

# FLOW



# BUILDING OUR BRAND

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Issue 2, 2018





PETRONAS

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# Editor's Note

**In** this issue, we are more than thrilled to take you on a journey of not one, but two celebrations: PETRONAS' 44<sup>th</sup> Anniversary, and its subsidiary PETRONAS Gas Berhad's (PGB) 35<sup>th</sup> Anniversary. We talk about the companies, our businesses, the people, and more importantly, the very essence that have helped shape the PETRONAS of today. I would like to take this opportunity to thank our pioneering forefathers who paved the way and laid the foundation for today's success.

As the saying goes, Rome wasn't built in a day. We couldn't have done it without many factors, especially the people and their dedication, commitment, passion, and love for PETRONAS and Malaysia. Of course, no journey is without bumps. There were challenges to overcome, changes to adapt to, and learnings to incorporate. Yet, there were always reasons to rejoice. Despite the ever-evolving world and the many shifts in the industry landscape, I believe wholeheartedly that values that makes up the very core of our DNA, remain.

We start this issue with a story of our journey. In Building Our Brand, we spoke to various individuals that have each played a notable part in our journey. From dealers who grew with us, to PETRONAS stalwarts who persevered through the numerous bumps in this journey, and a creative director who, together with his close friend the late Yasmin Ahmad, helped tell the stories of Malaysians to Malaysians through PETRONAS' well-known festive advertisements.

To commemorate PGB's 35<sup>th</sup> Anniversary, Asrif Omar Che Yusoff from its Business Development and Commercial Division takes us through PGB's illustrious journey of delivering value for more than three decades through its Peninsular Gas Utilisation (PGU) pipeline that traverses Malaysia — bringing gas to customers' doorsteps.



In this issue, we address PETRONAS' plans for its business in China and grabbing a slice of the action in the country's pursuit for clean energies, advances in high technology, big data, biotechnology, and bioengineering industries.

We also talked to our friends and partners from Yayasan Sabah and Imbak Canyon Studies Centre about their dream of turning the research centre into a world-class facility, and preserving the pristine rainforest of Imbak Canyon and protecting its inhabitants. We spoke to the villagers of Kampung Imbak as well and learned of their love for the rainforest and the importance of the local flora and fauna to them and their livelihood.

We hope you enjoy reading this special edition of Flow and find the stories enlightening. Please do not hesitate to give us your feedback or submit your queries at [flow@petronas.com](mailto:flow@petronas.com). I would like to hear from you as we always look for ways to improve the magazine for future issues.

Editor-in-Chief  
**Zahariah (Liza) Abdul Rahman**



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# Building Our Brand

Shaped by its leadership, the PETRONAS brand is built on shared values reverberating across the Group's global network of people.



By **Jacqueline Pereira**

Economics, politics and nationalism have played a pivotal role in the formation of PETRONAS in 1974, when it became the custodian of Malaysia's oil & gas assets. Instead of taking the conventional route of nationalisation, common then, Malaysia's national

oil company pioneered the concept of production sharing contracts to manage substantial oil & gas resources in offshore Malaysia. It triggered a lot of collaboration, a lot of learning and a lot of benefits to the nation and its people. It subsequently moved into

downstream and retail and made a play for global presence. Today, PETRONAS is one of few national oil companies listed consistently as a FORTUNE Global 500® company, collaborating and competing with oil majors with longer histories.

How did PETRONAS get here? During her four-year stint at the PETRONAS Leadership Centre (PLC) which began in 2013, Noor Afiza M Yusof, Head of Brand Management, Group Strategic Communications, started looking for answers. And gained insights from *A Vision Realised: The Transformation of a National Oil Corporation* by Datuk Dr Paddy Bowie, published in 2001.

## Our Leadership: Determined. Professional. Resilient.

After reflecting on the book, Afiza was struck by three words: Determined. Professional. Resilient. "The company", she says, "was born out of the conviction and determination of 15 people committed to make this new venture, or might I say adventure, work. Most of them had no oil & gas background but they considered it their national service to

learn everything they needed on the go. This sowed the seeds of a PETRONAS trait: not knowing is not an answer; it is the start of new learning. And that is how the PETRONAS journey began.

The predisposition to seek new knowledge and new ways of doing things, by no less than the leadership, must have cascaded down to the staff, and contributed to building the brand that is now a global name. Afiza says, "In spite of being a wholly-owned government company, PETRONAS became a FORTUNE Global 500® company, recognised for its professional management and commercial success."

The company proved its resilience during global economic crises and oil price slumps. A PETRONAS scholar who has been with the company for 28 years, Afiza says, "Looking back, the company's response to crises

and challenging times was to seek new business opportunities. During the diesel and kerosene shortage in 1983, the Group formed PETRONAS Dagangan Berhad as its distribution/retail arm. When global oil prices plunged in 2016, PETRONAS regrouped and was back on its feet with a respectable profit in 2017. For me, this is what resilience looks like, that is the ability to bounce back from hard times. It is the hallmark of sustainability."

## Our Journey: Communicating Shared Values

The context has changed over the years with the company enlarging its footprint around the world. "In the 1990s, the main challenge from the brand perspective was to make PETRONAS known globally," says Afiza. "We were small then. Nobody really knew us so we used multiple platforms and angles to be noticed.



“ Products are made in plants, but brands are made in the mind.

- Noor Afiza M Yusof

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Staff strength stood at less than 20,000 and it was largely local. Fortunately, the Group's articulation of its Shared Values - Loyalty, Integrity, Professionalism and Cohesiveness - was clearly aligned to the Vision, Mission and brand positioning. This clarity enabled our people to tell the PETRONAS story to the world at large.

“Today, the Group has almost 50,000 staff globally, 70 per cent of whom are Malaysians. The test lies in being consistent with our messages in a melting pot percolating with diverse cultures, ages and backgrounds. With digitalisation bombarding people with new information almost every minute, everyone is the media.”

Afiza admits it is a trying time to communicate the company's brand purpose and meaning. Despite sophisticated technology, wading through the information onrush still requires guidance. “Finding our true north requires us to stay focused on the purpose and keep the communication consistent. Everyone in the company must carry with them the same message and it must be manifested in trust for our products. A brand is about touch points, and we have 50,000 people as touch points, interacting internally and externally every day. Each of us has to create the right experience to make the brand memorable.

“Getting messages aligned across an organisation as large as PETRONAS can be a stretch though!”



### Our Brand: Making Emotional Connections

“There's always this misconception that brand equals logo. While logos and products change, the brand lasts forever. Products are made in plants, but brands are made in the mind,” says Afiza. Therefore, she feels it's imperative that the brand connects emotionally and, most significantly, delivers its promises.

“From the brand perspective, building winning teams is key. Our Formula One™ partnership with Mercedes is about forging a triumphant team committed to raising the bar higher and higher as a matter of value. It also paves the way for applications from the race to the road, the common denominator. In the case of Lewis Hamilton versus the rest of us, the key differentiator is reliability.

According to the 2018 report of Brand Finance Oil & Gas 50, PETRONAS is ASEAN's most valuable brand. The ranking is up one spot from ninth place the previous year. Brand value has also increased steadily in the last four years despite the challenging industry landscape, says Afiza. “The Brand value is at US\$11.5 billion in 2018. Also this year, Randstad Employer Brand Research recognised PETRONAS as the Most Attractive Employer in Malaysia; the top spot comes after ranking second the previous year.”

Are the company's Shared Values relevant in today's ever-changing, disruptive

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People are our touch points living our values to deliver memorable experiences and inspiring stories that connect emotionally and start conversations.

- Noor Afiza M Yusof

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business environment? Afiza is quick to answer: “Since when is integrity old-fashioned? Authenticity comes only when you uphold integrity.” As for loyalty, she quotes Cory Bouck, the author of *The Lens of Leadership*: “You are loyal to the cause of the organisation,” says Afiza.

### The Clincher: True, Inspiring Stories

Against the backdrop of exacting customer demands, Afiza believes that the storytelling may be the clincher. People are our touch points living our values to deliver memorable experiences and inspiring stories that connect emotionally and start conversations.

“People need to be inspired. Only then will they listen to your story, and more importantly, remember it, even emulate it!” she declares. “In today's world where everyone is a publisher, only relevant and emotionally connecting stories are retained. And they need to be truthful, fact-based and authentic. Tell it from the heart,” she advises, “and you are likely to make a personal connection with the reader or listener.”

Story structure and delivery are equally vital - a learning Afiza attributes tremendously to her years at PLC. She cites the PETRONAS festive campaigns as examples, and how PETRONAS has been telling its story by focusing on inclusiveness and diversity since the 1990s.

“We need to develop our stories differently. The beauty of today is that the digital environment that we have enables us to get our stories told through various channels, to different sets of audience. No physical presence is needed. While we embrace social media for this, the challenging part comes in producing relevant and relatable content in time—we need to be quick in channeling our stories in the fast-moving digital space. The audience here is spoilt for choice and notable for its low attention span. So our storytelling has to be creative and compelling. It should not only engage but also start conversations.”



# Growing Together

The Group's retail arm PETRONAS Dagangan Berhad (PDB) has forged a win-win partnership with petrol station dealers. Based on empowerment and shared goals, it has nurtured dealers who are the backbone and public face of the company. Two pioneer dealers share their stories of grit, growth, and difficulties today.

From three skid-tank stations supplying kerosene and diesel in the 1980s, there are now over 1,000 PETRONAS fuel stations across the country. From basic pumping facilities, many of these stations are now retail stores, providing a variety of experiences; besides feeding the vehicle with petrol or gas, they also feed the tummy, wallet and more. It is a sign of the times, where dealers need to adapt to customer needs and counter competition and price uncertainties.

The deregulation of petrol prices hit the dealers hard. The weekly float fuel price system introduced in April 2017 further burdened them with margin fluctuations and losses. At the end of April 2018, the Malaysian Reserve reported that to ease the burdens of these dealers, PDB launched measures such as sales incentives, guaranteed profit margins, better loyalty programmes, and licensing fees reduction. The Petrol Dealers Association of Malaysia or PDAM is now seeking to raise commissions from 12.9 sen to 18 sen per litre, a 40 per cent hike.

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The nature of business has changed since I started my petrol station 34 years ago. Customers are more discerning and demanding, and we need to serve their needs. I'm always on the lookout for new ideas that are customer-centric.

- Dato' Haji Abu Samah

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**Dato' Haji Abu Samah Haji Bachik**  
Stations: Batu 8, Jalan Ipoh and Kuala Kubu Bharu

At times, Dato' Haji Abu would park his car under a tree opposite his Jalan Ipoh station. From here, he would watch his staff at work. He was also in the habit of slipping into the station to inspect the toilets, unobserved. From afar, he would call his manager to check if everything was under control. If his manager claimed everything was running smoothly when it was not, Dato' Haji Abu would call his bluff and tick him off politely.

A rubber-tapper-turned-businessman, Dato' Haji Abu is one of the pioneers of PETRONAS dealerships. When PDB invited applications for dealership, he decided to take his chances. After rigorous interviews and a stringent home inspection, he was allotted the Batu 8 site in 1984. He has not turned back since.

A five-week training course followed, conducted by PETRONAS where he learned about car engines and even cleaning windows. To know more about the business, he joined PDAM before his station was built. His first six months included being a *jaga* or security guard at his station.

"Some of the new dealers today are a different kettle of fish altogether," says Dato' Haji Abu, who is in the process of transferring his dealership to his two younger sons. "They are enthusiastic initially but this tend to wane. About 20 per cent of them fail because of the lack of self-discipline. They also misunderstand how the dealership works.

"A petrol station like mine is a 24/7 operation and someone must be there all the time, to handle everything from managing staff morale to vandalism."

"A successful and profitable station is one that has enough fuel, good staff and is



clean, well-lit and a pleasant environment," he says. "The nature of the business has changed since I started my petrol station 34 years ago. Customers are more discerning and demanding, and we need to serve their needs. I'm always on the lookout for new ideas that are customer-centric."

Known for doggedly pushing his ideas through, Dato' Haji Abu once enlisted the help of a friend, herself a dealer, to arrange for an appointment with the PETRONAS' management to present a fuel promotion proposal, the first-of-its-kind in PETRONAS then. An advocate of continuous improvement, he believes in being involved and served as PDAM president to push things through.

Dato' Haji Abu is proud of his PETRONAS partnership, and especially of his station's record one-day sale of RM66,000 in the mid-1980s. As far as he is concerned, PETRONAS is a nation-builder and Malaysians should support it unconditionally. Like PETRONAS, he values loyalty and has retained a staff who has worked at his petrol station from day one. He also appreciates the efforts of PETRONAS officer Haji Ali Asah, one of the panelists who interviewed Dato' Haji Abu when he applied to become a dealer. "Until his retirement, Haji Ali attended to the needs of my petrol stations at Batu 8, Jalan Ipoh and Kuala Kubu Bharu. I am very grateful for that."



### Hassan Awang

Stations: Subang Airport and Batu 3, Shah Alam

When Hassan Awang and his brother decided to operate a petrol station in 1988, their preferred choice was a PETRONAS dealership. They identified a site in Jalan 222, Petaling Jaya, because the area only had a Shell station and prospects for another station were good. "We received very strong backup from PETRONAS, which has been supportive till this day," says Hassan.

They also have a station near Subang Airport, built earlier in 1984. "It needs modernising but there are a few land issues to be ironed out. Until then, my priority here is to keep our customers happy. One problem we face is long queues. This is a high-volume area and we sell up to 20,000 litres a day. People may queue once but they may not return. We do not want to lose them."

Hassan makes sure that everything in his station is in tip-top condition and customer needs are met. "You have to be there all the time," he says, "And this requires discipline and interest. To attract regulars, we now have two *nasi lemak* stalls operating for a few hours every morning. And coffee shops like Starbucks and McDonald's are the trend now. That's what people want."

Hassan has transferred the dealership to his two daughters, who are undergoing training at PETRONAS. He says, "My business has grown alongside that of

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My priority here is to keep our customers happy.

- Hassan Awang

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PDB. We started at about the same time, when our market share was low and have grown to great heights. Currently, our market share hovers around 29 to 30 per cent; our lowest was 16 per cent. "When that happened, PETRONAS gathered all dealers to discuss programmes to lift our respective market shares. When PETRONAS does well, so do the dealers, and I think vice versa as well."

"Now competition is quite stiff, with other brands creating initiatives to enhance their branding, perception, and also planning to increase the number of stations in the market."

Hassan recalls the days when PETRONAS organised talks and Q&A sessions with dealers almost every fortnight. It was a platform to air their views. "Even when the opinions were not aligned with those of PETRONAS, we were heard. I used this opportunity to state my views. The sessions motivated us to rush back to our stations and continue with the business, no matter how late. The *semangat*—fire—was always there. It's different now. Now, we get all the information via apps," he said, adding that the incorporation of digital technology in the business makes it the perfect time for the younger generation to take over the dealership from him.



# Spreading Wings

Our global footprint goes beyond oil & gas acreage and technology partnerships in different geographies. It is also about transplanting our cultural ecosystem wherever we are.



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envisioned by its forefathers, after the initial period of consolidation, PETRONAS began to spread its wings abroad. "We expect more inflow of revenue from outside of Malaysia," says Azman A Aziz, Head of Strategy & Commercial, Upstream Business, PETRONAS. "This will happen sooner or later because we began our overseas forays early to counter the depletion of our own resources."

In 1998, seven years after venturing into Vietnam, PETRONAS made its first discovery at Ruby Oil Field. It marked PETRONAS' entry as a major oil & gas player with exploration activities beyond the home base."



“Our active participation in this integrated business helps us to address, recover and re-evaluate our actions all along the value chain.”

- Azman A Aziz

As a fully integrated petroleum corporation, PETRONAS is also well-positioned to adapt swiftly to meet the industry's changing demands and disruptions. "Our active participation in this integrated business helps us to address, recover and re-evaluate our actions all along the value chain," adds Azman. "Case in point is the sharp contraction of oil prices in 2016. Although the upstream business suffered, it was offset by higher profit margins in the downstream business." He also considers the oil price collapse a burning platform to become more competitive and resilient.

## Next Level

In managing the growth portfolio of the upstream business, Azman's half-yearly strategy reviews and tracks planned growth initiatives to drive the business further.

Despite increasing emphasis on renewables, hydrocarbons are forecasted to continue being a primary source of energy in the next 40 years. Therefore, PETRONAS is keen to secure acreage in other countries. In early June 2018, PETRONAS became the second-largest equity partner in LNG Canada after buying a 25 per cent stake in the joint-venture project based in Kitimat, British Columbia, Canada.





It has nine blocks offshore Mexico waiting to be explored. In Argentina, together with equal partner YPF, an Argentinian state-controlled energy company, a pilot shale oil project will enter the next phase. This will involve drilling horizontal wells and building infrastructure to transport shale oil in the La Amarga Chica block in Neuquen province.

Other upcoming upstream projects include oil & gas fields in Asia and Africa, notably, Indonesia, Myanmar, Brunei, Chad, and Gambia. Meanwhile, the company's Turkmenistan gas wells are already in production to meet growing demand.

The downstream business is also gaining momentum. In March 2018,

PETRONAS Lubricants International (PLI) launched its new US\$60 million Global Research & Technology Centre in Turin, a major automotive industry hub in Europe. PLI will strengthen PETRONAS' global position in the lubricants market, and the investment underpins the company's commitment to use technology as a differentiator and play an active role in carbon dioxide (CO<sub>2</sub>) reduction.

PLI's Chief Technology Officer Eric Holthusen says, "The majority of our R&D programmes are designed to improve the energy efficiency of engines and drivelines. With the help of fluid technology, we can reduce the CO<sub>2</sub> footprint of vehicles powered by internal combustion engines (ICEs). By developing efficient

driveline fluids for electric drivetrains, we can also help reduce the CO<sub>2</sub> footprint of electric vehicles."

Holthusen believes that knowledge of impending technology-induced changes is just the tip of the iceberg. "Our technology strategy needs to be led by the needs of customers, and not by what is technically possible."

### Culture Ecosystem

Azman admits that without the company DNA prevailing across local and overseas operations, it will be difficult for PETRONAS to grow as a single cohesive entity. "We make sure there is no differentiation between PETRONAS staff, wherever they are. We also stress on the need to act and speak as one, in messages that are aligned to the company values, mission and vision. For this to happen, we involve everyone in the President's annual townhall that is streamed globally. It's very important for every single employee to have a common intent."

He adds, "As a host authority, we give back to the community and country by building capacity rather than infrastructure. We focus on human capital development, education, training and environmental preservation. Besides being a business decision, this strategy helps forge better understanding and appreciation of the community where we operate."

At PLI, there are global project teams working across different geographies and cultures. "This exposure of our talents to diverse environments makes them grow faster and generate greater job satisfaction," says Holthusen.

For all its cosmopolitanism, the PETRONAS identity is sustained in PLI. Holthusen says, "Here, we provide an ecosystem that encourages and promotes positive changes to meet the demands of the business. PETRONAS' Shared Values are the ties that bind us as a team and guide us in how we do things across operations worldwide. The challenge, however, lies in establishing a common PETRONAS culture that is in harmony with, and respectful of, local particularities."



"The majority of our R&D programmes are designed to improve the energy efficiency of engines and drivelines."

- Eric Holthusen





The Malacca, "with its diversity" is a unique blend of cultures. Celebrate Hari Raya Aidilfitri. PETRONAS



The world is changing, but the Malaysian will always be proud of who we are. Happy Deepavali. PETRONAS



Do you see Indians? Or do you see Malaysians. This is our country. We are all Malaysians. Happy Chinese New Year. PETRONAS

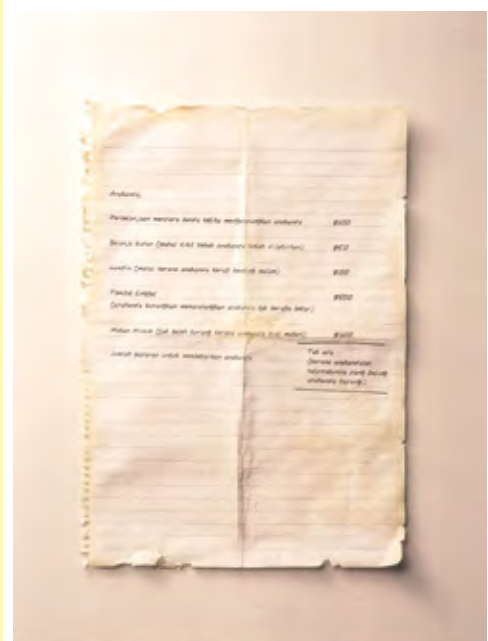


What does it mean to be a Malaysian? It's about the people. PETRONAS

# Pride and Nostalgia



Sekali lagi diingatkan bahwa, ada ayahmu jadi pahlawan. Selamat Hari Raya Aidilfitri. PETRONAS



Back home, always in the spirit of home. But one can't always stay. The journey is long and the road is long. Happy Chinese New Year. PETRONAS



But there will come a time when even the strongest fathers will need to lean on the kids. They are our future. Happy Chinese New Year. PETRONAS

# Festive commercials that unite and cheer

They are stories that are familiar and harp on our foibles and idiosyncrasies. Born out of our collective experience as a nation, it is a narrative based on nostalgia that binds Malaysians truly, deeply and proudly.

In 1996, the late Yasmin Ahmad from Leo Burnett, the advertising agency for PETRONAS, convinced the company's top management to embark on a series of festive commercials that would lift corporate promotional practices to a higher platform. The commercials were to marry nostalgia with nuance, purpose with pride, long before it became a fashionable trend. In essence, they were to captivate the hearts of Malaysians with the company's equally evocative journey.

### Real Stories

The stories were very real. Two months before any festive season began, Yasmin would gather staff into the sitting room next to her office. Seated on a large sofa and on the floor, the assembly would share personal stories and views. For instance, what Merdeka or Chinese New Year meant to them.

From the receptionist to the visualiser to the suits, all were involved. They would pour out their hearts laughing, sometimes sobbing.

After shortlisting about 10 stories, she would bring the motley crew of storytellers to PETRONAS to present their personal anecdotes. "She preferred that we presented them in person," said Jovian Lee of Leo Burnett. While the client picked one that moved them the most, Lee felt that the stories that never ran were not wasted. Not only did they get to know each other better,



By this morning, thousands of Malaysian Indians carried out the beautiful tradition of oil bathing. This, to us, is a reminder of how unique Malaysians are. In a world of frenetic change and progress, we manage to keep abreast, without losing sight of who we are. It is in this spirit that PETRONAS proudly wishes all Malaysians a very happy Deepavali. PETRONAS





it was therapeutic and offered some of them necessary closure.

His own story was in fact turned into one of Yasmin's films, *Muallaf*, almost a decade after he had divulged his heartbreak over lunch. "With the film, she wanted to help reconcile and find closure and to let others know that they are not alone," Lee says.

### Cultural Landscape

Yasmin always had a vision of a better Malaysia, even in the 80s and 90s. "She firmly believed that PETRONAS is a great company with incredible credibility. Who better to champion Malaysian values?"

"Yasmin cherished Malaysian values as well as its quirks such as the way Malaysians hoard old photos and love letters in discarded shoe boxes or butter cookie tins.

Her commercials are not preachy. They aim to be thought-provoking instead. The popular *Boyz in the Hood* Deepavali 2015 commercial—written by Christie Herman, and directed by Al Isaac—provokes you not to forget your cultural roots. In this much loved commercial, the protagonist called Andy, who is out for a night of fun with his friends, bumps into his grandmother who then calls him by his birth name, Muniandy Chinnadorai, and his friend Sam by his, Muthusamy Karupiah.

In the 50<sup>th</sup> Merdeka anniversary ad *Tan Hong Meng*, there is no preaching; just an open-ended statement: "Our children are colour-blind. Shouldn't we keep them that way?". Yasmin, who described herself as a perennial optimist believed people are inherently decent.



### Always Relevant

Yasmin never shied from mining her own life experiences. A fight with her mother when she was younger, and whom she found difficult to forgive, became a poignant note-to-self in the 1998 Hari Raya commercial *Forgiving*.

Yasmin is no more, but the experiences she created for our little screens live on. Lee believes Yasmin's commercials are relevant till this day. "They will become irrelevant only when we stop fighting with our parents; or when best friends don't die."

Seeking to understand rather than to tolerate, Yasmin's work embraces diversity and inclusiveness and shuns racial and religious biases that inhibit personal liberties. She believed in cohesion and unity, without boundaries.



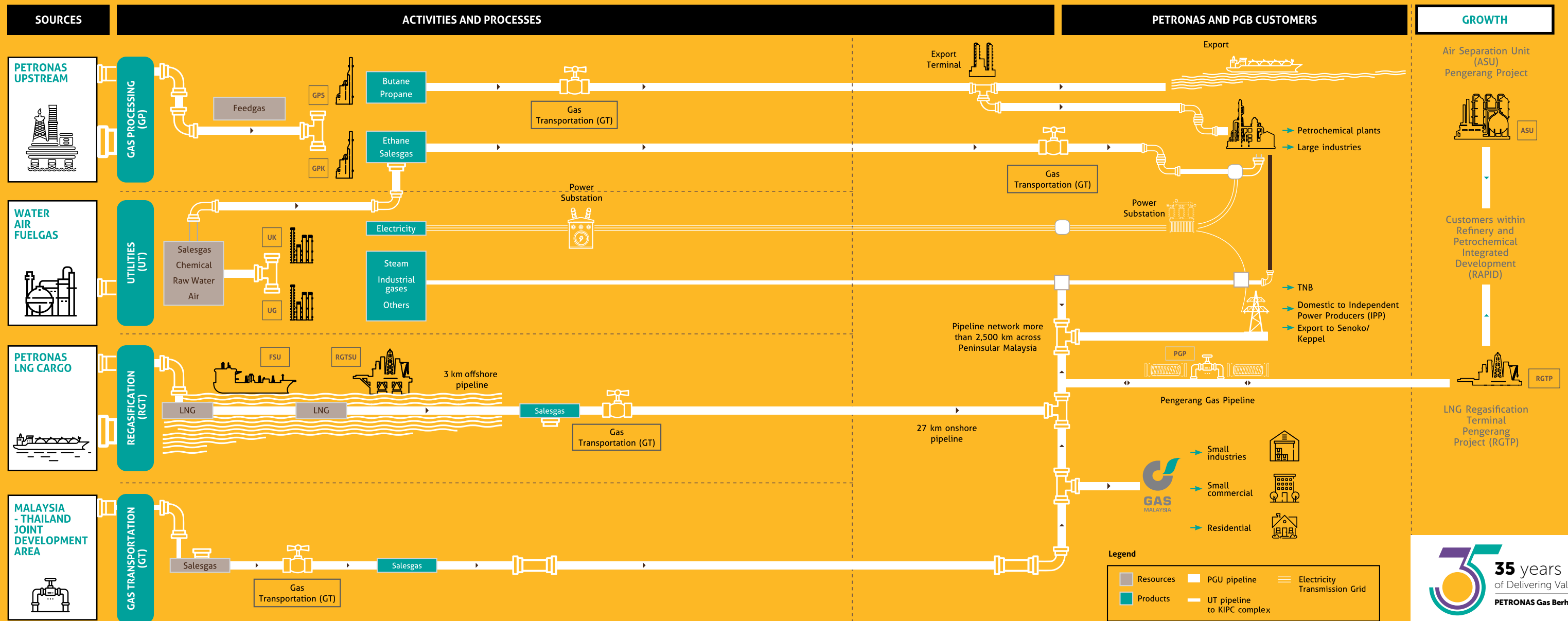
Considered too bold and unconventional by some quarters, she was indeed not without controversy. The passing of the inimitable film director, writer, scriptwriter

and executive creative director of Leo Burnett is a sad loss not only to her agency but also the creative industry and the nation. Her work made Malaysians proud of themselves, idiosyncrasies included. Using the screen as the medium, she brought private stories to the public domain. And she did it by transcending ethnic and religious differences and evoking the collective national memory.

While her values found a kindred spirit in PETRONAS, it was her foresight to leverage on the company's advertising & promotions platform that has created enduring little stories of triumph over adversity.

*P.S. The second book on her, Yasmin I Lup Chew, a compilation of her ridiculously insightful advice, was launched at Kinokuniya Suria KLCC on 21 September 2018.*





# PETRONAS Gas Berhad: 35 Years of Delivering Value

BY **Asrif Yusoff**

**I**t all started in 1983, a momentous year for Malaysia. The Proton Saga was developed as our first national car, International Islamic University Malaysia welcomed their first intake of 153 students, and the late singer-songwriter Dato' Sudirman Hj Arshad debuted his evergreen patriotic song, 31 Ogos. Malaysia was a rising star, eager to join the ranks of other Southeast Asian tiger economies.

In the same year, back in PETRONAS headquarters then at E.N.E. Plaza at Jalan Pudu in Kuala Lumpur in, a strategy was being outlined to construct the country's biggest ever gas project: the Peninsular Gas Utilisation (PGU).

As part of the Gas Masterplan Study, the PGU system was intended to be the network that will spur the nation's economy by monetising natural gas within the domestic energy sector.

To undertake this mega-project, a wholly-owned subsidiary of PETRONAS was incorporated as PETRONAS Gas Sdn Bhd.

Divided into three phases, the overall PGU system is comprised of gas processing and transmission pipeline facilities aimed at forming an artery of natural gas that stretches across Peninsular Malaysia. Phase 1 was completed in 1984 and

focused primarily on serving the power, petrochemical, and industrial consumers in the East Coast. By the end of Phase 3 in 1998, six gas processing plants with a total capacity of two billion scfd were in operation together with more than 2,500 km of pipelines traversing the land.

The PGU project marked the beginning of the PETRONAS Gas Berhad (PGB) story, and defined its integral role in ensuring the country's energy security.

Since its listing in 1995, PGB is also one of the largest firms in the local bourse in terms of market capitalisation.

Today, 35 years later, PGB is the country's leading gas infrastructure and centralised utilities company, offering a wide range of products including electricity, steam, and industrial gases serving customers in Kertih and Gebeng.

Leveraging on these strategic locations, PGB has the capacity and connectivity in meeting existing and new demands, tailored to the needs of customers in growing industrial areas. With the





increased demand for integrated gas infrastructure services, the company has recently diversified its portfolio into the regasification of liquefied natural gas (LNG) in the past decade, and does not plan to stop there as it aspires to grow further.

### Building a legacy

Through its proven track-record in providing utilities through co-generation plants in Peninsular Malaysia, PGB was entrusted with the task of developing the Kimanis Power Plant (KPP), a joint venture with Yayasan Sabah.

Located by the shores of Sabah's West Coast, adjacent to the Sabah Oil and Gas Terminal, KPP is a gas-fired power plant which was developed as part of the Power Up Sabah initiative under the Malaysian Economic Transformation Plan.

The power plant commenced full operation in November 2014, utilising natural gas from offshore Sabah.

In 2010, PGB was entrusted with the responsibility of building the nation's first LNG Regasification Terminal in Sungai Udang, Melaka (RGTSU). The company's list of commendable achievements expanded as the facility commenced its operations in May 2013. The terminal features the world's first-of-its-kind regasification unit on an island jetty, two floating storage units converted from Malaysia International Shipping Corporation Berhad (MISC)'s ships, and sub-sea and onshore pipelines that link to the PGU network, further supporting energy security in the country.

The success of RGTSU paved the way for PGB to be entrusted with the responsibility of spearheading the development of the country's second LNG regasification facility in Pengerang, Johor (RGTP) through a partnership with Dialog LNG Sdn Bhd and Permodalan Darul Ta'zim Sdn Bhd.

Intended primarily for consumers within the Pengerang Integrated Complex (PIC),



**RGTP is the gateway that receives LNG cargoes from around the world to be stored in its storage facilities which are among the largest in the region at a total of 400,000 m3.**

The regasified LNG are supplied to the Pengerang Cogeneration Plant as well as the PGU. In November 2017, the facility commenced its operations upon receiving its first cargo from Gladstone LNG in Australia delivered by MISC Seri

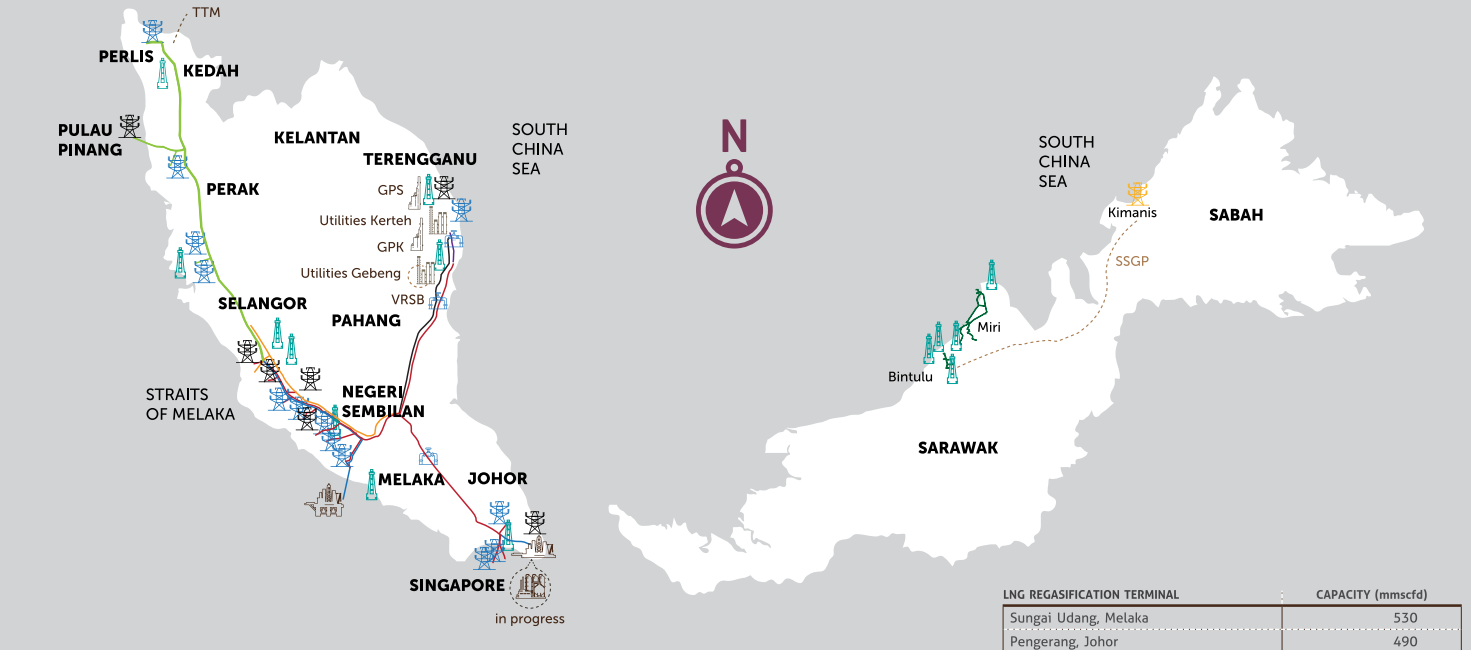
Begawan, which makes up a part of the PETRONAS integrated value chain.

Apart from RGTP, PGB's Air Separation Unit (ASU) project in Pengerang is currently under construction and scheduled to be completed by end 2018. The ASU facility, which is a joint venture with Linde Malaysia, will supply 41,000 Nm3/hour of Oxygen as well as 25,900 Nm3/hour of Nitrogen required by the refinery and petrochemical plants within the complex, making it among the largest industrial gas production facilities in the country.

MAIN PGU PIPELINE	LENGTH	GAS-IN
PGU I : Kertih – Teluk Kalong	32 km	1983
PGU II	714 km	
Sector I : Teluk Kalong – Segamat	265 km	1991
Sector II : Segamat – Kapar	241 km	1991
Sector III : Segamat – Plentong	208 km	1991
PGU III	450 km	
Sector I : Meru – Lumut	184 km	1996
Sector II : Lumut – Gurun	130 km	1996
Sector III : Gurun – Pauh	136 km	1996
Loop 1 : Kertih – Segamat	266 km	1999
Loop 2 : Segamat – Meru	228 km	2000
<b>Total</b>	<b>1,690 km</b>	

OVERALL PIPELINE	LENGTH (km)
Main PGU	1,690
Lateral	458
Liquid	373
Sungai Udang	30
Pengerang	72
Sarawak	39
<b>Total</b>	<b>2,662</b>

COMPLEX	GPP	CAPACITY (mmscfd)
Gas Processing Kertih (GPK)	1	310
	2	250
	3	250
Gas Processing Santong (GPS)	4	250
	5	500
	6	500
<b>Total</b>		<b>2,060</b>



LNG REGASIFICATION TERMINAL	CAPACITY (mmscfd)
Sungai Udang, Melaka	530
Pengerang, Johor	490

#### OPERATIONS & MAINTENANCE (O&M) SERVICES

1. Sabah-Sarawak Gas Pipeline (SSGP)
2. Trans Thai-Malaysia (M) Sdn Bhd (TTM)
3. Voltage Renewables Sdn Bhd (VRSB)

### Looking ahead

As the company turns 35 in 2018, PGB is charting towards extending its business reach in both the domestic and global arena.

**In achieving this ambition, four strategic drivers have been identified to transform and elevate the company to the next level namely 3ZERO100, Growth, Commercial Excellence and Digitalisation.**

In building a strong foundation, PGB aims to sustain their world-class operational excellence through the '3ZERO100' programme which aspires to achieve zero safety incident, zero non-compliance, zero interruption, and 100 per cent product delivery reliability.

While aspiring to maintain strong operational performance, PGB is also on

the lookout for opportunities to grow and maximise shareholder value. This ambition is being realised as the company is currently pushing the potential of its current assets, while diversifying their offerings towards providing integrated solutions to existing and new customers.

As accelerators to these operational excellence and growth agendas, two initiatives have been established namely Commercial Excellence (CX) and Digitalisation. CX looks into the pursuit of retaining the current customer portfolio and creating value by capturing new opportunities through competitive pricing and lower cost-to-serve. At the same time, the Digitalisation programme facilitates data-driven insights and analysis towards faster decision-making.

These four strategic drivers are viewed as crucial elements that have to work hand-in-hand in progressing PGB forward.

Additionally, these strategic drivers are also vital for PGB as it enters a new era in the domestic gas industry.

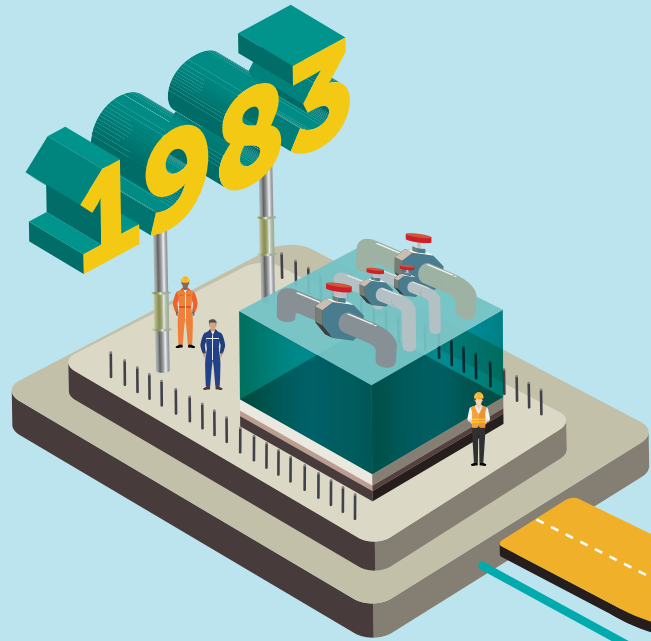
With the liberalisation of the gas market into a Third Party Access (TPA) system, PGB is currently ready to play in a more competitive landscape, in support of the Energy Commission as regulator.

With a proven track record of providing safe and reliable service to customers, the company's first three decades have proven to be instrumental in building resilience. A testament of this is the scores of awards that the company had won both locally and abroad.

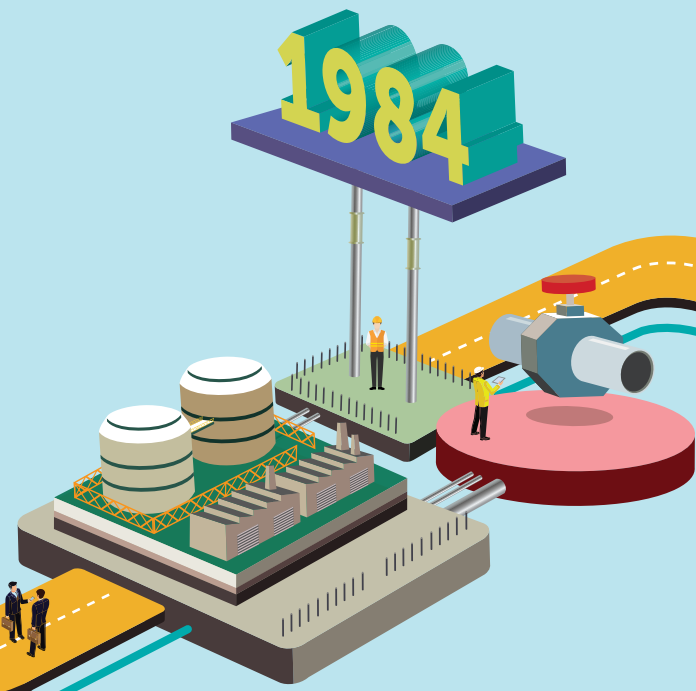
The increasingly volatile landscape of the industry does little to discourage PGB from constantly challenging itself in growing bigger and better. If the company's performance to date is anything to go by, PGB is on the verge of soaring further.



# PETRONAS GAS BERHAD (PGB) CORPORATE MILESTONES



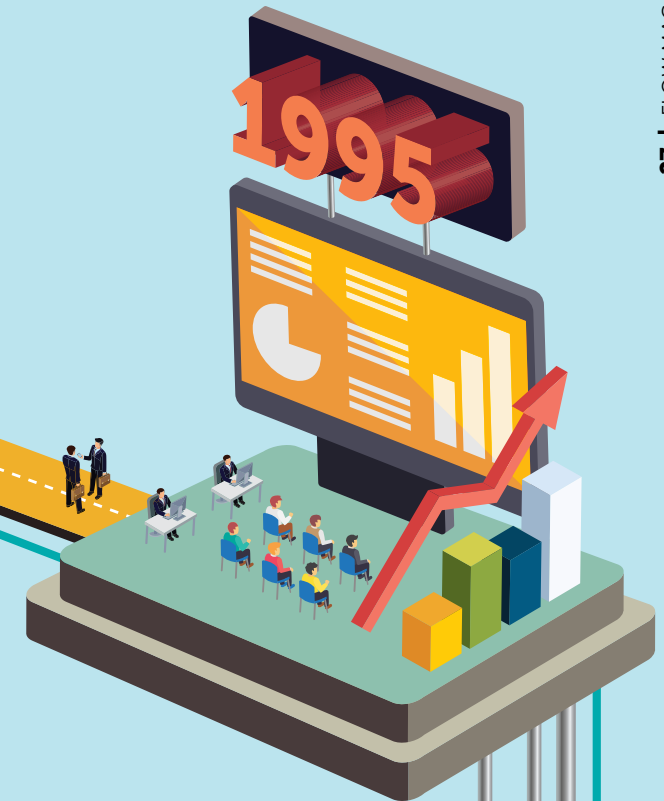
Incorporation of PETRONAS Gas Sdn Bhd



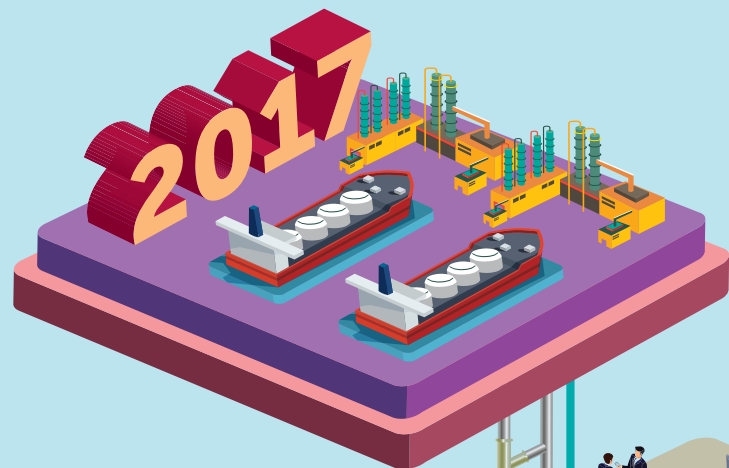
Commencement of Peninsular Gas Utilisation (PGU) operations  
Commissioning of Gas Processing Plant (GPP) 1



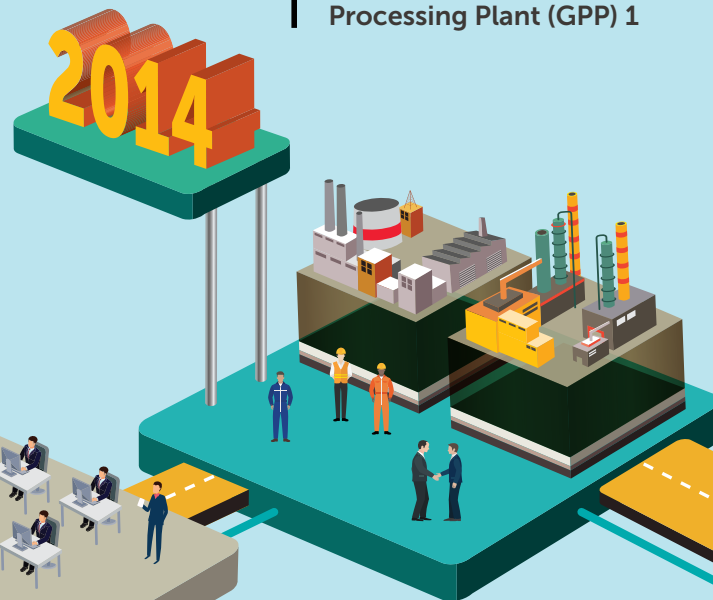
Officiation of Segamat Gas Transmission Centre by Prime Minister Tun Dr Mahathir Mohamad



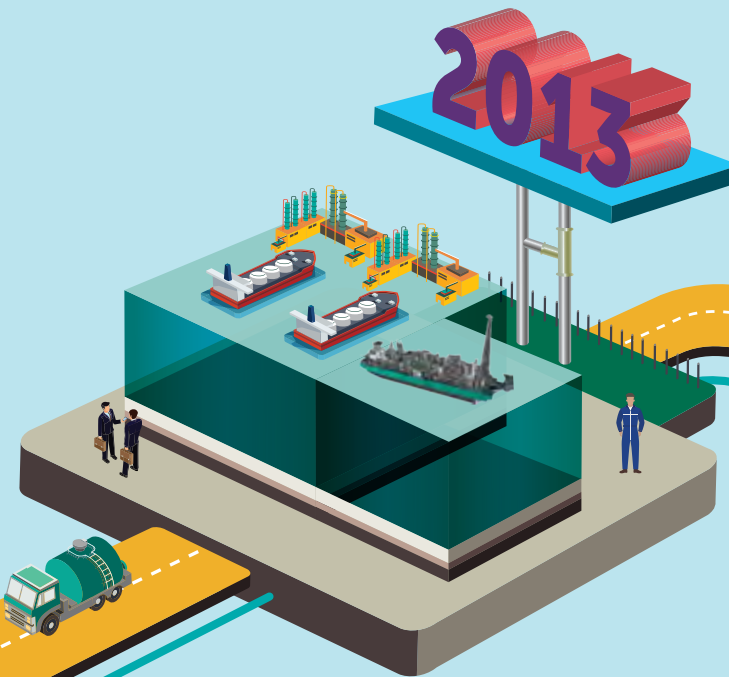
Listing of PGB on Main Board of Kuala Lumpur Stock Exchange (KLSE)



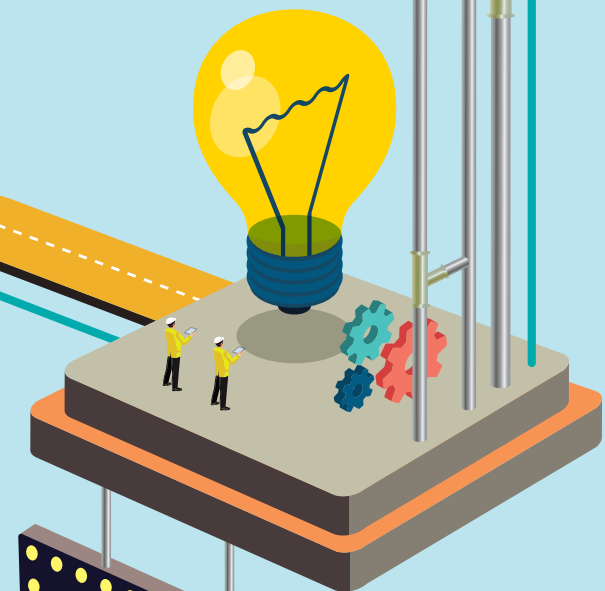
Commencement of operations at LNG Regasification Terminal Pengerang (RGTP) operations



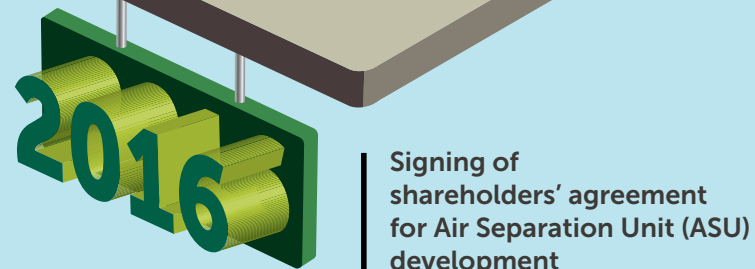
Commencement of Kimanis Power Plant (KPP) operations



Commencement of Regasification Terminal Sungai Udang (RGTSU) operations



First delivery of electricity to customers from Centralised Utility Facilities (CUF) Kertih and Gebeng



Signing of shareholders' agreement for Air Separation Unit (ASU) development



## WE SPOKE TO SOME OF THE WELL-KNOWN PGB ALUMNI WHO RECALLED THEIR FONDEST MEMORIES



"Looking back, I realised that I learnt the most during my time in PGB when I was involved in managing one of the most challenging projects, the Gas Processing Plant 2 (GPP2). As the project engineering manager for GPP2, I was exposed to a multi-disciplinary job and I had to learn about other disciplines of engineering such as instrumentation, electrical, mechanical, and so much more.

After a long stint in PGB, I was fortunate enough to be given the opportunity to progress my career in other parts of PETRONAS. Then in 2003 I had the opportunity to return to PGB – this time at the helm of the organisation as MD/CEO.

During this period, I learnt a lot about managing a public-listed company and leading a large workforce. My learnings, however, entered a whole new dimension when I was entrusted to present at the annual general meetings, deal with business analysts, the media, and spend a bit of time on our HR processes. But this was also the time that I was given a lot of freedom to manage the company. I must



say, to this day, I am grateful that because of my many years in PGB, I know the people, including most of the operators, as well as how to run the business from end-to-end.

I also learned the importance of psychology and effective people management in leading an organisation. It's not about power, not about being the CEO, for things to go your way, but it is about creating the right environment for people to perform, ensuring alignment as well as giving meaning and purpose to their day-to-day work. I think this is important for anyone leading a team towards a common goal.

I truly cherish the valuable experiences I gained in PGB. I'm proud of how far PGB has grown over the last 35 years, and I hope the company will continue to succeed and deliver outstanding results in the future.

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**Tan Sri  
Wan Zulkiflee  
Wan Ariffin**

President &  
Group Chief Executive  
Officer  
PETRONAS

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### Datuk Md Arif Mahmood

Executive Vice President &  
Chief Executive Officer of Downstream,  
PETRONAS



"Out of all the OPU in PETRONAS, PGB has most likely played the biggest role in my career. I spent my critical formative years as a Trainee Engineer there. It was known as PETRONAS Gas Sdn Bhd back then and I still vividly recall the fiery red flame of its logo. After moving to other positions in the corporate office and projects, I returned to PGB in 2002 as Plant Manager at GPP B. Today, PGB is part of the business within the Downstream division.

Looking back, I am very thankful for the opportunities. PGB has given me the depth of experience and my transitions across other functions in different parts of PETRONAS has added to the breadth through the varying roles I have played in PGB. This is something I found to be personally beneficial for me and I hope all our young ones in the company are also able to experience the same.

Where PGB stands today has certainly been the result of having a string of visionary leaders and committed workforce at the heart of it.

Times are changing for PGB, but with the same passion, hard work and determination, I'm certain the business will continue to thrive at greater heights.

Happy 35th anniversary!"



"I joined PGB in 1984 when the company was just about a year old. I was in-charge of recruitment and training at that time, specifically on hiring operators and technicians in Kertih. Being a part of the company's early years, I feel proud and honoured to have been a part of the formative years of the organisation. Our staff began by learning the ropes on running projects and operations from consultants and expatriates back in the day, and look at where PGB is today!

I also had the opportunity to serve other units in PETRONAS through the years but I returned to PGB as the Head of HR in 2004. Reuniting with the familiar faces of the company brought back fond memories of my own early days with the company. Some of my batch-mates have also grown to become leaders of PGB at that point. And my most memorable moments with PGB were the back-and-forth trips that I had to make between KL and Kertih.

But this was the experience that have shaped us as the pioneers of PGB. It was not necessarily a 'struggle' per se, but going through the journey together created a bond among us.

It was also humbling to be able to forge the close teamwork that we had, regardless of status or position, be it at management or working level.

There were no barriers and I still see this camaraderie in PGB today.

Moving forward, PGB will be faced with new challenges and opportunities but with the right culture, mindset and competencies, the men and women in PGB will be ready to continue to perform well. Happy 35th Anniversary PGB!"

### Dato' Raiha Azni Abd Rahman

Senior Vice President of  
Group Human Resource  
Management  
PETRONAS



WE TURNED  
CHALLENGES  
OPPORTUNITIES

### Datuk Mohd Anuar Taib

Executive Vice President & Chief Executive Officer of Upstream, PETRONAS, Chairman of PETRONAS Gas Berhad



"In reflecting on this milestone, I can't help but be reminded of the role of our industry – delivering clean, reliable, and affordable energy and products to customers safely. Over the past 35 years, PGB has done well in rising up to that noble purpose.

The gas infrastructure has become the backbone of electricity generation in Peninsular Malaysia, improving lives of millions. The same infrastructure connects our producing fields to our customers – power, petrochemicals, industries, and residential; delivering value to those customers and to PETRONAS. The introduction of two regasification terminals here further attests to the importance of our gas infrastructure. It provides security of supply and connects PETRONAS-owned gas in far-flung countries to our shores for the benefit of our customers and PETRONAS.

With this much impact, comes great responsibility. PGB must ensure an almost no-failure operating envelope. In the past few years, PGB has embarked on its 3ZERO100 journey to ensure it has the right culture, process, people, and capabilities to deliver flawless operations at competitive cost structure in a safe manner.

The future of PGB is going to be more challenging with the new regulatory regimes and the need to expand its network and customer base.

This will require PGB to work with regulators, upstream and LNG suppliers, and downstream customers in a much more cohesive and integrated manner.

Having said that, I am confident and proud of PGB as I know that every morning, there are many standing up, pulling on our unmistakable yellow coveralls, both physically and metaphorically, at PGB facilities everywhere, ready to deliver our clean, reliable, affordable energy and products to our customers and nation, safely.

To these men and women of PGB, salute!

Happy 35th anniversary, PGB".

"We have seen how PGB's portfolio has evolved over the years, from gas pipelines and processing, to a diversified portfolio of centralised utilities facilities, power generation, and LNG regasification. PGB has played a key role in shaping the overall PETRONAS story, and is instrumental in supporting energy security of the nation. The men and women who have been or are still a part of the workforce should be proud of these achievements.

The oil and gas industry is an increasingly challenging environment but I am confident that with the passion and desire of the people of PGB, we can realise our potential to be among the best in the world".

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### Kamal Bahrin Ahmad

Vice President / Chief Executive Officer, PETRONAS Gas Berhad

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# BEING PART OF CHINA'S BOOMING ENERGY STORY

by **Sreerema Banoo**

PETRONAS' strong relationship with China's national oil companies in the upstream segment and its strategic, flexible and creative solutions for the LNG, petrochemical and lubricant segments allow it to fulfil China's growing and diverse needs.



If anyone thinks that the China juggernaut is running out of steam, some experts certainly beg to differ.

"The next two decades will be even more exciting than the last 20. China is on the verge of a second wave of growth and the biggest transformation is its energy sector. We will see China's economy overtaking the US," says Mark Gau, Country Head for PETRONAS in China.

China is set to experience greater urbanisation, growth in renewable and clean energies, advances in high technology and big data, and biotechnology and bioengineering industries.

These trends, Gau says, bring significant changes to its energy sector. For oil and gas players, these changes translate into opportunities – in natural gas, chemicals and lubricants.

PETRONAS might not be a major player in China's overall energy industry – compared with some of the global oil majors – but it is nonetheless poised to reap the rewards of China's growth and transformation, thanks to its track record.

In just under two decades of doing business in the Middle Kingdom, PETRONAS has built on the relationships nurtured in the upstream sector with China's national oil companies (NOCs). From a modest start, it has strengthened its position in China's chemicals, LNG and lubricants business.

PETRONAS has earned a reputation as a reliable and dependable partner willing to go to great lengths to meet the needs of its customers. The group also has the competitive edge over others as it offers an integrated and seamless business ecosystem, which allows it to provide solutions across the oil and gas spectrum.

Taking heed of the transformation and trends in China's economy, plans are under way to strengthen PETRONAS' presence in China. The group recently hammered out the first country plan for its business in China, which currently stands at about USD2.6 billion in revenue.

LNG is the largest contributor, followed by crude oil and petroleum products, chemicals, and lubricants.

Explaining the country plan, Gau says each of these businesses has its own strengths and has been operating independently over the years.

PETRONAS Head of LNG Marketing & Trading in China, Loi Su Han concurs, adding, "We definitely see China as the centrepiece of our own growth story and right now, we are probably in episode two or three of that 10-



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PETRONAS' plan for China is a reflection of its seamless and integrated business ethos.



”

episode growth story. It's a totally exciting time to be in China."

Loi, who was also at the planning session, says: "Over time, the businesses have become somewhat segregated, so we came together to see how we could consolidate the activities and leverage on the strengths of the different segments."

PETRONAS' plan for China is also a reflection of its seamless and integrated business ethos. By moving away from segregated operations, the company is in a better position to leverage on the strengths of the different segments.

In June this year, the company established a dedicated LNG office in Guangzhou headed by 17-year veteran, David Tung.

"The opening of the LNG office will help facilitate greater engagement with the China market and like the upcoming visit from our President and Group CEO, sends a signal to Chinese buyers that we are serious about doing business in China," Tung says.

This approach is timely, as China undergoes several game-changing trends in its energy sector.

### Urbanisation, clean energy

China's population of more than 1.3 billion, rising rate of urbanisation and increasing consumer demand are among the factors influencing China's energy reform.

"Urbanisation is a key driver. It has been China's biggest goal. In 1990, 26 per cent of the population lived in urban areas. This has risen to 60 per cent today and is targeted to hit 70 per cent in 2025," says Gau.

For oil and gas players, this spells opportunities in the second- and third-tier cities, which benefit from the continuous inflow of talent, capital and foreign investment, he says.

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The opening of the LNG office will help facilitate greater engagement with the China market...

- David Tung

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**In China, the tier system classifies the 660 cities on criteria, such as GDP, political administration and population. Traditionally Beijing, Shanghai, Guangzhou and Shenzhen are considered first-tier cities. Provincial capitals and special administrative cities, such as Chongqing, Hangzhou and Tianjin, are usually categorised as second-tier and prefecture-level capitals, such as Lanzhou, Guizhou and Sanya, are generally classed as third-tier.**

But even in a first-tier city like Shenzhen, Gau points out that there are three million households still using LPG.

"With the building of pipelines, this means that all these three million residential users will eventually become natural gas users. Urbanisation also brings investments in schools and hospitals and this then drives the construction and infrastructure industry and consequently, demand for energy.

"Urbanisation also has the potential to drive up the income of households and, as a result, they buy better cars, better lubricants and better products. The latter, in turn, will drive our chemical business because of the demand for higher-end textiles, polymers and compounds," he adds.

China's push towards clean energy is another key trend. The government's environmental regulations and stricter emission standards, for instance, are driving product upgrades in the lubricant business, says Gau.

"Customers are also demanding better products and services, such as high-end lubricants and better car care products."

Gau adds that China's move towards clean energy addresses its energy diversification priorities. "At the moment, its energy ecosystem is coal-heavy and coal is highly polluting, so China is seeking to strike a better balance."

China's target is to increase the share of natural gas in the energy mix to 10 per cent by 2020. Currently, only 6 per cent of China's overall energy needs are being met by natural gas compared with OECD countries of around 25-30 per cent.

LNG is also a "balancer" for China's energy needs in winter. "There is a huge heating requirement in winter and gas supplied from the pipelines is insufficient, so more LNG is imported," he says.

LNG also addresses security of supply concerns. "Currently, industrial users have two sources of supply – pipelines connected to the grid and the LNG input system."

For most gas users in China, gas from domestic pipelines is usually the first choice as it is cheaper. Loi says: "But when there is a need for more energy, imported LNG is an option. Transported via LNG trucks, it also circumvents much of the connectivity and accessibility issues. So for locations inaccessible by pipelines, LNG is the answer."



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At the moment, its energy ecosystem is coal-heavy and coal is highly polluting, so China is seeking to strike a better balance.

- Mark Gau

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## Deregulation and reforms

On the supply side, market and structural reforms are also big influencers in China's energy game.

"China is moving to deregulate some of the gas prices, by removing the subsidy on residential gas prices, for example. This reform will drive gas demand and infrastructure investment," Gau says.

"The restrictions on imports of crude have also been lifted – in the past, you could only buy crude from the three NOCs but now, so long as you can apply for a quota, you can import crude. So we're seeing an uptake in refinery activity.

"There are also important market reforms that offer opportunities, for example, in the past, if you wanted to

open more than 20 petrol stations, you would need government approval but that requirement has since been lifted," he says.

Oil majors are already responding to this development. BP, for example, which has more than 700 stations in China, plans to open another 1,000 stations in the next five years and Shell also plans to triple its nationwide network to 3,500 by 2025.

"Now anyone can get into the retail sector. So what does this mean for us? Is this an area we want to get into? If we want to, we can," says Gau.

The 63-year-old, who was coaxed out of retirement to head up the PETRONAS' operations in China, is intimately familiar with China. Born and raised in Taiwan, Gau was at BP for two decades – exclusively in the China lubricant business.



“

...we definitely see China as the centrepiece of our own growth story and right now, we are probably in episode two or three of that 10-episode growth story.

- Loi Su Han

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This experience, coupled with his stint in Sara Lee Corp, where he negotiated the American consumer goods company's first joint venture in China, has also afforded him an understanding of the uniqueness and nuances of doing business in China.

In the chemical business, Gau says, government policies, such as the closure of small refineries, development of large, integrated petrochemical complexes and China's target of 60 per cent of self-sufficiency for high-end chemicals, have significant business implications.

"In line with a priority towards cleaner, greener energy, China is going for better pollution and environment control, so they are shutting down chemical plants or refineries that don't meet the stricter environmental standards," he says, adding that these reforms present opportunities for PETRONAS.

"China still imports a huge amount of chemical products, especially high-end chemicals and downstream derivatives. For example, China can only supply 52 per cent of engineered plastics domestically and 39 per cent of high-end polyolefin plastic materials – all of which are driven by GDP growth and a push for high value-added products," Gau adds.



## Growth and more growth

Whether it's in the chemicals, lubricants or LNG business, a key selling point for PETRONAS is its track record.

"In the case of LNG, we have been in the LNG business for 35 years. We have an established customer base with about 500 cargoes produced annually, which means it is easier for us to perform any delivery adjustments/swaps. This operational flexibility is something that our LNG buyers appreciate," says Loi.

Another aspect of PETRONAS' operational flexibility is its innovation in LNG delivery. One recent example is the breakthrough of PETRONAS LNG, in conducting its first LNG ship-to-ship

break-bulking operation in Labuan Bay as a delivery-solution to serve our LNG term buyer Hainan Shennan Energy Co Ltd CNPC. In these instances, conventional size cargo is break-bulked into smaller parcels and shipped using small vessels to cater for the peculiarity of certain LNG receiving terminals in China.

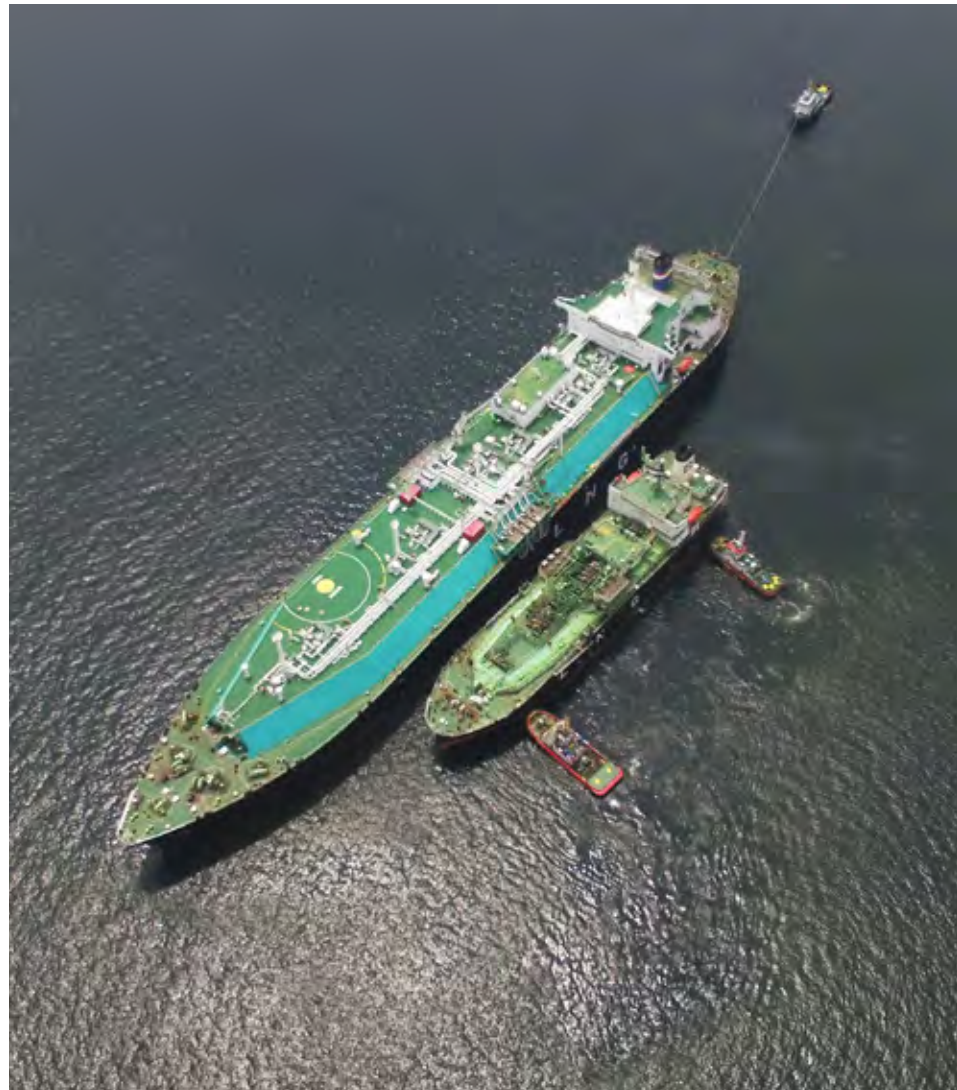
"Unlike Japan, Korea and Taiwan where LNG is primarily delivered in conventional parcels of about 60,000-65,000 metric tonnes, in China, because of the constraints of certain LNG receiving terminals – such as tidal limitations or government approval restrictions – the acceptable LNG vessels vary. And we are able to cater to that required operational flexibility thanks to our PETRONAS LNG Complex in Bintulu, which was strategically designed to meet these requirements.





Building and nurturing of partnerships is one of PETRONAS' strength.

- Mark Gau



**"We also have the geographical advantage. We are closer to China compared with many other countries, so if winter hits early or there is a cold snap and our customers need a cargo, we are just five days away," adds Loi.**

The introduction of unconventional delivery modes via LNG ISO tanks which support small-scale distribution to remote areas, and LNG bunkering operation are other new frontiers that PETRONAS LNG is looking into seriously.

Across the different business segments, a key theme is the importance of relationship building and nurturing of partnerships. Gau believes that this is one of PETRONAS' strengths.

"Our chemical team has been very consistent building long-term relationships and customer engagement. The lubricant team is also very adept at looking at customer intimacy and leveraging on F1 to promote our brand.

The LNG team also is savvy in leveraging on the good relationship we have with its NOCs."

What puts PETRONAS in good stead as China's preferred energy partner is also the Pengerang Integrated Complex (PIC) in Johor, a self-sufficient petrochemical playground, which will be ready in 2019, to meet growing petrochemical demands.

Taking it a step further, PETRONAS has also moved into greening petrochemical solutions by creating high purity bio-based chemicals for sustainable plastics and automotive applications.

Above all, as an energy partner, PETRONAS is a capable partner with an integrated and seamless business ecosystem that provides an array of solutions across the oil and gas spectrum, from exploration, pipelines and LNG to the marketing of products and lubricants.



Malaysia LNG plant in Bintulu, Sarawak.

## Navigating the future

These comparative advantages aside, Gau does not discount the challenges ahead.

"China is always challenging," he says, citing competition as one area that requires attention. In the chemical business, for example, it has to contend with global players like Saudi Aramco.

"For lubricants, we're seeing a rise in the electrification of buses, cars and trucks, which may eliminate the need for lubricants altogether. Better performance lubricants also mean less consumption of lubricants (reducing oil changes per year by some 40-60 per cent)," he adds.

In the case of LNG, although the outlook is generally positive, Loi does not dismiss the supply side downside risks, chief of which is Russian gas giant, Gazprom's Power of Siberia gas pipeline that's

expected to begin supplying natural gas to China by the end of 2019.

Mitigating these risks means ensuring that it has its eyes and ears attuned to the market, says Loi, pointing out that this is one of the key priorities of its China LNG representative office. Tung concurs, adding that one of his tasks is to identify areas where PETRONAS LNG can value-add and to customise its offerings to ensure attractiveness and competitiveness.

Specialty chemicals, for example, are a promising segment.

Tung also adds that China's implementation and the direction of its policies changes can be swift.

"So when this happens, the ones who adopt the fastest tend to have an advantage. As a player, we are certainly

at an exciting time in China. I believe that if we put our minds together and be creative, China can be a significant part of our portfolio."

Loi concurs, adding that "we definitely see China as the centrepiece of our own growth story and right now, we are probably in episode two or three of that 10-episode growth story".





# PETRONAS in China Through the Years

We celebrate  
two decades  
of fruitful  
partnerships  
and endless  
possibilities



Storage tanks at LPG JV project in Hailing Island

PETRONAS' foray into China began with a 20 per cent stake in an LPG processing and distribution project in the province of Jiangsu in 1997 and in the following year, a 30 per cent stake in an LPG JV project in Hailing Island, Yangjiang, Guangdong Province.

Our relationship with China can also be traced to the upstream sector – in particular, partnerships with its national oil companies (NOCs), such as Sinopec and China National Petroleum Corp (CNPC), in Sudan, Iraq and Canada. This was followed by the lubricant and chemical segments.

In 2004, the MITCO Shanghai Representative Office was set up to support the marketing and sales activities of chemicals, followed by the incorporation of the liaison office in Guangzhou a year later to support chemical sales in southern China.

In the same year, PETRONAS Marketing (China) Co Ltd was formed in Shenzhen to start the national oil corporation's lubricants trading business in China. This began mainly with the export of Syntium and Urania brand products to China.

PETRONAS' maiden foray into China's LNG market can be traced to 2006 when it secured a 25-year government-to-government linked 3 million tonnes per annum (mtpa) sales and purchase agreement (SPA) with Shanghai LNG Co.

Mark Gau, Country Head for PETRONAS in China, says that although its chemical and lubricant businesses are growing above GDP, they are relatively small.

"The chemical market share in China is less than one per cent and lubricant about two to three per cent. Though we are a small player, what's important is our value-share in the targeted segments."



In the chemical business, for instance, PETRONAS has a reputation as a consistent player in keeping its promises on delivery.

"We are known for consistently high-quality products and for our brand," Gau says, adding that key customers include Sinopec, BP Asia, Sinochem, Sheng Hong and King Fa.

"Our products serve a wide range of industries, such as plastics, textiles, electronics and automotive."

Brand building based on relationship and trustworthiness has also made an impact on its lubricant business, specifically its presence in Formula One.

"Through F1, we have been able to showcase our technology, an area we have been successful in globally, and

it's an area we continue to do well in China," adds Gau.

As for the LNG business, PETRONAS is today the third largest LNG supplier. "In all, we are delivering almost six mtpa this year, on the back of five SPAs and a significantly higher spot volume, and this is an expansion of our journey which began a decade ago with Shanghai LNG Co Ltd," says PETRONAS Head of LNG Marketing & Trading in China, Loi Su Han.

Since the signing of that deal in 2006, PETRONAS has added two more key customers on long-term contracts – JOVO in Guangzhou and Hainan Shennan Energy Co Ltd CNPC (a wholly-owned subsidiary of CNPC Kunlun Energy), as well as various spot buyers.

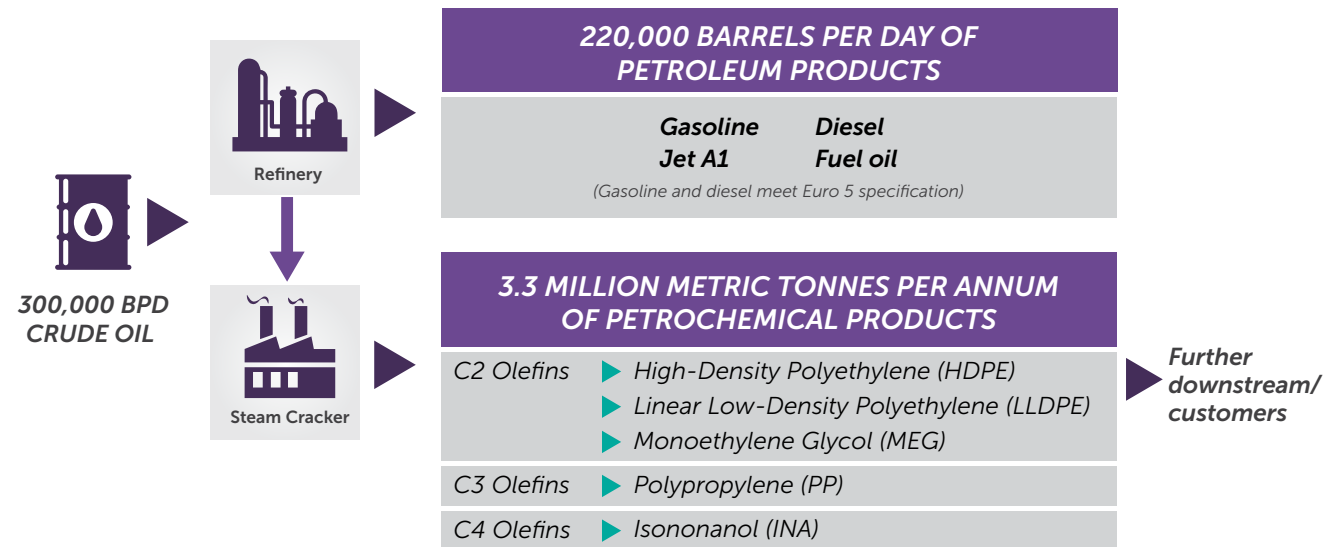
"We are a key player in LNG in Shanghai, we supply more than half of the city's natural gas needs," says Gau.



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### And six associated facilities

<p><b>PAMER</b> Water Supply Facility</p> <ul style="list-style-type: none"> <li>• 260 MLD of water</li> <li>• MLD : million litres per day</li> </ul>	<p><b>PDT2</b> Pengerang Deep Water Terminal</p> <ul style="list-style-type: none"> <li>• 1.3 million tonnes of petroleum</li> <li>• 0.2 million tonnes of chemical</li> </ul>	<p><b>ASU</b> Air Separation Unit</p> <ul style="list-style-type: none"> <li>• O2 at &gt; 1,400 TPD</li> <li>• N2 at &gt; 1,300 TPD</li> </ul> <p>TPD: tonnes per day</p>	<p><b>PCP + PTL</b> Pengerang Cogeneration Plant &amp; Pengerang Transmission Line</p> <ul style="list-style-type: none"> <li>• Power &gt; 1,200 MW</li> <li>• Steam at 1,480 tph</li> </ul> <p>PTL spans over 52 km</p>	<p><b>RGT2 + PGPP</b> 2nd Regasification Terminal &amp; Pengerang Gas Pipeline project</p> <ul style="list-style-type: none"> <li>• 2 x 200,000 m3 storage</li> <li>• 3.5 MTPA of natural gas</li> </ul> <p>Pipeline length: 72 km</p>	<p><b>UF</b> Utilities &amp; Facilities</p> <p>Provides central and shared utilities and facilities service</p>
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# The Jewels of Imbak Canyon

Preserving one of Malaysia's richest biodiversity sites with Yayasan Sabah and PETRONAS.

By **Brigitte Rozario**

Pinoi Sayang sits cross-legged on the bamboo floor. She uses a long knife to chop the leaves of a plant on a makeshift wooden chopping board. She explains that the mashed up leaves should then be wrapped in a bigger leaf and heated up. When placed on the abdomen, it will alleviate urinating problems.

The lines on the weather-beaten face and silvery hair tell of a life of hardship for Pinoi in Kampung Imbak. She learned about traditional medicine when she was about 15 and used the knowledge to treat her family when they had small ailments.

"When my mother was ill, she would ask me to get some leaves from the

forest to make medicine for her. That's how I learned about the different leaves and their medicinal value. This is how I treat my children. We only go to the clinic if it's really serious," says the mother of nine.

The traditional medicine doesn't just serve Pinoi and her family. She also prepares medicine for her neighbours, travellers, and visitors.

Some of the medicinal leaves are available easily and can grow in the backyard. However, there are others which require a trek into the forest.

It is a trip she makes with her cousin and a driver and only when there is a need for it. Unlike modern medicine,

traditional mixtures are made on demand and can't be stored in bottles on the shelf.

Pinoi is not the only one making her own medicine in Kampung Imbak. Salarah Bambahang learned the medicinal recipes from her parents when she was a girl. What began as curiosity turned into an ability to tap into nature's healing properties.

"I find some of these herbs by the side of the road, in our backyard and even in the secondary forest. But not everything is available. Some herbs can no longer be found today, so I have had to find substitutes. Maybe they have become extinct or they are just really hard to find now," Salarah says.

Photo by: Harun Tajudin



Lokman and wife walking home from the forest.



Photo by: Harun Tajudin



Photo by: Harun Tajudin



Sarah Bamasang  
Medicine woman, Kampung Imbak.

Photo by: Harun Tajudin

## Forgotten art

Although both women are willing to teach their children, the youngsters are reluctant, preferring to go to the clinic instead.

"It is not that the younger generation doesn't believe in traditional medicine. They know it works but for them it's just too much of an effort to retrieve the ingredients from the forest or to plant the herbs," says Salinah Bok, another practitioner.

Like the ladies, Lokman learned about tapping nature's cures from his parents.

"We had no hospital here, so we had to learn to make our own medicine," he says.

The 90-year old has been making his own traditional medicine since he was 15. These are sometimes roots and leaves boiled and strained to drink, or leaves mashed up to be placed on the body.

"We can get the ingredients from the forest but it's become harder to find now. Some herbs like *tongkat ali* are sought after, so more people are going into the forest to get it. While some leaves and roots can be obtained from nearby, others require a trip into the virgin forest."

He says the village folk go to him if a doctor fails to cure them. "I don't just get people from the area. I have some from Sandakan and Tambunan, and even from Indonesia. In the past, it used to be daily but now fewer people come to me. There are others in the kampung who also make medicine."





Photo by: Harun Tajudin



Photo by: Harun Tajudin

Samiun Bungkias  
Village Head, Kampung Imbak.

## Promise of a future

The world is changing and so is Kampung Imbak. The river used to flow straight and its water clean and clear. Now it's murky because of soil erosion. Sometimes, the river overflows its banks when there is heavy rain, relates Samiun Bungkias who has been the village head for 18 years.

He was born and bred in Kampung Imbak and has witnessed the transformation of the village.

Climate change is a concern. The durian season used to be every August but these days, it's not certain. How can they earn an income if they can no longer sell products from the forest?

The Sabah government gazetted Imbak Canyon as a Class 1 (Protection) Forest Reserve in 2009, ensuring the flora and

fauna in the area are protected.

While environmentalists celebrated this news, it received lukewarm reception in the village. What would it mean to them and their livelihood? Would they still be able to forage for leaves and roots?

It would be a few years before Yayasan Sabah and PETRONAS would come a-courting.

"When PETRONAS wanted to build the Imbak Canyon Studies Centre (ICSC), they asked my permission. I said no problem but I had two conditions. One was that they should help us with any issue we faced. The second was employment. If possible, give priority to our people. PETRONAS has complied with both conditions," says the village head.





The majestic Big Belian Tree at Imbak Canyon which is more than 1,000 years old.

Photo by: Harun Tajudin



“

We want the village folk to help us look after the forest, so they become friends and protectors of nature.

-Hajah Rosinah Haji Abdul Moin

”



Photo by: Harun Tajudin

## A hearty backyard

Completed in 2016, the RM77 million ICSC is funded by PETRONAS and managed by Yayasan Sabah. It functions as a research and training base as well as the park headquarters.

The ICSC differs from other Yayasan Sabah centres, including those in Danum Valley and Maliau Basin. It has a community around it. As such, Yayasan Sabah and PETRONAS decided to empower the village folk through education and skills training.

“There were a lot of issues initially when we wanted to set up the centre. The community was concerned about how they could generate an income from the forest because all this while, they had been relying on it to survive,” relates Hajah Rosinah Haji Abdul Moin, Group Manager of East Coast North Zone, Yayasan Sabah Group.

After speaking to the village folk, the foundation and PETRONAS realised that saving the environment or global warming meant nothing to the *makcik* who forages for leaves and the *pakcik* with a small farm in the backyard.

“At first, the village folk couldn’t understand. They thought that if we say it’s a forest reserve, they can no longer enter the area and take anything from it, like herbs, wood and rattan, which is what they have been doing for generations,” says Hajah Rosinah.

Yayasan Sabah and PETRONAS started educating and creating awareness of the importance of the forest, not just to the community in Imbak, but also to Sabah, Malaysia and the world.

“We explained to them that they can still reap the benefits of the forest. At the same time, we are working together to provide the community with skills needed to generate an income. For example, we conduct basic courses on craft-making, cooking and how to start and run a business— these are all things they can use when this centre starts getting more visitors. They can be suppliers of products and services,” she says.



Photo by: Harun Tajudin



Photo by: Harun Tajudin

## Friends to the people

Yayasan Sabah was founded with the objective of supporting the government’s efforts to improve the lives of Sabahans through education. For Imbak, this includes social development, education, and economic development.

“They no longer have to rely on selling agricultural and forest products. They can provide services as well. For example, when the researchers come here, the villagers can provide homestay, food, and even offer a foot massage. This way, the villagers will be well prepared for any opportunity that comes along,” says Hajah Rosinah, who has been with Yayasan Sabah for 35 years.

She adds, “The purpose of our courses is to equip the village folk with the knowledge and skills needed so they can seize the business opportunities that arise with the development of ICSC.”



One of those who has benefited from the programme is Jabra, who sells her products at the village's handicraft centre.

Without it, most of the crafts would remain in the villagers' homes and not see the light of day unless a traveller knocked on their door.

Jabra believes Kampung Imbak is blessed to receive assistance and guidance from Yayasan Sabah and PETRONAS. She sees it not merely as a way to generate an income but also a route out of poverty.

Homestay Po'pomponan Chairman Apal Sagit couldn't agree more. It's been three years since the homestay started. He credits Yayasan Sabah and PETRONAS for teaching the villagers how to set up a homestay, including services, facilities, types of food, and safety.

"We learned to serve food found in Imbak. We were taught how to treat visitors and share our daily lives with them.

"The biggest challenge for us was setting up the facilities. This is where PETRONAS helped us to obtain and install what we needed," he says.

There are now 10 homestays in Kampung Imbak with 14 more in the pipeline. The Kampung Imbak homestay got a boost early this year when actress and singer Marsha Milan dropped by, bringing along a TV crew. Not surprisingly, she was full of praise for the village.

"I hope we can grow from 10 homestays to 22 because then we will be able to register as a society. This will help us market our homestay not only in Sabah but all over the world," says Apal.



Jabra  
Resident of Kampung Imbak and operator  
of the village's handicraft centre.

Photo by: Harun Tajudin



A homestay accommodation in Kampung Imbak.



Dr Hamzah Tangki

Photo by: Harun Tajudin

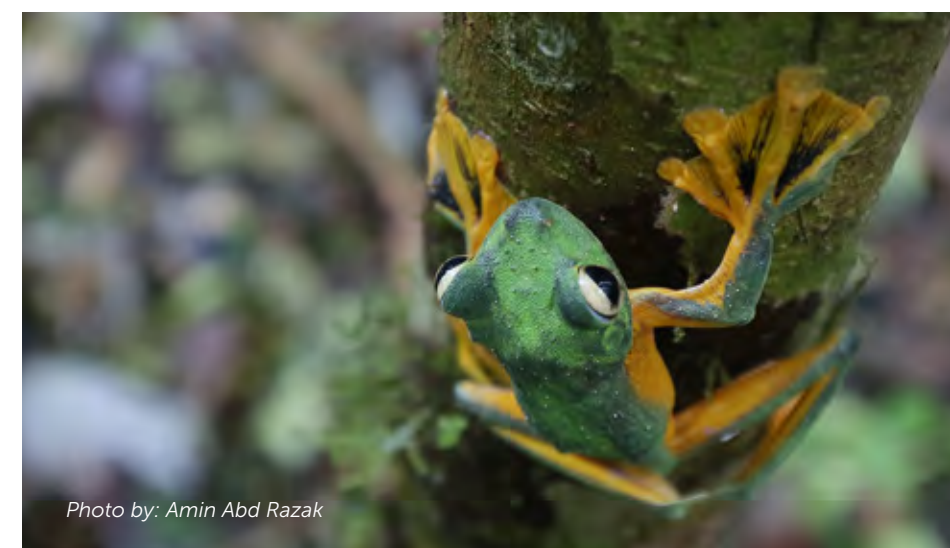


Photo by: Amin Abd Razak

## Playground for researchers

ICSC has its sights on global recognition and attracting international visitors. The facilities available are an improvement from what is available at Danum Valley and the Maliau Basin, and it is hoped that the centre will attract not just nature-loving enthusiasts but scientists and researchers as well.

Last year, there was an expedition to Batu Timbang to survey the area, a regular activity conducted every two or three years to monitor biodiversity.

"It was an interesting experience because we opened a new area to be explored. We found the smallest and rarest rafflesia flower called *Rafflesia tengku-adlinii* there. So, we know that it is a crucial conservation area. That's the concept of our expeditions to new areas," explains Dr Hamzah Tangki, Manager of Imbak Canyon Conservation Area (ICCA).

Such findings are expected to attract not only local scientists but also international ones as there is still much to be gained from studying Borneo's forests.

ICSC was built with researchers and scientists in mind. According to Dr Hamzah, there is ample accommodation for research assistants and labs for scientists. The rooms are built with privacy and long-term stay in mind.

Although the centre is open to universities worldwide, so far only Universiti Malaysia Sabah (UMS) and University College Sabah Foundation (UCSF) have visited.





“ My passion is my motivation— to learn more and share what I learn with others.

- Dr Yap Sau Wai

”

## A call of passion

An area that requires study is traditional and herbal medicine. Right now it is still very much an art, but it needs to be turned into science with academic studies into the properties of the leaves, herbs and branches, and the exact dosage.

“We just need a scientist or researcher to come in, test it, and commercialise the product. They can refer to the village folk’s knowledge and then prove the value of the herbs. From there, we can say that this herb is good for certain illnesses. We hope that in the future more people will understand this concept.

“I also hope that more companies will partner with us to work on conservation. I would like to see more research in this place and more findings that will impact decision-makers in terms of the management of natural resources, not just in Sabah and Malaysia but internationally. I hope that one day, ICSC becomes a first-class research centre,” adds Dr Hamzah.



Photo by: Harun Tajudin

ICSC is already on its way there. There is much to be learned from the forests and the more we learn, the more we realise what we do not know, opines Dr Yap Sau Wai, Group Manager of ICSC’s Conservation and Environmental Management Division.

A forestry graduate, Dr Yap came to Sabah straight out of university 26 years ago. Since then, she has worked in Danum Valley and then Imbak Canyon as a researcher.

Moving from Seremban to such a remote place was a drastic change but she adapted well. “As a new forester, I learned how to do large-scale rainforest

rehabilitation with the dipterocarp trees here.

“We started the rehabilitation projects in mid-1992 when the Rio Earth Summit took place. When we started, our partners were Face Foundation (now called Face the Future) from the Netherlands.

“They were worried about climate change, so they wanted to plant trees to absorb carbon dioxide from the atmosphere. They funded this project to start planting trees in the severely degraded forest. The trees now are very tall and this project has enhanced the biodiversity of the forest,” says Dr Yap.





Photo by: Harun Tajudin

A project Dr Yap started working on 26 years ago has become the first forestry project in Asia to achieve the voluntary carbon standard (VCS) which is a global standard set by the United Nations Intergovernmental Panel on Climate Change.

Another project, the Innoprise-Ikea Tropical Forest Rehabilitation Project (INIKEA), achieved the IWAY standard acknowledgement from Ikea. These are just two of the standards and certifications achieved by Yayasan Sabah in its conservation work.

"There is still a lot out there that we don't know. My motivation is my passion— to learn more and share what I learn with others. Some people who used to be my students are now my teachers. They are in the field every day, so they become our eyes and ears, and together we learn and capacity-build," she adds.

These days, Dr Yap collaborates with university students for research, mostly on flora. She has also started collaborating with those working on the mushroom kingdom recently.

ICSC is the perfect location for scientists and students who want world-class research facilities in the heart of Borneo, to conduct research on biodiversity or natural resources, she says.





Photo by: Harun Tajudin

## Guardians of the forest

The deeper one treks into the dense forest, the more intimidating the foliage becomes. The new and old forests are not for the faint-hearted. Many parts are hilly and dangerous as there are no trails and one wrong step could lead to a slippery end.

Yet Senior Rangers Eddy and Adrian are drawn to the environment. Both have been working in the forests for about 15 years. When they started, they just needed a job.

Their job includes hazards, such as face-to-face encounters with pygmy elephants and flirting with death. Once in 2005, it rained so heavily that the river flooded. Adrian was with a group of about eight, and at the confluence of two rivers, there was a whirlpool and Adrian's group was caught in the middle.

"We found a very tall tree and climbed up and stayed there from 11 pm till the next morning. Thankfully, the water receded then," he reminisces.



Photo by: Harun Tajudin

Adrian and Eddy have a respect and love for nature, and believe that it should be looked after to be preserved. But working in the forest requires a deep love and passion for nature and it is not something that can be passed on to others.

They are, however, glad that the younger rangers they are currently training share the same belief—that the future generations will never get to see the beautiful forest and animals we have

today if our natural resources are not taken care of.

It is this responsibility, as stakeholders and guardians of the forest, that Yayasan Sabah hopes to inculcate in the community.

"We want the village folk to help us look after the forest, so they become friends and protectors of nature," says Hajah Rosinah of Yayasan Sabah.

"As friends, they won't damage it and, in fact, they will contribute to protecting it. The greatest boon is that there are people to look after this area.

"They will be the stakeholders because they know their livelihood is at risk if Imbak is infiltrated by intruders. That is the key point – that they will work together to protect Imbak. That is the best way to sustain this forest reserve as an unspoilt natural area," she concludes.



# Did You Know?

## 70%



About 70 per cent of the 3,000 plants identified by the US National Cancer Institute as active against cancer cells come from rainforests.

## -48



Every year, the Earth loses about 48 football-field sized forests. Along with them, the flora, fauna, and secrets like the healing properties of traditional medicine.

## 83 Million



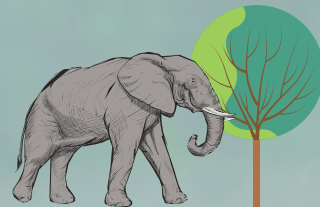
PETRONAS has contributed RM83 million to the preservation of Imbak Canyon, including the construction of the 27-hectare ICSC.

## 69



In 2004, a scientific expedition in the Imbak Canyon Conservation Area (ICCA) recorded 69 plant species used by local communities for medicinal purposes.

## 600



So far, around 600 species of plants and animals have been recorded in Imbak Canyon.

## Class 1



In 2009, the Sabah government gazetted Imbak Canyon as a Class 1 (Protection) Forest Reserve.



Imbak Canyon is an important wildlife corridor linking Danum Valley and the Maliau Basin.



Photo by: Harun Tajudin



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## DOWNSTREAM

**91%** Downstream Plant Utilisation

**94.9%** Overall Equipment Effectiveness (OEE)

**97.9%** Downstream Reliability

**87%** Pengerang Integrated Complex Completion

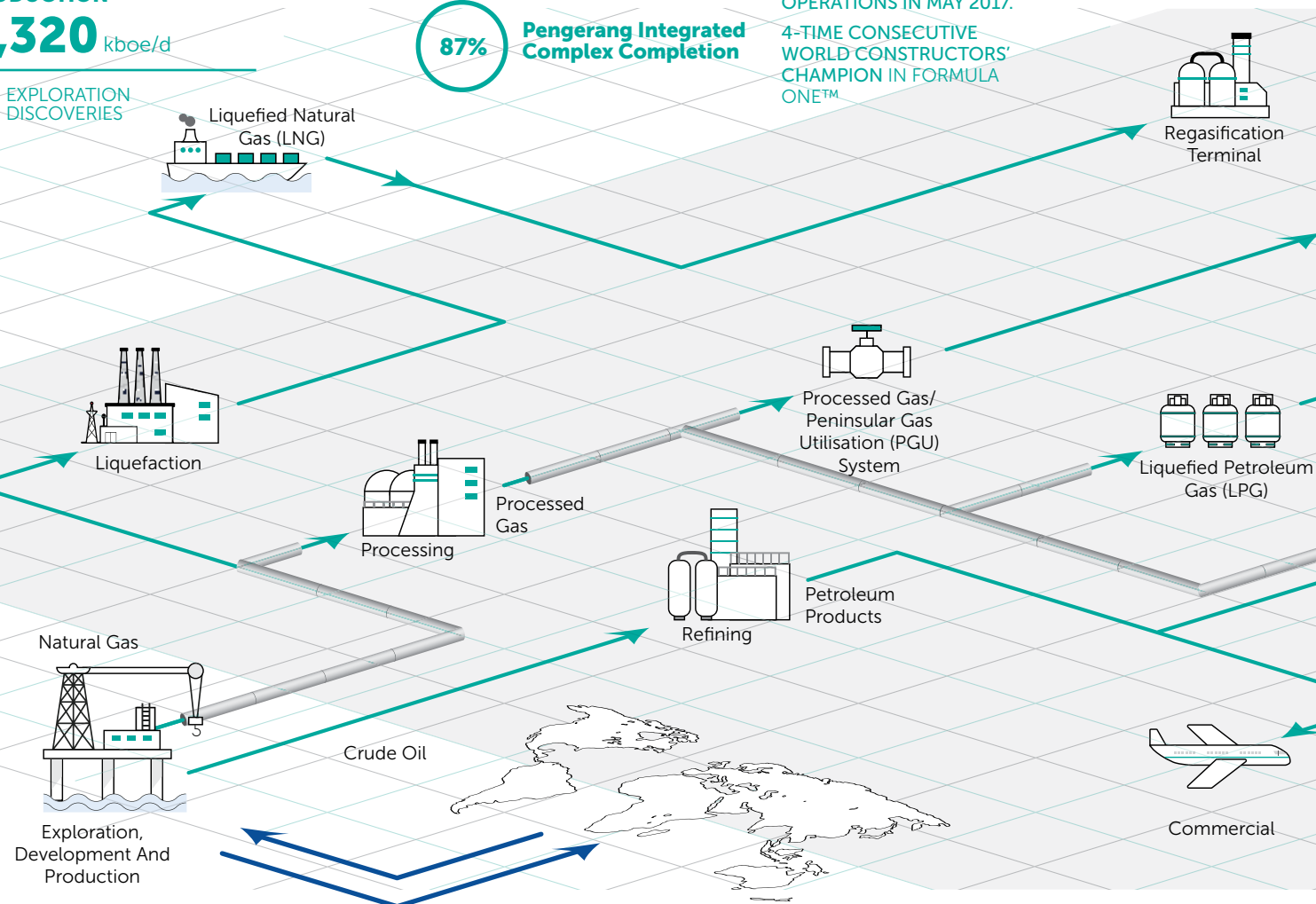
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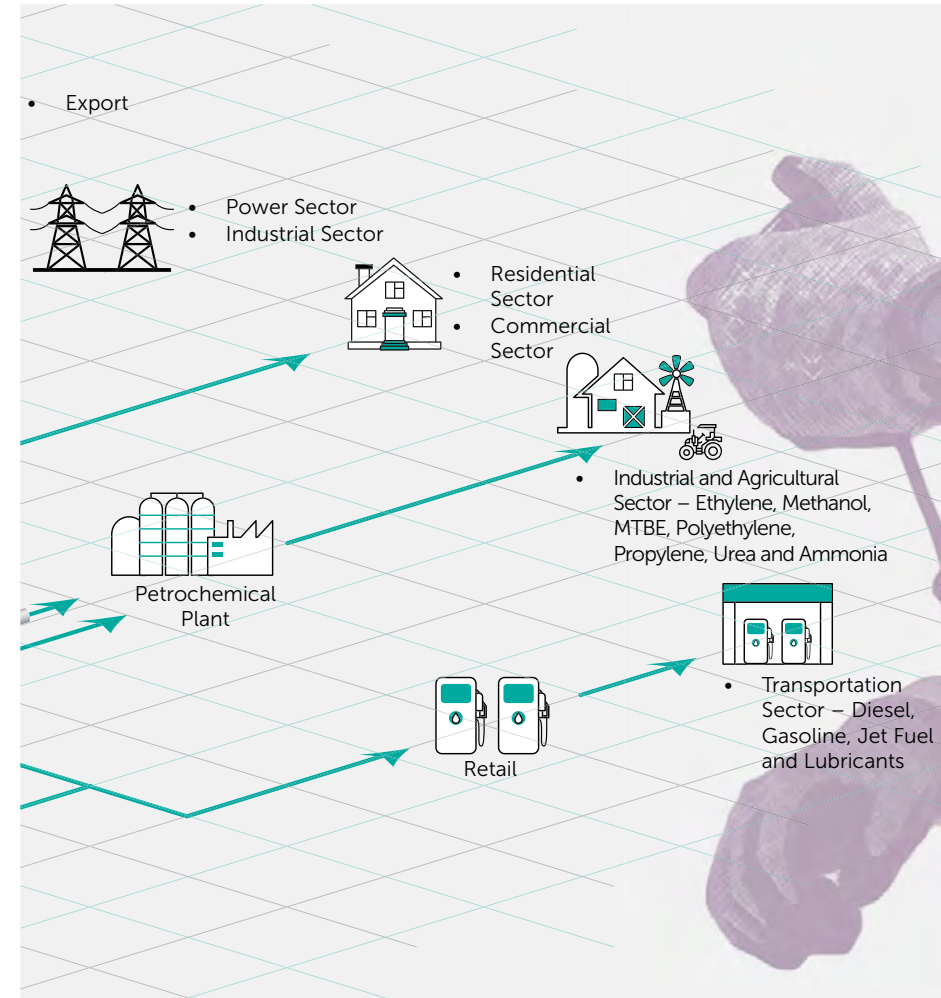
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