

Increasing wealth with oil and gas

An interview with Dr Ashti Hawrami, the KRG's Minister of Natural Resources

You have now been Minister of Natural Resources for four years. Do you consider your tenure to be a success?

To date, I am encouraged by the success of the oil and gas sector in Kurdistan, but building up an industry almost from scratch does not happen because of one person alone. It is a result of the right policies, the right teams, the right political and economic climate, the right timing, and bringing in the right companies.

Remember that, because of the policies of past central governments towards Kurdistan, our Region was an economic backwater. We were never able to benefit from the wealth of natural resources that we always knew was under our feet. And, even though we enjoyed some security under self-rule after 1991, it wasn't until the liberation from the Ba'athists in 2003, then the federal Iraqi constitution in 2005, and the KRG oil and gas law in 2007, that we were able to set the foundations to finally exploit our resources for the benefit of the people of Kurdistan, as well as all of Iraq.

What have been the main achievements?

We have signed 43 production-sharing contracts with some 40 companies, involving 16 countries. The IOCs (international oil companies) have committed some \$10 billion investment in the energy sector in the Kurdistan Region. Our dynamic, pro-market approach is creating private-sector business opportunities, not just in Kurdistan but across Iraq. Thousands of jobs will result.

We have reached the point that we can implement plans quickly to export 100,000 barrels of oil per day (bpd), rising to 150,000 bpd by the end of 2011. By 2014, Kurdistan will be able to export at least one million barrels per day. That is a reasonable production level to expect from the reserves that we anticipate in Kurdistan. There have been eight significant oil finds. We estimate



Dr Ashti Hawrami, the KRG's Minister of Natural Resources

the potential oil reserves at around 45 billion barrels. All this means a large increase in revenues for Iraq as a whole, given that the country is currently producing just over two million barrels of oil per day.

How about gas?

Well, conservative estimates put the Region's reserves between three and six trillion cubic meters. This puts us at third or fourth place compared with the existing suppliers of piped gas to Turkey and Europe. We are looking at the exciting prospect of supplying gas to the Nabucco pipeline, which will carry gas from the Caspian and Iraq up to the heart of Europe.



At present, the Kurdistan Region is exporting 100,000 barrels of oil per day

After we have developed a gas grid for domestic use, the Kurdistan Region can meet the long-term supply needs of Turkey and Europe, being a reliable alternative to existing gas suppliers. At home, we are already using gas to help with power generation. Citizens of the Region get around 20 hours of electricity a day, on average. That's 14-16 hours more than they had a few years ago, and 14-16 hours more than most citizens in the rest of Iraq. There is still much hard work to be done to develop our gas reserves, but here, as with oil, we will be driven by results rather than ideology.

Given this progress in such a short space of time, why have your policies met with so much opposition from Baghdad?

The new Iraq has a new federal constitution, which is the cornerstone of everything we do. Articles 115 and 121(2) give regions like Kurdistan legal supremacy on matters outside the exclusive powers of Baghdad. In the absence of any provision explicitly suggesting otherwise, Article 111, or federal government control over oil, is therefore subject to the laws of the Kurdistan Region. We believe in both the letter and the spirit of that

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Sarta Central Rig Site. REP DMCC

It is Reliance's belief that meaningful partnerships are vital to enhance economy, prosperity and make a positive impact on people's lives.

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Since signing Production Sharing Contracts, Reliance has embarked on ambitious exploration activities in the region

and with its early success on the first exploration well in Sarta, Reliance has once again demonstrated its world-class capabilities and ability to surprise the world with its performance.

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- Above industry average drilling success ratio of 54%
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- Combined capacity of these facilities makes Reliance among the largest deepwater gas operators in the world
- Successful deployment of a Floating Production Storage & Offloading Vessel and use of sub-sea technology for the first time in India



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Constitution. We believe in a genuine partnership with the federal government, particularly in the oil and gas sector. But it must be a partnership of respect and constitutionality.

With some people, it seems, the old state-centralizing habits die hard, but I think that this tendency will weaken as all the major political blocs now recognize the need to adhere to the federalism provisions as set out in the Constitution. But, honestly, I think the dinosaur tendency, as I call them, is becoming extinct. Iraq will be stronger by recognizing its differences. A one-size-fits-all approach won't work; it never has worked.

So you are hopeful that the issues with Baghdad will be resolved?

Absolutely, we have wasted four years arguing, moving one step forward and taking two steps back—it was all very frustrating.

As a result, Iraq has lost billions in much-needed revenues from exports from the Kurdistan Region. The recent political initiative of President Barzani to bring together support for a new federal administration in Baghdad will, I believe, also bring about a breakthrough in the oil and gas sector. It was one of the KRG's conditions for supporting Mr Maliki to be prime minister.

Specifically, what were you asking for?

We said that we wanted to see a federal oil and gas law and a federal revenue-sharing law in place by the middle of 2011. These laws are essential for Iraq's future stability and prosperity. We said that, even before then, we want to resume exports as soon as possible, as a temporary measure until these laws are enacted. And we said that there must be an end to the policy of blacklisting



The fuel and energy requirements of Kurdistan's consumers are on the rise

companies that work in Kurdistan from operating in the rest of Iraq. That really was a wrong policy adopted by the oil ministry in Baghdad, and it was harmful to Iraq. So far, we have had very positive signals from Mr Maliki and we look forward to resolving these issues and moving on.

So what will be the next steps for the oil and gas sector in the Kurdistan Region?

Well, of course, we will see the resumption of exports, and probably one or two more fields will be coming online in the not-too-distant future. We will also be implementing and developing our gas strategy. As a result, we will build more

refineries, more power plants, fuelling the rise of a sustainable industrial and agricultural base in Kurdistan, and servicing the growing domestic demand for energy.

Downstream is also something we are focusing on, petrochemicals and so on. We achieve all this through a thoroughly modern, pro-market approach in which investors are welcome. The state should be regulating, not dictating.

The oil companies have shareholders, boards of directors, and investors behind them. The fact that they are here is obviously because they like what we have, what we say, our model, our legal framework, and the opportunities that exist here. I advise all would-be investors to come to Kurdistan and see for themselves the huge and unparalleled prospects for business. ■

INVESTING FOR THE FUTURE...

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Genel Energy is one of the first to explore for petroleum in the Kurdistan Region of Iraq and today is the biggest investor and the biggest reserve-holder in the KRG.

Following successful operations in Taq Taq, Genel Energy expanded its interests to other Production Sharing Contracts (PSCs) in the Kurdistan Region of Iraq. Taq Taq and Tawke licence areas are at the development and production phase, and

Kewa Chirmila, Ber Bahr, Dohuk, Miran and Chia Surkh licence areas at the exploration phase. Currently, Taq Taq and Tawke have production capacities of 60,000 bopd and 50,000 bopd respectively. Genel Energy is the operator under the Ber Bahr PSC and co-operator in Taq Taq.

Genel Energy's objective is to grow rapidly and with a view to becoming a highly regarded global E&P company.



EACH STEP MAKES A DIFFERENCE

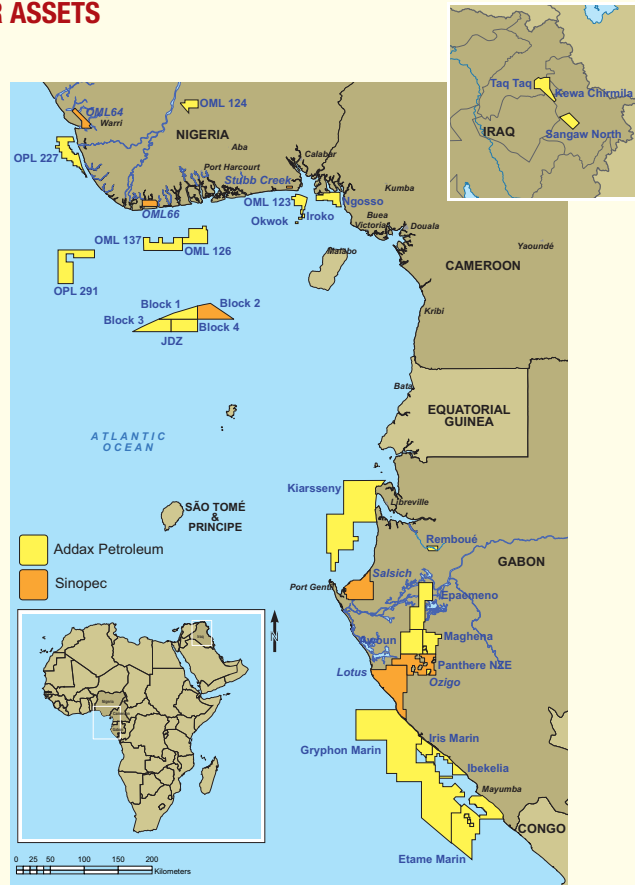
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Addax Petroleum is a subsidiary of the Sinopec Group, one of the largest oil and gas producers in China, the biggest oil refiner in Asia and the third largest worldwide.

Addax Petroleum was founded in 1994 upon leading petroleum industry expertise and a deep rooted understanding and respect for African cultures. Over the years, Addax Petroleum has evolved from a young pioneer into an established international oil and gas, exploration and production company in West Africa and the Middle East.

With an average oil production in excess of 130 Mbbbl/d, the Company has a high quality asset base consisting of a number of onshore and offshore producing, exploration and development properties in Nigeria, Gabon, Cameroon and the Kurdistan Region of Iraq.

MAP OF OUR ASSETS



Sturdy foundations are the key to building a strong and sustainable business. The growth that we have achieved to date has been driven by:

- **A continuous development of our technical expertise**

We have a proven track record of employing advanced technological expertise and investing in facilities and infrastructures to optimize oil recoveries and increase production in a cost effective manner.

- **A focused pursuit of competitive growth opportunities**

We focus on regions where our operational and managerial skills provide a solid platform for continued and sustained growth.

- **Mutually beneficial relationships with local stakeholders**

Wherever we operate, we implement an open dialogue with government authorities, host communities, industry partners and NGOs to lay grounds for a mutual understanding and cooperation.





A STRONG FOCUS ON HEALTH AND SAFETY

Addax Petroleum places the highest emphasis on the safety and welfare of all its staff and partners. The Company maintains a robust Health, Safety, Security and Environment (HSSE) management policy designed to produce a world-class safety performance for its continuous growth. This policy includes an integrated approach to providing stable, safe and secure working conditions for all employees, stakeholders and communities in all areas of operation.

The Company's Environmental Management System is designed to minimise the environmental impact of its operations and is focused on information gathering and risk assessment prior to conducting any new project.



COMMUNITY RELATIONS AT THE HEART OF OUR BUSINESS

Addax Petroleum believes that being a good corporate citizen is essential to building and sustaining a profitable business. It is the Company's priority to focus on developing positive local relationships and on aligning its priorities with the primary needs voiced by the host communities living in the operations' surroundings.



- **Working hand in hand**

Addax Petroleum focuses on programs and facilities which create an immediate benefit for host communities, such as the development of schools, roads, clean water systems, as well as programs which improve the health and well-being of the inhabitants.

- **Adjusting actions to needs**

Addax Petroleum strives to engage in positive dialogue with the various communities where it is implemented and make sure to satisfy their specific needs. This is done through regular town hall meetings, on-site visits to villages, and collaboration with the host communities to develop and put into action the most appropriate and sustainable projects.

- **Delivering tangible results**

Addax Petroleum recognizes that projects of this nature are not only valuable and worthwhile because of the benefits they provide to the indigenous population but also because they represent a tangible expression of the Company's commitment to the countries where it works and operates.

DNO: exploring and shaping a better future



What is the background of DNO?

DNO was established as a public company and listed on the Oslo Stock Exchange in 1971. The company, which was completely revitalized in 1996, is in the upstream sector with focus on both onshore and offshore activities.

The operatorship of the Heather field on the UKCS in 1997 was a stepping stone for DNO during the first growth cycle. From an offshore operatorship on the UKCS, DNO moved to onshore Yemen in 1998. Today it operates four licenses in Yemen and is partner in one.

The entry to the Kurdistan Region of Iraq was in 2004 with DNO being the operator of two licenses initially, which became three following the review of the contracts in 2008.

DNO has still a presence offshore with operatorship in an offshore license in UK, and is also partner in an offshore license in Equatorial Guinea.

The corporate headquarters is in Oslo, with operating units in Mozambique, Yemen, Dubai, and the Kurdistan Region of Iraq. Africa and the Middle East are currently the key focus areas of DNO.

What has DNO achieved in Kurdistan?

Following extensive geological work, DNO decided to drill the first exploration well in Kurdistan in late 2005, on the Tawke geological anticline, close to the border with Turkey.

While the acquisition and processing of seismic data was ongoing in summer 2005, DNO acquired the equipment to drill its first well in a Region where none existed at that time. The Tawke-1 exploration well discovered commercial quantities of crude oil.

A field development program was initiated immediately, and a central processing facility and a 43 km export pipeline were constructed in record time, along with the drilling of additional development wells. The field was fully developed in June 2007 – only two years after commencement of seismic exploration activities on the ground.

Export of crude oil from the Kurdistan Region to the international market is essential to create full value from current and future oil discoveries. Export was allowed for a short period, for about 3 months from 1 June 2009, but was halted because of non-payment for

crude oil being exported. The field has, meanwhile, supplied crude oil to the local market.

The first exploration well made a discovery in the Erbil PSC contract area in 2007. This field is being appraised.

What are the longer-term aspirations of DNO in Kurdistan?

DNO has long-term commitments to all stakeholders of the Region. At least three new exploration wells are planned for 2010-11, one in each of the licenses operated by DNO.

The near-term aspirations are to have all matters resolved such that crude oil from Kurdistan will again be exported to the international markets, for the benefit of the Region, the whole of Iraq and to the oil companies engaged in E&P activities. DNO is hopeful this may happen soon. The company recommenced the export of crude oil from Tawke on 2 February 2011 at rates in excess of 65,000 bpd, and is also assisting the KRG by receiving third-party crude oil for export using the DNO export infrastructure.

What focus is placed on Corporate Responsibilities?

Corporate responsibilities take various shapes and forms. DNO supports local reconstruction with \$12 million defined as Capacity Building Bonuses in the contracts signed with the KRG.

Apart from providing jobs to the local community, DNO is also contributing greatly toward bettering the infrastructure, health, and hygiene standards of the Region. The sum of \$150 million is being contributed toward the building of a water purification plant in Dohuk for the benefit of the city and nearby villages.

DNO has invested in local school upgrades and equipping local hospitals with requisite medical facilities, and the company will continue to partner with the local community in shaping a better future.

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Hydrocarbons: investment and future riches

Foreign energy companies are discovering the wealth of opportunities that the Region offers, writes Ahmed Said, President of Oil and Gas at Forbes and Manhattan

The Kurdistan Region has generated a great amount of excitement recently over its potential untapped hydrocarbon riches. It has gone from a Region generally overlooked, compared with the massive reserves in Southern Iraq, to being one of the hottest areas in the petroleum exploration and production sector. There are good reasons for this. Kurdistan's proximity to the large structures of Kirkuk and the generally productive Zagros mountains gives confidence that the Region possesses significant reserves of hydrocarbons. Indeed, this confidence is being proven by the discoveries being made by a range of companies. And, Kurdistan is also a 'safe' environment in which to invest—security is very good and the Kurdistan Regional Government is supportive of foreign investors.

The Region is not, however, a new name in the hydrocarbons sector. Indeed, it is one of the oldest. The Kurdistan Region of Iraq was the birthplace of the Iraqi oil sector and, hence, that of the Middle East in general. It was here, at the Chia Surkh structure, south-east of the city of Sulaimania, that the first exploration well in Iraq was drilled in 1902 by the predecessor of the Anglo-Persian oil company. This historical oil well was the first drilled in Iraq, and paved the way for the discovery of the super-giant Kirkuk field. Since then, the Zagros thrust belt has turned into a prolific hydrocarbon province. In 2000, the USGS estimated the Zagros thrust belt contained more than 43 billion barrels of oil.

With this potential, and coupled with its stable security atmosphere and investor-friendly policies, the Region has attracted significant interest from foreign energy companies. The range of companies now operating in the Kurdistan Region is truly impressive and includes some very well-known names. The



Oil production has boosted all sectors of the Region's economy

hydrocarbons sector of the Region is also serving to invigorate the economy in general, with service industries becoming more prominent, and other related sectors benefiting from the growing economic success. The high-end hotels being developed in Erbil and Sulaimania are clear indicators of this, but even more impressive are the more intangible developments taking place in Kurdistan's cities and towns—they are being transformed, improved and modernized. Indeed, it is no surprise that the comparison to Dubai is often made—and we should not forget that Kurdistan's natural resource potential is considerably more than that of Dubai when development started there.

Recent multi-billion-barrel discoveries have occurred, and there are still plenty of anticlinal structures yet to be drilled, turning Kurdistan into an emerging 'mega-play' that generates interest among majors to participate and acquire a piece of this world-class basin. As the political relationship between Erbil and Baghdad becomes clearer and easier, so Kurdistan becomes a far more attractive investment proposition for more risk-averse majors. And, it is no surprise that this is now beginning to happen.



The potential of Kurdistan's oil and gas reserves is finally being realised with the help of foreign investment

Marathon Oil, for example, is the latest international oil company to sign up for a Production Sharing Contract with the Kurdistan Regional Government.

For Forbes and Manhattan, we have two companies, Vast Exploration Inc and Longford Energy Inc, operating in the Region and look forward to the successful exploration and development of our blocks. Exploration is still in its infancy and there are plenty of opportunities. Forbes and Manhattan is the operator of the Chia Surkh block, which we plan to drill during the second quarter of 2011. Upon successful testing, the first field will be brought online shortly afterwards, thereby creating many local jobs and providing additional revenue for the Government.

It is an exciting time for the Region, and an investor can clearly see that after landing at the new, multimillion-dollar Erbil

International Airport. With new hotels and shopping malls being built across the Regions, Kurdistan is poised for rapid economic development spurred by petroleum revenue.

Certain political uncertainties remain within Iraq. However, progress is evident, with the recent formation of the Iraq Federal Government. The relationship between Erbil and Baghdad is now friendly and forward-looking, as there is a general recognition that the interests of Iraq and Kurdistan are mutual and not antipathetic.

Over the next few months, Kurdistan can rapidly re-establish oil exports to international markets, which will yield needed additional revenue for the Iraqi people. The Kurdistan Region represents a shining example of economic success, and Forbes and Manhattan is honored to have partnered with the Government and to invest in the future of this Region. ■



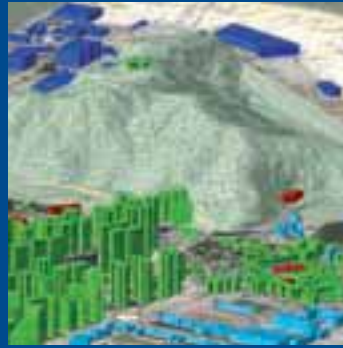
OMV is a global company that invests up to EUR 40mn in each individual well.

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OMV has been active in the Kurdistan Region of Iraq since 2007, with operations that started in 2008. OMV can draw from its broad expertise from operating diligently in harsh environments and apply experience already gained in a number of countries in the region. The company is ready to provide integrated solutions and rely on its very strong team of local and international experts.

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Mott MacDonald is a global management, engineering and development consultancy with a turnover of £1 billion and over 14,000 staff operating in 140 countries. For over 40 years Mott MacDonald's specialist teams of consultants, engineers and project managers have worked on global projects in the oil and gas sector. We have supported a complete spectrum of clients associated with the oil, gas and petrochemical industries, providing a diverse range of services for world class projects.

Our capabilities are underpinned by outstanding technical expertise, covering all specialist disciplines. Over the years, our work has received international recognition having won numerous technical, innovation and sustainability awards for oil and gas projects worldwide.

We have been working in Iraq through our offices in Basra since 2003 as an Iraqi registered company. With our predominantly Iraqi team backed by our international engineering and management expertise and safety/quality control, we have successfully delivered many hundreds of challenging projects throughout Iraq.



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The positive impact of hydrocarbons



Workers at the Tawke oil field in Zakho, which started exporting in June 2009

Brad Camp of KAR Group reports on how oil and gas reserves are bringing revenue to the Region and opening up new business opportunities

Kurdistan's story has always been one focused on the past. From proud feats of heroism against oppression to unbelievably horrible tales rivaling the vilest the world has endured, the recollections of yesterday fill the modern dialog.

Yet a new mood has drifted in from the Zagros mountains and settled upon the people of the Kurdistan Region of Iraq. Eyes

are shifting from yesterday to tomorrow, and from victimhood to a feeling of empowerment.

The mood is particularly evident in one new sector in Kurdistan: oil and gas. For a century, multiple regimes have hoarded the 'black gold' that flows from Kurdistan. Never have the benefits of the oil been allowed to build, unite, and foster a people that seek peace, stability, and happiness. Instead, oil has caused wars, occupation, oppression, and death. But not anymore.

Today, Kurdistan is a land of opportunity in the oil and gas sector. The Kurdistan Regional Government (KRG) launched its

exploration and development program by passing a progressive, yet commercially astute, law in 2007. Companies from the Americas, Europe, Asia, Australia, Africa, and the Middle East are now present in Kurdistan, exploring for and developing oil and gas resources. Local companies are answering the demand for services required by the international oil companies and improving the economy of Kurdistan by employing ever-growing numbers of workers. Local businessmen are investing in oil-processing facilities, including new refineries and power plants fueled by the gas produced locally.

PAST CONSTRAINTS The potential for oil- and gas-related industry cannot be understated. Historically, under the Ba'ath regime, industrial development in Kurdistan had been discouraged by Baghdad, while the enablers of industrial growth—such as transportation and communications networks, reliable power, access to outside markets, a well-trained workforce, and a progressive legal framework—were never fostered.

However, that does not hold true today. Over 1,000 megawatts of power production has been introduced in Kurdistan. Four-lane highways connect Erbil to Kirkuk and Mosul, and new roads facilitate trade with Turkey and Iran. Fiber-optic lines are starting to feed the communications networks, and mobile-phone penetration is high. Relations with neighboring states, highlighted by levels of foreign direct investment in the Kurdistan Region, indicate trust and opportunity in the market.

POLITICAL ISSUES Unfortunately, all is not without controversy. Politics are getting in the way of progress on the oil front. The Kurdistan Region maintains defined rights in the constitution to formulate and implement its oil-and-gas model, all the while recognizing that the resources belong to and should be shared with all the citizens of Iraq. However, differing views exist among some members of the Iraqi government, including the opinion that such rights should be overseen from Baghdad.

In an effort to demonstrate that the Kurdistan Region fully supports the concept of Iraqi ownership of oil, KRG officials agreed that the State Oil Marketing Organization (SOMO), under the Ministry of Oil in Baghdad, can be the agent for selling crude exported from Kurdistan. This allows the pooling of revenue for all oil produced on the territory of Iraq, but it is essential for stability and democratic development in the country that a responsible revenue-sharing plan, as required by the Constitution of Iraq, is passed by the federal legislature. Revenue sharing shall be the glue that holds the diverse nation together, pushing the supply of investment and essential services to the level of most efficient management – the local level.



Companies from around the world are looking to develop the Region's oil and gas resources

The past year has been one of significance for Kurdistan. Many of the world's leading brands—including Lufthansa, Pepsi, Carrefour, and Marathon Oil—have chosen the Region to launch their investments in Iraq. Thousands of barrels of refining capacity have been brought online to supply fuel for the population, including the first-ever production of unleaded gasoline in Iraq. The largest oil companies have contracted exploration territory and made investments in other oil companies and agreements. Additional power plants have been commissioned, fueled by the resources of the Region.

FUTURE GROWTH As exciting as the news is, it does not compare with what tomorrow holds. Refining capacity is expected to double, oil production will triple, and power will be supplied constantly to fully cover the growing demand.

The trials of yesterday strengthen the Kurdish people and have instilled a resilience and optimism to seize tomorrow. The opportunities are real and vast, and the market ripe for sustained, rapid growth, fueled by abundant natural resources and guided by open-market principles. ■