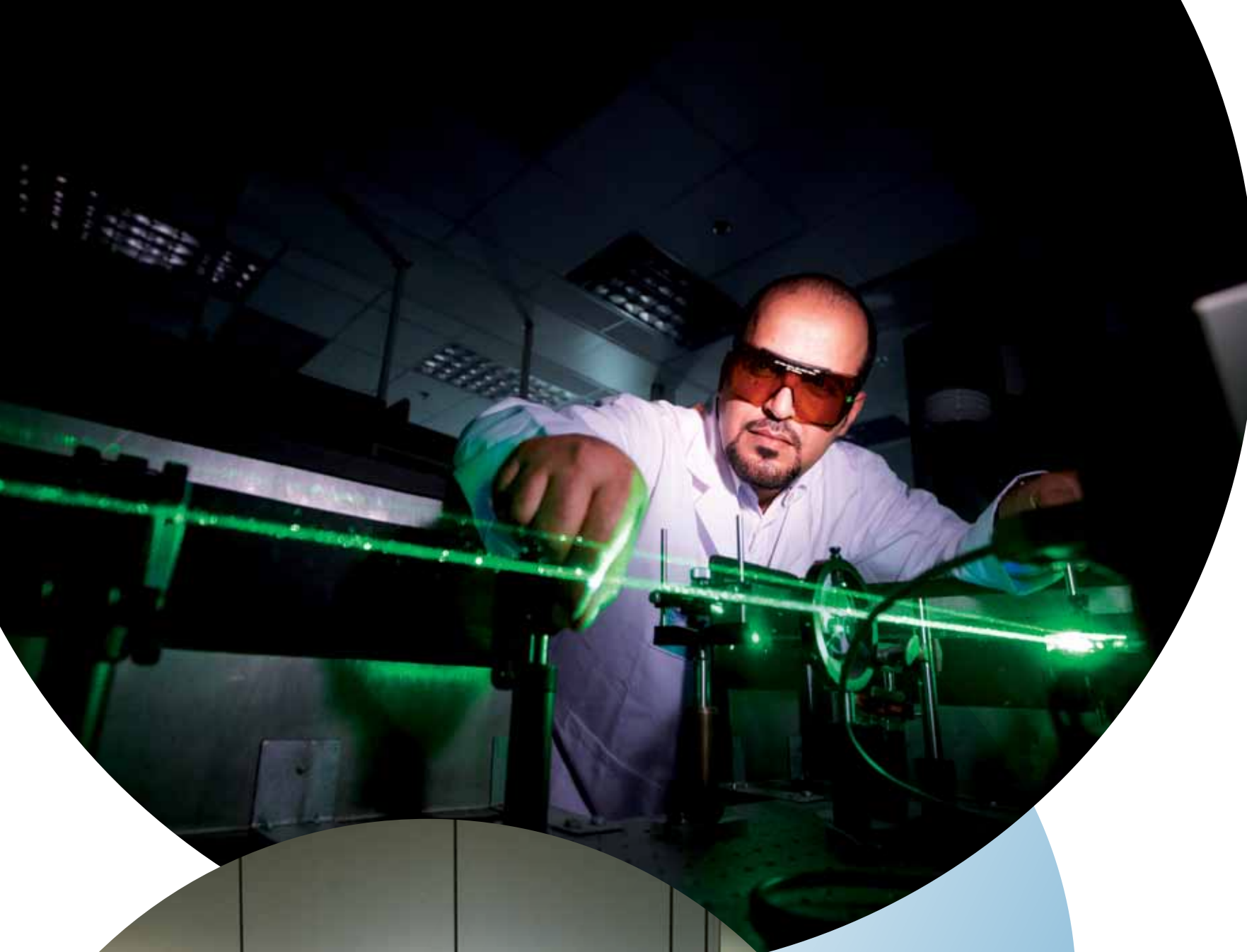
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Saudi Aramco



# Aiming Higher







## Table of Contents

4	<b>About Saudi Aramco</b>
8	<b>Chairman's Message and President's Foreword</b>
10	<b>Overview</b>
16	<b>Upstream</b>
	Exploration
	Oil Operations
	Gas Operations
26	<b>Downstream</b>
	Refining & Petrochemicals
	Transportation & Distribution
36	<b>Our People</b>
	Workforce
	Knowledge, Training & Development
	Safety and Health
	Saudi Aramco Communities
44	<b>Saudi Aramco by the Numbers</b>

### | Aiming Higher | About this Review

Saudi Aramco's 2011 Annual Review and its companion, the 2011 Corporate Citizenship Report, continue our annual practice of reporting on our operational, organizational, social, and environmental achievements and goals. Our reporting has been informed by internationally recognized guidelines developed by the Global Reporting Initiative (GRI) and the International Petroleum Industry Environmental Conservation Association (IPIECA). These guidelines help us identify, structure, prioritize, evaluate and present key issues that are relevant and meaningful to our stakeholders. For past reports, please visit [www.saudiaramco.com](http://www.saudiaramco.com).





The Custodian of the Two Holy Mosques,  
**King 'Abd Allah ibn 'Abd Al-'Aziz Al Sa'ud**



**His Royal Highness Naif ibn 'Abd Al-'Aziz Al Sa'ud**  
The Crown Prince, Deputy Prime Minister,  
and Minister of the Interior



**World's largest proven conventional crude oil and condensate reserves of 259.7 billion barrels**

- 9.1 million barrels of crude oil production (average per day)
- 3.3 billion barrels of crude oil production (annual)
- 13.3% of the world's crude oil production

**World's fourth-largest natural gas reserves of 282.6 trillion standard cubic feet (scf)**

- 9.9 billion scf of gas production (average per day)
- 3.6 trillion scf of gas production (annual)

**Downstream Accomplishments**

- 8th largest refiner in the world with worldwide refining capacity of 4.02 million barrels per day\*
- World's top exporter of natural gas liquids (NGL)

(\* including domestic refineries, and domestic and international joint and equity ventures)

# About Saudi Aramco

**T**HE SAUDI ARABIAN OIL COMPANY (SAUDI ARAMCO) IS THE state-owned oil company of the Kingdom of Saudi Arabia. As a fully integrated, global petroleum and chemicals enterprise, we are a world leader in exploration, production, refining, distribution, shipping and marketing.

We report to the Supreme Council for Petroleum and Minerals Affairs, chaired by the Custodian of the Two Holy Mosques, King 'Abd Allah ibn 'Abd Al-'Aziz Al Sa'ud. The council sets the company's overall direction.

To accomplish its mission, Saudi Aramco is organized into key business areas, each headed by a member of corporate management.

Headquartered in Dhahran, Saudi Arabia, Saudi Aramco and its subsidiaries have offices throughout the Kingdom. We also have offices in North America, Europe and Asia. Our subsidiaries and affiliates are located in Saudi Arabia, China, Japan, India, the Netherlands, the Republic of Korea, Singapore, the United Arab Emirates, the United Kingdom and the United States.

Our operations span the Kingdom, including its territorial waters in the Arabian Gulf and the Red Sea, with production and distribution facilities linking all market areas around the world.



## Our Operations

### Upstream: Applying new knowledge and skills to meet future energy needs

**Exploration** Finding additional oil and gas reserves is one of our highest priorities. Using the latest technology, our geoscientists continually seek new sources of oil and gas on land and offshore, throughout the Kingdom.

**Oil Operations** We strive to optimize production from our oil fields, which are among the largest in the world. Most production comes from fields in the coastal plains of the Eastern Province, an area extending 300 kilometers north and south of Dhahran.

**Gas Operations** We are working to increase supplies of gas for domestic energy, powering desalination plants and other industries, and as a vital feedstock for our growing petrochemical industry.

### Downstream: Contributing to the nation's prosperity in ways that are tangible, valuable and sustainable

**Refining and Petrochemicals** As we strive to become the world's leading petrochemical company, we continue to integrate our refineries with petrochemical plants, build new facilities and collaborate with leading global chemical companies. Our investment in refining and petrochemical production capacity is a key driver of industrialization and job creation in the Kingdom.

**Transportation and Distribution** Our extensive network of ships and pipelines delivers our products to bulk plants and terminals throughout the Kingdom. From these strategically located distribution points, we and our affiliates safely and reliably deliver natural gas and high-quality refined products domestically, and crude oil and natural gas liquids (NGL) to customers around the globe.

Looking ahead, the integration of rail infrastructure into our distribution system will enhance safety on the highways while supporting the Kingdom's economic growth.

### Our People: Working together to support the company, its employees, communities, and customers

**Workforce** We attract and retain a world-class workforce, provide job opportunities for Saudi nationals, and encourage the Saudization of our contractor workforce, in line with applicable laws and regulations.

**Knowledge, Training, and Development** We invest in increasing the skills and leadership capabilities of our employees, as well as providing educational and vocational opportunities for people throughout the Kingdom. In our quest to develop the Kingdom's knowledge economy, we also invest in research, development and innovation.

**Safety and Health** We recognize the safety risks inherent in our business, and we are dedicated to protecting and promoting the health and safety of our employees through our industrial safety programs and world-class health-care system.

**Saudi Aramco Communities** We manage residential communities, schools and community services for our employees. We design communities that are safe, vibrant, and promote a sense of well-being for our employees and their families.

## Our Board of Directors



Seated, from left: H.E. Dr. Khaled S. Al-Sultan, H.E. Dr. Abdul Rahman A. Al-Tuwaijri, H.E. Dr. Ibrahim A. Al-Assaf, H.E. Ali I. Al-Naimi, Khalid A. Al-Falih, and H.E. Dr. Mohammed I. Al-Suwaiyel. Standing, from left: Abdulaziz F. Al-Khayyal, Peter Woicke, Sir Mark Moody-Stuart, David J. O'Reilly, Salim S. Al-Aydh, Amin H. Nasser

## Our Corporate Citizenship

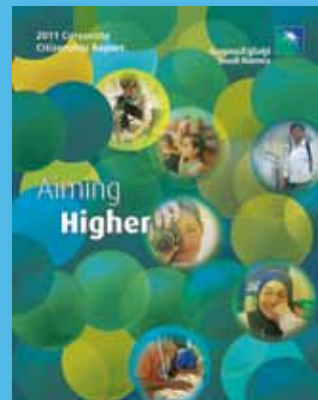
Saudi Aramco's Citizenship efforts are an integral part of our corporate character. Our Corporate Citizenship strategy, which is built around four pillars — Economy, Community, Knowledge, and Environment — seeks to make a tangible and positive impact in the Kingdom, even beyond what we are able to achieve through our operations. The four pillars represent the areas we must continuously nurture to ensure sustainable social and economic opportunities remain for the welfare of the Kingdom and our company. Therefore, we are as strategic in our contribution to each of the pillars as we are in our efforts to be the world's leading integrated energy and chemicals company.

**Economy:** We support the Kingdom's growth and prosperity by enabling entrepreneurship and innovation, developing local content, and building a competitive workforce.

**Community:** We support our local communities by promoting health and well-being, building a culture of safety, and targeting our charitable giving.

**Knowledge:** We foster knowledge in the Kingdom by investing in education, inspiring Saudi Arabia's young people, and spreading cultural awareness.

**Environment:** We encourage stewardship and innovation by focusing on enhancing energy efficiency, protecting the natural environment, raising awareness for environmental protection, and developing cleaner energy technologies.



For more details about our Corporate Citizenship, please see the companion report, the 2011 Corporate Citizenship Report.

# Chairman's Message



**T**HE YEAR 2011 WAS CHARACTERIZED BY NEW CHALLENGES FOR THE world, and new opportunities for Saudi Aramco. Social and political unrest affected parts of the Middle East, while many nations struggled to boost economic growth against a backdrop of high unemployment and large national debt.

As we have seen, such events can trigger a strong reaction in global energy markets. Such circumstances point to the need for steadfast consistency and readiness for swift and decisive action on the part of energy companies and policymakers alike.

I am proud of the role Saudi Aramco has played, and continues to play, in this regard. In 2011, the company supported global energy security and petroleum market stability through the continuing reliability of its operations and its investment in significant spare production capacity. Historically, our spare capacity has been tapped to compensate for production disruptions and declining supply from other major suppliers, and is a cornerstone of the Kingdom's forward-looking energy policy.

As Saudi Aramco continues to meet growing international and domestic demand for energy, the company is taking great steps to expand the role it plays in the energy industry and the petroleum sector, both in the Kingdom and abroad. We expect last year's massive investments in downstream activities, particularly in refining and petrochemicals, to contribute to the value and diversification of our company and the Kingdom's economy for many years to come.

The Board of Directors and I are grateful for the continued support of The Custodian of the Two Holy Mosques, King 'Abd Allah ibn 'Abd Al-'Aziz Al Sa'ud, and Crown Prince Naif ibn 'Abd Al-'Aziz Al Sa'ud. Under their wise leadership, I am confident Saudi Aramco will continue to "aim higher," excelling in our traditional business activities while taking on new roles and expanding our positive impact in the Kingdom and the world.

**Ali I. Al-Naimi**  
Minister of Petroleum and Mineral Resources  
Chairman of the Board of Directors

# President's Foreword



**T**HANKS TO THE EXTRAORDINARY WORK OF THE MEN AND WOMEN OF Saudi Aramco, 2011 was a year of outstanding performance across the board. We exceeded our production target, increased our innovation efforts, aggressively grew our downstream businesses, and continued to meet fast-growing domestic and global demand for energy. Our growth prospects and reliability and safety performance are as strong and promising as ever. It was a year of truly memorable productivity, marked by continued contributions to the Kingdom's development and prosperity.

If one thing has characterized Saudi Aramco over the course of our 78-year history, it is this: We do not rest on our laurels. Instead of adopting a passive stance, we have always focused on proactively shaping our operating environment and enhancing our ability to excel within that environment.

As a result, we have defined an ambitious target for 2020 to transform Saudi Aramco, building on our current success to become the world's leading integrated energy and chemicals company, to facilitate the sustainable and diversified expansion of the Kingdom's economy, and to enable a globally competitive and vibrant Saudi energy sector.

Moving well beyond incremental improvements in our operations, this drive will see Saudi Aramco expand our business portfolio, enter new markets and redefine the way we support our communities in building a better future. The company and its subsidiaries will develop a dynamic international research and development network to drive technical advancement in the industry. Such technologies will support the expansion of our downstream portfolio to provide the optimal fuels and feedstock to meet domestic and global needs. We will continue to lead the world in upstream technologies that significantly improve the rate of recovery from our fields and contribute to the discovery of additional hydrocarbon resources to meet the needs of our fellow human beings. We will focus our in-Kingdom engagement to promote the emergence of a knowledge economy, supported by a thriving local energy sector that fuels an expanding economy and creates high-value employment opportunities.

In short, we aim to unlock the potential of our people and our enterprise to transform from a company of which the Kingdom is proud into a company of which the world is proud. In this 2011 Annual Review, I am sure you will see evidence of Saudi Aramco's readiness both to do more and be more.

**Khalid A. Al-Falih**  
President and Chief Executive Officer





# Overview



**B**Y ALL MEASURES, 2011 WAS ANOTHER SUCCESSFUL YEAR FOR SAUDI Aramco. We continue to manage the world’s largest conventional crude oil reserves, export the most petroleum, and play a major role in natural gas production, refining, and petrochemicals. Our strength comes from our reliable *power to provide* —our unique ability to foster global energy security and market stability by ramping up oil production to make up for disruptions from other major suppliers. In fact, in 2011 we witnessed some of the highest crude oil production totals in the past 30 years.

Our strength also comes from another, less obvious power: our power to transform. Over the last 78 years, we have helped to transform the Kingdom of Saudi Arabia, not only by unlocking the Kingdom’s natural resources to provide energy to customers around the world, but also by building the national economy, investing in infrastructure, developing a competitive workforce, and providing opportunities for a better way of life. That spirit of transformation is part of our company’s DNA. In 2011, we tapped into this spirit to “aim higher” with the launch of our 2020 Strategic Intent. This will mean not only optimizing our production capabilities and diversifying our business portfolio, but also transforming our business strategy to take Saudi Aramco to the next level of achievement and performance.

To realize the 2020 Strategic Intent, we launched initiatives during 2011 in the three main areas of our business —**upstream operations, downstream operations, and the development of our people**. In these areas, the year saw tangible achievements such as expansion and upgrades of facilities, major downstream investments, a significant increase in recruitment numbers, as well as less tangible, but equally important accomplishments such as shifts in corporate culture to focus on innovation, creativity, accountability, teamwork and shared leadership.

## ► 2020 Strategic Intent: Aiming Higher for the Future of Saudi Aramco

**T**HE 2020 STRATEGIC INTENT IS NOT A RADICAL DEPARTURE FROM our current strategy, but rather an articulation of the changes we have already introduced and the new direction we have already taken. It is also the result of a year-long strategic review that involved a detailed assessment of global and regional trends and the business challenges potentially affecting the company over the coming two decades. While many companies transform because they are faced with adversity, the best companies transform while they are doing well in order to capitalize on opportunities and realize their full potential. This is what we intend to do: transform to unlock the full potential of an already successful company.

We are already engaging our employees in the process of realizing our vision through town hall meetings, outreach, and the creation of advisory boards. For example, for one of our first advisory boards, the Young Leaders Advisory Board, we selected 14 young employees to help us identify and capture the capabilities of the company’s young talent and maximize their contributions to realizing the Strategic Intent.



### Key Aspects of the 2020 Strategic Intent

<b>Shaping our business portfolio</b>	We aim to establish an integrated value chain approach in our crude oil mix, further develop the Kingdom’s unconventional gas resources, and become a leading global chemicals and refining company.
<b>Supporting the Kingdom in building a vibrant energy industry</b>	We aim to develop a dynamic Saudi energy sector by promoting an energy efficient economy, developing alternative energy options, and building a technology portfolio.
<b>Delivering an agile, flexible, and efficient organization</b>	We aim to achieve operational excellence and world-class reliability and safety performance through improved capital efficiency, agile decision-making and budgeting activities, insightful performance measurements, and business process improvement.
<b>Building capacity, knowledge, and skills</b>	We aim to improve our processes and systems of leadership selection and development, performance evaluation, innovation, and research and development. We will take the lead in developing a knowledge-based economy in Saudi Arabia.

*By 2020, Saudi Aramco aims to be the world’s leading integrated energy and chemicals company, focused on maximizing income, facilitating the sustainable and diversified expansion of the Kingdom’s economy, and enabling a globally competitive and vibrant Saudi energy sector.*



## ► Upstream

### **I**N OUR UPSTREAM OPERATIONS, WE CONTINUE TO LEAD THE INDUSTRY

in scale of production, operational reliability and technology development. We have made significant progress in both of our offshore developments: **Manifa**, the world's fifth-largest oil field, and **Karan**, the Kingdom's first non-associated offshore gas field. We have also made progress on the **Wasit Gas Plant**, which will be one of the largest integrated plants Saudi Aramco has ever built. Additionally in 2011, we began the first shallow-water exploration drilling project in the Red Sea. Our world-class research and development facilities have furthered our ability to explore and maximize extraction of the Kingdom's resources, especially in challenging and complex environments.



## ► Downstream

### **I**N OUR DOWNSTREAM OPERATIONS, WE CONTINUED EXPANSION OF OUR

global refining capacity and the integration of refining and chemicals facilities. To grow our chemicals business, we are moving forward with the development of **Petro Rabigh**, our joint venture with Sumitomo Chemical, and **Sadara**, our new joint venture with The Dow Chemical Co., which will be the largest petrochemical facility ever built in one phase. Our joint venture with Total Oil Co., Saudi Aramco Total Refining and Petrochemical Company (**SATORP**), is in the advanced stages of construction of one of the most complex refineries in the world. Also, **Motiva Enterprises**, our joint venture with Shell Oil Company, is on the verge of completing the expansion of its Port Arthur, Texas, refinery, making it the largest refinery in the U.S. We, along with our subsidiaries, have also improved our transport and supply system, ensuring our products are delivered safely and reliably to our customers worldwide.







**| Aiming Higher |  
Reinventing the Corporate Website**

Recognizing that our corporate website is the chief source of information about the company for many audiences, we launched the new [saudiaramco.com](http://saudiaramco.com) on May 29, 2011. More than a simple face-lift, the new site features enhanced search capability, interactive multimedia, and up-to-date content in addition to a fresh look. Its single-page construction is meant to evoke the sense of drilling and delving deeper through layers of data, just as drills bore down for hydrocarbons. This design takes advantage of mobile platforms, tablets and other touch-screen technologies that allow navigation through the site with a simple swipe.

► Our People

►  
The new Al-Midra Complex is home to 3,500 offices, a 500-seat auditorium, and a community center. Solar power panels on parking structures provide energy to the building.

**N**ONE OF THESE ACHIEVEMENTS WOULD HAVE BEEN possible without the dedication, resilience and creativity of our world-class workforce. In 2011, Saudi Aramco witnessed a **significant increase in the number of new employees** hired, and we continued to offer extensive training opportunities to employees at all levels of operations. We recognize that we are in the midst of a generational shift in our workforce – in five years, nearly 40 percent of our employees will be under the age of 30. To prepare for this, we have implemented knowledge transfer programs, mentoring programs, and changes to the organizational culture to maximize the creativity and potential for leadership among young workers. We continue to support the well-being of our employees through improvements to health, education and housing services. We also promote a culture of safety and ensure a healthy and safe workplace.



SAUDI ARAMCO 2011 ANNUAL REVIEW





9.1 million barrels of crude oil production  
(average per day)

9.9 billion standard cubic feet of gas production  
(average per day)

11.2 billion standard cubic feet peak daily gas  
production

161 oil exploration and development wells  
completed

103 gas exploration and development wells  
completed

► Overview



Upstream  
Overview

## Upstream

**W**HILE SAUDI ARAMCO MAY BE IN A PERIOD OF TRANSFORMATION, our core business imperative will always be to respond to global and domestic energy needs with a stable and reliable supply of oil and gas. Growing global and domestic demand for energy, coupled with unexpected supply disruptions in 2011, reaffirmed the importance of our strategy to continuously invest in crude oil increments in the Arabian Gulf and expand exploration in the Red Sea.

With our added gas production from the **Karan** offshore gas field, we achieved a peak daily production of 11.2 billion standard cubic feet. As part of our strategy to facilitate economic diversification and job creation, we have begun pilot projects using high-end technology to extract **unconventional gas**, including tight gas and shale gas. There are early indications that the Kingdom's unconventional gas resources may rival its extensive conventional gas reserves.

In addition to expanding and diversifying our production capabilities, Saudi Aramco is focused on achieving **operational agility** by fostering teamwork, cooperation and accountability within our organizational culture. Our Upstream Cross-Functional Asset Teams are designed to cross traditional organizational borders to help solve problems and control production costs without compromising safety, the environment, reservoir health or recovery. In 2011, this team concept was expanded to all 15 active oil and gas assets. Their collaboration has already resulted in more efficient production.





## EXPLORATION HIGHLIGHTS

1 new oil field discovered

1st shallow-water exploration well drilled in the Red Sea

Developed Geo-Knowledge online data access solution, allowing upstream data to be readily accessed, governed, visualized, tracked and analyzed

## ► Exploration

**IN 2011, SAUDI ARAMCO CONTINUED USING INDUSTRY-LEADING TECHNOLOGY** for its Kingdom-wide exploration efforts, focusing on frontier areas in the Red Sea and complex reservoirs onshore and offshore.

With the addition of Wedyan-1, a wildcat oil well located in the Rub' al-Khali, 450 kilometers southeast of Dammam, we reached **113 total oil and gas field discoveries**. The well flowed 2,300 barrels of oil from the Mishrif reservoirs. This well was the second new oil field discovery in the Rub' al-Khali since Saudi Aramco resumed exploration activities in the area in 2005.

Our onshore activities were complemented by a significant expansion of our exploration operations in the **Red Sea**. Saudi Aramco began drilling its first shallow-water well in the Red Sea in December. Our teams undertook numerous seismic surveys using new technologies that improve the definition of subsurface salt bodies. They also processed and interpreted the data using a variety of new geophysical methods and seismic, electromagnetic, and gravity-based technologies. While data processing is ongoing, the teams have completed initial analysis of the offshore areas southwest of Julayjilah and in the Midyan area.

The exploration team also completed 32 integrated 3D geological models covering 60 oil and gas reservoirs, fulfilling field and reservoir development strategies. These models enhance field performance prediction, well planning, and reserves assessments.

The team developed in-house patent-pending MonoSat technology that can derive critical reservoir parameters from conventional well logs in carbonate reservoirs and use them to accurately calculate water saturation, a critical parameter for reserves assessments and reservoir simulation studies.

Saudi Aramco has filed another patent application for advanced petrophysical algorithms that foster the shift from well-centric to model-centric workflows. Previously, 3D geological models of reservoirs would take months to be updated with data, and therefore were used only for studying reservoirs. Now, Saudi Aramco geoscientists can create **real-time 3D models** that enable pinpoint accuracy and provide instant road maps for drilling. Applied in the Ghawar field, the technology improves the calculations of saturation and permeability, resulting in dramatically reduced time to update the models and an improved understanding of complex reservoirs.

In 2011, we achieved a milestone in the development of the **Geo-Knowledge online data access solution**. With Geo-Knowledge, we can assemble information from corporate databases and geological and geophysical specialists, and integrate it with knowledge related to specific disciplines or exploration areas and fields. Our team can readily access, govern, visualize, track and analyze upstream data in an efficient and time-saving manner.

Our Computational Modeling Technology team continued to improve the speed and computational capability of **GigaPOWERS™**, Saudi Aramco's proprietary reservoir simulation technology. Developed in-house to handle the needs of Saudi Arabia's extensive reservoirs, it is the world's only reservoir simulator with the ability to handle massive models while also being coupled with state-of-the-art visualization technologies. The Hyper-Dimensional Simulation environment allows engineers to use hand gestures and voice commands to collaborate more effectively and manage huge amounts of subsurface data. With this award-winning technology, our engineers can obtain exceptional insights into the activity of Saudi Arabia's hydrocarbon fields and devise the most strategic production plans to greatly increase oil and gas recovery and the longevity of the Kingdom's reservoirs.

The Exploration and Petroleum Engineering Center (EXPEC) Computer Center (ECC) provides the technical computing required to sustain our oil production capacity and to meet the demands for gas. In addition, the ECC's **high-performance computing environment** for seismic processing and reservoir simulation increased its computing capacity to 570 TFLOPS (trillion floating-point operations per second). We also added new technology clusters and storage for seismic data processing, as well as a state-of-the-art visualization cluster for visualizing the GigaPOWERS simulation models.

In 2011, the Society of Exploration Geophysicists awarded Saudi Aramco scientists the **Distinguished Lecturer Award** and the Best Paper Award at its annual conference.

*"The GigaPOWERS team is moving in a dynamically strategic direction — into uncharted territory — to bring brand new capabilities not yet available in the industry to our reservoir engineering customers."*

— Samer Al Ashgar,  
EXPEC ARC Manager, at the first GigaPOWERS  
Forum in November 2011

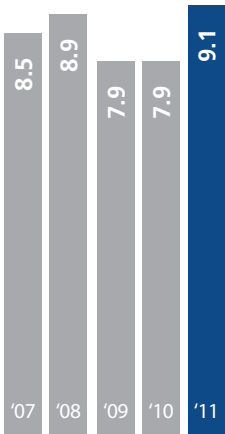
### | Aiming Higher | Wireless Telemetry Systems for Exploratory Well Testing

Wireless technologies are already transforming the way Saudi Aramco's exploration teams make decisions and navigate complex testing operations. We are leading the industry in wireless telemetry systems with wireless pressure and temperature measurement devices that can send real-time data to the surface from several kilometers below ground. This pioneering technology allows engineers on the ground to make

more informed, timely decisions during exploration. Our engineers have successfully completed tests of an even more advanced model that allows two-way wireless communication between equipment above and below ground. Additional testing is under way on technology that would give engineers above ground full control of underground equipment to optimize time and cost, and mitigate safety risks.



Oil Operations



CRUDE OIL PRODUCTION  
AVERAGE PER DAY  
(MILLIONS OF BARRELS)

**I**N 2011, SAUDI ARAMCO FOCUSED ON DEVELOPING THE MANIFA FIELD, the fifth-largest oil field in the world, located offshore in the Arabian Gulf. Overall offshore construction is 97 percent complete, including all offshore platform decks, subsea pipelines for crude oil gathering and water injection, and subsea power and communication cables. Construction of the central oil and gas processing facility (CPF) was nearly three-quarters complete by year-end and all major equipment has been installed.

We also completed all 27 manmade islands and the main and lateral causeways for Manifa. The islands were constructed to host shallow-water wells, which are more cost effective than offshore rigs. We conducted extensive engineering and ecological assessments to ensure that the marine ecosystem would not be adversely affected by the development. As a result of these studies, we are constructing three kilometers of bridges to span the migration paths of various marine species.

When the development is finished in June 2013, it will include 41 kilometers of causeways, three kilometers of bridges, 27 drilling islands, 13 offshore platforms, 15 onshore drill sites, water supply wells, injection facilities, multiple pipelines and a 420 megawatt

heat and electricity plant. By the time it is fully operational in December 2014, the Manifa Field is expected to produce 900,000 bpd of Arabian Heavy crude oil, 90 million scfd of sour gas, and 65,000 bpd of hydrocarbon condensate.

To sustain oil and gas production from both new and existing fields, Saudi Aramco continued work on its offshore and onshore **Maintain Potential Programs**. As part of the onshore project, 104 new oil and water wells were completed, adding nearly 413,000 bpd of oil production capacity. In June 2011, the offshore project was completed as scheduled.

In support of the Kingdom's strategy to maintain spare production capacity, Saudi Aramco has undertaken a significant expansion of our

CLASSIFICATIONS OF SAUDI CRUDE OIL:

Arabian Super Light (ASL)	API >40°
Arabian Extra Light (AXL)	API 36-40°
Arabian Light (AL)	API 32-36°
Arabian Medium (AM)	API 29-32°
Arabian Heavy (AH)	API <29°

drilling rig fleet. Our development activities in the crude oil and gas programs added rigs in 2011 and will add more in 2012. Most of these additional rigs are destined for the Manifa, Hasbah and Arabiyah fields.

Work continued on the **Safaniya Phase 1 Upgrade** to maintain Safaniya's maximum production capacity of Arabian Heavy crude oil. Construction levels reached 35 percent, and flow-line upgrades were successfully completed.

Multiphase pumps tested in **Haradh** and **Shaybah** fields proved their ability to revive dead or marginal wells and economically increase recovery. The Haradh multiphase pump was capable of reducing back pressure on a dead well to produce 3,000 bpd. The Shaybah test revived a marginal well, recovering an additional 8,000 bpd.

Saudi Aramco conducted the industry's first field test of a **downhole drilling microchip** capable of transmitting data to significantly improve drilling. In a collaborative research project with the University of Tulsa in the United States, we developed a miniature device capable of recording data while traveling in the well and returning to the surface with the drilling fluid. Once recovered at the surface, the recorded data can be downloaded wirelessly for use at the rig site or transmitted back to an operations center.

We also developed and patented a design for a polycrystalline diamond compact drilling bit, an invention with the potential to save Saudi Aramco millions of dollars in our drilling operations Kingdom-wide.

In 2011, Shaybah Producing Facilities won the Gulf Cooperation Council's **Environmental Excellence Stewardship Award** for the category of "Best Industrial Establishment Complying with Environmental Standards & Regulations." Among the initiatives that led to the award were implementation of zero flaring technology, wastewater recycling, emissions recovery and wildlife protection. The award reflects Saudi Aramco's diligence in adhering to the best environmental standards, applying state-of-the-art technologies, and spreading environmental awareness to the community.

Saudi Aramco won the Society of Petroleum Engineers (SPE) **Distinguished Service Award for Contributions to Society**. The Saudi Arabian chapter of the SPE, led by employees of Saudi Aramco, was honored with their fourth consecutive (and fifth overall) President's Award for Section Excellence.

In addition, EXPEC ARC took home World Oil's Best Production Chemicals Award for a new gelation retarder, which boosts the economic life of oil and gas wells by improving our ability to stop water from flowing out of the wells.

**"The resource we have is oil. The other components we bring to the table are innovation, expertise and dedication."**

— Omar Abdul-Hamid,  
Research and Development Center Manager,  
at the Fuel Technology Workshop  
hosted by Saudi Aramco



**| Aiming Higher |**  
**Zero discharge technology becomes the standard at onshore wells**

Saudi Aramco has adopted a zero discharge technology as the standard practice for its onshore wells. In 2011, the technology was successfully implemented in several onshore oil and gas wells, dramatically changing oil well testing operations. By eliminating gas flaring and open discharge of liquid hydrocarbons, the technology conserves valuable hydrocarbon resources, reduces in-rig time, enhances process safety, and reduces the environmental impact of extraction. The new technology uses chemical neutralization, followed by multiphase separation processes to recover hydrocarbons. In September, the technology was also successfully piloted in three offshore wells in Safaniya and will soon be extended to new drilling platforms in all Saudi Aramco offshore fields.

OIL OPERATIONS HIGHLIGHTS

161 oil exploration and development wells completed

Shaybah Producing Facilities won the GCC's Environmental Excellence Stewardship Award in the category of "Best Industrial Establishment Complying with Environmental Standards and Regulations"

Zero discharge technology adopted as standard practice at all onshore wells





GAS OPERATIONS HIGHLIGHTS

103 exploration and development gas wells completed

Raw gas production reached an all-time high of 11.2 billion scfd

Construction neared completion on the Karan Field, Saudi Arabia's first non-associated gas field in the Arabian Gulf

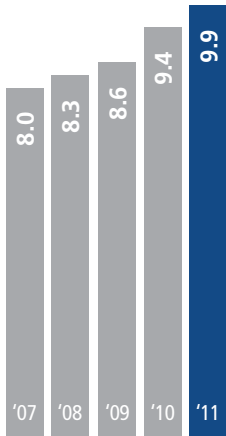


*“Unconventional gas exploration and development will definitely provide new challenges and opportunities for growth, especially in geology, geophysics and engineering. Since highly specialized knowledge and technology are required, we are evaluating ways to accelerate building the needed technical capabilities.”*

— Brian Gratto,  
Team Manager of the Unconventional  
Gas Initiative Team

► Gas Operations

**I**N 2011, SAUDI ARAMCO FOCUSED HEAVILY ON MAJOR OFFSHORE gas developments in the Arabian Gulf, as well as its new facilities for gas processing and natural gas liquids (NGL) fractionation. In 2011, we reached a one-day peak of 11.2 billion scf of raw gas production.



**GAS PRODUCTION**  
(RAW GAS TO GAS PLANTS –  
AVERAGE PER DAY) (BILLION  
STANDARD CUBIC FEET)

In order to focus on accessing the Kingdom's unconventional gas resources, which may rival its conventional gas reserves, we launched the **Upstream Unconventional Gas Program** in 2011. The development of new technology in areas of reservoir imaging, production enhancement, fracture detection and drilling optimization has dramatically improved the feasibility and affordability of unconventional gas production. As part of the 2020 Strategic Intent, the Unconventional Gas Program aims to augment conventional gas supplies to satisfy the growing demand for energy in the Kingdom well into the future. This will enable Saudi Aramco to allocate crude oil toward high-value streams, while also creating new job opportunities in the gas field services industry.

Construction is nearing 90 percent completion on the **Karan Field**, Saudi Arabia's first non-associated gas field in the Arabian Gulf. Discovered in 2006, the Karan field is being

developed to meet the Kingdom's increasing demand for sales gas, industrial feedstock, water desalination and electric power generation. Non-associated gas fields do not have an associated oil column and, therefore, can be accessed without producing oil. The field will be produced from 21 increment wells distributed over five offshore wellhead platforms. The raw gas will be transported through a 110-kilometer subsea pipeline to the Khursaniyah Gas Plant for processing.

In 2011, the Karan offshore platforms, power facilities, subsea pipelines, and gas processing facilities located at Khursaniyah Gas Plant achieved partial mechanical completion. This allowed for the production of 400 million scfd of gas by mid-year. The project is on-track for completion in 2012. By 2013, we will be able to process 1.8 billion scfd of non-associated sour gas from the Karan field in new facilities within the Khursaniyah

Gas Plant. The gas plant will also be debottlenecked to process 90 million scfd of sour gas and 65,000 bpd of sour condensate from the Manifa Field.

Saudi Aramco has begun drilling in the **Hasbah** and **Arabiyah** offshore gas fields, located northeast of Dhahran. We have broken several records with these drilling activities, including drilling the largest diameter holes and running the longest casing strings. Hasbah will have seven single-well platforms and supply the Wasit Gas Plant with 1.3 billion scfd of non-associated gas. Arabiyah will have six wells and supply Wasit with 1.2 billion scfd of gas.

Major progress has also been made on the new **Wasit Gas Plant**, which will be one of

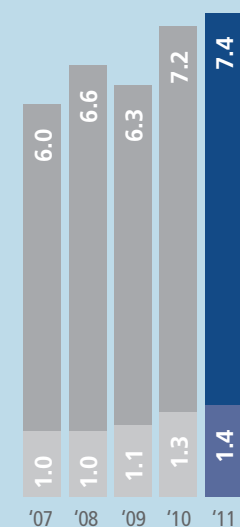
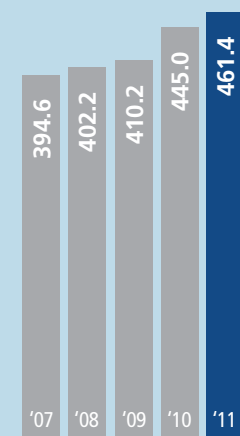
the largest gas plants Saudi Aramco has ever built when it is completed in 2014. Site development, temporary facilities and communications systems are almost complete. As a stand-alone gas plant, its integrated facilities will process 2.5 billion scfd of non-associated gas from the offshore fields of Arabiyah and Hasbah. Under normal conditions, Wasit is expected to supply 1.75 billion scfd of sales gas, though it has a production potential of up to 3.05 billion scfd from the two offshore fields during emergencies or demand peaks in summer. The facility will also process ethane, propane, butane and natural gasoline. Wasit will be the first in the Kingdom to use Sulfinol-M gas treating technology to improve the efficiency of sulfur recovery up to 99.3 percent.



**| Aiming Higher |**  
**Local contractors and manufacturers**  
**contribute to Karan development**

For the Karan Program, Saudi Aramco made efforts to improve local participation in construction and procurement. Early in the program, local design offices carried out engineering studies in preparation for the detailed design. Much of the equipment was manufactured in-Kingdom, from high-pressure vessels and injection skids to fusion epoxy pipe coating. The majority of construction work for the plant was also executed by local contractors, including site preparation, pipe welding and installation, and electrical substation building.



**DELIVERED SALES GAS**  
(TRILLIONS OF BTUS PER DAY)**DELIVERED ETHANE GAS**  
(TRILLIONS OF BTUS PER DAY)**NGL PRODUCED FROM HYDROCARBON GASES**  
(MILLIONS OF BARRELS)**SULFUR RECOVERY**  
(MILLIONS OF METRIC TONS)

Saudi Aramco is meeting development targets for the **Shaybah Natural Gas Liquids (NGL) Program**, another major gas plant scheduled for completion in 2014. Shaybah is expected to help Saudi Aramco meet increasing demand for petrochemical feedstock by recovering valuable NGL from produced gas. This will be achieved by increasing the capacities of Shaybah's four existing gas-oil separation plants to meet higher gas-oil ratios. Shaybah's NGL recovery plant is expected to process 2.4 billion scfd of gas to recover 240,000 bpd of ethane.

Saudi Aramco developed a new technology called **Online Predictive Model** for the Master Gas System that provides real-time data to improve the decision-making process and optimize network performance under varying operational scenarios. It enables us to determine the survival time of the network under current operating conditions and allows us to simulate hypothetical operating scenarios and predictions for survival time in the event of a major gas plant shutdown.

In 2011, Saudi Aramco earned international recognition from the International Gas Processors Association (IGPA) and the U.S. National Safety Council (NSC) for **outstanding safety performance** in 2010. The IGPA awarded the Perfect Record Award to several Saudi Aramco gas plants including the Ju'aymah and Yanbu' NGL fractionation plants, and the Haradh, Shedgum, 'Uthmaniyah, Hawiyah and Khursaniyah gas plants.

Yanbu' Refinery received the NSC's Industry Leader Award, which recognizes the top 5 percent of member companies, units and facilities that have qualified for its Occupational Excellence Achievement Award.

Another major achievement in 2011 was the successful installation of the first **Gas Treating Membrane Technology Plant** at Shedgum Gas Plant. This pilot program studies the removal of nitrogen and acid gas contaminants, as well as the membrane's durability and maintainability for sour gas services. We will complete performance tests by mid-2013. Due to the scale and integrated design of the project, world-class gas processors have approached Saudi Aramco to collaborate on research and development of membranes. Also at Shedgum and 'Uthmaniyah, we have upgraded 10 sulfur recovery units to increase sulfur recovery from 95 percent to 98.7 percent and to reduce sulfur dioxide emissions.

We rolled out our **Asset Performance Management (APM)** program at the Shedgum Gas Plant to transform operations and maintenance through a proactive, integrated and performance-focused approach. The APM helped Saudi Aramco identify areas for improvement and develop action plans to optimize plant performance. All engineering disciplines have received manuals in preparation for company-wide deployment of the APM.

**| Aiming Higher |**  
**Carbon Dioxide Capture and Injection Technology reduces emissions**

In line with our commitment to minimize our environmental impact, Saudi Aramco is building a new carbon dioxide capture facility and transport system to reduce greenhouse gas emissions and enhance oil recovery. It will compress and dry carbon dioxide from the Hawiyah NGL Recovery Plant, then transport the gas to the 'Uthmaniyah gas-oil separation plant and inject it into the Ghawar oil field. When the carbon dioxide mixes with the oil in the rock, it reduces the oil's viscosity, allowing more oil to flow into the wells, thus boosting production. When completed in 2013, the project will demonstrate the viability of this technology for the rest of Saudi Aramco's fields.

**| Aiming Higher |**  
**Gas Operations strives for energy efficiency**

We have introduced a unique energy efficiency program for our Gas Operations organization that will reduce facility energy intensity by 26 percent, a target we hope to achieve by 2015. We aim to achieve a 10 percent reduction through various plant operation optimizations and process improvements. The remaining 16 percent reduction in energy intensity will be achieved through capital projects in new or expanded facilities.

In 2011, energy intensity was significantly reduced by more than 5 percent — surpassing our 2 percent target — through effective implementation of the efficiency program elements. This included a part-time energy team, a full-time energy engineer, installation of monitoring tools, and energy assessment studies.



**495** million barrels of refined products produced in-Kingdom (Saudi Aramco share)

123 million barrels of refined products exported

4.02 million barrels per day worldwide refining capacity (Saudi Aramco share)

2,964 total ship calls at Saudi Aramco terminals

550 million barrels of domestic product sales

**332** million barrels of natural gas liquids (NGL) exported

► Overview



## Downstream Overview

# Downstream

**I** N 2011, SAUDI ARAMCO ACHIEVED A MILESTONE IN ITS transformational downstream growth strategy with the launch of a joint venture with The Dow Chemical Co., named Sadara, which will construct, own and operate a world-scale integrated chemicals complex in Jubail Industrial City II, in the Eastern Province of the Kingdom. Sadara represents Saudi Aramco's commitment to investing downstream, expanding business operations, and diversifying the Kingdom's economy. We also continue to expand our refining facilities in the Kingdom and internationally.

We have worked hard to ensure reliable delivery of oil to our customers through improvements to the Vela fleet, pipelines, and trucking systems. Saudi Aramco continues to work with other members of the Gulf Cooperation Council to test and maintain a contingency model in the event of a product supply disruption.





► Refining and  
Petrochemicals

**I**N NOVEMBER, SAUDI ARAMCO ANNOUNCED THE FORMATION OF a joint venture in Jubail with The Dow Chemical Co. named **Sadara Chemical Company**. When it becomes operational in 2015, Sadara will be the largest petrochemical facility ever built in a single phase. With the benefit of Dow's product technologies and Saudi Aramco's project management and execution capabilities, the facilities will produce a range of products destined for the emerging markets of Asia, the Middle East and Africa. Sadara is expected to create thousands of job opportunities, both directly and indirectly. It will be the cornerstone of Saudi Aramco's effort to grow our chemicals business as well as promote significant investment in downstream industry.

REFINING AND PETROCHEMICALS HIGHLIGHTS

600 jobs created for Saudi nationals by joint venture Sadara Chemical Company before year-end 2011

Saudi Aramco Mobil Refinery Company Limited (SAMREF) began construction on the Clean Fuels Project, which is expected to reduce the sulfur levels by more than 98 percent in gasoline by 2013 and in diesel by 2016

729 jobs and 350 apprenticeships created by the Saudi Aramco Total Refining and Petrochemical Company (SATORP) one year before operations begin



The front-end engineering development effort for Sadara is complete. Major contracts have been awarded for site preparation, waste treatment, and power and water services. By the end of 2011, more than 600 Saudi nationals had already been hired and assigned to training programs in operating plants in Europe, the U.S., and other locations. Sadara's Board of Directors met for the first time in December in Houston to approve the first annual operating plan, the capital budget, and management authority.

In 2011, **Petro Rabigh**, Saudi Aramco's equity venture with Sumitomo Chemical, completed its second full year of commercial operations, maintaining stable and high operating rates along with improved prices and controlled costs. Petro Rabigh is an integrated refinery and petrochemical plant located 165 kilometers north of Jiddah on the Red Sea coast. It is comprised of 23 state-of-the-art plants that have the capacity to annually produce 18.4 million tons of petroleum-based products and 2.4 million tons of ethylene and propylene-based derivatives.

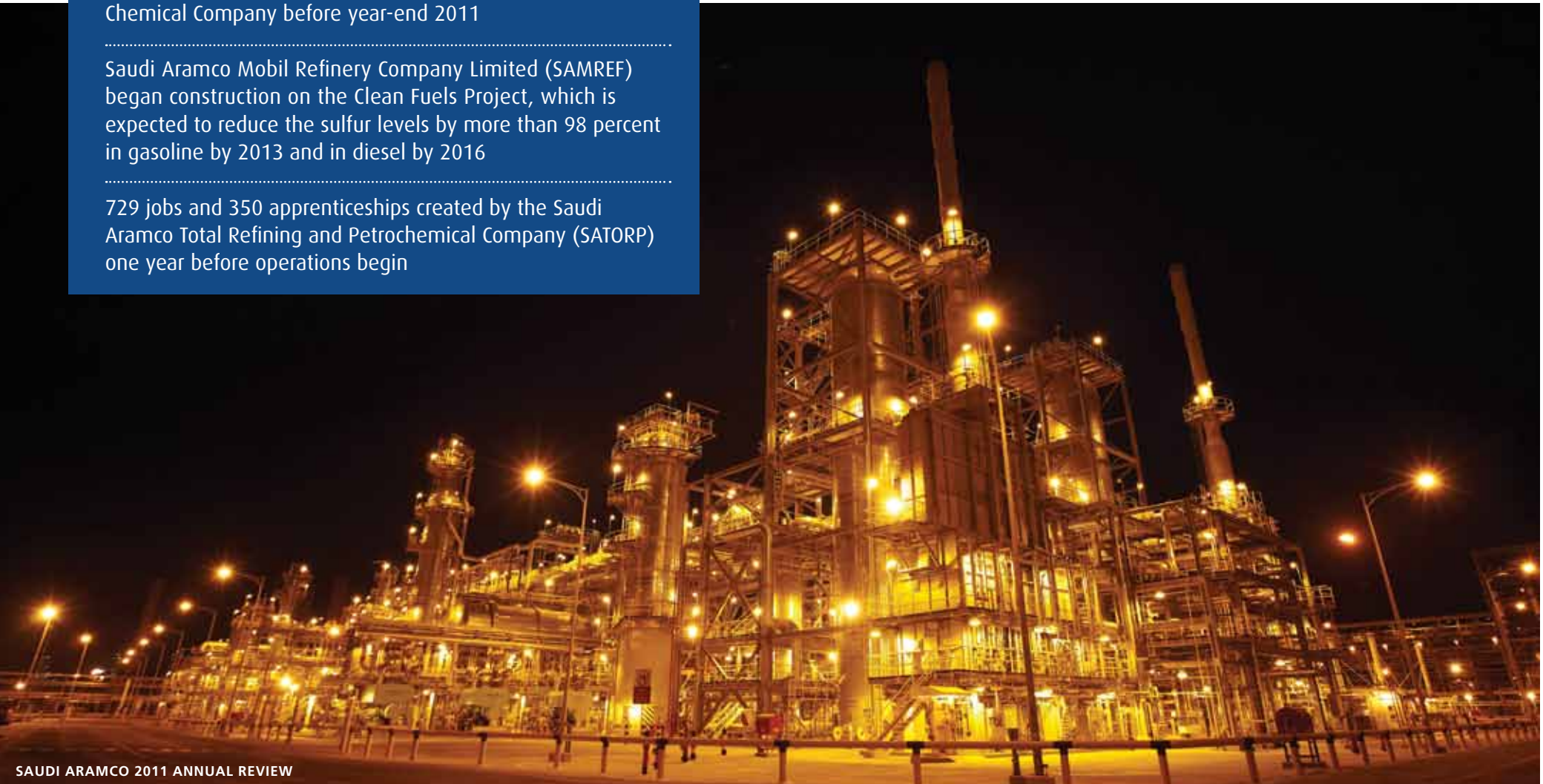


The second phase of the venture, Petro Rabigh Phase II, has reached the advanced stages of a joint feasibility study and all major "invitation to bid" packages have been released to the market. The final investment decision is anticipated to take place during the first half of 2012. The integrated complex will introduce a diverse slate of products from petrochemical commodities to specialty products, many of which are new to the Kingdom.

Aramco Overseas Company, a subsidiary of Saudi Aramco, and PetroChina, a subsidiary of China National Petroleum Corporation, signed a Memorandum of Understanding in March related to the **development of a refinery in Yunnan Province** in China. The proposed refinery will process 200,000 bpd of crude oil, primarily Arabian grades, and produce high-quality refined products, such as ultra-low-sulfur gasoline and diesel that meet current and future Chinese products specifications. The project enhances a strategic partnership between a major producer and a major consumer of hydrocarbons while also presenting an opportunity for additional energy security and increased industrialization in China.

*"This joint venture signals an important new chapter in Saudi Aramco's storied history, as well as the logical next step in our company's evolution. ... Investing at the scale of Sadara, and with such an advanced product slate, is also consistent with our intent to become the world's leading integrated energy company by the year 2020."*

—Khalid A. Al-Falih,  
Saudi Aramco President and CEO, speaking at  
the signing ceremony of Sadara  
in Dhahran on Feb. 8, 2011







| Aiming Higher |  
Saudi Aramco focuses on producing  
cleaner fuels and reducing emissions

The Clean Fuels and Aromatics Project will support one of Saudi Aramco's corporate objectives to conduct business in an environmentally responsible manner by upgrading existing diesel and gasoline products at Ras Tanura Refinery to be more environmentally friendly. The refinery will produce feedstock for the Sadara facility and paraxylene for export.

In addition, Saudi Aramco continually:

- Monitors air quality and supplies its plants with new technologies to prevent harmful emissions
- Builds installations in accordance with national and international environmental standards
- Maintains an extensive network of technologically advanced stations that have monitored air quality and meteorology since 1982

The Chinese petrochemical company Sinopec, our largest customer of crude oil, entered negotiations to participate in the Red Sea Refining Company (RSRC), our proposed joint venture refinery in Yanbu'. We signed a Memorandum of Understanding in March 2011 agreeing that Saudi Aramco will own 62.5 percent and Sinopec will own 37.5 percent of RSRC equity. Renamed **Yanbu' Aramco Sinopec Refining Company** (YAS-REF) Limited, it is Sinopec's first international downstream investment. When completed in 2014, the refinery will process 400,000 bpd of Arabian Heavy crude oil and produce high-quality transportation fuels. Now 10 percent complete, it is expected to create 1,200 direct and 5,000 indirect job opportunities.

The expansion of the **Port Arthur, Texas, refinery by Motiva** (pictured above), a joint venture between our subsidiary company, Saudi Refining, Inc., and Shell, located in the United States, moved much closer to completion during the year. When completed in 2012, the expansion will bring an additional 325,000 bpd of capacity online in the U.S. Gulf Coast region, reaching a total plant capacity of 600,000 bpd.

**Saudi Aramco Mobil Refinery Company Limited (SAMREF)**, our joint venture with ExxonMobil, commenced construction in June 2011 of the Clean Fuels Project at its refinery in Yanbu'. The project will reduce the sulfur levels in gasoline and diesel by more than 98 percent, to 10 parts per million, which will meet environmental regulations of the Kingdom of Saudi Arabia and international product quality regulations. The project involves significant modifications to the refinery including new hydrotreating and sulfur recovery facilities and has an estimated completion date of December 2013. This investment is the largest in SAMREF history and will strengthen the company's competitive position for years to come by producing world-class fuels that adhere to the highest environmental standards.

We are in the design phase of the **Jazan Refinery and Terminal Project** on the west coast. When completed in late 2016, the refinery will process 400,000 bpd of Arabian Heavy and Arabian Medium crude oil and produce gasoline, ultra-low sulfur diesel, and benzene. The refinery is expected to generate 1,000 direct and 3,000 indirect jobs.

To support Saudi Aramco's expansion into the petrochemicals business, our scientists are researching the production of ethylene and propylene from alternative liquid feedstocks. After conversion, the chemicals are suitable for integrated petrochemical processes. New cracking technologies are helping Saudi Aramco make new products in new ways and generate more value from the Kingdom's natural resources as well as increasing the company's intellectual capital.

| Aiming Higher |  
SATORP mega-project nearing completion

Construction, engineering and procurement have advanced significantly at our joint venture with France's Total Oil Co. called Saudi Aramco Total Refining and Petrochemical Company (SATORP). When completed, it will be the seventh-most complex refinery in the world. Located in Jubail, the 400,000 bpd full-conversion refinery with integrated petrochemical processing will be the first producer of petroleum coke and paraxylene in the Kingdom. The inaugural crude oil intake is scheduled for December 2012, and the refinery will be fully operational by the third quarter of 2013.

As of November 2011, 16.1 million safe man-hours were achieved on the project. SATORP has already hired 729 employees and has 350 apprentices in training at Saudi Aramco facilities and refineries. After completing specialized training at the Institute of French Petroleum and at Total refineries, the first group of young engineers has returned to SATORP facilities to assist with the start-up. A second group has been recruited and begun similar training.

The \$14 billion project is partially financed through a shariah-compliant sukuk instrument. In October, SATORP closed the final offering of \$1 billion on the sukuk, the Islamic equivalent of bonds, after receiving significant demand from investors, financial institutions, mutual funds, insurance companies, pension funds and individuals. The 16-year financing for the mega-project won two awards in 2011 from Project Finance International and Project Finance Magazine.



RASTANURA	550
RIYADH	124
JIDDAH	88
YANBU'	240

DOMESTIC REFINING CAPACITY  
(THOUSANDS OF BARRELS PER DAY)

PETRO RABIGH	400	(37.5%)*
SAMREF	400	(50%)
SASREF	305	(50%)

DOMESTIC JOINT VENTURES REFINING CAPACITY  
(THOUSANDS OF BARRELS PER DAY)

\* Saudi Aramco ownership

MOTIVA	725	(50%)*
S-OIL	652	(35%)
SHOWA SHELL SEKIYU K.K.	395	(14.96%)
FRPC	240	(25%)

(Fujian Refining and Petrochemical Company Ltd.)

INTERNATIONAL JOINT VENTURES REFINING CAPACITY  
(THOUSANDS OF BARRELS PER DAY)

\*Saudi Aramco affiliate ownership

WOD	1,002
(Wholly-Owned Domestic)	
DJV	1,005
(Domestic Joint Ventures)	
INTERNATIONAL JOINT VENTURE	2,012
WORLDWIDE	4,019

TOTAL REFINING CAPACITY  
(THOUSANDS OF BARRELS PER DAY)



#### TRANSPORTATION AND DISTRIBUTION HIGHLIGHTS

First crude oil shipment made to new storage facility in Okinawa, Japan, opening up market reach to the U.S. West Coast and northern Asia

Implemented an Environmental Management System (EMS) based on ISO 14001-2004 specifications, part of our strategy to further improve our environmental performance

Launched Saudi Aramco Product Trading Company to support our expanding in-Kingdom and overseas downstream investment portfolio

**S**AUDI ARAMCO CONTINUES TO DEMONSTRATE ITS COMMITMENT to meeting future demand by undertaking a significant downstream capital program via investments through its subsidiaries, affiliates and joint ventures in Saudi Arabia and abroad. Saudi Aramco has established the **Saudi Aramco Product Trading Company**, a wholly-owned subsidiary, known as Saudi Aramco Trading, to maximize downstream integration and generate value by leveraging its growing global system. The Dhahran-based subsidiary will buy and sell naphtha, gasoline, diesel, jet fuel and heavier refined products as well as basic petrochemicals in order to optimize and support Saudi Aramco's expanding in-Kingdom and overseas downstream investment portfolio. Saudi Aramco Trading is scheduled to begin commercial operations in 2012.

CRUDE OIL	2,032
PRODUCTS	710
LPG	222
<b>TOTAL</b>	<b>2,964</b>

#### SHIP CALLS BY PRODUCT TYPE AT SAUDI ARAMCO TERMINALS (EXPORTS FROM RAS TANURA, JU'AYMAH AND YANBU' AND TRANSFERS AT JIDDAH, RABIGH, YANBU' AND COASTAL BULK PLANTS)

Saudi Aramco subsidiary **Vela International Marine Limited** continued to improve the efficiency and security of the 20 vessels it operates to transport crude oil and refined products. In 2011, Vela completed major projects to improve its communications and loading system, and added new security measures to reduce exposure to risks.

Vela won the Tanker Operator Award at the Seatrade Middle East Maritime Awards in Dubai for outstanding management. Twelve of Vela's crude oil tankers received the Jones F. Devlin Safety Award at the Chamber of Shipping of America's Annual Safety Awards Luncheon in New Orleans.

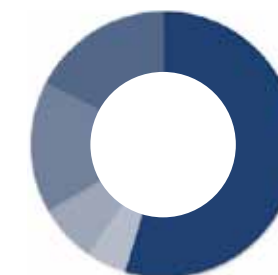
In February, Saudi Aramco and the Japanese government inaugurated commercial storage of Saudi Aramco crude oil at **Okinawa terminal** in Japan, giving us marketing reach to the U.S. West Coast and northern

Asia — a landmark achievement. The first shipments reached South Korea's GS-Caltex in August and the U.S.'s ConocoPhillips in September.

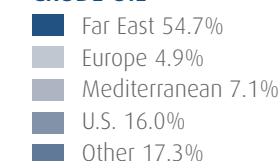
We took important steps to expand our distribution infrastructure into a variety of modes of transportation. In October, Saudi Aramco signed a Memorandum of Understanding with Saudi Railway Co. to explore ways to use the **rail network to transport petroleum products** from the Jubail Bulk Plant to al-Jawf and Turaif Bulk Plants. This initiative supports the Kingdom's plan to promote rail infrastructure, and it will enhance safety on the highways by eliminating the daily movement of approximately 300 trucks between Doha, al-Jawf and Turaif Bulk Plants. The railway will link a number of cities and villages in Saudi Arabia and will move passengers, freight and minerals.



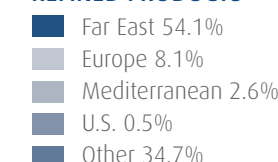
#### EXPORTS BY REGION



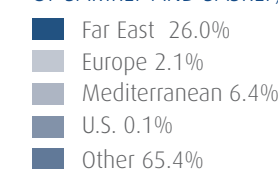
#### CRUDE OIL



#### REFINED PRODUCTS



#### NGL (INCLUDES SALES ON BEHALF OF SAMREF AND SASREF)





*To take employees and supplies to remote or inaccessible project sites, Saudi Aramco operates the world's largest fleet of corporate aircraft, with 17 airplanes and 20 helicopters. In 2011, Saudi Aramco clocked a half million passengers, 32,000 flight hours, and 95,000 landings.*



Saudi Aramco continues to work with other members of the Gulf Cooperation Council (GCC) to test and maintain a contingency model in the event of an interruption to distribution. At the request of the Ministry of Petroleum and Mineral Resources, Saudi Aramco developed a **Gulf Cooperation Council Contingency Plan Model** to simulate and optimize movement of refined products between Gulf countries during emergencies. In April, Saudi Aramco conducted a hands-on training session on the model for 18 representatives from GCC countries and the Ministry of Petroleum and Mineral Resources. The training included running several scenarios on the model to produce optimum responses in case of shortages or disruptions in supply from any GCC country.

We have developed and implemented an **Environmental Management System (EMS)** based on ISO 14001-2004 specifications. The EMS is part of our strategy to improve our environmental performance in our distribution and transport facilities. We launched a communications campaign to introduce employees to the EMS and distributed manuals explaining the new policies and procedures. We incorporated mitigation objectives, monitoring requirements, controls, and performance targets into our operating plans and are also working to incorporate the EMS into employee development training.





**56,066** employees worldwide from 77 countries

**297** course sessions attended by 4,000 employees at the Upstream Professional Development Center

**2,340** employees and 17 departments benefitting from Knowledge Transfer program

**14** percent decrease in Lost-Time Injury Rate

**248** employees completed 35 years of service without an incident

**996** new home loans granted and 270 free lots distributed to eligible employees



► Overview



Our People  
Overview

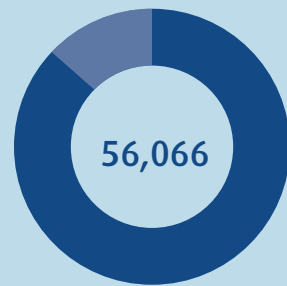
## Our People

**A**T THE HEART OF OUR OPERATIONS IS OUR DEDICATED, WORLD-CLASS workforce. As our business continues to expand and transform, we aim to attract, develop, and retain the best employees in the marketplace. We are committed to investing in the knowledge and skills of our people, ensuring their health and safety, and fostering community growth.

As our most experienced engineers, technicians and specialized personnel reach retirement, a new crop of young professionals joins our ranks. We must both transfer our expertise and values to this new generation, and invigorate our organizational culture with their innovative and entrepreneurial thinking. In pursuit of these goals, we are embracing quick decision-making, increased accountability, and cross-disciplinary approaches. We recently established a Young Leaders Advisory Board to advise senior leadership on younger employees' views of our transformation journey, and to learn from their ideas and insights.



► Workforce



Total Number of Employees 56,066  
■ Saudi nationals 48,647  
■ Expatriates 7,419

87%  
Percentage of Saudi nationals  
in the Saudi Aramco workforce

1,618  
Total number of direct hires

100,812  
Total number of  
contractor personnel

77  
Total number of countries  
represented in our workforce

**R**ECRUITING THE WORLD’S MOST TALENTED WORKERS IS ESSENTIAL as we aim to transform our business and expand our operations, particularly in areas that require new kinds of technical expertise and training. In 2011, we hired 1,618 new employees, the largest number since the recruitment drives of the late 1970s and early 1980s. To recruit candidates, Saudi Aramco participated in a number of career fairs and conferences in the Kingdom and abroad. Our local and international marketing campaign, “Dream Big,” was successful in enticing quality graduates and professionals to join our company.

As we conduct our in-house campaign to employ more Saudi nationals, we have also been working toward the **Saudization of our contractor workforce**. The Saudization rate of the major service companies utilized by our upstream operations has doubled over the past 10 years to an average of 50 percent of total manpower across all segments. This figure is expected to reach an average of 70 percent in the next five years. These companies have made significant

capital investments in Saudi Arabian manufacturing facilities and global research centers, **increasing job opportunities for Saudi nationals**. In support of local businesses, in 2011 Saudi Aramco approved 72 additional national suppliers and 14 national manufacturers as potential sources of supply. The total number of local manufacturers registered with Saudi Aramco grew from 677 in 2001 to 1,047 in 2011.



► Knowledge,  
Training and  
Development

**L**IKE ENERGY COMPANIES AROUND THE WORLD, WE ARE IN THE midst of the “Great Crew Change,” as many of our most experienced engineers, technicians and specialized personnel reach retirement age and a new crop of young professionals joins our ranks. Our challenge is to impart the valuable expertise of the older generation to this new generation and at the same time, capitalize on the different and exciting skill sets of this new crop of young men and women.

Saudi Aramco continued to roll out the **Mentoring Professionals Program**, which was piloted in late 2010. In this program, mentors and supervisors work together with mentees to help them set a professional growth path at Saudi Aramco. To date, the program has linked more than 200 professionals with mentors.

In 2011, 424 employees participated in Saudi Aramco’s ongoing **Regular Development Program**. Through training and education in the Kingdom and abroad, the program offers opportunities for employees to earn advanced degrees, two-year technical degrees, short-term technical training, international work assignments, and advanced medical and dental degrees.

*“Although mentoring is something that many of us do informally, it is useful for us to learn and practice the proper approach. After all, being a great engineer doesn’t automatically make you a great mentor.”*

— Edgard Baloukji,  
a Mentoring Professionals Program facilitator,  
at the celebration of the one-year  
anniversary of the program

**| Aiming Higher |**  
**Knowledge Transfer Program keeps skills in the company**

In 2011, Saudi Aramco expanded its Knowledge Transfer (KT) Program to 17 additional departments, bringing the total to 41 departments. First piloted in 2009, the KT Program ensures that our company does not lose critical expertise and skills as our workforce ages and retires. Through this program, 262 senior employees, or Knowledge Transfer Specialists, have trained 5,491 younger employees, mostly from our industrial workforce, which has the largest percentage of employees eligible for early retirement in the next few years. In 2011, we expanded the program to two non-industrial departments, Personnel and Human Resources Services.



*"Innovation in itself is a great power. It is a great drive to new technologies, capital cost reduction and, more importantly, the execution of operations in a safer manner. Only with continuous human workforce development and by growing the intellectual capital of our employees, will we be able to sustain the growth of our business. However, we must not rest on our past success; we need to exploit and build on it."*

— Saad Turaiki,  
Southern Area Oil Operations Vice President

We have enhanced the functionality of our **In-Touch With Expert** (ITWE) knowledge database. ITWE enables employees to search a database of verified documents, ask experts for solutions to problems, and share knowledge with other community members. This method of knowledge management creates seamless communication between experts and users, and captures knowledge for wide dissemination and reuse.

By the end of 2011, a total of **159 patents** had been granted to Saudi Aramco. With 208 patent applications filed and 31 patents granted in 2011, our corporate patent portfolio grew by 24 percent.



*"UPDC is more than a facility ... more than a training program. It is Saudi Aramco's proactive decision to stay ahead of the times. It represents our commitment to prepare our workforce for the unique challenges that lie ahead."*

— Amin H. Nasser,  
Upstream Senior Vice President

**| Aiming Higher |**  
**Upstream Professional Development Center trains the next generation of engineers and geoscientists**

Formally inaugurated in 2011, the Upstream Professional Development Center (UPDC) aims to ensure a sustainable and competent upstream workforce for Saudi Aramco by providing effective and efficient professional development for all upstream employees. UPDC is a world-class training facility designed to provide integrated training to our next generation of engineers and geoscientists. Courses are interactive and hands-on, with numerous practical applications that translate directly to the workplace.

The center has thus far delivered a total of 297 course sessions, training 4,000 participants from eight upstream areas, including geology, geophysics, petro physics, reservoir, production, drilling and facilities engineering, and upstream computing.

**| Aiming Higher |**  
**Saudi Aramco focuses on research and development**

Saudi Aramco has three primary research and development goals: increase our oil and gas reserves, improve recovery rates, and develop improved refining processes. Our commitment to leading the industry in these areas is evident in our two research centers, the Research & Development Center (R&DC) and the Exploration and Petroleum Engineering Center's Advanced Research Center (EXPEC ARC). The R&DC handles all of our research needs above ground, and the EXPEC ARC handles everything below ground. The R&DC is tackling major industry challenges such as how to improve energy efficiency, produce cleaner fuels and reduce carbon emissions. To improve discovery and recovery of the Kingdom's oil and gas resources, EXPEC ARC has made breakthroughs in the areas of seismic measurement, simulation and visualization.

Both centers have recruited some of the world's most talented scientists and researchers. One-third of the workforce at the R&DC and two-thirds of the workforce at the EXPEC ARC hold PhDs or master's degrees. EXPEC ARC increased its workforce by 18 percent in 2011.



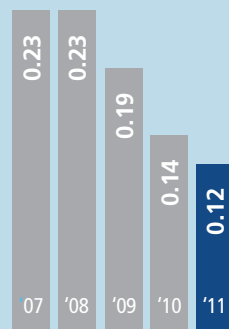


*"Being proactive with safety culture means we're open to everybody's input. We don't dismiss any of it."*

— Saudi Aramco rig foreman R.C. "Chris" Gutierrez, after his rig set a record in 2011 for 13 years without a lost-time injury



## ► Safety and Health



**LOST-TIME INJURY RATE**  
(LOST-TIME INJURIES PER  
200,000 WORK-HOURS)

**14% decrease**  
IN LOST-TIME INJURY RATE

**720**  
SUPERVISORS AND MANAGERS  
ATTENDED SAFETY LEADERSHIP  
WORKSHOPS

**S**AUDI ARAMCO RECOGNIZES THE SAFETY RISKS INHERENT IN OUR business, and we have been dedicated throughout our history to protecting and promoting the health and safety of our employees, contractors and communities through our industrial safety programs and health-care system.

Our Loss Prevention Department (LPD) is responsible for promoting safety among employees and contractors. In 2011, we enlisted the services of a consultancy to conduct a benchmarking study of our **Safety Management System** against three leading international oil companies as well as current industry standards. The study concluded that our Safety Management System compares favorably to the safety programs of others, which signifies that we are well on our way to achieving a world-class safety culture.

We released the fifth edition of our Construction Safety Manual, which outlines the contractual requirements for safety management by contractor companies and the minimum safety requirements for job-site activities by employees, contractors and subcontractor personnel.

In addition to the numerous inspections, reviews, workshops and training courses for employees and management, LPD conducted two safety awareness campaigns on the risks inherent in day-to-day activities. The campaigns highlighted the frequent causes of employee incidents and injuries, under the themes "Fall Prevention" and "Proper Use of Personal Protective Equipment."

**Our Fire Protection Department (FrPD)** has focused on increasing fire prevention awareness, which has resulted in a 35 percent decrease in the number of community fires in the last year. Throughout the year, FrPD conducted bi-monthly safety campaigns on the various risks and hazards most frequently associated with employee injuries and fatalities.

In addition to continually providing assistance during emergencies, the FrPD is in the process of finalizing a mutual aid agreement with the Civil Defense Authorities, which involves conducting 40 joint training and emergency drills.

**Saudi Aramco Medical Services Organization (SAMSO)** continued to improve the management and delivery of health-care services for employees and their dependents. To increase access to our health services, we have begun improving outpatient services at the Al Hasa Health Center, including the addition of specialty medical clinics. By 2014, Al Hasa will be upgraded from an outpatient-only services facility to a community hospital providing the most commonly needed inpatient and outpatient services for a population of 50,000.

**B**ECAUSE MANY OF OUR OPERATIONS ARE IN LOCATIONS WITH little existing community infrastructure, Saudi Aramco oversees a wide variety of communities for our employees and other workers at our sites. These communities offer everything from residences to schools to services such as shopping and government offices.

Saudi Aramco is piloting the Communities of Excellence concept in the South Dhahran Home Ownership expansion. The model promotes a well-designed community with quality homes and schools, and with an environmentally sensitive commercial sector. The goal is to create a repeatable and scalable model for **sustainable communities** throughout the Kingdom.

Saudi Aramco operates a large kindergarten through ninth-grade school system for children of expatriate employees that adheres to United States curriculum standards. After a successful pilot of a pre-school program

in the outlying communities, Saudi Aramco Schools recently began offering the program in Dhahran, serving a total of 270 children. Our kindergarten teachers report that students who entered their classroom after attending the pre-school exhibit stronger academic and social skills. Also in 2011, the Arabic Elementary Foreign Language program was expanded to all Saudi Aramco school sites.



## ► Saudi Aramco Communities

**| Aiming Higher |**  
Saudi Aramco helps employees own homes

Since the majority of our employees are Saudi citizens who live outside Saudi Aramco communities, we are helping them buy their own houses through our Home Ownership Program. In 2011, 996 new home loans were granted and 270 free lots were distributed to eligible employees. Over the past 50 years, more than 60,000 new homes have been financed through this program. We also started a pilot project that involves contracting with a real estate developer to build houses for eligible employees.



# Saudi Aramco by the Numbers



**CRUDE OIL RESERVES**  
(BILLIONS OF BARRELS)

ESTIMATED AS OF JAN. 1, 2012

Saudi Arabia	259.7*
Venezuela	211.2
Canada	173.6
Iran	151.2
Iraq	143.1

SOURCE: OIL & GAS JOURNAL \* SOURCE: SAUDI ARAMCO

**NATURAL GAS RESERVES**  
(TRILLION CUBIC FEET)

ESTIMATED AS OF JAN. 1, 2012

Russia	1,680.0
Iran	1,168.0
Qatar	890.0
Saudi Arabia	282.6*
United States	272.5

SOURCE: OIL & GAS JOURNAL \* SOURCE: SAUDI ARAMCO

	'07	'08	'09	'10	'11
Recoverable Crude Oil and Condensate Reserves (billions of barrels)	259.9	259.9	260.1	260.1	259.7
Recoverable Gas (Associated and Non-Associated) (trillions of standard cubic feet)	253.8	263.0	275.2	279.0	282.6
Crude Oil Production – Annual (billions of barrels)	3.114	3.266	2.888	2.887	3.310
Sulfur Exports (excludes sales on behalf of SAMREF and SASREF) (millions of metric tons)	2.583	2.867	2.810	3.041	2.899

**SAUDI ARAMCO DEVELOPMENT PROGRAMS, YEAR-END PARTICIPATION LEVEL**

	2010	2011
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**Apprenticeship Programs**

Apprenticeship Program (Saudi Aramco)	4,460	4,074
Apprenticeship Program (joint and equity ventures)	573	913
<b>Total Apprentices</b>	<b>5,033</b>	<b>4,987</b>

**College Preparatory Program, College Degree Program and Associate Degree Program, Non-Employees**

College Preparatory Program	316	338
College Degree Program Non-employees (CDPNE)	1,419	1,342
Associate Degree Program Non-employees (ADPNE)	45	48
<b>Total Participants</b>	<b>1,780</b>	<b>1,728</b>

**Cooperative Program**

Co-op Program students	104	110
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**Regular Development Programs**

Advanced degree	330	322
Advanced medical/dental degree	15	18
Two-year technical degree	71	65
Short-term technical training program	19	19
U.S.A. company assignment	4	0
<b>Total Participants</b>	<b>439</b>	<b>424</b>



CRUDE OIL & REFINED PRODUCTS  
(BARRELS)

	'10	'11
Crude Oil Production, excluding condensate blended (billions)	2.89	3.31
Crude Oil Exports (billions)	2.02	2.42
Crude Oil Transported Using Company or Chartered Vessels (millions)	471.32	556.03
Refined Products Production (millions)	499.78	494.66
Refined Products Exports (millions)	133.42	123.37

NATURAL GAS

	'10	'11
Feed to Gas Plants (billions scf/day)	9.39	9.88
Sales Gas (methane) (trillions BTUs/day)	6.99	7.37
Ethane (trillions BTUs/day)	1.33	1.40
Total Delivered Gas (trillions BTUs/day)	8.32	8.77
Liquids in-lieu of methane (trillions BTUs/day)	0.251	0.198

NATURAL GAS LIQUIDS PRODUCED FROM HYDROCARBON GASES  
(MILLIONS OF BARRELS)

	'10	'11
Propane	168.5	175.8
Butane	106.6	113.9
Condensate	93.97	93.15
Natural Gasoline	75.92	78.48
Total NGL Production	445.0	461.4

NATURAL GAS LIQUIDS SALES FROM HYDROCARBON GASES  
(MILLIONS OF BARRELS)

	'10	'11
Propane	157.1	164.8
Butane	90.27	96.21
Condensate	11.45	12.95
Natural Gasoline	57.61	58.04
Total NGL Exports (excludes sales on behalf of SAMREF and SASREF)	316.4	332.0

PRINCIPAL PRODUCTS MANUFACTURED AT IN-KINGDOM REFINERIES  
(MILLIONS OF BARRELS)

2011	LPG	Naphtha	Gasoline	Jet Fuel / Kerosene	Diesel	Fuel Oil	Asphalt & Misc.	Total
Ras Tanura	4.618	16.74	42.47	7.715	75.90	32.20	8.178	187.8
Yanbu'	2.343	(1.149)	14.97	(0.970)	29.44	30.33	-	74.96
Riyadh	2.530	-	13.05	3.417	21.76	0.017	6.953	47.73
Jiddah	0.937	4.659	5.390	(0.372)	8.290	6.147	3.587	28.64
Total Domestic	10.43	20.25	75.88	9.790	135.4	68.69	18.72	339.1

\*NEGATIVE FIGURES PRIMARILY INDICATE PRODUCTS THAT WERE REPROCESSED INTO OTHER REFINED PRODUCTS.

SAUDI ARAMCO SHARE  
(MILLIONS OF BARRELS)

2011	LPG	Naphtha	Gasoline	Jet Fuel / Kerosene	Diesel	Fuel Oil	Asphalt & Misc.	Total
SAMREF	(0.580)	-	24.26	10.26	19.64	14.48	-	68.06
SASREF	1.351	10.78	1.781	9.294	11.63	11.33	-	46.16
Petro Rabigh	-	7.615	5.479	4.440	11.81	11.95	-	41.29
Total JV	0.771	18.40	31.52	23.99	43.07	37.76	-	155.5
Grand Total	11.20	38.65	107.4	33.78	178.5	106.4	18.72	494.7

DOMESTIC PRODUCT SALES BY REGION  
(MILLIONS OF BARRELS)

2011	Central	Eastern	Western	Total
LPG	2.369	5.827	5.315	13.51
Gasoline	60.21	32.11	70.14	162.5
Jet Fuel/Kerosene	7.558	2.607	13.73	23.90
Diesel	74.94	52.81	106.3	234.0
Fuel Oil	246.9	2.334	90.15	92.73
Asphalt & Misc.	7.595	9.083	6.573	23.25
Total	152.9	104.8	292.2	549.9

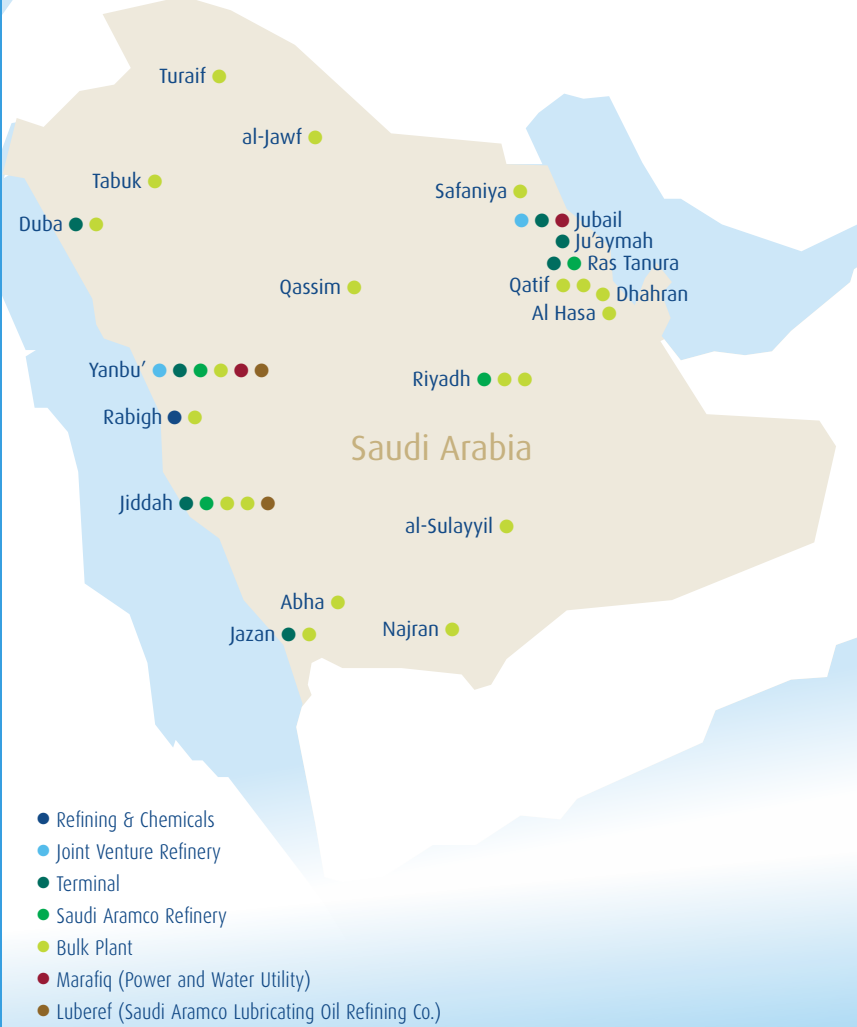


Domestic Operations

International Operations

Domestic Operations

International Operations



**Houston**  
Aramco Services Company (ASC)  
Aramco Associated Company  
Saudi Refining, Inc.  
Motiva Enterprises, LLC

**New York City**  
Saudi Petroleum  
International Inc. (SPII)

**Bermuda**  
Stellar Insurance Ltd.

**Curaçao**  
Bolanter Corp. N.V.  
Pandlewood Corp. N.V.

**London**  
Aramco Overseas Company B.V. UK Ltd.  
Saudi Petroleum Overseas Ltd. (SPOL)

**Rotterdam**  
TEAM (Texaco, Esso, Aramco, and  
Maatschap) Terminal B.V.

**The Hague**  
Aramco Overseas Company B.V.

**Milan**  
Aramco Overseas Company B.V.

**Alexandria**  
The Arab Petroleum Pipeline Co. (SUMED)

**Dubai**  
Vela International  
Marine Limited

**New Delhi**  
Aramco Overseas  
Company B.V.

**Singapore**  
Aramco Overseas Company B.V.  
Saudi Petroleum Ltd.

**Hong Kong**  
Aramco Overseas Company B.V.

**Beijing**  
Saudi Petroleum Ltd.

**Fujian**  
Fujian Refining and Petrochemical Company Ltd. (FRPC)  
Sinopec SenMei Petroleum Company Ltd.

**Shanghai**  
Aramco Overseas Company B.V.

**Seoul**  
S-Oil

**Tokyo**  
Aramco Overseas Company B.V.  
Saudi Petroleum Ltd.  
Showa Shell Sekiyu K.K.