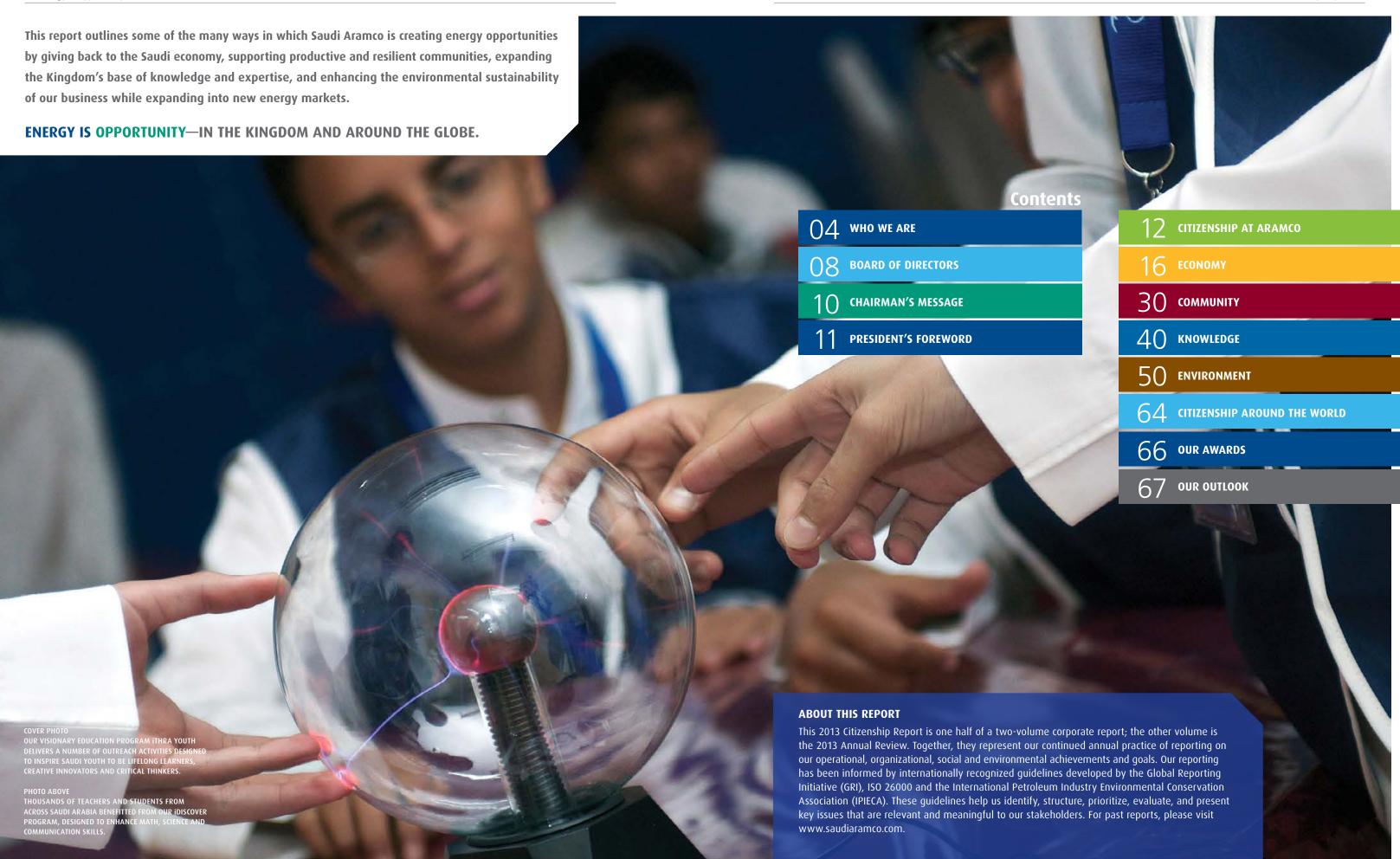


2013
Citizenship Report



Energy Is Opportunity



2 :: Energy Is Opportunity :: **Saudi Aramco** 2013 Citizenship Report :: 3



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



# Who We Are

The Saudi Arabian Oil
Company (Saudi Aramco),
a fully integrated, global
petroleum and chemicals
enterprise, is the stateowned oil company of the
Kingdom of Saudi Arabia.
Throughout our 80-year
history we have become a
world leader in hydrocarbons exploration, production, refining, distribution,
shipping and marketing.

We rank first among oil companies worldwide in terms of crude oil production and exports, and natural gas liquids (NGL) exports, and are among the leading producers of natural gas. We are also among the world's leading refiners and are moving further downstream into chemicals production.

And the second Seoul Benedict -BESSE 16 14 8 The Hague 2 Rotterdam **New Delhi** New York City 12 Dhahran Washington, D.C. Alexandria Bermuda Turaif 🎃 Houston 0 Al lawf Tanajib 🔼 🗖 🕳 Safaniya Tabuk 🁚 Jubail 🔾 🔳 🗖 🔼 🍮 Khursaniyah Ju'aymah
O Ras Tanura 10000 Yanbu' ○ ◎ ● ● ■ ★ ◎ Khurais 🔼 Riyadh 🔷 🁚 Rabigh O Haradh ( Curacao SAUDI ARABIA Shaybah 🔼 Jiddah ○ 🌢 🍁 ★ Al-Sulayyil • Najran lazan O 0 Key Figures

#### **OUR CORPORATE VALUES**

INTEGRITY
SAFETY
ACCOUNTABILITY
EXCELLENCE
CITIZENSHIP

WORKFORCE as of 31 December 2013



**57,28**3

48,385

8,898
Expatriate Workford

#### **OIL RESERVES AND PRODUCTION**

- Recoverable crude oil and condensate reserves:
   260.2 billion barrels
- Average daily crude oil production:
- Annual crude oil production: 3.4 billion barrels

#### **GAS RESERVES AND PRODUCTION**



• Gas reserves: 288.4 trillion standard cubic feet

INTERNATIONAL OPERATIONS/ EXPORT SHIPPING ROUTES

Aramco Services Company (ASC) Aramco Associated Company Saudi Refining, Inc. Motiva Enterprises, LLC 2 WASHINGTON, D.C.

Aramco Services Company (ASC)

1 HOUSTON

3 NEW YORK CITY

Saudi Petroleum

4 BERMUDA

5 CURAÇÃO

6 LONDON

(SPOL)

B.V. UK Ltd

7 ROTTERDAM

8 THE HAGUE

10 ΔΙ ΕΧΔΝΌΒΙΔ

(SUMED) 11 DUBAI

Limited

12 NEW DELHI

13 SINGAPORE

14 XIAMEN

15 BEIJING

16 FUJIAN

Aramco Asia

Petrochemical

Company Ltd.

17 SHANGHAI

18 SEOUL

S-Oil

**19 TOKYO** 

9 MILAN

International Inc. (SPII)

Stellar Insurance Ltd.

Bolanter Corp. NV Pandlewood Corp. NV

Aramco Overseas Company

Saudi Petroleum Overseas Ltd.

TEAM (Texaco, Esso, Aramco

and Maatschap) Terminal B.V.

Aramco Overseas Company B.V.

Aramco Overseas Company B.V.

The Arab Petroleum Pipeline Co.

Aramco Overseas Company B.V.

Aramco Overseas Company B.V.

Aramco Asia-Xiamen

Fujian Refining and

Company Ltd. (FRPC)

Aramco Asia-Shanghai

Aramco Asia-Korea

Aramco Asia–Japan Showa Shell Sekiyu K.K.

Sinopec SenMei Petroleum

Vela International Marine

- Gas production (raw gas to gas plants average per day): 11.0 billion standard
- Gas production (annual): 4.0 trillion standard cubic feet

#### WHERE WE'RE GOING

# What We Do

Over the last 80 years, we have grown to become the world's largest integrated energy enterprise. Saudi Aramco manages conventional crude oil reserves of 260.2 billion barrels and gas reserves of 288.4 trillion standard cubic feet.

In 2013, we produced 3.4 billion barrels of oil, about one in every eight barrels of the world's crude oil production. Our gas production, in terms of raw gas to gas plants, was 4.02 trillion standard cubic feet, the most in a single year in our history. We also produced 455.9 million barrels of natural gas liquids (NGLs), including 86.8 million barrels of condensate

Saudi Aramco and its subsidiaries own or have equity interest in domestic and international refineries with a total worldwide refining capacity of 4.9 million barrels per day (bpd), of which our equity share is 2.6 million bpd, making us the world's sixth largest refiner. In 2013, we produced 494 million barrels of refined products and exported

121 million barrels, nearly matching our record numbers from 2012. We exported 2.5 billion barrels of crude oil in 2013, with 53.8 percent exported to Asia.

As a vertically integrated company, we work to unlock energy opportunities from exploration to distribution. Our upstream activities are focused on exploration and production. This stage involves the search for crude oil and natural gas reservoirs onshore and offshore, the management of field development for optimal long-term production, and the efficient extraction of crude oil, condensates and natural gas.

Our downstream activity includes refining, selling and distributing crude oil and condensates, fractionating natural gas and selling and distributing natural gas, NGLs, petrochemicals and petroleum fuels.

# Where We're Going

Producing an average of 9.4 million barrels of crude oil a day, we play a critical role in supplying world oil markets. Today our upstream business is a global leader, known to our customers as the world's most reliable supplier.

But we want to do more. We want to achieve more. This is why we are engaging in an unprecedented corporate transformation. By maximizing the value of our resources—both our hydrocarbon resources and human resources—we are creating groundbreaking opportunities for the Kingdom and the world.

This journey starts with maintaining and enhancing our preeminence as the world's leading supplier of energy. By moving into unconventional gas, we will help meet growing energy demand at home and across the globe, establishing the Kingdom as a hub of excellence in global energy technology and services.

Our downstream businesses will become a vehicle for growth in the Kingdom, fueling commerce and economic diversity. We are building a thriving domestic energy services sector that by 2020 will serve the majority of Saudi Aramco's needs and compete on an international scale. Directly or indirectly, we expect our investments will create approximately 500,000 new jobs, opening up opportunities for generations of Saudis embarking on careers in the energy sector.

The company continues to bring together initiatives designed to make the business more efficient, agile and sustainable while raising our potential through our people's ingenuity and relentless energy—all with the view of remaining a leading global energy company for years to come.



#### **BOARD OF DIRECTORS**



Saudi Aramco's Board of Directors is chaired by His Excellency Ali I. Al-Naimi, Minister of Petroleum and Mineral Resources. The Board of Directors steers Saudi Aramco's business and organizational objectives through leadership, review and guidance. The Board oversees the company's business affairs, works with management to determine the company's mission and long-term strategy, oversees senior management succession planning, establishes internal controls, and assesses company opportunities, risks and strategies for risk mitigation. The Board consists of both outside directors and representatives from senior management.

FRONT ROW (FROM LEFT):

**H.E. Dr. Majid Al-Moneef** is the Secretary General of the Supreme Economic Council of Saudi Arabia.

**H.E. Dr. Mohammed I. Al-Suwaiyel** is president of King Abdulaziz City for Science & Technology (KACST).

**H.E. Dr. Ibrahim A. Al-Assaf** is minister of Finance for Saudi Arabia.

H.E. Ali I. Al-Naimi is minister of Petroleum and Mineral Resources for Saudi Arabia, and chairman of Saudi Aramco's Board of Directors.

**Khalid A. Al-Falih** is president and chief executive officer of Saudi Aramco.

**H.E. Dr. Khaled S. Al-Sultan** is rector of King Fahd University of Petroleum and Minerals (KFUPM) in Dhahran.

BACK ROW (FROM LEFT):

**Abdulaziz F. Al-Khayyal** is senior vice president of Industrial Relations at Saudi Aramco.

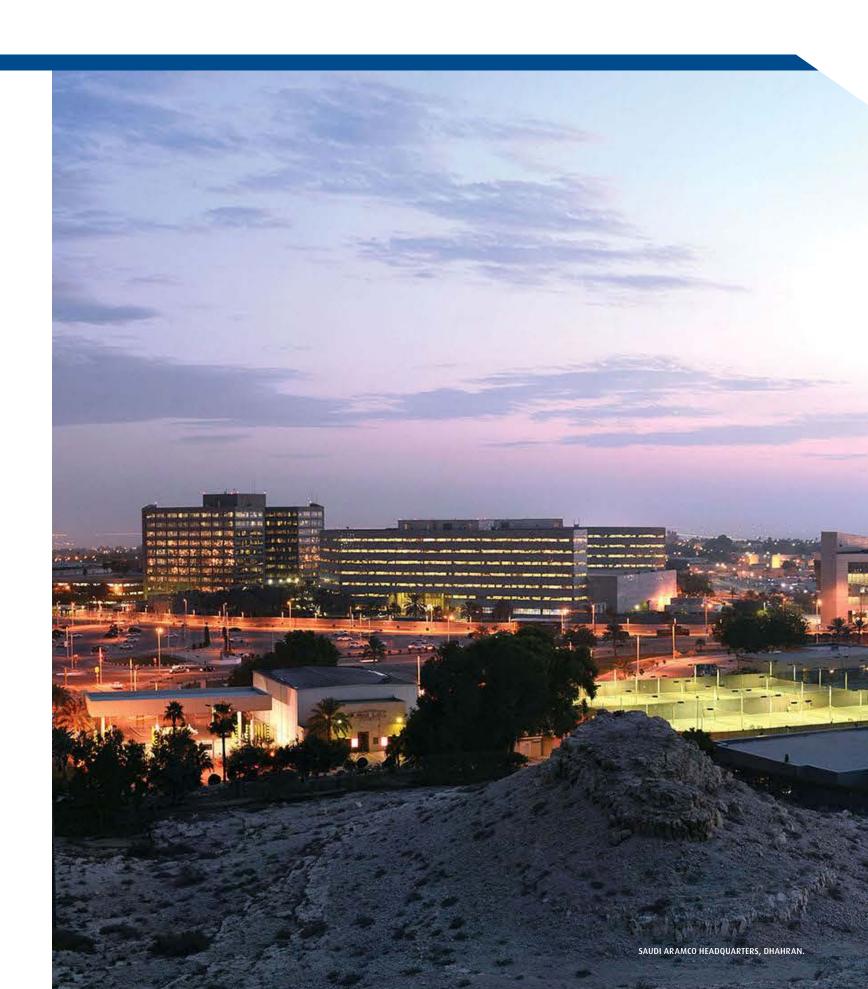
**Peter Woicke** is a former managing director of the World Bank and chief executive officer of the International Finance Corporation.

**Sir Mark Moody-Stuart** is a former chairman of Royal Dutch Shell.

**Andrew F.J. Gould** is non-executive Chairman of BG Group and the former Chairman and Chief Executive Officer of Schlumberger Limited.

**Amin H. Nasser** is senior vice president of Upstream at Saudi Aramco.

**Salim S. Al-Aydh** is senior vice president at Saudi Aramco with special portfolio.



#### CHAIRMAN'S MESSAGE

SAUDI ARAMCO'S BUSINESS OBJECTIVES AND PRIORITIES ARE STRONGLY WOVEN INTO SAUDI ARABIA'S BROADER GOALS, CONTRIBUTING WIDELY TO THE KINGDOM'S SOCIETAL, ECONOMIC AND ENVIRONMENTAL ACHIEVEMENTS.

The Kingdom of Saudi Arabia is experiencing a period of tremendous economic development. As the Kingdom continues to diversify its economy and ensures its citizens have access to the opportunities they deserve, Saudi Aramco will remain a key enabler in this process. In fact, Saudi Aramco's

business objectives and priorities are strongly woven into Saudi Arabia's broader goals, contributing widely to the Kingdom's societal, economic and environmental achievements. Certainly, the company's and the Kingdom's interests are mutually reinforcing.

In this sense, Saudi Aramco, while pursuing its agenda of growth and transformation, is not only assuring its own position as the global leader in energy supply, but also actively shaping the future by driving the global economic competitiveness of the Kingdom. We are focused on transforming this future from one based on natural resources, to that which is based on the ingenuity and passion of our people—a sustainable Knowledge Economy.

One important example of this can be seen in the programs implemented at the King Abdulaziz Center for World Culture, which while carrying the name of the Kingdom's founder, is nurturing future generations by promoting knowledge, creativity, culture and innovation.

There is no more rewarding and gratifying investment than one made on the talent of people. This is why Saudi Aramco supports thousands of students every year: to help ensure that Saudi Arabia's economy has the human capital it needs to prosper for generations to come. Another key component of the company's citizenship strategy is to support promising entrepreneurial initiatives with the potential to unlock innovation and drive efficiency. Saudi Aramco does this by backing entrepreneurs and small- and medium-sized businesses through the Wa'ed Entrepreneurship Center and Saudi Aramco Energy Ventures.

Finally, Saudi Aramco is committed to the important task of conserving energy and raising awareness about energy efficiency. The company looks forward to increasing its collaboration with national companies and institutions to further spread these concepts across the Kingdom.

Saudi Aramco is very proud of its role in serving society, which is as much a part of its core business as oil and gas production. This report celebrates Saudi Aramco's efforts in creating opportunities for the people of the Kingdom and presents our vision for how we intend to build on this success in years to come.



Minister of Petroleum and Mineral Resources Chairman of the Board of Directors





#### PRESIDENT'S FOREWORD

# GIVEN OUR SCALE AND INFLUENCE, WE ARE STRONGLY COMMITTED TO COLLABORATING WITH ALL OUR STAKEHOLDERS TO ENSURE OUR COMMON INTERESTS ARE ALIGNED TOWARD CREATING SHARED SUCCESS.

At Saudi Aramco, we are convinced of the importance of corporate citizenship. It plays a key role in our broader strategy and permeates every aspect of our culture. Given our scale and influence, we are strongly committed to collaborating with all our stakeholders—from the local communities in

which we operate, to our employees and our partners, all the way to the government and our customers—to ensure our common interests are aligned toward creating shared success.

It is a great satisfaction for me to say that Saudi Aramco fulfilled this commitment in 2013, providing energy to the world in a socially conscious and environmentally responsible way while supporting the Kingdom's development and serving the societies where we operate.

This year's achievements constitute an important step forward for Saudi Aramco as the company advances on its corporate citizenship journey. In fact, as we are engaged in a process of strategic transformation to become the world's leading integrated energy and chemicals company in the next decade, our citizenship approach is both embedded in this change and influenced by it.

As it nears its physical completion, The King Abdulaziz Center for World Culture continues to promote cultural knowledge and understanding through its multiple program offerings, such as the redesigned iThra Knowledge Program, which inspired and educated more than 360,000 visitors. Meanwhile, the company's iThra Youth Program reached 1,000 teachers and 25,000 students, providing them with unprecedented learning opportunities.

Saudi Aramco has also committed substantial R&D resources toward innovations in alternative energy, efforts that benefit the Kingdom, the company, and the environment. As a global enterprise, Saudi Aramco's citizenship

efforts have international impact, and the company has entered into partnerships in many countries to improve the communities and environments in which Saudi Aramco operates.

As Saudi Aramco marked its 80th anniversary in 2013, we remained as committed as always to putting our stakeholders' interests at the forefront of all we do. I would like to renew this promise and express my gratitude to the government, especially the Ministry of Petroleum and Mineral Resources, as well as to our board of directors, employees, partners, suppliers and customers. I look forward to continuing to work together to ensure "energy is opportunity" for all.

Khalid A. Al-Falih
President and Chief Executive Officer

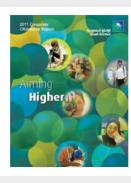


12 :: Energy Is Opportunity :: **Saudi Aramco** 2013 Citizenship Report :: 13

# Citizenship at Aramco













## • CITIZENSHIP REPORTING JOURNEY

• This report is Saudi Aramco's fifth annual publication on Corporate Citizenship. Each year, we seek to improve our reporting by focusing our strategic message, developing and sharing more performance metrics and targets, and reporting progress on areas of greatest importance to our stakeholders.

#### **Our Corporate Strategy**

Saudi Aramco plays an important role in creating opportunities for the Kingdom of Saudi Arabia. We constantly seek to enhance our positive impact on the Kingdom's economy, its communities and young people, and its natural

While supplying energy to the world is our core purpose, our sense of civic duty and mission extend far beyond running a successful business. Since its inception, Saudi Aramco has strived to operate with strong and consistent principles: treating employees and local communities with respect, carefully managing environmental impacts, and sharing the benefits of success—all with the intention of contributing to a prosperous future for the Kingdom and for the world at large. These tenets represent our approach to citizenship and corporate social responsibility, which have been a core aspect of our management culture through the years.

This approach to citizenship has served as a driver of not just our own success, but also the success of Saudi Arabia. In many ways, Saudi Aramco's business strategy is a citizenship strategy with long-term ambitions directly tied to positive outcomes for both the company and the Kingdom. This report outlines some of the many ways in which Saudi Aramco is delivering on the theme of "energy is opportunity" by giving back to the Saudi economy, supporting productive and resilient communities, expanding the Kingdom's base of knowledge and expertise, and enhancing the environmental sustainability of our business while expanding into new energy markets. As we make strides toward our 2020 Strategic Intent, our citizenship activities have progressed in step with this vision.

Delivering on this vision will take commitment, resolve and focus to achieve. Throughout this transformation, the success of our strategy will be measured through four objectives: Shaping Our Businesses, Enabling the Kingdom, Optimizing Our Processes and Building Our Capabilities. Each of these objectives in turn will be fulfilled through a series of initiatives designed to unlock the innovation and value that our company is uniquely placed to deliver.



#### •:• I. Shaping Our Businesses:

#### Pursuing the commercial activities that will help us achieve our strategic objectives

Over the decades since Saudi Aramco was founded, its business portfolio has become significantly more complex, creating the need to refine our corporate strategy to reflect massive growth in some areas and a scaling back or divestiture in others. Our business portfolio is being reshaped to meet evolving upstream, downstream and Kingdom requirements. It is also expanding in scope and technological prowess so we can continue to diversify into an integrated, global, multi-business portfolio. We have begun developing a series of major integrated industrial clusters that will help diversify our energy mix while also providing national benefits from economic diversification to the expansion of value-adding activities and the creation of high-quality jobs.



### II. Enabling the Kingdom: Building on our heritage of providing opportunities for the citizens of the Kingdom

At its core, our 2020 Strategic Intent is as much about the future of the Kingdom as it is about the direction of the company. This strategic pillar continues to build on our heritage of providing opportunities for the citizens of the Kingdom, by leveraging our core competencies in new ways that will have long-lasting impact on issues as diverse as energy efficiency and job creation. Through dialogue and partnerships with government and other business groups, Saudi Aramco encourages adoption of energy-efficient technologies and practices as the company accelerates development of alternative and unconventional energy sources.



#### •:• III. Optimizing Our Processes:

#### Creating agility as we move into new businesses and new markets

To achieve the aspirations of our 2020 Strategic Intent, it is necessary to optimize and streamline many of our corporate processes by evaluating core functions across the entire organization and applying the best ways to harmonize and integrate these activities. Initiatives aimed at process optimization will enable Saudi Aramco to respond with greater speed and flexibility to changing business and operational conditions, and be more efficient in its use of material and human resources as it enters into new businesses and expands its global reach. A more profitable, agile and effective Saudi Aramco directly and indirectly strengthens the economy of Saudi Arabia and ensures continued prosperity for its people.

#### IV. Building our Capabilities:



As Saudi Aramco continues its transformation into the world's leading integrated energy and chemicals company, it is critical that we develop our talent and deepen our technology knowledge base in support of this goal. Doing so will help differentiate our company and create a sustainable competitive advantage. By focusing on our people, we can recruit the best talent and develop the leadership skills necessary for Saudi Aramco to be successful in the years ahead. Through a strategic focus on innovation, Saudi Aramco is positioning itself to be a leader in technology creation and a driving force in strengthening the Kingdom's economy through education, capacity building and entrepreneurship.

> For a more detailed overview of our corporate strategy, please refer to our 2013 Annual Review.

#### CITIZENSHIP AT ARAMCO

#### **Our Values**

At Saudi Aramco, our corporate values guide our business conduct and underpin all of our operations, helping the company to succeed and maintain our position as one of the most respected companies in the world. Employees are expected to live by these values and promote them throughout the business.

**INTEGRITY:** We follow ethical standards in conducting our business.

CITIZENSHIP: We are a positive influence on the Kingdom and its environment, as well as in the communities where we live and work.

**EXCELLENCE:** We strive for the best results and are agile in addressing new challenges.

**ACCOUNTABILITY:** We take responsibility for our actions and for meeting corporate objectives.

**SAFETY:** We operate safely and are committed to the well-being of our workforce.

In late 2012, we launched a company-wide campaign to raise awareness and engage employees in a meaningful dialogue about these values. Throughout 2013, we continued to engage employees on the values, conducting workshops for managers and delivering a mandatory e-learning

course for all employees. We also distributed a set of Values Management Handbooks to our managers to help them communicate the company's values more visibly and systematically within their department's activities.

#### **Ethics and Integrity**

Saudi Aramco has long been recognized as the world's largest oil company and one of the most respected. As our future business activities and operations substantially grow in scale and complexity, it is crucial that we continue to earn the reputation we have built over the past eight decades. Saudi Aramco has always maintained the highest legal and ethical standards in the way it conducts its business, and it firmly believes that the foundation of corporate integrity is personal integrity.

#### **Code of Conduct**

Our Business Conduct Handbook summarizes the principles and standards that enable each and every employee to preserve and build on Saudi Aramco's proud legacy, such as correct workplace conduct and personal accountability. It supplements various corporate manuals and outlines the company's policies on conflict of interest, financial integrity, workplace harassment, fair practices, safety, health and the environment, safeguarding assets and information, and employee responsibility. It reaffirms the guiding principles by which Saudi Aramco has achieved extraordinary success.



#### BUILD ON OUR CORE BUSINESS STRENGTHS

Maximizing our positive impacts requires us to leverage our expertise—"doing what we do best."

#### •

ON AN ONGOING BASIS

EVALUATE OUR PERFORMANCE

of the Kingdom as a whole.

We continue to review all of our corporate citizenship activities against a rigorous framework to ensure they remain relevant to our core business objectives and the communities in which we operate.

RESPOND TO THE NEEDS OF SOCIETY

Our citizenship initiatives are based

on clearly defined needs within the

communities in which we operate

and on the development objectives

#### CREATE STRATEGIC COLLABORATIONS

Working with others builds scale and optimizes outcomes, allowing us to leverage shared values and complementary strengths of other organizations.

#### **Anti-Corruption**

In addition to the policies outlined in the Business Conduct Handbook, Saudi Aramco requires employees to review and sign its robust Conflict of Interest and Business Ethics Policy. The policy is also proactively reinforced to line and executive management, potential candidates, and regular employees through various activities. Internal communication and reporting channels have been established to allow employees and third parties to report business ethics

violations, and a General Auditor Hotline is available to provide a secure and confidential venue for employees and outsiders to report suspected fraud, unethical conduct and irregularities. In 2013, Saudi Aramco focused its internal fraud prevention and awareness campaign on defining gray areas, analyzing several ethical scenarios, and introducing means to reach the best ethical decisions.

THE CAUSEWAY FOR OUR MANIFA PROJECT HELP'S PRESERVE
NATURAL MARINE NURSERIES.



#### **ECONOMY**



Saudi Aramco therefore aspires to facilitate the development of an economic ecosystem that helps attract, establish and promote energy-related domestic industries that are globally competitive and create employment opportunities for Saudis. A major component of this vision is developing local content. That is why we at Saudi Aramco are promoting the "Golden Quadrant"—a series of major integrated industrial clusters that will help diversify our energy mix while also providing national benefits from economic diversification and expansion to value-adding activities domestically and the creation of high-quality jobs. The Competitive Saudi Energy Sector initiative, for example, is designed to achieve the following key objectives:

- Increase Saudi Aramco's proportion of in-Kingdom spending in manufacturing industries from less than 30 percent to 70 percent over the next decade.
- Increase the Saudization of jobs from existing levels of around 20 percent to 70 percent.
- Promote a sustainable ecosystem that supports a thriving energy sector in Saudi Arabia.
- Develop Saudi energy sector industries that are globally competitive.
- Contribute to the creation of 500,000 direct and indirect jobs in the Kingdom.

The ripple effect of our work can be seen throughout our communities. A new project may encourage investment in Saudi manufacturing, develop industrial clusters adjacent to our operations, and provide training to local manufacturers and suppliers in areas ranging from safety to governance.

In the wider society, we focus on training, apprenticing and educating Saudi workers so they can fill the specialized jobs created by the economic growth and diversification. We provide entrepreneurs and small- and medium-sized enterprises (SMEs) with the support and capital necessary to grow their businesses. Our major initiative in this area, Wa'ed, is unique from most entrepreneurship programs. First, it is complemented with a venture fund that allows innovative businesses to flourish. Second, it is centered around businesses that Saudi Aramco can integrate into our operations and supply chain, making it a "win-win-win" for the entrepreneurs, Saudi Aramco and the Kingdom.

The following sections of this chapter—Leveraging Our Core Business, Developing Local Content, Enabling Entrepreneurship, and Building a Competitive Workforce in the Kingdom—describe this focused approach toward strengthening the Kingdom's economy.



Saudi Aramco's success in producing oil and gas allows us to take actions to diversify our business, which in turn stimulates the diversification of the wider economy. As part of our portfolio expansion, we invest in projects that inherently lead to the economic development of the regions in which those facilities are located. These projects require a long-term mindset that differentiates Saudi Aramco from its competitors, and allows us to focus on leveraging our core business activities to grow our company in a sustainable and balanced way.

As we solidify our leadership in our core business, two imperatives must be met. First is an emphasis on profitable growth through the diversification of our business portfolio. The second is a focus on the Kingdom's economic agenda, particularly our support for local economic development. We are building a thriving domestic energy services sector that by 2020 will serve the majority of Saudi Aramco's needs and compete on an international scale, and in doing so,

act as a catalyst for rapid regional economic development. Directly or indirectly, we believe our investments will create hundreds of thousands of new jobs, opening up opportunities for generations of Saudis embarking on careers in the energy sector. This contribution is an integral part of our corporate mission and our license to operate in the Kingdom.

#### **Energy Industrial City**

We are working to develop an Energy Industrial City (EIC) in the Eastern Province. The EIC will be a world-class industrial city with high-quality infrastructure serving as a hub for support industries directly related to the energy sector. The city will enhance the competitiveness of EIC tenants by providing a specialized vocational training center, a business district for energy company headquarters and offices, an SME support center and incubators, shared services offerings for tenants, and suitable hotels, conferencing and residential accommodations.

#### NEW DIRECT SAUDI HIRES

2013 1,428 2012: 867 2011: 671 2010: 474

The EIC will attract significant investment in the energy support sector and will directly contribute to the ultimate realization of Saudi Aramco's objectives of achieving 70 percent local content and creating large numbers of jobs for Saudis. It is anticipated that more than 120,000 direct jobs will be created by 2028 with a contribution of approximately \$9 billion to the Kingdom's GDP once the EIC is fully developed.

#### **ECONOMY**



#### Manifa

The Manifa field was successfully put into production in April 2013, three months ahead of schedule, and achieved 500,000 bpd capacity by July 2013. By the time it reaches its full potential at the end of 2014, the Manifa field will have the capacity to produce 900,000 bpd of Arabian Heavy crude oil, 90 million scfd of gas and 65,000 bpd of condensate. It will also deliver feedstock to Jubail and Yanbu'.

Saudi Aramco hired 360 young Saudis to operate and maintain Manifa under the supervision of more experienced Saudi Aramco employees. The new hires represent the company's varied operations and include engineers, operators and maintenance personnel.

The project's innovative engineering design was created to optimize the field's production capacity, while caring for the environment. Prior to construction, our experts conducted extensive engineering and ecological assessments to ensure that the marine ecosystem would not be adversely affected by developing the field. As a direct result of these studies, Saudi Aramco constructed three kilometers of bridges to span the migration paths of various marine species, maintaining natural water flow and preserving natural marine nurseries. The project's success earned it a UNESCO environmental responsibility award nomination.

#### **SATORP**

The Saudi Aramco Total Refining and Petrochemical Company, or SATORP, a joint venture with France's Total, is a newly constructed 400,000-bpd full-conversion refinery with integrated petrochemical production. It will be among the most complex refineries in the world, converting Arabian Heavy crude oil into high-quality products including gasoline, kerosene and diesel, as well as petrochemical products such as benzene and propylene. The SATORP refinery is also the first producer of petroleum coke and paraxylene in the Kingdom.

Joint ventures such as SATORP are a powerful expression of our corporate strategy. They not only incubate Saudiowned small- and medium-sized manufacturers and service providers but also reinforce Saudi Aramco's commitment to foster a knowledge-based economy in which thousands of Saudi technicians, engineers and operators can find exciting job opportunities. The refinery is creating over 1,200 direct jobs in the Kingdom, each of which helps create a further five indirect employment opportunities.

#### Sadara

The Sadara Chemical Company, a joint venture with the Dow Chemical Company, will operate a world-scale, integrated chemicals complex in Jubail Industrial City II, an established petrochemicals center in the Eastern Province of the Kingdom complete with industrial port, pipeline corridors, utilities, and supporting industries.

Sadara and the adjoining value park will deliver a full range of value-added, performance products destined for the emerging markets of Asia Pacific, the Middle East, Eastern Europe and Africa. By the second half of 2015, Sadara will already have begun producing plastic and chemical products that Saudi-owned companies can use to produce plastic bags, detergents and foam materials for domestic and international markets. Ultimately, Sadara will be an active contributor to Saudi Arabia's strategy to create a hub for future downstream industrialization of chemicals and plastics in the Kingdom.

Sadara and related investments are expected to generate substantial income for the region and thousands of direct and indirect employment opportunities. Output from Sadara's 26 chemical processing plants will generate an estimated \$10 billion in revenues within a decade of commencing operations. Sadara has over 475 apprentices and 235 on-the-job trainees now undergoing comprehensive manufacturing and engineering training



ENGINEERS ON THE JAZAN REFINERY PROJECT REVIEW PLANS FOR THE DESIGN OF THE FACILITY'S POWER GENERATION PLANT.

programs in state-of-the-art centers both inside and outside Saudi Arabia. Already with an estimated 1,500 currently on staff, Sadara will ultimately employ more than 3,000 people and contribute to an additional 15,000 nondirect employment opportunities. The value park will create more than 20,000 quality jobs, directly or indirectly, for Saudi nationals.

#### YASREF

The Yanbu Aramco Sinopec Refining Company, or YASREF, joint venture stands as a model of foreign direct investment in the Kingdom and another positive phase in Saudi Aramco's relationship with China's Sinopec.

YASREF, when completed, will be the Kingdom's most advanced refinery. In addition to the enormous direct impact YASREF will have, the refinery will provide significant annual revenues

and approximately 6,000 direct and indirect job opportunities for Saudis. As part of Saudi Aramco's efforts to develop a quality local workforce, YASREF is working with Riyadh Refinery to train new apprentices to operate the YASREF facility. By the end of 2013, 24 apprentices had completed the six-month training program.

#### Jazan Refinery and Terminal Project

King Abdullah launched the Jazan Economic City Project as part of a strateav to nurture non-oil based industries. expand the Kingdom's existing industries to serve domestic needs, and rejuvenate the Jazan region by providing an additional source of employment opportunities. The refinery and terminal will help enable the development of industrial clusters. When completed in late 2016, the project's Integrated Gasification Combined Cycle (IGCC) complex will use the refinery's by-product to economically and efficiently generate 2,400 MW of electricity to cover the refinery's needs, enable the development of

small industries nearby and provide power for cities in the area.

The workforce to build the Jazan Program is expected to exceed 40,000 over the next four years. Saudi Aramco adopted a new Human Resources strategy for its business partners that, setting Saudization targets, created a consortium from among the contractors and public sector entities to train a local workforce for the program. Through the Jazan Contractors Consortium for Training and Employment, or "Maharat," 550 young Saudis from Jazan commenced their training in October 2013. The total intake will reach 5,000 over a four-year period. The objective is to qualify these young Saudis for jobs required for the construction phase of the project, participate in advancing national development and contribute to the economic development of Jazan. Through its efforts, the consortium plans to make Jazan a magnet for entrepreneurs and investors.

#### **ECONOMY**



GRADUATES FROM SAUDI ARAMCO PROFESSIONAL DEVELOPMENT ACADEMY

2013

395

2012: **379** 

2011: **322** 

2010: 46

#### Petro Rabigh

An integral part of Saudi Aramco's strategy to integrate petrochemical production with refining, this joint stock company was initially founded as a joint venture with Japan's Sumitomo Chemical Company. The development of Phase II of Petro Rabigh includes a new aromatics complex and an expanded facility to process 30 million standard cubic feet per day (scfd) of ethane, and approximately 3 million tons per year of naphtha as feedstock, to produce a variety of high value-added petrochemical products.

By the end of 2013, agreements had been reached with tenants for 25 of the 30 sites in the adjacent value park and potential tenants have been identified for the remaining sites.

#### Wasit

All of our efforts to grow our gas business aim to optimize the Kingdom's energy mix while creating hundreds of thousands of new jobs. Wasit Gas Plant, for example, will be one of the largest gas plants Saudi Aramco has ever built.

In 2013, the Wasit Saudization Job Fair was conducted to help enable the employment of Saudis in construction activities. More than 8,000 applicants attended the job fair and more than 3,000 were offered jobs.

#### **Unconventional Gas**

Unconventional gas refers to the deposits of natural gas trapped in shales and tight sands. This gas was not commercially viable to produce until recently. Today, tapping this resource is an important strategic step for continued economic development in the Kingdom for the following reasons:

- Unconventional gas will help meet Saudi Arabia's own energy demand, and is the preferred fuel for power generation and water desalination due to its increased efficiency and cleaner burning qualities compared to other fossil fuels.
- The resulting increase in the total gas share of the Kingdom's energy mix will increase the volumes of higher value diesel and crude oil available for export.

- As a resource-intensive operation, estimates of direct jobs can be up to 10,000 (including contractors) for every 1-2 billion cubic feet of gas produced daily, with up to four times as many indirect jobs. These jobs also require expert skills and training, and therefore stimulate demand for advanced support sectors and a knowledge economy.
- The full unconventional gas value chain such as site development, rig preparation, drilling, fracking, completion, well tie-in, production and maintenance are poised to grow rapidly between now and 2020. The opportunity presently exists for unconventional gas sector manufacturers and service providers to serve Saudi Arabia and neighboring countries by targeting localization within Saudi Arabia as their operational hub.

Saudi Aramco's unconventional gas program became fully operational in 2013. Only two years after launching our own unconventional gas program in the frontier Northern Region, we are ready to commit shale gas for the development of a 1,000 megawatt (MW) power plant that will

feed a massive phosphate mining and manufacturing sector in the Kingdom and drive that region's development and prosperity. Saudi Arabia will be among the first countries outside North America to use shale gas for domestic power generation.

We are actively exploring for unconventional gas resources in three areas of Saudi Arabia: the Northwest, South Ghawar and the Rub' al-Khali. Due to the large scale of these unconventional gas resources and the complexity and intensity of the activity associated with their development, significant investment opportunities and economic benefits lie in the full value chain of this emerging industry. Success in this area will depend on the extent to which rapid and effective localization can be realized.

#### The Jiddah Stormwater Drainage Program

Saudi Aramco is also leveraging its engineering capabilities toward improving the national infrastructure. The Jiddah Stormwater Drainage Program was formulated in early 2011 by a Royal Decree. The program execution has been divided in three phases

for flood control in addition to a comprehensive stormwater master plan for the city's drainage network. The phases are categorized as: Urgent Works, Permanent Works, and East Jiddah Projects. The first two stages were successfully completed and the third phase (flood control measures to protect urban expansion) is expected to be completed by the 3rd quarter of 2014.

#### Building a Competitive Workforce

The availability of and access to a skilled workforce is critical to attracting new investment to the Kingdom. However, the demand for skilled professionals in the energy sector is exceeding the availability of qualified candidates, creating a skills shortage.

The key to building a competitive local workforce is to make sure that improved Saudization means not just more Saudi workers, but also more skilled Saudi workers. The company invests in numerous initiatives aimed at increasing the Kingdom's human capital, training employees and nonemployees alike.

2013 Citizenship Report :: 25 24 :: Energy Is Opportunity :: **Saudi Aramco** 

#### **ECONOMY**



**Priority:** New industries and jobs mean new specialized skill requirements. The Saudi workforce must have access to the knowledge and training needed to fill the jobs created by new types of economic activity.

#### **Vocational Training**

As part of the company's goal of creating a competitive Saudi energy sector, Saudi Aramco chairs a collaborative body established to help bridge the gap between the demand and supply of skilled Saudi manpower resources. The **Energy Sector Training and Development** Advisory Council will serve as the platform for a coordinated effort to ensure alignment of strategies and setting of priorities among public, private and major industry players in the energy sector. This critical intervention was

brought about to formally begin influencing the vocational training system and outcomes in the energy sector Kingdom-wide.

The council includes the largest energy sector companies in the Kingdom and will have a national vision focused primarily on the energy sector. Members of the council include representatives from SABIC, the Saudi Electricity Company, Ma'aden, and the Royal Commission for Jubail and Yanbu'. The private sector is also represented in the council by the Eastern Province

Chamber of Commerce and the associated government entities of Technical & Vocational Training Corporation (TVTC) and the Human Resources Development Fund (HRDF), as well as energy sector nonprofit institutions such as Saudi Petroleum Services Polytechnic, National Industrial Training Institute (NITI) and Jazan Refinery & Terminal Project Consortium.

Saudi Aramco also engaged in several vocational programs in 2013, including the following:

■ NITI is an independent, not-for-profit training institute and the result of a strategic partnership between Saudi Aramco and TVTC. NITI trains young Saudis to meet the market and industry needs, contribute to community growth, help reduce unemployment and support the Kingdom's Saudization efforts. NITI offers industrial training mainly to high school graduates to qualify them to work in the energy sector.

Saudi Aramco extended its partnerships with local training providers, helping them build their capacity in terms of quality and standards. This year, the company visited more than 14 providers to evaluate their capacity for providing training and signed a contract with Al Bassam Institute to train both male and female trainees. Two cohorts of female trainees have been sent to a training provider for the first time in history.

- Saudi Aramco-sponsored subject matter experts have participated in the development and benchmarking of the National Occupational Skills Standards (NOSS). To date, 25 Saudi Aramco personnel have attended the NOSS development and validation workshops.
- In 2013, the Industrial COOP program began accepting eligible students from technical, community and industrial colleges, in various majors. In 2013, Saudi Aramco's business lines accommodated a total of 60 students in three intakes, with 200 COOP students expected to join the program in 2014.

#### Apprenticeship Program

Many graduates from the Kingdom's

vocational training institutions, as well as from local high schools, participate in Saudi Aramco's Apprenticeship Program for Non-Employees, which was first started in 1970. This program is of particular importance given the rapid job growth in our downstream activities and the high retirement rates of our current industrial workforce. Apprentices who successfully complete a minimum of 18 months of training, including 50 hours of safety training, are hired into our industrial workforce. During 2013, 1,929 Saudi Aramco apprentices completed the program and 4,759

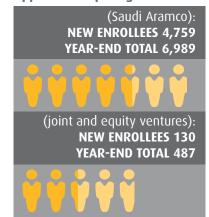
new Saudi Aramco apprentices enrolled. An additional 467 joint ventures apprentices completed the program, with 130 new joint ventures apprentices enrolled.

#### Women in the Workplace

Building a competitive national workforce also means encouraging the employment of women, both throughout the Kingdom and within Saudi Aramco.

In collaboration with General Electric (GE) and Tata Consultancy Services, Saudi Aramco launched the first all-female

#### **Apprenticeship Program**



**Business Process Outsourcing center in** Riyadh. This venture will create up to 3,000 jobs for Saudi women and serve as a building block to localize the business process outsourcing industry in the Kingdom. This center will employ skilled graduates in the areas of finance, accounting, human resources management and supply chain management, and will be a training ground for building new capabilities, skills and careers for Saudi women. The demand for such services in the Gulf Cooperation Council is still in its infancy, totaling



only \$306 million in 2012, which represents less than 1 percent of the total global demand. Nevertheless, demand growth in the region over the next 10 years is forecast to be three times that of the global market (15 percent per year). In addition to advancing female employment, this presents an opportunity for the Kingdom to take a leadership position in the delivery of business process services domestically and throughout the MENA region.

Mahara is a training program, in partnership with Western India Products Limited Arabia and Prince Mohammed Program for Youth Development, aimed at providing Saudi female IT graduates with English, soft skills, and specialized IT skills to help enhance their chances of employment in the local job market. In 2013, Saudi Aramco IT also established an "IT Female University" collaboration initiative with in-Kingdom universities comprising female IT sections to bridge the gap between academia and the IT industry. The aim of the program is to support Saudi females in gaining more insight about the IT industry in the corporate world and acquiring the skills required in the local job market to improve their chances of employment. Since inception, the program has graduated 294 graduates in three cohorts.

#### **Employee Training**



2013 5.2 MILLION HOURS

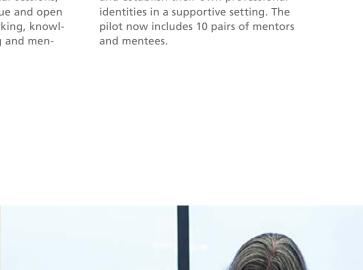
2013 Citizenship Report :: 27 26 :: Energy Is Opportunity :: **Saudi Aramco** 

#### **ECONOMY**

In 2010, Saudi Aramco launched the Women in Business program, a threeday workshop to help women achieve professional success by training them on topics such as assertiveness, managing workplace conflict, work/life balance, inter-gender communication skills, networking and finding mentors. In addition to the workshops, the program also facilitates networking and mentorships among its alumni. In 2013, Saudi Aramco delivered 10 Women in Business programs to 157 Saudi Aramco female employees with five years or less of work experience, as well as two Women in Leadership programs for experienced female leaders in professional and leadership jobs.

Since 2012, Saudi Aramco has sponsored the Qudwa program, an employeedriven initiative that strives to be a catalyst in the development of a diverse and productive corporate environment by capitalizing on the unique qualities and skills existing among men and women. With the gender mix in companies shifting in Saudi Arabia, a group such as Qudwa attempts to prepare the workforce for this change in demographics. Qudwa, which means "rolemodel" in Arabic, focuses on skills such as negotiation, leadership and communication. Through regular sessions, Qudwa encourages dialogue and open discussion through networking, knowledge sharing, skill building and mentoring programs.

Currently, there are 1,500 members in Qudwa, which is composed of Saudi Aramco employees across all business lines. The gender split within the members is 70 percent men and 30 percent women. Additionally, Qudwa has recently launched the pilot for its nontechnical mentoring program, bringing together the company's young employee mentees and experienced professional mentors. The Qudwa Mentorship Program is designed to create opportunities for young employees to be guided, challenged and encouraged to create and establish their own professional identities in a supportive setting. The pilot now includes 10 pairs of mentors





### **SUPPORTING FEMALE ENGINEERS**

As the company expands its core operations, there will be more opportunities for women in Upstream and a need for more female engineers and scientists. The MIT fellowship program is a one-year merit-based research program at Massachusetts Institution of Technology (MIT) in the United States for Saudi female PhD holders in engineering or science. In 2013, five female fellows were granted an opportunity to spend one full-time year conducting research under the mentorship of MIT faculty.

The fellowship's first fellow, Malak Al-Nory, received her undergraduate degree and master's degree from King Abdulaziz University, and her PhD from George Mason University in the United States. Her research focuses on the modeling and optimization of supply chains and mathematical programming models for strategic and operational planning, which led her to an interest in desalination systems modeling and optimization. While at MIT, Al-Nory's work with mechanical engineering professor Stephen Graves led them to define the supply chain components and activities for water desalination. Together, they proposed systematic methodologies and mathematical models to optimize the desalination supply chain and provide feasible, economical, and environmentally aware system designs. They coined the term "water desalination supply chain." Al-Nory is now dean of graduate studies and research at Effat University in Jiddah.



MANY SAUDI ARAMCO PROFESSIONALS BENEFIT FROM ASSIGNMENTS WITH INTERNATIONAL FIRMS.



**Priority:** A robust and efficient local supply chain—in both manufacturing and services—is required to meet the demands of an increasingly diverse and integrated economy.

To become a leading integrated energy and chemicals company, Saudi Aramco needs a vibrant and diversified local community of suppliers. Over the past few years, Saudi Aramco has averaged an annual spend of approximately \$20 billion on the procurement of materials and services.

The company's procurement and contracting strategies therefore play an important role in contributing to the development of the Saudi energy sector. Leveraging this spend to build a competitive local industry is an integral part of our contribution to the Kingdom's economy.

All suppliers, regardless of origin, must abide by Saudi Aramco's Supply Chain Code of Conduct, which was launched in 2013. The clear expectations of the code is for employees and contractors

to embrace a commitment to ethics, integrity and zero tolerance of fraud, while it also empowers employees across the supply chain to enforce company values and challenge code infringements wherever they arise.

Saudi Aramco's Local Manufacturing Development Program aims to eventually achieve 70 percent of all material procurement needs with locally manufactured goods, doubling the current rate of 35 percent. To meet this goal, Saudi Aramco is taking proactive steps to build the capacity of the local supply chain, such as providing technical support to improve new manufacturers' technical abilities and bring production up to international standards and specifications. We may also give priority to local manufacturers for certain bidding opportunities, provide premiums for

new product lines that create jobs for Saudi nationals and enter into extended purchase agreements to provide local suppliers with a business stream that fosters their long-term viability.

In 2013. Saudi Aramco's standard contract template was amended to add a new schedule that standardizes Saudization terms and conditions to ensure their consistent and effective implementation. During 2013, 50 employees earned Supply Chain certification and seven employees earned master's degrees in Supply Chain Management from various international institutes through the Advanced Degree Program. In addition, Saudi Aramco worked with King Fahd University of Petroleum and Minerals (KFUPM) to establish a Supply Chain Management degree program at the university.

Saudi Aramco hosted several events for suppliers in 2013. The Annual Suppliers Forum was conducted in Dammam with more than 1,000 participants. The intent of the forum was to advance excellence in the Saudi Aramco supply chain, increase suppliers' awareness of the Saudi Aramco Supplier Performance Metrics, and provide an opportunity to interact with suppliers. The company also hosted "Saudi Aramco's Gateway to New Frontiers," a supplier conference that was attended by more than 370 individuals from major services and manufacturing companies in the Western Hemisphere and succeeded in encouraging manufacturers to build manufacturing facilities in Saudi Arabia.

VALUE OF MATERIAL PROCUREMENT (in millions) SPENDING AWARDED TO LOCAL MARKET

2012: \$4,522

2011: \$4,032

2011: 87%

PERCENTAGE OF MATERIAL PROCUREMENT SPENDING AWARDED TO LOCAL **MARKET** 

2013 2012: 89% VALUE OF SERVICE PROCUREMENT (in millions) AWARDED TO LOCAL **COMPANIES** 

2012: \$21,667 2011: \$19,500 PERCENTAGE VALUE OF SERVICE PROCUREMENT AWARDED TO LOCAL **COMPANIES** 

2013 2012: **85**% 2011: 75% 28 :: Energy Is Opportunity :: **Saudi Aramco** 2013 Citizenship Report :: 29

#### **ECONOMY**



One of the objectives of Saudi Aramco's corporate strategy is to establish a locally integrated, globally competitive industry to support the Saudi energy sector. Enabling entrepreneurship in the Kingdom is a critical tool for meeting this objective. Thanks to the new jobs they create and the economic development they generate, SMEs now comprise about 85 percent of the world's economy and approximately 93 percent of the total number of active establishments in the Saudi economy. Creating an environment in which these businesses can flourish is therefore a key part of ensuring the economic success of Saudi Aramco and diversifying the Kingdom's economy.

need access to funding, expertise and guidance.

Saudi Aramco invests heavily in local entrepreneurship through programs like Wa'ed, which in Arabic means "promising," and the Saudi Aramco Energy Ventures program, known as SAEV. On the domestic side, Wa'ed provides expertise and funding for Saudi entrepreneurs and small enterprises,

while globally, SAEV invests in start-up and high-growth companies whose energy-technology focus is of strategic interest to Saudi Aramco. During the past two years, Saudi Aramco also provided engineering consultations and investment opportunities to more than 78 industrial projects in various fields, including advanced factories for thermal processors, pipelines, valves and industrial control block valves.

#### Saudi Aramco Entrepreneurship Center (Wa'ed)

Wa'ed is a wholly owned subsidiary of Saudi Aramco and was established two years ago to play a key role in developing, financing and incubating SMEs in the Kingdom. Wa'ed supports young Saudi entrepreneurs by providing them with financial and technical support to establish SMEs that meet the local and regional market demand. Its mission and activities strongly support the Kingdom's strategic transformation into a knowledge-based economy.

a special group of entrepreneurs, giving them the opportunity to get to know each other for potential joint cooperation and sharing of personal experiences. As the network expands, the members' interaction is designed value produced and contributing to economy and diversification of its

around 250 SMEs with up to SR 1 billion (\$267 million) in financing over the next five years, creating approximately 3,500 high caliber jobs for Saudis. Wa'ed will also provide a package of incentive awards for entrepreneurs to promote competitiveness on entrepreneurs' quality of projects and achieve the ambitious objectives held by the company, such as the highest Saudization percentage.

LOAI LABANI, A SOFTWARE ENGINEER, EXEM-PLIFIES THE YOUNG ENTREPRENEURS WA'ED SEEKS TO SUPPORT.

Throughout the process, the Wa'ed Entrepreneur Network strives to create to increase opportunities for collaboration, thereby improving the economic the growth of the Kingdom's national

Wa'ed has ambitious plans to support

The program's capacity to reach those goals expanded significantly in 2013 with several new initiatives, including the first business incubator, Wa'ed Startup Lab, at KFUPM. Wa'ed Venture Capital (VC) Company, also launched in 2013, invests locally through equity financing. Additionally, it studies international business opportunities and identifies ones that are appropriate for localization in the Kingdom. Wa'ed VC invests in companies at early to midrange growth stages. Equity financing is considered only once mid-sized businesses have executed a few growth deals and established their reputation as a viable company. By the end of 2013, Wa'ed VC had sourced 70 deals, of which 12 were presented and 10 were approved by Wa'ed's Board Investment Committee. Of those 10 ventures, 60 percent were in the information and communication technology sector and 40 percent were in the industrial/manufacturing sector.

Through a new partnership, Siemens AG works with Wa'ed to actively support the development of the Kingdom's SME sector and maximize the localization of Siemens' energy sector supply chain in manufacturing and services. Siemens will partner with the SMEs supported by Wa'ed to enhance their competencies and speed up the process of qualifying them to become key suppliers to Siemens.

The overall objectives of Wa'ed include the support and development of SMEs, boosting their contribution to the national economy and providing new opportunities for the establishment of joint strategic projects and partnerships. To help meet these objectives, Saudi Aramco sponsored and participated in the Saudi International SME Forum, which was held in Riyadh May 28–29 and organized by the Saudi Development Fund and the Saudi Credit and Savings Bank, in cooperation with Al Iktissad Wal Amal Group. As part of the forum's activities, Saudi Aramco's interactive booth showed how to promote innovation to achieve entrepreneurship in business, including methods to obtain debt or equity financing, as well as comprehensive training opportunities for the development of business plans and for commissioning new projects. Wa'ed-supported fields offered at the forum included projects in the areas of information technology, health care, energy, manufacturing, chemicals, education, supply chain, solar power, energy services and innovative industrial opportunities.

#### SAEV

The company launched Saudi Aramco Energy Ventures LLC (SAEV), a wholly owned subsidiary, in 2012 to accelerate the flow of technology to Saudi Aramco through investments in early- and growth-stage technology companies.

SAEV identifies emerging technologies that meet Saudi Aramco's strategic interests, conducts due diligence, negotiates terms with potential investment companies and governs the portfolio post-investment. A total of nine investments have been executed by SAEV, comprising seven direct investments into companies and two venture capital funds. These investments have introduced new technologies within the areas of upstream, downstream and energy efficiency.

Saudi Aramco also continued its Keystone Innovation Program in 2013. With a focus on helping turn the ideas of young Saudi innovators into reality, Keystone is a unique innovation and entrepreneurship program initiated in 2011 by the King Abdulaziz Center for World Culture in cooperation with ArtScience Labs and the Lab at Harvard University. In 2013, 36 young Saudi professionals explored the theme of "synthetic biology." The Keystone program offers 200 hours of certified training to young Saudis wishing to translate their creative ideas into market-ready products and services. At the end of the eight-week program, eight innovative projects were presented by participants from a variety of science disciplines, including medicine, engineering, applied science, architecture and technology, to Eastern Province businessmen, thought leaders and academics.



KHALID A. AL-FALIH, SAUDI ARAMCO CEO, AND DR. KHALID AL-SULTAN, RECTOR OF THE KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS, POSE WITH A GROUP OF STUDENTS PARTICIPATING IN THE WA'ED STARTUP LAB. A BUSINESS INCURATOR.



32 :: Energy Is Opportunity :: **Saudi Aramco** 2013 Citizenship Report :: 33

#### COMMUNITY





PROMOTING COMMUNITY HEALTH AND WELL-BEING

**Priority:** In recent years, Saudi Arabia has experienced a sharp increase in non-communicable diseases such as diabetes and cardiovascular disease. Saudi Aramco recognizes that its business ambitions cannot be achieved without a healthy work culture and a high-performance workforce and is committed to improving the health and well-being of its people.

#### Saudi Aramco Medical Services Organization (SAMSO)

SAMSO provides health care to our employees and their dependents, and also works to positively influence the wider health care industry in the Kingdom by setting the standard for patient and family-centered health care. In 2013, Saudi Aramco signed a historic joint venture agreement with Johns Hopkins International, the international arm of Johns Hopkins Medicine, to establish a new health care provider for the company. The agreement marks the first step in a process of creating a new medical center of excellence in Saudi Arabia. It is also a logical step in

Saudi Aramco's transformation, allowing the company to focus on its core business activities while helping to ensure better health for generations to come. Eligible company medical recipients will benefit from enhanced specialty and subspecialty services and new lines of treatment. SAMSO employees, too, will benefit from unprecedented opportunities for professional development that accompany Johns Hopkins' 120 years as a global leader in health care research, training and management expertise. Finally, the partnership will significantly reinforce Saudi Aramco's tradition of community outreach, bringing Johns Hopkins' cutting-edge research and global experience to bear on some of the Kingdom's most urgent health issues, like heart disease and diabetes.

HEALTH AND WELL-BEING ARE NOT JUST IMPORTANT ON A PERSONAL LEVEL. THE ACHIEVEMENTS OF EVERY INDIVIDUAL IN IMPROVING HIS OR HER OWN HEALTH AND WELL-BEING CONTRIBUTE DIRECTLY TO SAUDI ARAMCO'S 2020 STRATEGIC INTENT...INCLUDING SAUDI ARAMCO BEING THE WORLD'S LEADING INTEGRATED ENERGY AND CHEMICALS COMPANY. TO REACH OUR GOAL WE NEED A HEALTHY AND PRODUCTIVE WORKFORCE, AND OUR VISION IS THAT THIS ENERGY AND HEALTH WILL ALSO EXTEND TO ENCOMPASS OUR COMMUNITY. -MOTASSIM AL MA'ASHOUQ, VICE PRESIDENT, MEDICAL SERVICES

2013 Citizenship Report :: 35 34 :: Energy Is Opportunity :: **Saudi Aramco** 

#### COMMUNITY





**MEDICAL FACILITIES RECEIVING** DEVELOPMENT **SUPPORT** 



2013

OUR MEDICAL ESTABLISHMENT WAS A CATALYST FOR TRANSFORMATIVE HEALTH CARE IN THE KINGDOM. WE HELPED BUILD THE NATION'S FIRST HOSPITALS, DEVELOP PUBLIC HEALTH POLICY, AND ERADICATE DEVASTATING ILLNESSES LIKE MALARIA AND SMALLPOX. NOW, THIS JOINT VENTURE WILL DRAMATICALLY ENHANCE TREATMENT, CREATING A SUSTAINABLE 'CENTER OF EXCELLENCE' THAT WILL TAKE CLINICAL CARE, RESEARCH AND MEDICAL EDUCATION IN THE KINGDOM TO NEW HEIGHTS.—KHALID A. AL-FALIH, PRESIDENT AND CEO

"

#### Promoting Healthy Lifestyles

In 2013, Saudi Aramco's Wellness Program—Wellcare—was awarded the International Corporate Health and Productivity Management Award from the Institute for Health and Productivity Management. The award recognizes international organizations that are "best in class" in the application of the health and productivity management models and have measurably improved their business competitiveness through productivity gains arising from improved employee health status.

The award is another indication of the increasing recognition of the global role that Saudi Aramco is playing in the emerging field of wellness, such as through its continuing participation in the Workplace Wellness Alliance

Leadership Board of the World Economic Forum (WEF). In this role, and in keeping with our commitment to share best practices and raise awareness about the economics of workplace wellness, we published a return-on-investment case study for the 2013 WEF Davos Report titled "Making the Right Investment: Employee Health and the Power of Metrics." The study covered 2 million employees in 25 global companies operating in more than 100 countries.

The Wellcare program is a structural evolution of our award-winning Saudi Aramco Wellness Program, a multidisciplinary effort to maximize the health and productivity of Saudi Aramco's workforce by delivering innovative corporate enhancement programs. Our approach is based on a population health management model, consisting

of online and onsite health improvement and injury prevention resources, physical activity classes, lifestyle and wellness coaching courses, health screening clinics, healthy lifestyle modification classes and injury prevention programs. The program promotes a culture of health throughout the company to help make wellness part of everyday work practice. Our management teams nominate wellness "champions" who complete a four-day certification program and attend an annual conference. As highlighted in the Davos Report, it is estimated that the program led to a cost avoidance of \$3.5 million between 2005-2011 through a reduction of health risks and increased physical activity, while significantly increasing employees' job satisfaction, work engagement, stress management and productivity.

#### **2013 WELLCARE DASHBOARD**

**SaveWELL: 30** Automated Electronic Defibrillator drills conducted; 2,510 Trained saveWELL instructors across the company; **6,431** employees trained to save a life.

**quitWELL:** 9 Industrial Training Centers from our Industrial Training organization became smoke free; **161** employees quit smoking in **2013**; **691** guitWELL facilitators across the company.

**readWELL: 46** New readWELL materials produced; **352,826** readWELL materials delivered to our customers; 424,834 readWELL materials produced in total. These readWell materials—available as both printed and e-copy materials—contain credible evidencebased health information in Arabic and English, helping to increase access to health education materials and encourage positive behavior change.

eatWELL: 22 eatWell clinics conducted; 469 employees attended eatWELL sessions; 368 kilograms lost as a result of the eatWELL sessions.

**WORKWELL:** 369 Wellcare champions trained across the business lines; 11,346 registered champions attended Wellcare clinics in the workplace; **15,405** employees contributed to the business line health risk study; 1,238,848 steps taken in the "walking while you work" fight against obesity.

**EMPLOYEES** PARTICIPATING IN SAUDI ARAMCO'S **WELLNESS PROGRAM** 

11,405

2012: 9,000

2011: 1,458

2010: 2,344

2009: 1,509

# •• SAUDI ARAMCO PUBLISHES THE FIRST •• WELLNESS ROADMAP FOR THE MIDDLE EAST

Recognizing the unique set of factors affecting public health in the region, Saudi Aramco published a "A Wellness Roadmap for the Middle East"—a guide to implementing a fully integrated wellness model in Middle Eastern companies. The guide explains the value of prevention and wellness in the context of business and community and is targeted at business management, HSE, HR and medical professionals working in the Middle East. The first publication of its kind in the region, it lays out the steps to build a wellness culture in a unique part of the world.

#### COMMUNITY

In 2013, Wellcare developed a "Population Health App" that has been tracking health data of a cohort of 11,200 employees to measure health risk migration on a monthly basis. The "app" provides information which produces a health risk profile for each Saudi Aramco business line based on health status, absenteeism, and injuries on the job. This analysis allows for a targeted approach toward reaching the global benchmark of a healthy, safe and productive Saudi Aramco workforce.

The Saudi Aramco Peer Health Education and Reinforcement (SAPHERe) program had a successful second year promoting healthy lifestyles among Saudi Arabia's youth. Drawing from best practice models in behavioral change and peer education, SAPHERe trains 13–15-year olds on nutrition, exercise, tobacco use awareness and prevention, as well as life skills. During the 2012–2013 academic year, 20 male teachers, and eight female teachers were trained as mentors and

160 boys and 96 girls were trained as peer educators. Over 95 percent of students were 100 percent satisfied with the presenters, content and methodology. SAPHERe means "ambassador" in Arabic, and after training, SAPHERe graduates are empowered to develop and deliver health promotion projects for their peers and communities. Continued success may eventually lead to the program's implementation at the national level.

In order to improve health among disadvantaged communities in the Kingdom, Saudi Aramco partnered with the Ita'am arm of the Al-Fozan Social Foundation to encourage families in the Kingdom to reduce the amount of wasted food by wisely apportioning their meals and working to provide what is left over to those in need. Initiatives already instigated to meet these goals include the organization of an exhibit to showcase the charity at Saudi Aramco's campus, and participating in the

Al-Fozan Foundation's donation program by providing an estimated 4,000 meals for distribution. Saudi Aramco has also invited the foundation to participate in Saudi Aramco-organized campaigns and festivals to further promote awareness on the need to reduce food waste and provide for those less fortunate.

Saudi Aramco is also working at a national level to improve sporting infrastructure to encourage exercise and healthy lifestyles. In 2013, we completed the construction of the multiuse King Abdullah Sports City, located 60 km north of Jiddah. The main football stadium has a seating capacity of 60,000 while the surrounding smaller sports venues are designed to host athletics and other indoor sports with a combined capacity of over 40,000.

Supplementing these health initiatives, Saudi Aramco established a Traffic Safety Chair with the University of Dammam in 2013. Sponsored by the

#### **BUILDING A CULTURE OF SAFETY**

**Priority:** Every day in Saudi Arabia, an average of 20 people die from road accidents, one of the highest traffic fatality rates in the world. As the principal cause of death for adult males aged 16 to 36, traffic deaths represent a tragic and preventable situation, not only on our current and future workforce, but also for the Kingdom at large. Saudi Aramco considers investments in traffic safety, as well as in fire safety, to have positive long-term economic and social benefits for the company, its employees, and the communities in which it operates.



SIGNATURE PROGRAM

TRAFFIC SAFETY



2013 Citizenship Report :: 37

#### TRAFFIC SAFETY

Motor vehicle accidents are a major threat to the safety of our employees on and off the job. Our traffic safety initiatives date back more than 50 years, when the company recognized that to change driving habits in the Kingdom, it must lead by example. There is still much work to be done, and in 2013, our Traffic Safety Signature Program continued working with our stakeholders to increase the impact of our initiatives in the "four E's" of traffic safety—Education, Enforcement, Engineering and Emergency Care:



#### Education

Saudi Aramco is working to increase awareness around the impacts of dangerous driving and engage young Saudis on safe driving techniques. In 2013, we:

- Received over 50,000 visitors to the Safe Driving Challenge Simulator, our traffic safety exhibit equipped with state of the art driving simulators.
- · Reached more than 800,000 students through our Traffic Safety Competitions.
- Provided safe driving training manuals and training to over 100,000 boys in technical colleges across the Kingdom.
- Took 683 high-risk apprentices to visit local rehabilitation centers and meet with victims of accidents as part of the Emotional Effect Program.



#### Enforcement

Saudi Aramco is working with relevant authorities to deploy and improve technologies that help reduce vehicle accident rates. In 2013, we:

Devices in apprentices' vehicles as an educational and preventive tool focusing on behavioral safety. Vehicle speed data is collected and monitored via satellite, and disciplinary action taken when violations are committed. As a result, traffic violations and traffic accidents have almost halved since 2011 among apprentices.

· Sought to further enhance the

systems of 15 command centers for the Traffic Police and Highway Security—and develop a new control center at Oarvat Al-Oolva—to help facilitate quicker and more effective responses from the concerned agencies.



#### Engineering

Saudi Aramco is partnering with relevant authorities to improve the safety of the Kingdom's roads and highways. In 2013, we:

- Installed 3,500 Driver Monitoring Began installing more than 300 solar light poles at 38 road intersections in Abgaig, Ain Dar and Shedgum to improve night · Widened 22 km of the Abgaig/Ain Dar road to alleviate safety
  - concerns. · Initiated a Strategic Traffic Movement study and a Road Safety Audit for

be completed in 2014

Dammam-Hasa Highway which will



#### **Emergency Care**

Saudi Aramco is supporting the improvement of medical treatment for victims of traffic accidents. In 2013, we:

- Worked directly with local "first responders" by organizing and coordinating the training of 79 Red Crescent emergency medical technicians and 32 members of the Traffic Police Accident Investigation Unit in basic life support techniques for treatment of accident victims.
- Assisted with the establishment of four new Red Crescent Centers and renovation of the Red Crescent Command and Control System in the Eastern Province, as well as facilitating the completion of helipads at trauma level hospitals for future Red Crescent Medevac Helicopter



[OUR TRAFFIC SAFETY PROGRAM] OFFERS A LONG-TERM SOLUTION. WE START WITH VERY YOUNG CHILDREN AND ALSO WORK WITH THOSE BETWEEN THE AGES OF 17–30 YEARS, AS THIS IS THE HIGH RISK GROUP."— ZIAD AL-KADI, TRAFFIC SAFETY SIGNATURE PROGRAM



#### COMMUNITY

company, the chair will support academic programs and scientific research in the field of traffic safety, provide for the use of modern technology in the development of traffic systems, and support implementation of programs to raise community awareness of the importance of traffic safety. In addition, the chair will expedite implementation of training programs and specialized seminars on traffic safety, and provide for world-class development programs in the fields of highway safety engineering, driver behavior, injury reduction and first aid programs on the roads.

VISITORS TO THE SAFE DRIVING CHALLENGE



50,000

2012: 42,870

2011: 66,873

STUDENTS WHO RECEIVED TRAFFIC-SAFETY EDUCATION PROGRAM

2013 118,400 2012: 24,000 2011: 15,430 2010: 23,275

2009: 10,735

#### Fire Safety

As a global industry leader looking to the future, Saudi Aramco has maintained a clear perspective on the importance of fire safety through fire prevention and proper fire response. The results of 2013 show a significant decline in the number of industrial and community fires as well as the associated monetary loss. These positive results come from continually identifying, eliminating, controlling or mitigating fire hazards. Saudi Aramco applies comprehensive fire and safety standards when designing, constructing and operating its facilities. Engineering standards, operating and maintenance procedures, and emergency response training and planning all play a critical role in the prevention or control of fires.

In March, Saudi Aramco unveiled its "Smoke Detector Awareness Campaign" aimed at increasing the installation and use of smoke detectors. The campaign was conducted in three malls—in Dhahran, Riyadh and Jiddah—with each campaign consisting of both a theater performance and viewer interaction stage. There were more than 260,500 attendees from around the Kingdom and more than 25,000 smoke detectors distributed as a result. In addition, our School Fire Safety Program—now in its second year—reached 2,900 boys and girls schools, educating both teachers and students about fire safety drills and training them on conducting safe evacuation drills.



Participating in the annual GCC Traffic Week for the 29th consecutive year, Saudi Aramco established Area Committees in all major operating areas, including Riyadh, Jiddah, Yanbu', Tanajib, 'Udhailiyah, Abqaiq, Ras Tanura and Dhahran, to plan and implement a range of area-specific activities. Activities included organizing traffic safety exhibitions, offering traffic safety presentations and organizing family days. In total, 1 million traffic safety educational and promotional items emphasizing traffic safety were distributed to company employees, contractors and families as well as to the public in 47 cities and towns across the Kingdom. Saudi Aramco also participated in government-organized outreach exhibitions—at the King Abdulaziz Historical Center and King Khalid International Airport in Riyadh; at the Al-Johra Mall in Yanbu'; and at King Faisal University and the Al-Othim and Al-Hasa malls in 'Udhailiyah. In al-Khobar, Saudi Aramco and the Sultan bin Abdul-Aziz Science and Technology Center, known as Scitech, jointly organized a major traffic safety exhibition which was inaugurated by the vice governor of the Eastern Province.



Since the establishment of Saudi Aramco's donation fund in 1940, we have supported local charities, research and development and access to health care. Our donation strategy is based on our Four Pillars of Corporate Citizenship and addresses pressing societal needs by directly engaging with charitable organizations across the Kingdom.

communities they serve.

Saudi Aramco's giving has three categories: annual gifts, unplanned requests, and targeted charitable giving. For the first category, we make annual donations to select academic institutions and charitable organizations. For the second category, we allocate funds to respond to requests for donations and sponsorships that come throughout the year. For the third category, we strategically partner with local charitable organizations to build their capacity. With our targeted charitable giving, we are proactively involved in building local organizations' capacity for program design, implementation, management and monitoring of the program activities.

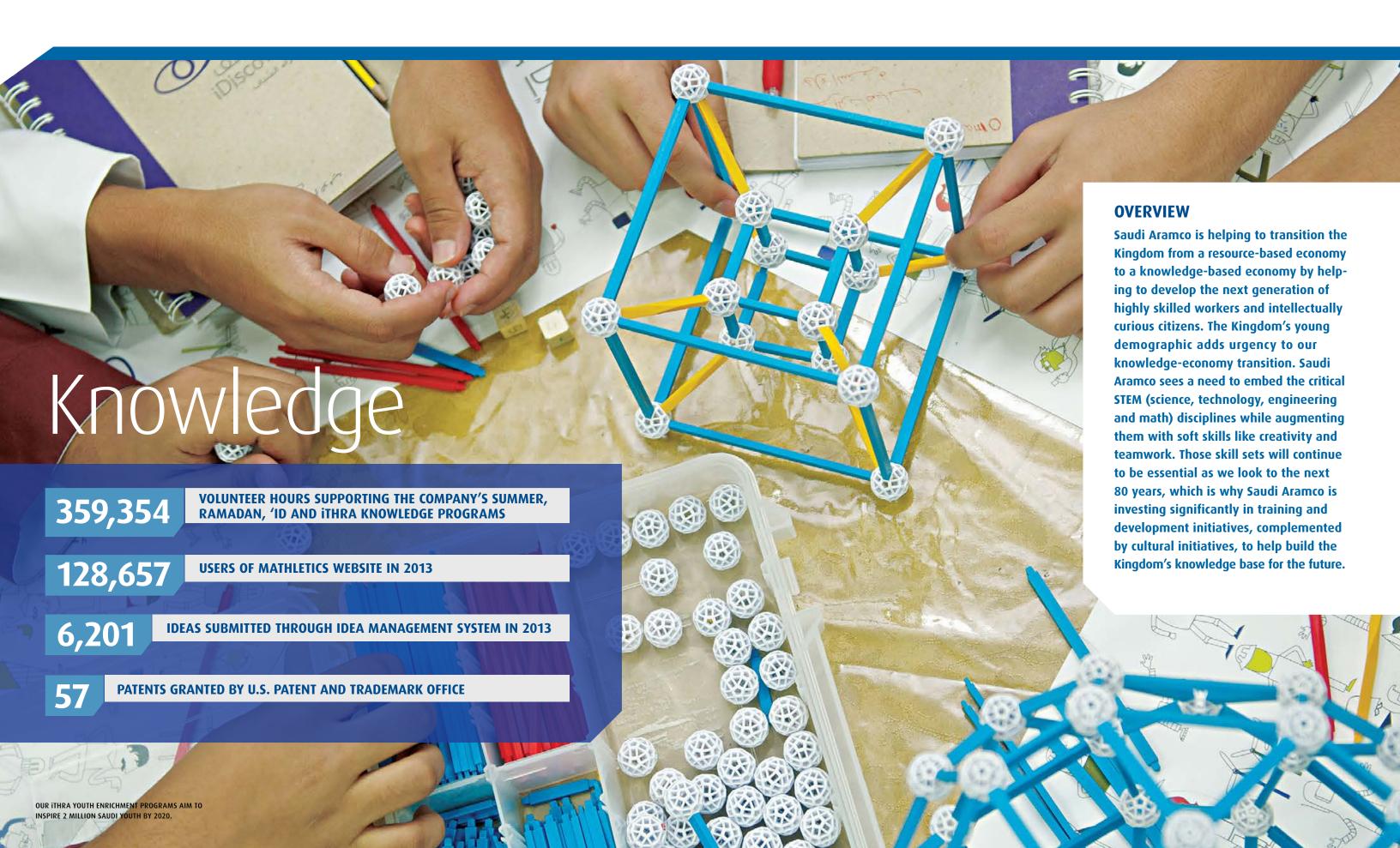
#### Targeted Charitable Giving:

In 2013, we provided funding and support for local organizations through programs with the following major objectives:

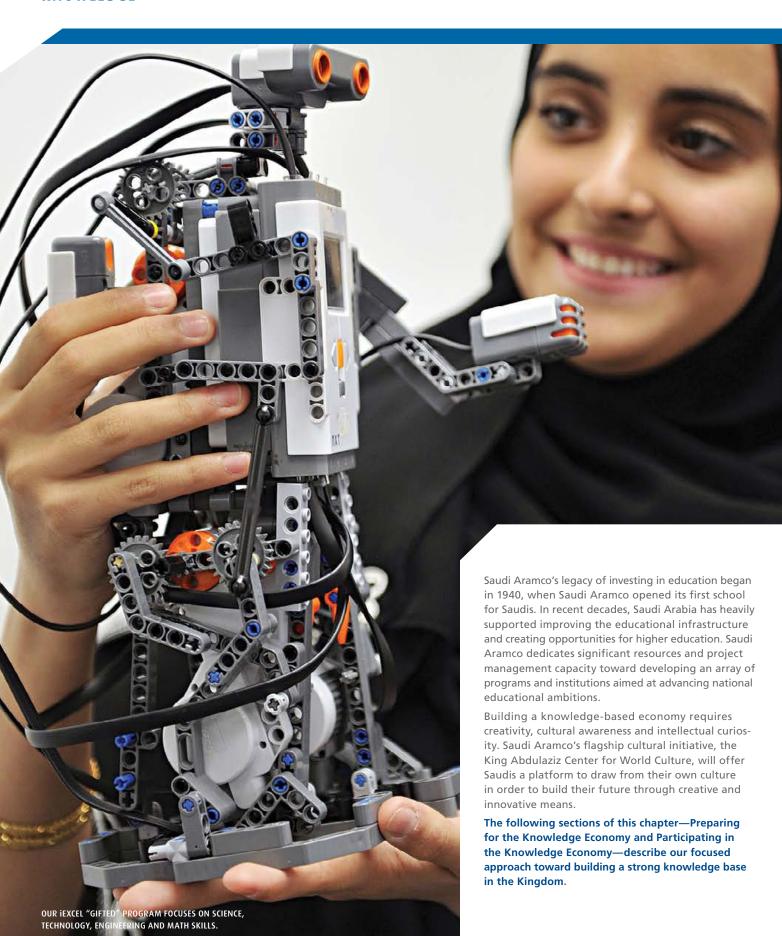
- Developing Orphan's Skills: The program works with teachers to provide rehabilitation and training for 3,000 orphans and their families. Within the program, Saudi Aramco partners with the Charity Association for Orphans Care (Bena'a) and the Joud Charitable Women's Association in the Eastern Province, and the Charity Committee for Orphans Care (Ensan) in the Central Province.
- Supporting Needy Patients: This program provides health screening for members of the public, as well as educational outreach on healthy lifestyle choices, utilizing social media to disseminate health knowledge. The program also provides basic equipment to help disabled patients to live normally and improve their ability to merge into society. This program is

conducted in partnership with Al-Rahma Medical Charitable Society in the Eastern Province, The Charitable Society for Health Communication (Hyatona) in Riyadh and Zamzam Society for Voluntary Health Services in Jiddah.

■ Training & Development Program for Productive Families: This program aims to support 700 needy families to start their own micro business. The program will be executed in Dammam, al-Khobar, Al Hasa, Qassim, Hail, Jazan, ArAr, and Al Jouf in partnership with Bena'a Productive Families Center (Jana) and Fatat Al-Qassim Development Center.



#### **KNOWLEDGE**





**Priority:** Achieving the Kingdom's aspiration to become globally competitive economically will ultimately be determined by the quality of the human capital it produces. Jobs in a diversified and knowledge-based economy will require highly developed STEM skills in today's students as well as creativity, cultural awareness and intellectual curiosity. With more than 35 percent of the Kingdom's population 15 years old and younger, this educational challenge is now greater than ever.

#### Supporting Education

Building a knowledge-based economy begins with supporting education. In 2013, Saudi Aramco continued its long history of supporting education, from childhood education through advanced degrees, particularly in the STEM disciplines.

At the national level, Saudi Aramco is cooperating with the Ministry of Education to boost the quality of education in the Kingdom. In 2013, we signed a memorandum of understanding—the first of its kind between Saudi Aramco and the Ministry—that paves the way for a range of inspiring company initiatives. One example, launched after the agreement, is Saudi Aramco's Basic Teaching Skills in Math, Science and English Language for Intermediate Teachers Program, which is being delivered in cooperation with the Ministry and The Education Experts Company. It began with a "Connecting Curriculum with Reality" program, which trained 150 math, science and English language teachers over 10 weeks in the Eastern Province. Program modules included philosophy, science and technology curriculum, student-based learning and life-long continued learning.

Saudi Aramco also continued to collaborate with the Ministry of Education to utilize and translate the online educational tool "Mathletics." With an Arabic interface and content based on Saudi Arabian math curricula for all K-12 students, the website encourages students to challenge themselves by playing real-time games and puzzles, and by competing globally with other students. In 2013, a total of 185,000 interactive Mathletics accounts were provided to students all over the Kingdom.

Instilling inquiry-based learning at an early age is critical to preparing students for scientific study later in life. In collaboration with the Ministry of

Education and Siemens, Saudi Aramco launched the Siemens Science Discovery Initiative in 2009 to promote science education by sending "discovery kits" to kindergarten and first-grade classrooms in public schools and training teachers on how to use the kits in lessons. The discovery kits include 22 scientific experiments on energy, electricity, environment and health. In 2013, the initiative was expanded to the Western Province where a total of 1,100 discovery kits were delivered to the Ministry of Education, impacting 16,500 children, while 606 teachers

THE COMING ERA, WHICH WILL WITNESS THE ADVANCEMENT OF THE COMPANY'S GROWTH, THE KINGDOM'S ECONOMY AND THE WORLD'S PROSPERITY, WILL BE BASED ON CREATING KNOWLEDGE RATHER THAN CONSUMING IT.—KHALID A. AL-FALIH, PRESIDENT AND CEO

"

USERS OF MATHLETICS WEBSITES

2013

128,657

2012: **4,200** 

SCHOOLS USING MATHLETICS WEBSITES

201

385

2012: **100** 

#### **KNOWLEDGE**



representing 446 schools were trained on how to use these kits in the classroom. In 2014, we hope to train 780 teachers, as well as deliver 1,300 kits and impact a further 19,500 students in the Central Province, helping us to reach our overall goal of distributing 3,500 kits and impacting over 50,000 children.

2013 also saw the first full year of Saudi Aramco's Blended Learning Open Source Science or Math Studies (BLOSSOMS) project. The project was launched in 2012 in collaboration with the Massachusetts Institutes of Technology and the Sultan bin Abdulaziz Science and Technology Center, and involved the development of 20 videos on math, physics, chemistry and biology. That same year, 400 teachers completed training on how to use the videos and in 2013, these teachers used the videos and associated materials to enhance education in their classrooms.

Saudi Aramco also continued to sponsor the Saudi Research Science Institute summer program, a six-week residential program for high school students that focuses on research to develop future leaders in science, technology, engineering and math. During the program, students conduct university-level research under the mentorship of professors from King Abdullah University of Science and Technology (KAUST), with 39 high-caliber students participating in the program in 2013.

## Inspiring intellectual curiosity and creativity

The year 2013 marked the second anniversary of Saudi Aramco's visionary education program iThra Youth. Literally meaning "Enriching the Youth," iThra Youth is an enrichment program designed to infuse the Kingdom's youth and children with a passion for learning. The

program offers a variety of exciting, hands-on learning experiences that aim to inspire 2 million Saudi youth by 2020 in the STEM disciplines through creative learning and character-building exercises. The program is a product of the King Abdulaziz Center for World Culture (p.48), designed to address the important gap in science and math learning styles and critical thinking among Saudi youth by working to inspire them to be lifelong learners, creative innovators and critical thinkers. To achieve these goals, the iThra Youth team has developed the following suite of extracurricular "i-programs" with a unique blend

"

SAUDI ARABIA IS LIVING OFF THE WEALTH OF ITS RICH LAND—A LAND RICH IN NATURAL RESOURCES FOR SURE, BUT SOME WOULD SAY EVEN RICHER IN HERITAGE, HISTORY AND CULTURE. SAUDI ARABIA'S FUTURE WEALTH MUST BE BASED ON THE IDEAS, TALENTS AND CREATIVITY OF ITS PEOPLE...THE FUTURE ENERGY OF SAUDI ARABIA WILL BE CULTIVATED THROUGH A LOVE OF THE ARTS, CULTURE, READING AND EXPOSURE TO THE WONDERS OF THE WORLD, BOTH INSIDE AND OUTSIDE THE KINGDOM.

—FUAD F. AL-THERMAN, DIRECTOR OF THE KING ABDULAZIZ CENTER FOR WORLD CULTURE.

77

of media and inspiration delivered across multiple platforms and formats.

#### iSpark mobile program:

iThra Youth's flagship initiative, iSpark is a mobile outreach program through which trained facilitators and educators travel to schools across the Kingdom, providing "modular experiences" designed to convert the traditional rote assimilation of science and math knowledge into personal discovery for ninthand tenth-grade students. In 2013, iSpark reached 10,000 students in 180 schools. We plan to increase our outreach in 2014 by reaching 28,000 students in 280 schools during the year.

#### iDiscover:

Launched in 2013, iDiscover consists of a series of rigorous and creative math and science camps that toured five major cities across the Kingdom. The program consists of three training stages for master trainers, teachers and students. Initially, 32 master trainers were selected by the Ministry of Education to undergo a groundbreaking threeweek teacher training course in the U.S., designed and delivered by professionals from Lawrence Hall of Science at the University of California at Berkeley (for science) and Math Zoom Academy of Irvine, California (for math). In the second phase, a total of 1,000 teachers were intensively trained on new teaching techniques by the master trainers during five-day training sessions. In the

final phase, the top 100 teachers were selected to assist the master trainers in teaching students during the second week of the program. In total, 2,000 students participated in this phase—each receiving 120 certified hours of training—which included science and math workshops, as well as characterbuilding, communications, problemsolving, leadership and social skills activities.

#### iRead:

Also introduced in 2013, the iRead program and competition was created in partnership with the Ministry of Education to promote a culture and passion for reading among middle school, high school and university students by helping them develop reading-related skills. Initially piloted this year in the Eastern Province, the program culminated in November with a "Reader of the Year" competition that received a staggering 2,500 applications, as well as 6,000 submissions for a photo competition that was held simultaneously.

These "i-programs" are only part of the portfolio of innovative projects in which the iThra Youth team engaged to inspire intellectual curiosity and creativity. In 2013, the team also worked to design a series of short and highly animated online learning games, produced educational films such as "The Book of Sand"—which was recently

nominated for the top prize at the Abu Dhabi International Film Festival—and partnered with regional communications giant MBC Group to produce an innovative prime-time educational science and math TV and online series "Subscribe @ iThra" that reached an average of 2.1 million viewers for each of its 13 episodes.

These pioneering initiatives received international recognition in 2013 when the Qatar Foundation presented Saudi Aramco's iThra Youth program with the World Innovation Summit for Education (WISE) Award for Innovation in Education. The program was selected from among 500 WISE award applicants and was recognized for its "tangible, positive impact upon society and its innovative approach to solving important educational challenges." The program joins a list of only 36 initiatives singled out since 2009 as among the "best novel solutions to the challenges facing education in the world."

#### iThra Knowledge Program:

The iThra Knowledge Program is a multiactivity and multi-stop event that tours the Kingdom to inspire and educate millions of visitors. The program, formerly known as the Saudi Aramco Cultural Program, was redesigned and significantly enhanced in both quality and impact in 2013. In particular, the focus this year was on supporting the newly announced national strategy

#### **INVESTING IN HIGHER EDUCATION**

Saudi Aramco has historically invested in a number of vocational training institutes and higher education institutions. In addition to supporting 14 university chairs across the Kingdom, we are engaged in strategic partnerships with the following organizations:

 King Abdullah University of Science and Technology (KAUST): Founded in 2007 and built by Saudi Aramco at the request of The Custodian of the Two Holy Mosques, King Abdullah, KAUST is an international graduate-level university located in Thuwal on the Red Sea. KAUST currently offers advanced degrees in three areas: biological and environmental sciences and engineering; computer, electrical and mathematical sciences and engineering; and physical sciences and engineering.

King Fahd University of Petroleum and Minerals (KFUPM): Located adjacent to Saudi Aramco's head-quarters in Dhahran, KFUPM has been a key source of Saudi talent for decades. More than half of our engineers and leaders are graduates of KFUPM. Saudi Aramco and KFUPM are strategic partners on research, teaching and professional training.

 King Abdullah Petroleum Studies and Research Center (KAPSARC): With its Riyadh campus currently being built by Saudi Aramco, KAPSARC plans to push forward insight and understanding of energy challenges and to advance knowledge of efficient and sustainable energy production and consumption. Saudi Aramco and KAPSARC collaborate on a number of areas of research, particularly with regard to the Kingdom's energy initiatives.

 National Industrial Training Institute (NITI): Currently being built on land donated by Saudi Aramco in al-Hasa, NITI will offer industrial training mainly to high school graduates to qualify them for work in the oil, gas, petrochemical and construction industries. The result of a strategic partnership between Saudi Aramco and the Technical & Vocational Training Corporation, it is expected to be completed in 2014.

Saudi Petroleum Services Polytechnic (SPSP): SPSP supports the Saudization of the oil and gas industry by producing well-qualified Saudi graduates who are highly trained in technical skills. As a main supporter of SPSP, Saudi Aramco collaborates on the development of curricula and provides hands-on learning opportunities.

VOLUNTEER HOURS SUPPORTING THE COMPANY'S SUMMER, RAMADAN, 'ID AND ITHRA KNOWLEDGE PROGRAMS

359,354 2012: 100,000

2012: 100,000

PORTING THE PARTICIPANTS IN AMADAN, 'ID ISPARK

2013 15,500 2012: 2,000 2011: 1,600

IN MY OPINION, THE IDISCOVER EXPERIENCE IS SUCCESSFUL BY ALL STANDARDS. I BELIEVE THAT IT IS SO BENEFICIAL TO THE TEACHERS AND WILL CREATE A HUGE SHIFT IN SCIENCE AND MATH TEACHING IN SAUDI ARABIA. WE HOPE THAT THIS PROGRAM CONTINUES TO BENEFIT OTHER REGIONS IN THE KINGDOM.

—ABDULRAHMAN AL-SHAMMARI, SCIENCE TEACHER IN HAYIL AND IDISCOVER TRAINER

"

2013 Citizenship Report :: 47 46 :: Energy Is Opportunity :: **Saudi Aramco** 

#### **KNOWLEDGE**

aimed at transforming Saudi society into a knowledge society. A key attraction this year was the contemporary mobile art exhibit "Pure Colors" from France's famed Centre Pompidou. For the first time in the Kingdom, 20 modern art masterpieces were displayed, including original works by renowned artists such as Pablo Picasso, Olafur Eliasson and Yves Klein, and brought to life through interactive, volunteerled small group tours catering to children and adults. Also in 2013, the Live Performance Tent hosted approximately 70 shows, among which was the debut of "1002 Nights," a collaborative production between the King Abdulaziz Center for World Culture, the Saudi Culture and Arts Society of Dhahran and the National Youth Theatre of Britain.

In total, there were more than 362,600 visitors to the program, which could not have taken place without the efforts of 500 volunteers. These volunteers devoted more than 100,000 service hours to the program, representing more than half of the operational capacity needed to bring iThra Knowledge Program to reality. All volunteers went through a training program, with at least 20 hours of training and orientation provided before the events, including interactive presentations, and individual and group simulation exercises designed to encourage innovative approaches to overcoming challenges. These experiences provide volunteers with a structured opportunity to give back to their communities, as well as transferable skills that are widely respected by prospective employers.

In addition to leveraging our size and reach to bring cultural events to the Kingdom, Saudi Aramco is using the skills and expertise of its staff to prepare Saudi youth for the knowledge economy. Saudi Aramco's iExcel programs, designed to improve cognitive skills, build character and hone creative skills, are delivered by specialists and trainers from the company's Training and Development organization, and draw upon lessons learned by the business in building capabilities over our 80-year history. iExcel consists of three main programs:

- iExcel "Atamayyaz," conducted in collaboration with the Ministry of Education at 17 Saudi Aramco-built public schools in the Eastern Province. The program covers a range of topics such as safety, character-building, health, art, English language, recycling and environmental protection. In 2013, more than 3,400 male and female high school students participated in the program.
- iExcel "Gifted" program, held in collaboration with King Abdulaziz and imizing the intellectual capabilities disciplines, harnessing their abilities 73 female students from public high schools participated.

■ iExcel Summer A program, offered at Saudi Aramco's Industrial Training Centers, aims to provide 15–18-year olds with important life skills. In 2013, around 2,000 high school students participated.

Preparing individuals for tomorrow's jobs, by itself, is insufficient. The proper infrastructure must also exist for those young people to be able to apply their ideas and skills to meet the immense opportunities presented by the knowledge economy. Saudi Aramco took significant steps in 2013 to create new alliances and further develop existing ones that will help move the company and the Kingdom toward becoming a leader in innovation, research and development (R&D), and the application of new technologies and solutions that will be at the heart of a globally competitive and sustainable economy.

THE ULTIMATE GOAL OF THE PROGRAM IS TO PROVIDE MALE AND FEMALE PARTICI-PANTS WITH THE SKILLS OF A KNOWL-EDGE RESEARCHER WHO KEEPS UP WITH THE LATEST DEVELOPMENTS, AS WELL AS TO PREPARE THEM TO MEET THE CHAL-LENGES AND HAVE THE ABILITY TO DEAL WITH ALL CHANGES UNDER VARIOUS CONDITIONS TO ACHIEVE SCIENTIFIC AND PERSONAL SUCCESS.— OHOUD AL-MULHIM, DEPUTY HEAD OF THE IEXCEL GIRLS PROGRAM

His Companions Foundation for Giftedness and Creativity (Mawhiba). The month-long program focuses on maxof high-performing students in STEM to serve community needs, and opening doors for them to explore various academic fields. In 2013, 94 male and



for the world—and, in turn, create new jobs, businesses and industries.

#### Championing Research and Development

Saudi Aramco is a strategic partner of KFUPM's Dhahran Techno Valley (DTVC), located adjacent to our headquarters in Dhahran. DTVC is creating an R&D hub in Dhahran to bridge the gap between academia and the energy sector. With major companies including Schlumberger, Halliburton, Baker Hughes and Honeywell currently operating in DTVC, it is quickly becoming one of the Middle East's most influential industrial technology nuclei. In 2013, DTVC's Science Park added General Electric to this impressive list. GE established an Innovation Center as a base to work with partners to create local solutions to the Kingdom's national priorities, such as energy efficiency and sustainable and affordable health care.

To access best-in-class talent and strengthen collaboration in addressing

technical challenges, Saudi Aramco, through its affiliates, has been establishing international research centers in strategic locations around the world, including Delft in the Netherlands, Aberdeen, Scotland, and Paris in Europe; Cambridge, Houston and Detroit in the U.S.; and Beijing in Asia. All becoming fully operational by 2014, these centers follow the first research center established at King Abdullah University of Science and Technology, which was tasked with undertaking projects relating to robotics, fuel, technology, chemicals, membranes and advanced materials.

#### Fostering Innovation at Saudi Aramco

Within Saudi Aramco, we continue to strengthen and sustain a robust, creative and innovative organizational culture. Our state-of-the-art Idea Management System is paramount to administering

our innovation portfolio. The system enables high-quality ideas, improves idea tracking and reporting, and provides the platform for innovation campaigns. In 2013, the system captured 6,201 ideas submitted by 3,563 employees. A total of 522 ideas were approved and 228 were fully implemented to achieve operational improvements and significant cost savings.

We also carried out 30 innovation workshops in Dhahran and all major Saudi Aramco facilities. Overall, 13,000 employees participated in the workshops, which consisted of an introduction and techniques for idea generation, followed by interactive exercises to stimulate innovative thinking, and concluded with a description of the corporate Idea Management System. The aim of these workshops is to increase user contributions toward the corporate innovation system both in quality and





#### **KNOWLEDGE**

### IDEAS SUBMITTED THROUGH IDEA MANAGEMENT SYSTEM

201

6,201

PATENTS GRANTED BY U.S. PATENT AND TRADEMARK OFFICE



quantity, which should enhance the operations of our facilities and align with our corporate strategy to optimize our processes.

As a demonstration of its leadership in intellectual property in the Kingdom, Saudi Aramco filed 152 patents in 2013 with the U.S. Patent and Trademark Office. The company was also granted 57 patents, only one short of the all-time company record set the previous year.

### The King Abdulaziz Center for World Culture

The King Abdulaziz Center for World Culture is the flagship of Saudi Aramco's knowledge-building and cultural initiatives, and is set to become a beacon of learning, creativity and cross-cultural engagement in the Kingdom upon its completion.

Its iconic building is designed to seamlessly meet a number of needs: a museum and exhibition hall, a 21st century public library and archive, a theater and a center for creativity, children's learning and lifelong learning. Among its many attractions, the museum will offer worldclass exhibits on the natural and social history of Saudi Arabia, Islamic civilization, and culture and contemporary art in the region.

The Center is laying the groundwork for its ambitious mission through major public outreach initiatives, innovative pilot programs and a variety of events and activities related to the arts and sciences. The Center's award-winning iThra Youth enrichment programs and entrepreneurial Keystone endeavors are already capturing the imagination of young Saudis, inspiring a renewed love of reading and knowledge, and ushering in the promise of a new cultural vitality in the Kingdom.

#### Construction and Design

Building the complex, multi-layered structure continued in 2013. Construction of the 91-meter tall structure reached 47 percent completion, and is expected to be finished in 2015. When completed, the institution will cover 80,000 square meters, with enough interior space to cover 10 soccer fields.

#### **Exhibits**

Extensive use of cutting-edge technology to engage visitors, enhance learning experiences and integrate cultural programming is one of the Center's designed points of distinction. To meet this major goal, the Center is working with a leading multi-media technology creator to develop interactive technologies and experiences across 11 applications and multiple center components.

A pair of similar projects progressed in 2013. After completion of their detailed design, fabrication of the Energy Science Center and Prince Salman Science Oasis also began in 2013, and were 30 and 60 percent completed respectively by the end of the year. Both exhibits will be complete in 2014 and will, among other things, promote and explore a wide range of Saudi Aramco and wider Saudi energy initiatives from the development of alternative solar, wind and geothermal technologies to projects aimed at maximizing hydrocarbon extraction; the development of lower energy use transportation; energy conservation in buildings—and initiatives to protect the Kingdom's fragile land and marine ecosystems.

#### **Archives**

The Center's Archives—which will manage and maintain records of the social heritage of Saudi Arabia and history of Saudi Aramco—continue to grow. In 2013, The Center acquired a large

# ••• GROUNDBREAKING ECO-FRIENDLY PATENT FILED •• BY ARAMCO EMPLOYEE

Saudi Aramco was awarded 57 patents by the United States Patent & Trademark office in 2013. One of those patents, filed by Tawfeek A. Mollah, uses one of Saudi Arabia's most abundant natural resources—sunlight—to replenish one of its most precious natural resources: fresh water. The patent concept uses a special lens to focus the sun's energy onto a pipe filled with seawater. The temperature at the focal point reaches roughly 1100°C, causing the seawater inside the pipe to evaporate and form superheated steam. The steam is then directed via a small pipe to the collection reservoir below sea level, where it condenses to produce distilled water. The device runs automatically, requires no electricity and creates no emissions. Estimates suggest the eco-friendly distilled water generator can produce 82 liters per hour, which is equivalent to roughly 30 percent of daily per capita water consumption in Saudi Arabia.





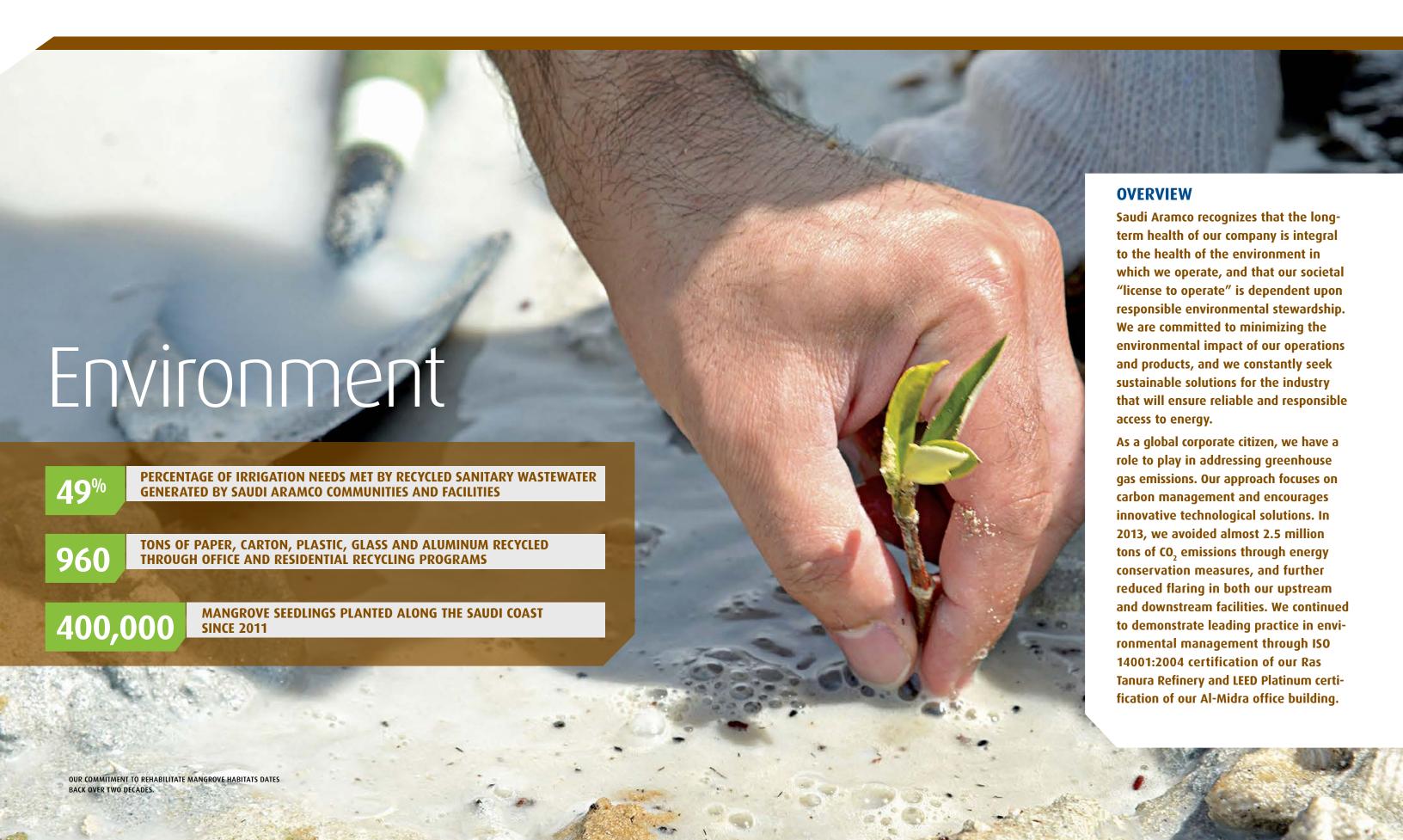
collection of historical material from Vela International Marine Limited, the Saudi Aramco shipping subsidiary, including documents, videos, awards and three models of Vela ships. The Vela collections are of particular interest in highlighting the global scale of Saudi Aramco's work. The Center Archives also acquired the Cambridge Archives Editions as part of the development of the Archive Special Collections. The Editions comprise 103 titles spanning 814 volumes of rare, primary source reference material that is historically significant to Saudi Aramco and Saudi Arabia.

#### Events

In 2013, the Center hosted the first Creativity Forum, an outgrowth of the Keystone program (p. 29). Bringing together leading creative and artistic minds from across Saudi Arabia and the

Arabian Peninsula, the event included diverse international presenters from the United States, the Netherlands, Germany, Sweden and the United Kingdom. The first of its kind in the country, the two-day event offered a series of lectures and activities to more than 400 participants, exploring creativity in areas such as science, technology, artistic design and architecture under the theme of "Bridging the Gap Between Conceptualization and Realization." Forum participants also studied the design of the Center's own facility by Norwegian design firm Snohetta as a model of creative expression and innovative engineering. The Creativity Forum will be an annual event and will continue to explore issues related to creativity, innovation, cultural expression, architecture and design, as well as the positive impact of the creative industries.

The Center also played host to the Global Knowledge Society Forum in partnership with the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the King Abdulaziz City for Science and Technology. The two-day forum explored the theme "Building Knowledge Societies for Sustainable Human Development." It aimed to catalyze the development of a knowledge ecosystem in the Kingdom by bringing together prominent Saudi and international speakers from a wide spectrum of disciplines to build a common understanding of the elements critical to a knowledge society framework. Participants discussed global sustainable human development, regional Arabic knowledge content and the opportunities and challenges associated with developing a knowledge economy.



#### **ENVIRONMENT**



Saudi Aramco is investing heavily in energy efficiency, exploring renewable energy technologies and leveraging our extensive energy capabilities and resources to generate a thriving clean energy sector in the Kingdom. Our work with the Saudi Energy Efficiency Center has seen improvements in building codes and new fuel economy standards for vehicles, while our work with the National Energy Efficiency Hub led to savings of approximately 20 million barrels of oil from Eastern and Central power plants between June and September.

Finally, we are working to protect biodiversity and build awareness of fragile ecosystems throughout the Kingdom. The UNESCO awardnominated efforts of our Manifa Causeway project—where we constructed three kilometers of bridges to maintain natural water flow and preserve marine nurseries—are a testament to our unwavering commitment in this area. In 2013, Saudi Aramco and its communities planted 250,000 mangroves along the Arabian Gulf Coast and began development of an educational facility designed to build awareness of the ecological importance of mangroves to the Kingdom's coastline.

The following sections of this chapter— Energy Efficiency in the Kingdom, Reducing our Environmental Impacts and Protecting Biodiversity—describe our focused approach to protecting the environment.



intensity ratings. The Kingdom needs to become more efficient in its

consumption of energy, while developing alternative solutions to

supplement oil and gas in meeting domestic demand.

Forecasts show that current rates of energy demand growth within the Kingdom will pose a serious challenge to Saudi Aramco's and the Kingdom's future if energy efficiency and the mix of energy sources available to the Kingdom are not improved. Today, the Kingdom's economy requires energy at an intensity level twice the world average, and domestic energy demand is estimated to more than double by 2035.

To address these issues, and to make our own business more cost competitive, we are working at multiple levels to foster innovative solutions for the clean, reliable and efficient use of hydrocarbon fuels in the Kingdom. We are doing significant research into renewable energy technologies and leveraging our extensive energy capabilities to generate a clean energy sector in Saudi Arabia.

#### **Energy Conservation and Efficiency**

As energy demand rises throughout the Kingdom, Saudi Aramco is playing a leading role in encouraging the adoption of energy efficient technologies and practices, through partnerships and dialogue with government and other Kingdom industries and business groups. While helping ensure that energy demand remains at sustainable levels, these efforts will also generate economic returns and create new jobs in the Kingdom. Through our Energy Conservation Policy, Saudi Aramco commits to:

- Actively support national energy policies.
- Develop and coordinate energy conservation and optimization strategies with governmental agencies and utility companies.
- Foster initiatives and programs that seek to satisfy the Kingdom's energy demands in an economical and environmentally acceptable manner.

Utilize innovative and efficient technologies that are economically justifiable.

Saudi Aramco is also working with the Saudi Electricity Company (SEC) to establish a National Energy Efficiency Hub in Riyadh, with the objective of improving the utility sector's operational efficiency. In 2013, we began receiving the power generation and fuel consumption data for all Kingdom generation facilities on a daily basis, allowing us to help support the SEC more effectively in these objectives. Saudi Aramco divisions also worked with the SEC during the year to establish an SEC operational team with the goal of minimizing liquid fuel consumption at a national level. During the summer, this team was instrumental in optimizing liquid fuel burning at SEC switchable units in Eastern and Central areas. By maximizing the availability of sales gas to SEC and optimizing power plant dispatching, the

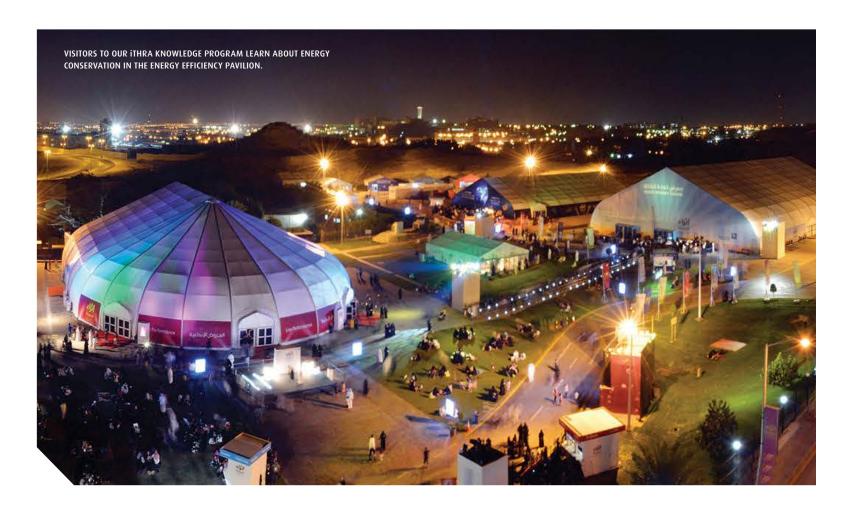
#### **ENVIRONMENT**

team helped save 20 million barrels of oil between June and September.

We continued to raise awareness on energy conservation at a regional level as well in 2013. For example, Abqaiq Plants launched its first community outreach campaign, with the theme of "Energy Conservation is a Personal Commitment." The four-day event included seminars, interactive activities and exhibitions and attracted over 21,000 visitors, making it the largest event ever

held in the Abqaiq Governorate's history. Furthermore, our Energy Efficiency Pavilion—part of the iTHRA Knowledge Program—began touring the country in 2013 and garnered nearly 300,000 visitors at its first stop in Dhahran. The program opened in Jiddah in late 2013. The pavilion educates visitors on the need for a change in energy consumption levels, detailing how local energy consumption compares to other countries and demonstrating how households can save energy.

As Saudi Aramco's operational footprint continues to grow, we remain committed to minimizing the impact we have on the environment. We continue to build on the strong foundations laid down in 1963 with the creation of our landmark Environmental Protection Policy and remain dedicated to demonstrating that resource-based economic development and preservation of the natural environment can go hand-in-hand.



#### Energy Efficiency at Saudi Aramco

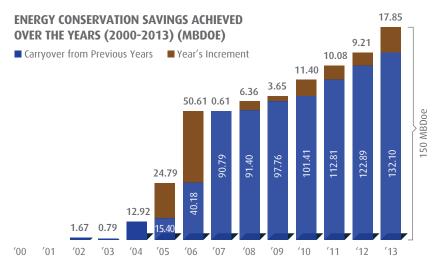
Since 2000, Saudi Aramco has had an Energy Management Program with four key objectives:

- Reducing the energy KPI of existing Saudi Aramco facilities by 2 percent per year.
- Designing all new Saudi Aramco facilities to be energy efficient.
- Increasing overall energy efficiency.
- Promoting energy efficiency at the national level.

As a result of careful implementation of this program, Saudi Aramco again experienced an improvement in its overall energy performance, as 2013 energy intensity (expressed in MBtu of energy required to produce one barrel of oil equivalent product) decreased by 4.56 percent compared to 2012.

Since 2000, our energy assessments have identified over 700 energy savings opportunities requiring capital investments or operational improvements. In 2013 alone, 74 energy savings opportunities were implemented, an increase of 50 percent over the previous year. Through these initiatives, we achieved a reduction in our total energy consumption by 5.8 percent. As a result, our cumulative reduction in energy consumption since the inception of the Energy Management Program in 2000 has now reached 150,000 barrels of oil equivalent per day.

Saudi Aramco's energy efficiency performance is significantly helped by cogeneration facilities at our plants, which typically have thermal efficiencies above 70 percent, well above the national average for power generation efficiency. In 2013, we saved approximately 170 million standard cubic feet of gas per day (scfd) compared to the national energy efficiency average due to use of these cogeneration facilities.



MBDOE = thousands of barrels per day oil equivalent

The ultimate objective of the cogeneration program is to fully satisfy Saudi Aramco's electricity needs and partially meet its steam demand. Over the coming 15 years, many of the company's boilers will reach the end of their useful lives, and the plan is to replace their capacities with steam efficiently produced by cogeneration.

Through its Lead by Example Initiative, Saudi Aramco is working to demonstrate leadership in energy efficiency in non-industrial operations through implementing energy-saving technologies. The goal is to achieve a minimum of 35 percent savings in energy use in the nonindustrial sectors by 2020, to be achieved in the following ways:

- Updating engineering standards on air conditioning, lighting and thermal insulation.
- Establishing energy guidelines for future home ownership developments.
- Retrofitting of existing Saudi Aramco buildings, both commercial and residential, and installation of smart power meters in all communities and nonindustrial facilities.

- Devising guidelines for energy audits and sustainable urban development.
- Enhancing the fuel efficiency of Saudi Aramco's transportation fleet, initially to 10.5 km/liter.
- Developing an incentive program for employees to improve the energy efficiency of their homes, appliances and vehicles.

The past year has seen the finalization of the planning and analysis phases of the Lead by Example Initiative, with particular progress made in the area of retrofitting existing Saudi Aramco buildings with more efficient LED lighting. Currently, most of the company's residential camps are equipped with incandescent lighting, which typically waste around 90 percent of energy as heat. Saudi Aramco plans to replace these by installing 532,000 LED light bulbs during 2014. As LED lamps use at least 80 percent less energy than incandescent lamps, emit virtually no heat

56 :: Energy Is Opportunity :: **Saudi Aramco** 2013 Citizenship Report :: 57

#### **ENVIRONMENT**



**Priority:** Saudi Aramco is committed to minimizing the impact of oil and gas operations on the environment, particularly as the world's rising energy demand requires accessing these resources in increasingly challenging and complex environments. Saudi Aramco aims to leverage its innovative thinking, expertise and leadership to go beyond environmental compliance and achieve best-in-class performance to protect our environment.

and last 25 times as long, it is estimated that the replacement of these lights will reduce Saudi Aramco's annual electricity consumption by 36,000 megawatt hours which translates to an annual reduction in consumption of 20,000 barrels of oil.

#### Managing Our Environmental Performance

Our approach is based on robust management and effective monitoring of environmental issues throughout our operations. Our Environmental Performance Assessment program is an effective management tool for assessing facility compliance with company and government environmental standards. The performance of different facilities is measured on 21 environmental indicators—including air quality, wastewater discharges, management of solid and hazardous waste, ground water quality and spill prevention control—as well as employee-related factors such as environmental awareness and training. The system is designed to be based

on measurable and verifiable data, to accommodate diversity and variation across the different types of operations and to form a basis from which to improve our performance in specific and targeted ways. Furthermore, the system aims to promote a sense of environmental stewardship, incentivize and recognize outstanding environmental performance, and set positive role models for the company. During 2013, we conducted 85 environmental compliance assessments and worked tirelessly to resolve any open findings.

In addition to our robust internal performance standards, Saudi Aramco also seeks to adhere to and exceed leading international practices in environmental management. In 2013, the Ras Tanura Refinery received ISO 14001:2004 standard certification for its Environmental Management System. ISO 14001:2004 is the world's most recognized environmental standard, and its adoption ensures that staff regularly take practical steps to

identify and control the environmental impact and improve the environmental performance of the refinery, while helping comply with applicable Kingdom and Saudi Aramco regulations. The refinery is the first Saudi Aramco organization to receive the certification for its Environmental Management System. As a sign of our continuing commitment to environmental excellence, Saudi Aramco's capital program reflected an increase of \$736 million in its Environmental Master Plan in 2013, representing an annual increase that is over 30 percent higher than the previous year's increase.

#### **Emissions**

During 2013, our extensive investments in environment-related research and development continued to bear fruit, with the application of a number of environmentally friendly innovations, guidelines and policies.

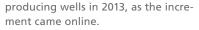
One example is the increasing success of our Flare Minimization Program, a structured program to reduce



**OUR BUSINESS IS ULTIMATELY ABOUT** IMPROVING THE QUALITY OF HUMAN LIFE, PARTICULARLY FOR THOSE OF OUR OWN EMPLOYEES AND THEIR FAMILIES, AND THE LOCAL COMMUNITIES WE WORK IN AND SERVE. WITH CREATIVE IMAGINATION AND OPERATIONAL EXCELLENCE, WE CAN KEEP ENERGY AND ENVIRONMENTAL STEWARD-SHIP IN BALANCE.—KHALID A. AL-FALIH, PRESIDENT AND CEO

flaring by deploying site-specific Flare Monitoring Systems across our gas value chain for the measurement, recording and reporting of flaring. During 2013, flaring at all upstream Saudi Aramco facilities was reduced from 0.89 percent to 0.72 percent of raw gas production, placing Saudi Aramco among the top performers globally in flare minimization. Saudi Aramco's Manifa crude oil increment demonstrates our leadership in this area, where zero-flaring initiatives

were completed on nine offshore



'02

**ANNUAL CO. EMISSIONS REDUCTIONS IN 1,000 TONS** 

■ Carryover from Previous Years ■ Year's Increment

We have also made significant reductions in flaring rates at our downstream facilities. Our Ras Tanura Refinery set a new record by achieving zero tail gas flaring through applying pressure swing absorption technology—which separates different gas types under pressure—resulting in gas cost avoidance equivalent to \$8.33 million per year. Similarly, Yanbu' Refinery achieved a reduction

in flaring of 41 percent in 2013 by implementing the company guidelines for Facility Flaring Minimization and by better controlling its hydrocarbon losses.

We also continued to successfully implement our first carbon capture demonstration project, which has developed into a world-class demonstration steered by a multidisciplinary team. For this project, we aim to capture CO<sub>3</sub> from the Hawiyah NGL recovery plant and re-inject it to enhance recovery from mature oil fields in the 'Uthmaniyah area. At the end of 2013, construction of the demonstration was 60 percent complete. When finished, it is anticipated that 40 million scfd of CO<sub>3</sub> will be captured, demonstrating the viability of this technology in reducing greenhouse gas emissions and enhancing oil recovery.

To further build on our expertise in the area of carbon capture, Saudi Aramco announced the creation of a CO, Research Center with the Korean Advanced Institute of Science and Technology (KAIST), a world-leading research institution. Jointly funded and operated by both Saudi Aramco and KAIST and located near KAIST's





#### **ENVIRONMENT**



TOGETHER WITH THE KOREAN ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY, WE ARE DEVELOPING A CO<sub>2</sub> RESEARCH CENTER.

## FLARE GAS MITIGATION

IN 2013 ALONE, FLARING AT ALL SAUDI ARAMCO FACILITIES WAS REDUCED BY OVER 17 PERCENT.

17%

THE VOLUME OF FLARED GAS IS NOW LESS THAN 1 PERCENT OF RAW GAS PRODUCTION, MAKING SAUDI ARAMCO AMONG THE GLOBAL LEADERS IN FLARED GAS REDUCTION.

main campus in Daejeon, the center will pursue an interdisciplinary approach to innovative and cost-effective solutions for CO<sub>2</sub> management, focusing on transformative technologies for managing CO<sub>2</sub> emissions from both fixed and mobile sources. A joint working group composed of scientists, experts and professionals from KAIST and Saudi Aramco is currently overseeing the establishment and operations of the center and paving the way for the group to share carbon management technologies, establish exchange programs and conduct joint projects.

With almost a quarter of the world's CO<sub>2</sub> emissions originating from the transportation sector, which is mostly dependent on hydrocarbons, Saudi Aramco has a responsibility as the world's largest oil producer to promote environmentally sustainable development of the sector. As such, a key component of Saudi Aramco's emissions management activities is reducing carbon emissions from mobile sources. In 2013, Saudi Aramco advanced its landmark mobile carbon capture prototype vehicle—a Ford F-250 truck developed in 2011—with company scientists and

technicians working to optimize the carbon capture system size. Capture efficiency has now doubled from 10 percent to 20 percent, and the size of the carbon capture unit has been reduced to an eighth of the original size. The second prototype—a Toyota Camry—has demonstrated that the novel technology could be used on smaller passenger vehicles at a reasonable cost and with minimum impact on vehicle performance.

Saudi Aramco is also working to produce more environmentally friendly fuels

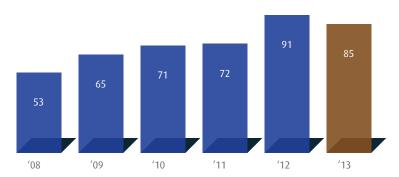
THE CO<sub>2</sub> RESEARCH CENTER REPRESENTS A MAJOR STEP IN SAUDI ARAMCO'S RESEARCH AND TECHNOLOGY STRATEGY TO PARTNER WITH TOP GLOBAL INSTITUTIONS TO HELP ADDRESS AND FIND SUSTAINABLE SOLUTIONS TO THE WORLD'S ENERGY CHALLENGES BOTH DOMESTICALLY AND INTERNATIONALLY.

—KHALID A. AL-FALIH, PRESIDENT AND CEO

"

that meet emerging automotive fuel regulations. In 2013, after only two years of research and collaboration with leading German car engine design firm FEV, Saudi Aramco scientists successfully demonstrated the potential of naphtha, a gasoline-like fuel, in a modern diesel engine. Considered a complement to gasoline, diesel and jet fuel, naphtha requires less processing and upgrading in the refinery than modern diesel fuels and is therefore cheaper to produce and more environmentally friendly. The successful test drive has

#### **ENVIRONMENTAL COMPLIANCE ASSESSMENTS UNDERTAKEN**



shown, for the first time, that a naphtha-fueled vehicle is capable of meeting today's European efficiency and emissions requirements while maintaining high comfort and drivability levels.

#### Wate

Protection of groundwater resources in Saudi Arabia is of vital importance as the Kingdom's aquifers supply over 90 percent of the water used in the country. As these aquifers are essentially nonrenewable due to the arid climate, they can pose risks to human health and the environment if impacted. In this context, Saudi Aramco assigns a high priority to the responsible use of the Kingdom's precious water resources. To promote water conservation Kingdomwide, Saudi Aramco sponsored and supported the organization of the Water Arabia 2013 Conference and Exhibition in al-Khobar from February 4–6, 2013. The conference was under the patronage of HE the Minister of Water and Electricity and the theme was "Innovative Water and Wastewater Technologies for a Sustainable Environment." In its efforts to lead by example, Saudi Aramco has an established Water Conservation Strategy with an overall target of reducing the company's projected freshwater consumption by 70 percent in 2022 by:

- Maximizing wastewater reuse.
- Optimizing water demand.
- Minimizing water losses.

This strategy is underpinned by our Water Conservation Policy that commits all corporate entities to protect groundwater supplies. One of the key features of the policy is assigning a value to groundwater in capital projects. While the old economic model considered only the well installation and pumping costs, the new model is used to assign groundwater an economic value equivalent to the cost of producing and transporting desalinated/treated seawater to the point of use. The company also continued its efforts to minimize groundwater consumption, particularly through efficiency measures and projects designed to test the feasibility of replacing groundwater with treated seawater.

Reliable monitoring of the water cycle is essential for establishing a sound water management plan. In 2013, Saudi Aramco installed flow meters in facilities companywide to monitor their entire water cycle and develop water mass balances to further facilitate identification of water conservation opportunities. Saudi Aramco also actively monitors shallow groundwater levels at nearly 60 operating facilities across the Kingdom, primarily through a network of over 1,000 groundwater monitoring wells. Groundwater sampling and laboratory analysis occurs on a periodic basis each year to monitor changes in groundwater quality and risk to the water supply.

Additionally, we actively seek to reuse any wastewater produced during operations to reduce consumption of freshwater resources. For example, by upgrading the wastewater treatment plant at our Shedgum Gas Plant in 2013, we were able to reuse an additional 70,000 cubic meters of wastewater during our operations. Several upcoming capital projects to install or upgrade additional wastewater treatment plants will further increase wastewater reuse over the coming five years. At the group level, 85 percent of the produced water is currently injected into oil reservoirs for pressure maintenance, and 83 percent of injection water is seawater and produced water instead of groundwater. As a result of this close monitoring of our fresh water consumption levels and the implementation of pioneering technologies to minimize our fresh water consumption, Saudi Aramco saw no increase in the amount of fresh water withdrawn or consumed by oil and gas operations from 2012 levels.

resources at our nonindustrial facilities through water reuse and conservation. For example, more than 70 percent of the sanitary wastewater generated by Saudi Aramco facilities is treated and reused for landscape irrigation and 100 percent at our headquarters in Dhahran. We are also implementing xeriscaping, initially at our Dhahran site, in a bid to further reduce our nonindustrial water footprint. Xeriscaping—the planting of evergreen flora that is highly tolerant to arid conditions and poor soil types can reduce water consumption by approximately 40 to 50 percent compared to conventional gardening. In 2013, the company explored opportunities with the National Water Company to utilize treated sanitary wastewater generated from the Kingdom's major cities for various applications inside the company.

We also seek to conserve precious water

#### 2013 Citizenship Report :: 61

#### **ENVIRONMENT**



960 tons of paper, carton, plastic, glass and aluminum recycled through office and residential recycling programs

#### Waste

Waste management is an important part of Saudi Aramco's environmental protection efforts and we are committed to minimizing waste generation through identifying waste reuse alternatives and implementing environmentally sound waste disposal methods. Recycling forms a key part of our approach, and we have had a waste recycling program in place since 1992.

We continued to sponsor the now Kingdom-wide Recycling Awareness Program, which was carried out in Saudi Aramco residential and office facilities, as well as in local schools, universities and other government organizations. An estimated 900 tons of paper and carton, 60 tons of plastic, glass and aluminum, plus 11,000 toner cartridges were collected by the end of 2013.

#### Renewable Energy Technologies

Saudi Aramco is making considerable efforts at multiple levels to develop a renewable energy sector that can improve the availability and mix of

energy to the Kingdom while minimizing environmental impact and providing highly skilled employment opportunities. We plan to help the Kingdom become a world-leading research and development hub and eventually a powerhouse across the full value chain of the emerging renewable energy sector.

Given Saudi Aramco's unique position as the Kingdom's energy supplier and the experience of our dedicated Renewable Energy team, we are working at the national level by contributing to the development of a comprehensive National Renewable Energy Strategy. Renewable energy targets have been considered as part of the Kingdom's utility fuel mix, and we have also proposed a phased implementation plan to cater for uncertainties associated with renewable energy technology and potential gas discoveries. In 2013, we recommended the establishment of a national renewable energy champion to ensure economies of scale and global competitiveness of local manufacturing and deployment.

At the company level, we are working to ensure that our employees have the capabilities to deliver on our renewable energy ambitions by establishing a Renewable Energy Academy. We are partnering with leading institutions such as Massachusetts Institute of Technology, the Lawrence Berkeley National Laboratory, the Masdar Institute for Science and Technology, and the King Abdullah University of Science and Technology to develop the curricula for technicians, engineers and project managers. In 2013, we delivered our first course, titled "Solar Energy System Engineering." The offering was the first of three solar energy courses that enable relevant staff to learn about photovoltaic solar energy system technologies, design and installations, as well as correctly assess the financial impact, benefits and operational challenges of solar energy projects.

PERCENTAGE OF IRRIGATION NEEDS MET BY RECYCLED SANITARY WASTE-WATER GENERATED BY SAUDI ARAMCO COMMUNITIES AND FACILITIES

<sup>2013</sup> **49**%





#### Dhahran Solar Test Field

Saudi Aramco continued to analyze data from the Dhahran solar test field to better understand the long-term performance potential of the technologies being studied. The solar test field will help assess the development of emerging technologies from 26 vendors and their application in Saudi Arabia.

#### Wind Towers Feasibility Study

In 2012, Saudi Aramco initiated feasibility studies for future wind project developments across Saudi Arabia. The results of this study will be issued in 2014, but the initial data collected from wind towers in Shedgum and the Gulf of Aqaba is encouraging.

Saudi Aramco does not limit its environmental stewardship activities to within the perimeters of our facilities. The company has an extensive history of promoting environmental awareness, protecting ecologically sensitive areas, and leveraging our environmental capabilities and resources to enhance environmental knowledge and maturity toward a more environmentally responsible culture. Our Corporate Biodiversity Plan commits the company to preserving and enhancing five areas of exceptional biodiversity in the Eastern Province, through well-planned operations that have minimal impacts, and we encourage facilities to designate and manage other areas within their operating areas.

#### **Mangrove Habitats**

In 2013, we made significant progress on our Corporate Biodiversity Plan.

With the help of local schools, charities, students and volunteers, we planted over 250,000 mangrove seedlings along the Arabian Gulf Coast. This is more than double the amount planted in 2012 and represents a significant step toward our goal of planting 1.5 million mangrove trees by 2016 to help rehabilitate a crucial component of the Kingdom's ecosystem. This builds on a commitment to rehabilitate mangrove habitats that dates back over two decades, when Saudi Aramco teamed up with King Fahd University of Petroleum and Minerals to transplant mangrove seedlings as part of a joint rehabilitation study. These habitats are among the most productive ecosystems in the marine environment, providing important nursing grounds for many

2013 Citizenship Report :: 63 62 :: Energy Is Opportunity :: **Saudi Aramco** 

#### **ENVIRONMENT**



commercial fish, shrimp and crab—the lifeblood of the Kingdom's fishing industry. They also provide an important natural green buffer zone for communities in the Eastern Province, with mangroves sequestering carbon dioxide and filtering dust and other harmful air emissions, as well as producing oxygen and providing an important refuge for migratory birds travelling between the Northern and Southern Hemispheres.

The importance of our efforts in this area were underpinned by a research study carried out by Saudi Aramco's Environmental Protection organization in 2013 that examined changes in local mangrove habitats over the past 50 years. The study revealed that more than 90 percent of the original mangrove trees in the Eastern Province have been lost, mostly as a result of municipal coastal development. The study also indicated that the remaining old areas of mangrove forest are situated in or adjacent to Saudi Aramco operating areas, as this prevented land

use practices such as land filling and dumping, strengthening the company's position as the environmental steward and champion of these important coastal habitats.

#### **Marine Habitats**

In further recognition of the importance of Saudi Arabia's ecologically sensitive areas, the rich biodiversity of our marine habitats and the recent decline of these habitats due to human activities and rising sea surface temperatures, the company established a strategic 10-year partnership with KAUST to conduct marine studies covering the entire Saudi coast of the Red Sea to develop the necessary marine environment knowledge base to guide the company's expanding offshore operations.

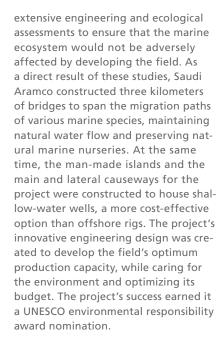
We are also working to develop artificial stable reef systems at numerous sites within Saudi Aramco marine areas in the Arabian Gulf. These reefs, in conjunction with a fish hatchery being developed at Abu Ali Island, will provide fisheries resources and increase

the livelihood of local fisherman. After completion of the first phase in 2012 whereby we identified 60 suitable sites based on criteria of sediment content, light infiltration, proximity to other reefs and water quality—we began to construct prototype artificial reef habitats to assess the sites' long-term suitability as nursery habitats for corals and reef associated biodiversity. In 2014, we plan to deploy 25 different prototype artificial reefs along the Eastern Province shoreline. The final phase of the project will then involve long-term monitoring of the new reefs, with detailed analysis and recording of coral re-colonization and associated increases in biodiversity. If successful, the reefs are expected to remain in place for 200-300 years, having a significant impact on the promotion of biodiversity in the area.

Saudi Aramco has particularly stressed the importance of protecting the marine habitats surrounding its offshore activities. Prior to construction of the Manifa oil increment, our experts conducted

Mangrove seedlings planted along the Saudi coast in 2013.

2012: 100,000 2011: 50,000 **GOAL** is 1.5 million



#### **Desert Habitats**

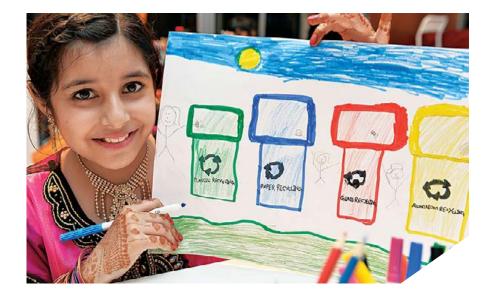
Saudi Aramco is developing a large desert wildlife sanctuary adjacent to its Shaybah complex in the southern region of the Eastern Province. The sanctuary covers 600 square kilometers of pristine Rub' al-Khali desert habitat that is home to an array of rare native wildlife such as the sand fox and sand cat, as well as a number of reptile and migrating bird species. A herd of Arabian oryx and Reem gazelles will once again roam the sanctuary after their decades-long absence due to hunting and poaching. In 2013, Saudi Aramco completed the Ecological Baseline Study, Ecological Management Plan, and Environmental Impact Assessment for the sanctuary.

#### Raising Awareness in the Next Generation

Saudi Aramco has an established Saudi Aramco Environmental Education Program aimed at enhancing the environmental knowledge and awareness of younger generations, and nurturing better understanding and appreciation among school children. To date, 905 "Friend of Environment" groups have been established and the program has been introduced to 1,296 schools in coordination with the Ministry of **Education through regional Directorates** of Education. Working closely with the Students Environmental Activities Administration in the Ministry of Education in Riyadh, Saudi Aramco has conducted "Train the Trainer" workshops for 190 elementary school teachers and 112 school administrators and government representatives in Riyadh area.

THE REEFS SERVE AS A HABITAT FOR COUNTLESS SPECIES. WHEN THEY COLLAPSE, THERE IS NO LONGER ANY STRUCTURE, SO IT'S A BIG ISSUE FOR MARINE BIODIVERSITY. WE CAN'T DO MUCH ABOUT THE TEMPERA-TURE RISES AND OCCASIONAL DISRUPTION OF THE THERMOCLINE, BUT WHAT WE CAN DO IS PUT THE STRUCTURE BACK, AND

THAT'S EXACTLY WHAT [WE ARE] DOING. —DR. RON LOUGHLAND, ENVIRONMENTAL PROTECTION DEPARTMENT



#### CITIZENSHIP AROUND THE WORLD



#### **United States**

Aramco Services Co. (ASC), headquartered in Houston, Texas, partners with Trees for Houston, an organization dedicated to planting, protecting and promoting trees. Employee volunteers literally "dug in" to the task of planting hundreds of trees at strategic locations around the city illustrating the company's strong commitment to environmental protection. Trees for Houston recently presented ASC with its prestigious Arbor Award, which honors select individuals or corporations for making exceptional contributions to promote reforestation. The 2013 award recognized ASC for its leadership in restoring the landscape of MacGregor Park after devastating droughts. Nearly 30 ASC volunteers worked together to plant 30 live oaks and loblolly pines in the park.

ASC renewed its title sponsorship of the annual Houston Half Marathon, extending the partnership through 2017. The 2014 Aramco Houston Half Marathon celebrated ASC's 10th year as title sponsor while also playing host to the U.S. Half Marathon Championships. The race features a charitable component benefiting local nonprofit organizations. In 2013, runners raised \$2.2 million for 60 local nonprofit organizations through the "Run for a Reason" program.

ASC collaborates with the Houston Food Bank through a volunteer program to help sort and package food for families in need. In one recent effort, more than 60 ASC employees, their family members and friends joined together to form an assembly line to prepare packages of food for delivery. Their work helped provide meals for more than 9,100 people in the Greater Houston area.

The Museum of Fine Arts, Houston is enhancing its collection of Islamic art, with ASC underwriting the installation of its Arts of the Islamic World permanent gallery. ASC also sponsors the

acclaimed "Roads of Arabia" exhibit, which was shown in Washington, D.C. and Houston, with future stops planned for Chicago and San Francisco.

#### Europe

Aramco Overseas Company (AOC), headquartered in The Hague, continued its collaboration with Leiden University in a series of events marking the 400th anniversary of the university's Arabic Chair of Language and Culture. AOC is also a proud supporter of the Vogelopvangcentrum Oostende (VOC) in its efforts to protect birds injured by petroleum accidents.





#### Asia

Aramco Asia-Beijing participated in the Fifth "Love Knows No Borders" international charity bazaar in Beijing as part of a program to support a water cellar initiative aimed at improving access to drinking water in China. Proceeds from the event will be used to support drinking water projects in Jinping and Malipo counties in Yunnan Province. The projects aim to benefit more than 2,400 people in mountainous areas.

Aramco Asia-Beijing, the King Abdulaziz Center for World Culture



and China's National Center for the Performing Arts jointly signed a Cooperation Framework Agreement to promote the exchange of performing arts between China and Saudi Arabia. Under the agreement, the three parties will focus on areas of cultural collaboration and educational outreach, which aim to promote Chinese and Saudi Arabian culture and their performing arts and benefit local communities in both countries.

The Beijing office also worked with the Institute of Philosophy of the Chinese Academy of Social Sciences and the King Abdulaziz Center for World Culture on the final stages of a memorandum of understanding to enhance social science research in China and Saudi Arabia and promote cultural exchanges between the two countries on a mutually beneficial basis. Under the agreement, the three parties will focus on activities in areas including research on Arabian and Chinese civilizations, joint exhibitions, educational materials for children and youth, and translation of classic literary works of China and Saudi Arabia.

Aramco Asia-Japan worked closely with the Japanese government and the related industry entities in establishing new stand-by disaster relief stations in disaster-affected communities. As part of its commitment to the people affected by the 2011

disaster, financial support was extended to Save the Children Japan and Ashinaga Ikueikai. The former organization is engaged in rebuilding the living environment for children in the disaster-hit areas and the company's contribution is specifically earmarked to renovate a park near one of the largest still-existing temporary housing districts. Ashinaga Ikueikai, one of the most well-known charity funds for orphans from car accidents, is engaged in building houses designed to provide long-term mental health care as well as emotional support for over 400 orphans in disaster-stricken areas. The Tokyo office also coordinated a contribution to the Okinawa Coral Reef Conservation Council to supplement the fund established in 2011.

Aramco Asia-Korea made a financial donation to Hallym University Medical Center to open an educational facility for burned children at Hangang Sacred Heart Hospital in Seoul.



CITIZENSHIP AWARDS WON BY SAUDI ARAMCO IN 2013



Saudi Aramco received the **2013 Manufacturing Leadership 100** (ML100) Award in May, based on
Abqaiq Plants' performance in the Information
Leadership and Operation Excellence award categories.
Saudi Aramco is the only company in the Middle East
and the Arab world to receive ML100 award recognition in 2013.

SAMSO and the Upstream Professional Development Center won the **Health and Safety Initiative of the Year** at the 2012 Oil and Gas Middle East Awards, announced early in 2013, for an avatar-based 3D role-playing game that teaches health and safety practices. Abdulwahab Al-Ghamdi won the Young Engineer of the Year award at the same event.

Wellcare, Saudi Aramco's wellness program, won the International Corporate Health and Productivity Management Award, which recognizes international organizations that have clearly demonstrated the application of the Health and Productivity Management model and have measurably improved their business competitiveness through productivity gains arising from improved employee health status.

The company's Al-Midra building complex was accredited with a coveted **platinum certification** by the U.S.-based **Leadership in Energy and Environmental Design** (LEED) organization. The award is the Green Building Certification Institute's highest honor.

Saudi Aramco was presented with the **Association of Energy Engineers (AEE) Award** at the International Conference for Energy Engineering in Washington D.C. for its global leadership in energy efficiency and commitment to the energy management profession.

The company also won the Gold Special Recognition Awards at the **Emirates Energy Awards** for its outstanding achievements and contributions in energy efficiency, implementation of small and large energy conservation projects, and its social responsibility to the energy conservation educational and awareness methods.

Saudi Aramco's iThra Youth program, a pioneering youth education program of the King Abdulaziz Center for World Culture, was one of six international winners of the **World Innovation Summit for Education** (WISE) awards created by the Qatar Foundation. The program was selected from among 500 WISE award applicants and was recognized for its "tangible, positive impact upon society and its innovative approach to solving important educational challenges."



