SHELL KAZAKHSTAN: STRIVING FOR JV EXCELLENCE

ALSO IN THIS ISSUE:

Shell celebrates 75 years in Saudi
A story of patience, perseverance and – particularly – partnerships

Ushering forth Egypt’s greatest assets
Shell Intilaaqah Egypt celebrates ten successful years of training young Egyptian entrepreneurs
Partnerships power Shell’s businesses around the world. Joint Ventures (JVs) have been integral to the development of the oil and gas industry since the very beginning, and at Shell, we take great pride in our global partnerships, some dating back 100 years. Currently, almost half of Shell’s upstream businesses are non-operated joint ventures which require collaboration between international oil companies (IOCs), national oil companies (NOCs) and governments. These partnerships continue to play an increasingly important role in Shell’s growth.

As technical complexity and challenges increase, no company can go it alone anymore. The necessity of building local relationships through partnerships is even more central to success than ever before. In a JV, partners share both risk and reward by bringing together the best talent, technology and expertise to achieve industry-leading results and enabling companies to develop some of the most technically challenging projects – like the Kashagan oilfield project in Kazakhstan.

Kazakhstan is an important country for Shell’s future growth. The Kashagan oilfield alone is expected to produce oil for decades, and we are committed to the county for the long-term. As Vice President of Shell Kazakhstan, I take a strategic view to business here and recognize that success means delivering value to the host country and to shareholders.

One way that Shell and Shell Kazakhstan ensure value-add in joint ventures is by contributing the right people at the right place and time to JVs. We focus a lot of attention on the secondees placed into our JVs. We recently implemented an updated programme in Kazakhstan providing secondees with tools and training, both to strengthen their relationship with Shell, as well as to equip them to serve the JV in the best ways possible.

Secondees not only need to have technical skills, but also need to demonstrate leadership qualities and a collaborative spirit. It is no longer enough just to share best practices, it is about developing productive ways to work together effectively with venture partners to deliver solutions. All partners bring important skills and unique experiences and success in a JV environment requires an understanding of how these can be used and leveraged.

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At Shell we are committed to delivering safe and innovative projects with our partners while also investing in the development of the communities in which we operate. As the industry continues to advance complex projects, partnerships are central to their success, and we will continue to work with our partners to advance the talent and expertise which will lead the oil and gas industry into the next century.

I hope you enjoy this edition of our magazine.

Duncan van Bergen
VP Kazakhstan
Shell Kazakhstan Development B.V.

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WELCOME
TO CONTACT THE MAGAZINE
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Joint Ventures (JVs) are a crucial aspect of Shell’s business around the world. Partnerships between national and international oil companies, local corporations and governments have allowed the oil and gas industry to develop through cycles of advancement driven by combining local and global expertise and technology. The successful operation of JVs goes far beyond the sharing of risks and rewards. Today’s ‘difficult hydrocarbon’ world involves increased complexity and challenges, making importance of partnership, knowledge transfer, collaborative problem solving and talent sharing through secondments even more significant.

Secondments are critical to the success of many JVs. Simply sharing best practices may not be enough, it is about successful partnerships in a complex environment to deliver solutions. This means combining technical expertise, effective leadership and a collaborative spirit with a focus on developing local capabilities. Kieron McFadyen, VP of Joint Ventures Excellence at Shell, highlights the importance of secondees. “The quality of the working relationship with our JV partners is vital to delivering JV safety, financial and performance targets, and Shell secondees in JVs are our frontline in making this happen,” he says.

With more than 2,500 employees seconded around the world, Shell has developed a secondee management programme, ensuring employees are given the support to succeed in their assignments. Each JV requires a tailor-made approach, and recently, Shell Kazakhstan refreshed their secondee management programme.

The Case of Kazakhstan
Kazakhstan presents an important future growth opportunity for Shell. “There is huge opportunity here and one way we go after this opportunity is by bringing some of Shell’s best people to work on some of the industry’s most frontier challenges,” says Duncan van Bergen, Vice President of Shell Kazakhstan. Kazakhstan is home to Kashagan, a large-scale, complex field in a harsh offshore environment in the northern part of the Caspian Sea that presents a combination of technical and supply chain complexities. This is a JV where Duncan feels secondees “can make a real difference,” and because of that, the majority of secondees in Kazakhstan are deployed on this challenging project.
Setting up Secondees for Success

In Kazakhstan alone Shell has around 250 secondees, one of the largest concentrations globally for Shell. As a result of the growing network of secondees, as well the strategic importance of Kazakhstan in Shell’s portfolio, in early 2015, Shell rolled out the Kazakhstan Secondee Management Programme. Jeroen Schiebaan, Head of Human Resources for Shell in Kazakhstan, says: “The programme provides a platform to ensure employees are given the support they need to succeed in their assignments, bringing the best of Shell to benefit the JVs in Kazakhstan.”

The refreshed framework focuses on strengthening the impact of secondees by equipping them with the support and knowledge they need to better serve the JV in a complex environment. Before an assignment begins, each secondee is prepared through coaching, cultural awareness training, and overall support to help them understand their responsibilities, how to be effective within the JV and most importantly, they are taught to understand the JV’s priorities.

A key role for employees during secondment is equipping the JV’s local staff with world class technical and safety expertise through impactful coaching and living out Shell’s strong safety values. Developing local talent “is a key component of why we have secondees,” notes Duncan. Other focus areas during secondment include continued professional development during a secondment and maintaining a strong connection with Shell through personal contact and access to Shell’s global IT network.

And when the secondment assignment ends, it is important that secondees are fully prepared for the next challenge. The Human Resources (HR) team in collaboration with Global Skillpool Managers work to identify roles post assignments as well as continue professional development, whether within Shell or in another JV, where secondees can use their expertise and recent experiences to the best of their abilities.

“We manage the process actively,” says Jeroen, adding: “Engaging secondees in pursuit of the joint venture’s goals allows us to make a positive impact.”
“AT THE END OF THE DAY OUR SINGLE PURPOSE IS TO MAKE THE VENTURE SUCCESSFUL.”

Measuring Success: Secondees Speak up

For Jeroen, testimonials from seconded employees speak for themselves. Not only has Shell Kazakhstan received positive feedback in 2015, Shell now understands what this opportunity means for secondees. Lena Dacunha, Manager IT & IM Production & Engineering and former Shell Kazakhstan secondee notes, “Never, as a secondee, have I received such attention to enhance my cultural awareness. This is new, it’s really great.”

Kevin Giles, another secondee in Kazakhstan who works as an Offshore Site Manager, adds: “Personally, I appreciate that members of the Shell Senior Leadership Team take the time to host and deliver sessions on various aspects of secondee life. It makes you feel like you are still working for Shell while also being empowered to give your all to the JV.”

In Service of the Venture

Shell Kazakhstan continues to drive engagement with secondees, knowing that the support they receive before, during and after the assignments improves the business performance of the venture. Duncan is fully aware of the dedication these employees have, noting: “Secondees are our strategic emissaries to the venture, and I am really grateful for the tremendous work they are doing.” It all comes down to one simple equation, Jeroen adds:

“We are convinced that in selecting the right secondees, preparing them before their assignment and supporting their performance whilst in assignment, positively impacts the success of joint ventures.”
SHELL CELEBRATES 75 YEARS IN SAUDI

A STORY OF PATIENCE, PERSEVERANCE AND – PARTICULARLY – PARTNERSHIPS
75 years ago, when a DC-3 Dakota aircraft, a gift from U.S. President Franklin Roosevelt, arrived in the Kingdom of Saudi Arabia His Majesty King Abdulaziz was delighted. For the first time the King could see his Kingdom from the air, including the holy sites of Makkah, Madinah, the capital Riyadh, the Red Sea Coast and the vast desert of the Rub’ Al Khali (‘Empty Quarter’). The plane was safely delivered from Egypt, however, there was a hitch that delayed the take-off from Jeddah. There was a shortage of aircraft fuel. The King’s aide turned to a member of the Royal Dutch Shell offices, and asked: “Could you by any chance supply us with fuel for our aircraft?”

At the time, Shell had a refinery in North Sudan, and was able to provide aircraft fuel for the first royal flight and subsequent flights. King Abdulaziz now had wings and was able to explore his Kingdom as never before, thus commencing what would become a lasting and steadfast energy partnership between the Kingdom and Shell.

Over the past 75 years, Saudi Arabia has undergone tremendous changes, transforming from a rural and nomadic culture into an industrialised, urbanised and educated society. Transportation, infrastructure, healthcare and education have all advanced, but “change in Saudi Arabia takes place in a frame of continuity,” according to Shell Executive Vice President for Government Relations, John Crocker. Today Islam, hospitality, tribal culture, family and friendship remain strong characteristics of the biggest country of the Arabian Peninsula and one of Shell’s strongest global partners.

Enduring Partnerships

The progress of the Kingdom in the words of Saudi Arabia’s long-time minister for Petroleum and Mineral Resources, His Excellency Ali Al Naimi, is “thanks to the enduring relationships the Kingdom developed with leading international companies, such as Shell.”

Over the past 75 years, Shell has established many diverse partnerships throughout the Kingdom. Current joint ventures (JVs) in the country include the production of the only Shell-branded consumer products in the country, refuelling services at airports, petrochemical production, as well as a refinery business, Saudi Aramco Shell Refinery Company (SASREF), which began production in 1985 and remains active today. Shell’s partnership with Saudi Aramco extends beyond the borders of the Kingdom to one of the largest U.S. refineries at Port Arthur in the state of Texas.

Through these relationships, the Kingdom consistently acts as an enduring energy partner to supply some of the most important energy needs globally. The Saudi companies bring in local networks, knowledge and access to feedstock. Shell’s contribution consists of technological
innovation, commercial expertise and a global network. With its partners, Shell employs over 2,000 staff with a Saudisation rate of over 80%.

Teymour Alireza, a senior Saudi businessman who has been a member of the Board of Directors of Shell Transport and Trading Company and subsequently Royal Dutch Shell from 1997 till 2005 highlights the role of Shell in the Kingdom, saying that the company “enjoys a good reputation within KSA in terms of drilling, exploration, and manufacturing of petroleum products, as well as providing sustainable services for companies and individuals.”

Trust Drives Success

“Shell is the biggest international oil company in the Kingdom thanks to perseverance and a good partnership. Both are essential to our success in Saudi Arabia,” adds Hassan Yassin, lifelong friend and advisor to the recently deceased minister of Foreign Affairs, His Royal Highness Prince Saud Al-Faisal, who held this position for 40 years. “Shell builds its partnerships upon trust,” says Mr Yassin. “An example is its gas exploration activity in the South Rub Al-Khali desert with Saudi Aramco. When it turned out that the resources were not economically viable to produce, Shell stayed in close and frank conversations with Aramco, ensuring the smooth liquidation of the company with backing by both venture partners,” according to Mr Yassin.

INVESTING BEYOND SHELL’S ECONOMIC IMPACT

Supporting young entrepreneurs
The Intilaqah programme, part of Shell’s Global LiveWire programme, provides training, education, business advice and mentoring to help young Saudi men and women convert their ideas into businesses. In the past 5 years, more than 7,000 people have graduated from Saudi’s Intilaqah programme. Real businesses, creating real jobs. So far, the Intilaqah trained entrepreneurs generated 2,000 jobs for Saudis.

FC Barcelona
Shell funds the ‘Futbolnet’ initiative, a Shell and FC Barcelona collaboration to use sport to teach young Saudi kids about teamwork, respect and responsibility.

Road Safety
Shell works together with its road safety ambassador His Royal Highness Prince Abdulaziz bin Turki Al Faisal on Road Safety education activities. The latest campaign aims to improve road safety awareness by sharing deeply moving stories from road accident victims. Watch the impressive video clips like over 350,000 people did before you via www.youtube.com/shell.

Shell Eco-marathon
This year, for the first time, Saudi universities participated in the Shell EcoMarathon. The competition challenges young engineers to design the ultraefficient vehicles of the future. The King Saud University clocked an impressive 99.6 km on one litre of fuel while the Al Faisal University scooped the coveted “Perseverance Award”.

Shell’s Road Safety ambassador in Saudi His Royal Highness Prince Abdulaziz bin Turki Al Faisal talks with one of the victims of a road accident.
His Royal Highness Prince Sultan bin Salman bin Abdulaziz received a personalised copy of a jubilee photo book celebrating 75 years of Shell in the Kingdom.

The photo book “SAUDIA” illustrates the Kingdom’s political, economic, and social journey over the past 75 years. Shell developed the book in partnership with the King Abdulaziz Foundation for Research and Archives. The pictures will be exhibited in Riyadh.

His Royal Highness Prince Sultan, President of the Saudi Commission for Tourism and Antiquities and Chairman of the Disabled Children Association, welcomed Shell’s initiative to document the Kingdom’s progress and thanked Shell for its active role in Saudi society: “Royal Dutch Shell is a trustworthy partner that looks beyond short-term company benefits. Shell doesn’t just invest in projects, it also invests in people. Testimony to this is Shell’s acclaimed Intilaqah programme to train young entrepreneurs, the company’s road safety campaign and that the Disabled Children’s Association is allowed to sell the jubilee book “SAUDIA” to raise funds.”
“CHANGE IN SAUDI ARABIA TAKES PLACE IN A FRAME OF CONTINUITY.”

Mr Crocker, who has actively worked in and with the Kingdom since the early 1990’s, supports this view on the events: “On both the Saudi and on the Shell side we have demonstrated behaviour that speaks well to the partnership. Although the exploration was not fruitful, from a collaboration point of view, the JV activity was extremely successful. Our partnership may go through tough times at particular periods on particular issues, but long-term it continues to thrive.”

Ceri Powell, EVP Exploration at Shell’s Upstream International business was privileged to be a member of the board of South Rub Al-Khali Company (SRAK) between 2003 and 2011. She adds: “The SRAK Venture was very much a partnership of technical and commercial expertise, bringing Shell’s global geological skills and experience of running new ventures together with Saudi Aramco’s Saudi-specific technical operating knowledge and its expertise of working within the Kingdom’s cultural business environment.”

Partners For The Future

“Partnership is a two-way street, it needs to be mutually beneficial,” says Mr Yassin. “But there must be more to make the collaboration sustainable: friendship and respect. Shell has proven itself over the past 75 years by showing patience, by persevering in times of setbacks and by being a true partner,” according to Mr Yassin.

Both Powell and Crocker could not agree more. They are enthusiastic about the country and the people of Saudi Arabia. “I have a deep affinity for the people and the culture,” adds Dr Powell, saying: “When I joined the SRAK board I was the only western woman on a board in Saudi Arabia. I was honoured to work with great leaders such as Khalid Al-Falih and to forge a path for technical women in the Kingdom. I’ve made many friends and am always in awe of the sheer natural beauty of the country.”

Mr Crocker adds: “There is a lot of mythology about Saudi Arabia. I spent a number of years living there, and I have friends in the country, and very fond memories. My experience is that it takes time to establish good relationships, but once you do, the friends you make in Saudi Arabia are some of the most reliable in the world.”

Shell’s presence in the Kingdom has continued to prosper since the day Shell first fuelled King Abdulaziz’s flight. Shell’s partnerships in the country now include refineries, petrochemicals, lubricants and, to this day, aviation fuel. At the very beginning, when Saudi Arabia first started producing oil and became the world’s most reliable source of energy supply. Mr Patrick Van Daele, Shell Country Chair and Vice President of Saudi Arabia adds: “Shell hopes to build upon its strong foundation as a trustworthy and technologically savvy company to secure an enduring future in the Kingdom.”

75 years of Shell partnerships throughout the Kingdom

Currently Shell has four Joint Ventures:

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<th>SINCE 1950</th>
<th>SINCE 1977</th>
<th>SINCE 1985</th>
<th>SINCE 1986</th>
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<tr>
<td>JOSLOC</td>
<td>PASCO</td>
<td>SASREF</td>
<td>SADAF</td>
</tr>
</tbody>
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- **JOSLOC**
  - 50% Al Jomaih
  - 50% Shell
  - 50,000 metric tonnes/year

- **PASCO**
  - 50% Saudi shareholders
  - 25% BP
  - 25% Shell
  - Operates at Jeddaah and Madainah airports in the Kingdom

- **SASREF**
  - 50% Saudi Aramco
  - 50% Shell
  - 300,000 barrels/day

- **SADAF**
  - 50% Saudi Basic Industries Corporation (SABIC)
  - 50% Shell
  - 4.7 million tonnes building-block petrochemicals/year

WITH ITS PARTNERS, SHELL EMPLOYS OVER 2,000 STAFF SAUDISATION RATE >80%
Ever since Shell entered Egypt over 100 years ago it has been committed to supporting the country’s growth and development. It has not only invested in Egypt’s energy industry, but made long-term social investments in one of the nation’s greatest assets – its youth.

In 2004, Shell launched the Shell Intilaaqah Egypt Programme to help young Egyptians between the ages of 18-35 start their own small businesses. Through the programme, Shell Egypt provides training and assistance to support the growth of sustainable businesses and link them to markets, finances and technology to power Egypt’s future.

Since its inception, a total of 6,500 young entrepreneurs have received training through the Shell Intilaaqah Egypt Programme, including 244 with special needs. The programme has also contributed to the development and creation of over 700 small businesses, across 14 Egyptian governorates and cities. All this has been made possible thanks to a network of trusted partners including the British Council, the programme’s primary sponsor.

**Transforming Egypt’s Human Capital**

As a company, Shell Egypt recognises that supporting and developing small and medium-sized enterprises (SME) helps develop and transform local communities and the Egyptian society as a whole by supporting job creation and creating a stable society. John Casson, British Ambassador in Cairo, said: “Britain’s commitment to Egypt’s future is seen in initiatives like the Shell Intilaaqah Egypt Programme – direct actions for Egypt’s young people that are transforming their lives.”

He continues: “For Egypt to succeed, its young people need support and opportunities to help unlock their potential. The Shell Intilaaqah
Egypt Programme is a British-Egyptian partnership at its best: matching British expertise with the energy and creativity of young Egyptians to build businesses that will drive Egypt’s future.”

**Building Business Capabilities Through Training**

The programme builds business capabilities through workshop-based sessions aimed at teaching practical business skills such as finance, marketing, and sales to students through lectures and training conducted by experienced Shell trainers and graduates, as well as other training moderators. After these modules, individuals set out to build their businesses, with the potential of additional skill development and financing from other Shell partners, including the Social Fund for Development and Noumou.

Shaymaa Fayed, a 2004 graduate of the programme is now integrated into Shell’s local supply chain producing high-quality leather products using recycled materials. As one of the programme’s beneficiaries, she now gives back to the community by offering vocational training to those following in her footsteps, and her company, Shamura. Today she employs 20 full-time employees and operates three successful workshops. Shell Intilaaqah Egypt’s enterprise development training programme supported her overall business, which has since sold its products in eight different countries. Commenting on the programme, Ms Fayed said: “Shell Intilaaqah Egypt supported my business from the very beginning,” which she explained is something that the whole community benefits from.

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**6,500 YOUNG ENTREPRENEURS TRAINED**

**INCLUDING 244 WITH SPECIAL NEEDS**

**DEVELOPMENT AND CREATION OF OVER 700 SMALL BUSINESSES**
Celebrating a Decade of Egyptian Entrepreneurship

This year, Shell Egypt and its partners are celebrating the 10th anniversary of Shell Intilaaqah Egypt. At a ceremony celebrating the milestone, Aidan Murphy, Vice President and Country Chairman, Shell Egypt, said: “It gives me great pleasure to witness the tenth anniversary of the Shell Intilaaqah programme in Egypt, which represents an integral part of Shell Egypt’s social investment activities, supporting young entrepreneurs establishing and maintaining their businesses. Our programme stands out in the way it supports youth by not only providing training and technical assistance to young entrepreneurs, but also encouraging the integration of local content into the supply chain of large corporations; leading to business growth and the creation of new job opportunities.”

James Hampson, Deputy Director British Council Egypt, said: “Every year we celebrate the success of young Egyptian entrepreneurs who have chosen to walk the extra mile to make their dreams come true. This year we are proud to celebrate ten years of hard work and success with our valuable partners, Shell Egypt, while giving young Egyptians the skills they need to get the jobs they aspire to.”

Looking to Egypt’s Future—Together

Looking to the future, Mr Murphy says: “The programme is serving the needs of a vast reservoir of talent – young Egyptians with ideas, ambition and enthusiasm to actually apply them. So, Shell will remain committed to fund and work with the other partner organisations to continue to meet those needs.” Working together with partners in the region including the British Council and the Social Fund for Development as well as various academic partners and non-profit organisations, Shell is investing in Egypt’s diverse future.

Ambassador Casson explains: “Ultimately, Egypt’s truly greatest asset is its young people; they are far more important than any investment deal, no matter how large,” demonstrating the importance of Shell’s programme to develop Egypt’s human potential.

BREAKING THE SILENCE

Training Disabled Egyptian Youth

In 2009, Shell Intilaaqah Egypt graduated the programme’s first deaf and mute participants, providing them with the training and tools to successfully become self-employed entrepreneurs and turn their dreams into reality. The programme trained disabled Egyptian youth in five different governorates (Cairo, Alexandria, Fayoum, Assuit and Sohag) with a total of 244 trained to date.

LIVEWIRE

Part of Shell’s global commitment to supporting young entrepreneurs, Shell Intilaaqah Egypt is part of Shell’s global LiveWIRE programme, first introduced in the UK in 1982, which gives young entrepreneurs around the world a vital head start by helping them convert ideas into successful companies. In the Middle East, Shell Intilaaqah is also currently running in Oman and the Kingdom of Saudi Arabia. Globally over 9.2 million young entrepreneurs have benefited from Shell LiveWIRE programmes since 1982.
Providing very young children with an outstanding pre-school educational experience that will inspire them to become future leaders, is the ethos behind this innovative enterprise.

Having graduated in English, and with a background in teaching and commerce, Noha had always dreamed of starting a business that would enhance Egyptian society.

After several years of painstaking research and planning, Noha identified a gap in the market for a business which would improve the early-years development of young children.

Talents Academy provides an enjoyable and powerful pre-school learning experience for children from three months to five years old, by integrating art with academic disciplines such as science, maths and languages. It also helps the children to explore important wider social concepts, such as human values.

Talents Academy has successfully created a stimulating learning environment for the children and works closely with parents to provide their children with a place where there are no limits to imagination and creativity. Parents can even monitor their children throughout the school day via webcams!

Since the business opened its doors in 2006, Talents Academy has grown to employ 12 staff and currently teaches 39 children. Its reputation for excellence has spread quickly and due to the high level of interest, Noha is planning to open branches across Egypt.
SPECIAL FEATURE: PERSPECTIVES ON ENERGY TRANSITION

DAVID HONE DISCUSSES SHELL’S STANCE ON CLIMATE CHANGE
As world leaders meet in December aiming to reach a climate deal, we sat down with David Hone, Shell’s Chief Climate Change Adviser to hear Shell’s views on the energy and climate challenge.

Our lives depend on reliable energy, but society must adapt its economies and energy system to meet growing demand and emit less CO₂ if we are to prosper and address climate change. The twin challenge is how to provide “much more energy whilst emitting much less CO₂ emissions”. Shell has long recognized the climate challenge and the role energy has in enabling a decent quality of life. Shell believes technological developments will come, but effective policy and cultural change is essential to drive low carbon business and consumer choices and opportunities.

David, welcome. Please tell us about yourself.

Thank you - it is a pleasure to be interviewed for your magazine.

I have always worked in the energy sector and have had a long-term interest in environmental issues. My earliest experience in this area was through an article in our school science magazine on the destruction of the ozone layer (when the link with CFCs (chlorofluorocarbons) had only just been established).

I have written two books on climate change. The first titled “2 degrees will be harder than we think” and the second, “Carbon Pricing Matters”. There will be a third in the first quarter of next year reflecting on December’s United Nations Framework Convention on Climate Change (UNFCCC) Conference of Parties (COP) meeting and what it means.

Please explain what Shell means when it talks about the need for “much more energy whilst emitting much less CO₂”.

It is indeed. First of all it is important to recognise that lives and livelihoods, economies and communities depend on convenient, reliable and affordable energy. Everything from the cars we drive to the clothes we wear is powered, created or delivered by hydrocarbons.

As a society, we must adapt to emit less CO₂ from all our activities if we are to prosper and tackle climate change. The twin challenge, simply put, for both society and a company like Shell, is how to provide “much more energy whilst emitting much less CO₂”.

Climate change is underway and a fundamental transition of the energy system will be needed to tackle it. An energy transition is...
about the structure of the economies we, as society, design. If the world is to address climate change, but still provide additional energy for development, a full range of energy sources need are needed to move towards the societal ambition to achieve close to net-zero emissions by the end of the century\(^1\).

That’s clear – we have a dual challenge of producing increasing levels of energy but need to emit much less CO\(_2\). You mention the challenge of reaching “net zero emissions”. Does Shell think this is possible?

It will certainly not be easy but it is possible. While not a Shell target, Shell Scenarios are in broad alignment with the Intergovernmental Panel on Climate Change (IPCC) 5th Assessment report which show that, with aggressive but plausible assumptions, getting close to net-zero emissions towards the end of the century, combined with economic growth, is a challenging but potentially achievable societal ambition.

It will be an enormous global undertaking requiring a combination of cleaner burning hydrocarbons with renewables to meet all types of energy needs to create low carbon economies and communities for a global population reaching 9–10 billion\(^2\). It will require a mixture of vision and realism, urgency and long-term approach. Some countries and some sectors of the economy could de-carbonise in the coming decades, while others will likely require more time to develop technological solutions.

What measures are needed to get us to “net zero emissions”?

Effective policy and cultural change are essential to drive low carbon business and consumer choices to reduce emissions and provide for energy-needs, at the lowest cost to society. Shell has long advocated for governments to implement meaningful carbon pricing systems. This is a price on the emission of carbon dioxide into the atmosphere from the use of the fossil fuel after it is extracted. Carbon pricing policies are designed to change the cost of goods and services, favoring those that result in lower emissions. That is why they work so well. Both a tax and trade-based approach deliver new revenue to the government which can be used to ensure that consumers are not left out of pocket. The end result should be a virtuous circle which sees emissions fall whilst maintaining living standards.

Carbon Capture and Storage (CCS) is another important element. CCS uses existing processes and technologies available in the oil and gas industry to capture and compress the carbon dioxide from the combustion of fossil fuels. It is sequestered deep below the earth’s surface, one to three kilometres, within geological formations suitable for permanent storage. Carbon capture and storage is a technology that is specifically designed to counter the issue of accumulating carbon dioxide in the atmosphere.

CCS has the potential to address carbon dioxide emissions on a scale equal to its production and at a cost that appears more than manageable by society. It is also a technology ready to deploy at scale as a CCS installation is a combination of existing oil and gas industry technologies pieced together in a different configuration.

Renewable energy options are growing and becoming more competitive in supplying electricity; interplaying well with flexible, energy rich hydrocarbons. We see significant and critical contribution to the reduction of emissions from a variety of low carbon fuel options including natural gas, biofuels\(^3\), eVehicles and Hydrogen\(^4\).
Population growth and economic development are driving up energy demand. All energy sources will be needed, with fossil fuels meeting the bulk of demand. At the same time CO₂ emissions must be reduced to avoid serious climate change. To manage CO₂, governments and industry must work together. Government action is needed and we support an international framework that puts a price on CO₂, encouraging the use of all CO₂-reducing technologies. Shell is taking action across four areas to help secure a sustainable energy future: natural gas, biofuels, carbon capture and storage, and energy efficiency.
DEEP-WATER INNOVATION IN THE PHILIPPINES

MALAMPAYA PHASE 3 COMPLETED
When the Malampaya deep-water gas-to-power project first extracted gas in 2001, it signalled the birth of the natural gas industry in the Philippines. Ever since, it has continued to be a leading energy supplier to the country, providing 30% of the nation’s electricity requirements. Deep-water oil and gas projects, such as Malampaya, offer innovative technologies to address the global need for energy resources. Through the Malampaya project, Shell and its partners are delivering results safely, using best practices and expertise from around the world to deliver a steady supply of energy for the country.

Public-Private Partnership Success

The Malampaya project is led by the Philippine Department of Energy and operated and developed by Shell Philippines Exploration B.V. (SPEX) on behalf of Joint Venture Partners, Chevron Malampaya LLC and Philippine National Oil Company – Exploration Corporation (PNOC-EC). It is one of the largest industrial projects in the Philippines. Sebastian Quiniones, Malampaya Asset Manager, notes the importance of the partnership: “This type of public-private partnership is a first for the Philippines. It has resulted in the creation of thousands of local jobs, providing the country with an indigenous supply of natural gas and making the Philippines less..."
Keppel Subic Shipyard built a 1,500-tonne gantry crane to lift the heavy parts needed for the depletion compression platform. At 87 metres, it is the tallest crane in Southeast Asia and will be used for oil and gas projects into the future.

Technology At The Forefront Of Phase 3

The centrepiece for MP3 was the Depletion Compression Platform (DCP). The platform extracts natural gas and condensate from below the Palawan Basin. While DCPs are used in deep-water projects around the world, Malampaya boasts the first DCP with self-installing technology. Antoine Bliek, Malampaya Phase 2 & Phase 3 Project Manager says:
“What is quite significant about this platform is that it’s self-installing, meaning it arrives in one piece. It is the first of its kind in Shell, and most importantly, allows for minimal interruption of existing production during installation.” By implementing this innovative technology, the JV avoided using specialised vessels that are typically necessary for offshore platform installation.

By Filipinos, For Filipinos

The MP3 platform was designed, manufactured and installed in the Philippines, a first for the country. As a result, it has provided over 1,400 new direct employment for the local workforce, while also generating additional jobs and business for local companies supporting the project. The project has also enabled oil and gas platform manufacturing expertise in the Philippines. Mr Quiniones comments on the significance of designing, fabricating and installing the platform in the Philippines: “We have unlocked a new phase in the Philippines by helping local companies and people develop the capability to build off-shore platforms. That’s an investment for the country’s future.”

Elevating Safety Standards

With health and safety a top priority for all those involved in the project, in 2013, the Malampaya Health, Safety and Environment (HSE) Training Centre was opened. Mr Biek says: “We saw an opportunity to enhance the safety culture, and having a specific on-site training centre was the best way of achieving that goal.” The Centre offers certified internationally recognised training courses from the Offshore Petroleum Industry Training Organisation (OPITO). Training is mandatory before anyone is able to work on the project, onshore or offshore. To date, the centre has trained over 6,000 Filipinos.

Brent Fougere, MP3 HSSE&SP Lead, says: “The centre provides a unique local HSE training facility that meets the high oil and gas industry standards. Through the centre, we have been able to ensure a standard approach to safety training across the project.” The extensive training not only elevates the culture of safety on the MP3, it greatly increases employment opportunities for workers long after it is complete. With safety as a driving force throughout MP3 and the entire project, Malampaya has set a remarkable record.
of 11.8 million Safe Man Hours. This achievement is a true testament to how deep the safety culture goes. Mr Fougere notes: “This type of performance doesn’t come easily, it has been through the dedication of the entire team who have taken Shell safety standards to heart.”

Mr Bliek adds: “We are very proud of what the team has achieved, and it is not just the Shell team, it is the fabrication yard in Subic, the people offshore, and it is the drilling rig team on MP2. It clearly shows people really care about safety.”

Investing In Local Communities

In addition to adding local capabilities and implementing innovative technologies, the project has resulted in an extensive investment in the local community. Through the Malampaya Foundation, communities receive livelihood training aimed to empower local people to create their own small businesses or seek employment. The foundation also offers education sessions on road safety and disaster preparedness. “Through the foundation we worked hand-in-hand with our local communities to understand what they needed. The project team wanted to leave a positive legacy behind that would benefit the communities for years to come,” adds Mr Quiniones.

One Team, One Goal, One Future

MP3 has seen many milestones including the creation of thousands of local jobs, elevating expertise among the local workforce and the raising of safety standards to a world-class level— all placing the Philippines in a position to compete regionally and globally on future oil and gas projects.

Mr Quiniones concludes: “Our rallying cry throughout Malampaya phase two and three has been ‘One team, one goal, one future.’ We will ensure as we go forward we deliver as one team, with one goal, delivering power to the country safely and ensuring the energy future of the Philippines.”

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THE MALAMPAYA PROJECT PROVIDES 30% OF THE COUNTRY’S ELECTRICITY NEEDS

HOW A SELF-INSTALLING PLATFORM WORKS

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<tr>
<th>1. TOW PLATFORM</th>
<th>2. LOWER LEGS</th>
<th>3. JACK UP TOPSIDE</th>
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<td>The platform is installed at sea without using a conventional transport barge and lifting-ship.</td>
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WHAT IS A DEPLETION COMPRESSION PLATFORM?

The natural pressure of gas produced from the reservoir drops over time. The new platform increases this falling pressure—which is needed to transport gas to the power plants—and helps maintain a steady supply of gas.

KEY FACTS

- 50 KM offshore Palawan, Philippines
- First offshore platform designed and built in the Philippines
- Weight: 11,550 tonnes (roughly 7,500 family cars)
- Nearly 12 MILLION hours worked safely
- 6,000 Filipinos trained to world-class safety standards
- Malampaya supplies 30% of the Philippines’ energy requirements
The Malampaya existing platform and new depletion compression platform are helping to keep the lights on and power progress in the Philippines.

PHASE 3 IS CONTINUING TO PROVIDE A STEADY SUPPLY OF NATURAL GAS TO THE COUNTRY.

Safety experts equip trainees with the skills needed to work on the Malampaya Phase 3 project as part of the Bridging Employment through Skills Training (BEST) programme implemented by the Malampaya Foundation, Inc.

The Malampaya existing platform and new depletion compression platform are helping to keep the lights on and power progress in the Philippines.
In January 2015 Shell participated as the Innovation Partner during Abu Dhabi’s very first Solar Challenge, a brand new initiative promoting innovation in energy efficient technologies by challenging university teams to design and build a solar car. Fifteen teams from universities around the world competed for three days with their solar cars driving along landmarks and the desert of Abu Dhabi.

The winning PI team included Yousof Almadhani, Shihab bin Solaiman, Mohamad Chehadeh, Mohamed Numan, Asadullah Saeed and Abdulla Alabdouli, along with their mentor Dr. Fahad Almaskari.

“Abu Dhabi has young people with great potential. This was evident during the Solar Challenge race that took place in Abu Dhabi last January,” said Andrew Vaughan, Shell Abu Dhabi Chairman. “We are proud to see the PI students win the Shell Innovation Award for their development of a unique solar car that supports Abu Dhabi’s vision to be the leader in the future of renewable energy,” he concluded.
PARTNERING WITH ACADEMIC INSTITUTIONS TO TACKLE TECHNICAL CHALLENGES FOR QATAR’S OIL AND GAS INDUSTRY

In June 2015 Qatar Shell Research and Technology Centre (QSRTC), Qatar University (QU) and Imperial College London signed a research and development agreement on corrosion prevention in wet sour gas pipelines to tackle the specific technical challenges facing the oil and gas industry in Qatar. The research will use state-of-the-art analytical techniques focusing on the mechanisms to prevent pipeline corrosion and extend the life and durability of pipelines.

THE AGREEMENT RECOGNISES Qatar University’s role in developing a local capability to study the corrosion of pipelines via its Centre for Advanced Materials (CAM) that boasts well-equipped laboratories and specialised expertise, providing valuable support to local oil, gas and processing industries. Qatar University (QU) Vice President for Research, Dr Hassan Al-Derham said the agreement “aligns with QU’s research priorities and is integral to Qatar’s vision of becoming a knowledge-based society where research plays a vital role in resolving emerging issues, particularly concerning the oil and gas industry, the country’s main source of revenue for development.”

QSRTC General Manager Youssif Saleh said, “In line with the Qatar National Vision 2030, Qatar Shell is committed to identifying research collaborations that address real challenges impacting our business, that bring together coalitions involving key local research institutions for the benefit of the State of Qatar. Shell is proud of the investments that we make in innovation and research, but we’re also delighted that we can support Qatar’s ambition to develop research capacity in the country.”

Shell established the QSRTC in 2008 with an initial investment of up to $100 million over the first decade. The centre is committed to developing and implementing the latest technologies in support of Qatar’s specific needs in the oil and gas sector. The centre also aims to support Qatar’s role as the world’s largest Liquefied Natural Gas exporter and the Gas to Liquids capital of the world through its programmes.
ELEVATING ENVIRONMENTAL AND SOCIAL RESPONSIBILITY AT PETROLEUM DEVELOPMENT OMAN

In support of Shell’s global commitment to continuously develop its Health, Safety, Security, the Environment (HSSE) & Social Performance (SP) capabilities, Petroleum Development Oman (PDO) hosted an environment & social performance (E&SP) learning visit at their facility in April 2015. The visit was attended by E&SP managers from 10 different Shell Joint Venture companies along with representatives from Governments and embassies.

DURING THE IMMERSION VISIT, PDO, in which Shell has a 34% stake, presented various initiatives established to develop local talent, invest in the local culture and also improve water and energy usage. Some of the efforts highlighted included PDO’s support in reviving the ancient Omani art of camel-bone carving, as well as PDO’s comprehensive In-Country Value (ICV) programme that aims to increase Omanisation of contract personnel and maximise the procurement of Omani goods and services, increase the local skills base and has a dedicated programme to further develop local vendors.

Participants also toured two innovative and successful environmental stewardship projects - Nimr Wetlands and the Amal solar steam enhanced oil recovery (EOR) pilot project, run in partnership with GlassPoint Solar. Nimr Wetlands is home to the reed bed project which takes the by-water product that comes to the surface with the oil from the Nimr oil field and uses it to irrigate the Nimr reed beds, which make up wetlands covering 2.4 million square meters of the desert. The EOR pilot project harnesses the power of the sun to generate energy to help recover hydrocarbons from the twin fields of Amal, Amal East and Amal West and will now be scaled up after the successful trial into a fully fledged project called Miraah, one of the largest solar plants in the world.

Simon Durkin, Shell’s Vice President, Safety Environment & Social Performance, took notice of the effort PDO has made to address ongoing concerns such as waste handling and recycling, while constantly striving to improve E&SP. “The pride and passion of the PDO staff and contractors who hosted us was inspiring – and the visit gave me a preview of what the next era of a socially and environmentally responsible oil and gas industry can look and feel like. I commend PDO on its courage to lead our industry by example by investing in new technology and innovative solutions to significantly reduce the energy intensity of our operations,” commented Mr Durkin.
DELIVERING HEALTHCARE IN RURAL IRAQ

Shell Iraq Petroleum Development (SIPD) and the AMAR International Charitable Foundation are providing access to healthcare, education and training for tens of thousands of Iraqis through a five-year-old partnership in rural Iraq. While southern Iraq is one of the most oil rich regions in the world, many locals still lack access to primary health care and education. In an effort to address some of the lingering challenges from years of war and sanctions, Shell and AMAR’s latest initiative is developing health outreach programmes in the Al-Dayr area.

THROUGH THIS FRUITFUL COLLABORATION, the partners deliver education sessions to 62 local schools as well as training primary health care centre staff. AMAR will also recruit and train a network of 40 Women Health Volunteers (WHVs) to service more than 2,000 local families. The local women will be trained to provide basic health care education, including advice on hygiene standards and assessing medical referrals in remote towns and villages.

A similar programme is underway in nearby Al-Nashwa that has provided more than 45,854 home visits through WHVs who have held more than 6,040 healthcare education sessions. Implementation of the programme will be staged over the next three years through the partners, before the Basrah Directorate of Health and Directorate of Education will assume full responsibility. In addition, Iraq’s Ministry of Health staff will receive regular training, adding to local capabilities and increasing the amount of medical support available in the area.

As the partnership grows the initiatives consistently contribute towards the wellbeing of the Basrah community. AMAR’s Chairman, Baroness Nicholson of Winterbourne, praised the joint venture, saying: “AMAR and Shell have a successful history of making a real difference to communities throughout the Majnoon area. Without Shell’s support the majority of this work would not be possible. Expanding into Al-Dayr means we can reach those most in need.”