Welcome to the 23rd World Petroleum Congress

Congress Program

Global Sustainability — the path ahead
Young Professionals explore way ahead for industry
Special thanks to 23rd WPC sponsors and partners

Welcome to Houston

Ministers and industry heavyweights gather this week for the eagerly awaited World Petroleum Congress, the flagship event launched back in 1933.

API takes initiative for oil and gas sector

Industry navigating supply chain headwinds

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Booth 2101
Welcome to the 23rd World Petroleum Congress

This year’s Congress comes as the industry undergoes transformation where innovation and resilience are key, said the chairman of the 23rd World Petroleum Congress Organizing Committee.

Planning and organising the World Petroleum Congress, considered by many to be the “Olympics” of the petroleum industry, is no easy feat in the best of years. Fortunately, it is an industry accustomed to successfully working on large, complex and challenging projects.

As the organiser of the 23rd World Petroleum Congress swing open the doors on Sunday to Houston’s George R. Brown Convention Center, they do so with great excitement, welcoming thousands of people from more than 100 nations to a Congress more than five years in the making.

“WPC is one of the most significant oil and gas forums in the world. But this year’s Congress comes at a time when the industry is going through transformation where innovation and resilience are key,” says Jeff Shellebarger, chairman of the 23rd World Petroleum Congress Organising Committee.

“This event will prove to be critical for our industry as it paves the path for the future.”

Featuring international government and energy industry leaders, the Congress provides a forum for critical industry conversations that will shape the future of energy.

“The calibre of people and organizations that attend and participate in the 23rd WPC is impeccable; when you get the right people in the right place, decisions get made,” he said.

“The conversations that take place at the Congress will prompt action that will ultimately impact beneficially on participants and society.”

The theme of this year’s Congress is “Innovative Energy Solutions”, a theme that he finds especially relevant as the industry transitions to meet future energy demands.

“The program highlights topics that impact all sectors of the industry: upstream, midstream and downstream,” he said.

Discussion areas such as shaping the energy future, the role of the digital transformation under way across the industry, and the future energy landscape are just some of the key topics in this year’s Congress, he notes.

While Shellebarger sees great value and importance in all of the sessions at the Congress, as a past president of Chevron North America Exploration & Production, he has a particular interest in the US program.

“I think all the Congress sessions are important, but I am personally excited to listen in on the first US session on the role of US oil and gas in global energy markets, the second US luncheon on the US shale revolution, and the third plenary session on shaping the energy future,” he says.

The US program is comprised of high-level sessions and luncheons featuring chief executives, C-suite executives, government officials, academics and best-selling authors speaking on a variety of areas, including the shale revolution, the industry’s digital evolution, the role of natural gas as a clean and affordable transition fuel, and more.

But the content does not stop there. An in-depth technical program covers the full spectrum of the sector, with high-level plenary sessions, forums, best-practice keynotes and roundtable meetings providing the expertise and knowledge the industry needs.

In addition to the technical program, Shellebarger encourages all to visit the exhibition hall where many special features are being showcased, including for the first time the “Innovation Zone”.

“The Innovation Zone presented by ConocoPhillips gives start-ups and companies a platform to pitch their cutting-edge energy tools and technologies,” he says.

“The presentations are designed to combat the current challenges of the industry and bring awareness to the progressive energy solutions available on the market today.”

Shellebarger’s words of advice for his counterparts planning and preparing for the 24th World Petroleum Congress set for Calgary in 2023 are applicable to all in this challenging time and for this year’s Congress.

“You don’t have a plan until you have a plan B,” he says. “And remember to have fun!”

This event will prove to be critical for our industry as it paves the path for the future.
SUNDAY, DECEMBER 5, 2021

8:30 – 9:00AM CST  Opening Keynote Session
GENERAL ASSEMBLY

9:00 – 10:00AM CST  WPC Excellence Awards
SESSION TYPE: SPECIAL EVENT | GENERAL ASSEMBLY

10:00 – 11:00AM CST  USL01: Accelerating the Transformation of Energy: Lessons from the Industry & Cross-Industry C-Suites
SESSION TYPE: TECHNICAL FORUM | Oil & Gas

11:00 – 11:15PM CST  Coffee Break

MODERATOR: TØR FJÆRAN, President, World Petroleum Council

12:30 – 2:00PM CST  WPC Excellence Awards
SESSION TYPE: SPECIAL EVENT | GENERAL ASSEMBLY

10:00 – 11:00AM CST  PL2: Innovative Energy Solutions: The International Perspective
SESSION TYPE: SPECIAL EVENT | GENERAL ASSEMBLY

10:30 – 12:00PM CST  Chair & Vice Chair Briefing

2:15 – 3:45PM CST  Block 1: F01 Innovative E&P Technologies
SESSION TYPE: TECHNICAL FORUM | ROOM 360 ABC

3:45 – 4:00PM CST  Tea Break

4:00 – 5:30PM CST  Block 2: F06 Innovative Refining Technologies
SESSION TYPE: TECHNICAL FORUM | ROOM 360 DEF

4:00 – 5:30PM CST  IES: New Products for a Sustainable Future
SESSION TYPE: STRATEGIC SESSION | ROOM 320

5:00 – 6:00PM CST  IE4: A Strategic Approach to Integrated Downstream Mega Projects
SESSION TYPE: CEO PANEL | ROOM 320

Monday, December 6, 2021

8:30 – 9:00AM CST  Opening Keynote Session
GENERAL ASSEMBLY

9:00 – 10:00AM CST  PL1: Innovative Energy Solutions
SESSION TYPE: SPECIAL EVENT | GENERAL ASSEMBLY

MODERATOR: TØR FJÆRAN, President, World Petroleum Council

12:30 – 2:00PM CST  WPC Excellence Awards
SESSION TYPE: SPECIAL EVENT | GENERAL ASSEMBLY

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4:00 – 5:30PM CST  Block 2: F06 Innovative Refining Technologies
SESSION TYPE: TECHNICAL FORUM | ROOM 360 DEF

4:00 – 5:30PM CST  IES: New Products for a Sustainable Future
SESSION TYPE: STRATEGIC SESSION | ROOM 320

5:00 – 6:00PM CST  IE4: A Strategic Approach to Integrated Downstream Mega Projects
SESSION TYPE: CEO PANEL | ROOM 320

2:15 – 3:45PM CST  Block 1: RT01 - Future of Unconventional Resources
SESSION TYPE: ROUND TABLE | ROOM 331

4:00 – 5:30PM CST  Block 4: RT15 - New Oil & Gas Manager’s Role in an Era of Energy Innovation
SESSION TYPE: ROUND TABLE | ROOM 341

5:00 – 6:00PM CST  IE7: Digital Transformation
SESSION TYPE: CEO PANEL | GENERAL ASSEMBLY

6:00 – 7:30PM CST  23rd WPC Opening Ceremony & Welcome Reception
SESSION TYPE: TECHNICAL FORUM | GEORGE BUSH GRAND BALLROOM

7:30 – 9:00PM CST  PSG1: WPC Youth Session – Securing the Next Generation for Our Industry
SESSION TYPE: CEO PANEL | GENERAL ASSEMBLY

8:30 – 9:00AM CST  Opening Keynote Session
GENERAL ASSEMBLY

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API takes initiative for oil and gas sector

In response to an Upstream survey of leading industry executives, American Petroleum Institute’s senior vice president Frank Macchiarola gives his view on topical issues shaping the sector.

**UPSTREAM:** What impact will the energy transition have on the operations of oil and gas companies over the next five years and beyond?

**MACCHIAROLA:** The oil and gas industry is preparing for the energy transition through both proposals on the policy initiative side, in terms of working with government on the right policies to help deliver a lower carbon future, but also on the operation side through initiatives.

Whether it be the reducing methane emissions and operations, for example, or through advances in cleaner fuels on the downstream side and, in investments in lower carbon technologies and fuels such as hydrogen and carbon capture and storage.

In the oil and gas industry, taking significant steps to move toward a low and zero carbon future.

**UPSTREAM:** Is natural gas becoming more attractive than oil for companies and, if so, what implications does that have for the business?

**MACCHIAROLA:** The future for natural gas is bright for several years. Folks have referred to natural gas as a foundational fuel in power generation due to the switch from natural gas to coal. We’ve seen significant reductions in emissions of carbon dioxide in the power space.

We have an opportunity in the future if we put the right policies in place to not only move that forward but also to export it to other countries, through the promise of liquefied natural gas exports from the US.

Natural gas remains an essential part of our fuel mix and all independent experts suggest that out into the future, even in a low and zero carbon future, natural gas will play an integral role in our energy mix.

**UPSTREAM:** How can large-scale, multi-billion-dollar conventional oil and gas developments, including in deep waters, continue to compete for capital?

**MACCHIAROLA:** The offshore production of oil and gas relative to other production has a low carbon per barrel content. We think offshore production remains very competitive from an environmental standpoint.

It’s also helped to strengthen our nation’s energy security. And so that’s why our industry was so concerned about the potential pause in production, on oil and gas, on federal lands and waters.

The Outer Continental Shelf remains a place for important energy development, and it will into the future.

We think it will be competitive because we believe in our national interest and our economic interest and our environmental interest to produce more of that energy here at home, rather than, in some cases, from regions that constrain America’s national security interest.

**UPSTREAM:** The debate around COP26 revealed widespread perceptions that the oil and gas sector is more concerned about preserving the value of fossil fuel assets than engaging in real energy transition. Such divisions can be seen when the different “colours” of hydrogen are discussed. What role must oil and gas companies play in the energy transition, and how do they build trust?

**MACCHIAROLA:** The Atlantic Council and the International Energy Agency have both done a compilation of many of the low carbon and zero carbon emission projections out into the future.

And the story that those tell is that oil and gas will play a significant role out into the future, even in net zero and low carbon scenarios.

Oil and gas companies will continue to play an important role. We’ll continue to advocate for climate solutions, both at the policy level and the operational level.

Earlier this year, for example, the API released its climate action framework: a series of forward-leaning policies and industry initiatives that are going to help address the dual challenge of continuing to provide affordable and reliable energy that the world needs while continuing to drive down emissions and address the climate challenge.

**UPSTREAM:** Where do you expect the oil price to be by the end of this year, and in five years? What are your hopes and fears for the energy transition?

**MACCHIAROLA:** I can’t speculate on prices except to say what we experienced in 2020 during the pandemic was a swift drop in demand for oil, and supply did not respond as quickly. And so you saw a steep drop in prices, then fast forward to a year later.

What you’re seeing is demand come roaring back to near—and in some cases—above pre-pandemic levels, and supply did not respond as quickly. And so you saw a steep drop in prices, then fast forward to a year later.

What you’re seeing is demand come roaring back to near—and in some cases—above pre-pandemic levels, and supply did not respond as quickly.

We’ve gone from producing more than 13 million barrels per day, before the pandemic, to a little over 11 million bpd today.

As that supply begins to pick up and meet the demand, we’re likely to see a rebalance in the marketplace. The best way to assist in that is to promote policies that provide certainty to the marketplace, provide access to production of oil and gas right here in the US.

We hope to partner with US President Joe Biden’s administration on ways to do that, but they must step back from policies that restrict access to oil and gas, or that constrain infrastructure and that potentially raise costs for operators.

We think if they step back from those policies, we can get back to a structure here in the US that provided really the backdrop for the energy revolution, in which we saw shale oil and gas production reach near record levels.

We saw greater energy security, and we saw the US become the first time in 70 years, a net exporter of energy, rather than a net importer of energy. It strengthens our national security, our energy security and our economy.
SAUDI Aramco has signed five key agreements with leading French companies as Saudi Arabia aims to boost its hydrogen transport business and explore opportunities in carbon capture technology and artificial intelligence.

The Saudi state-controlled company said on Saturday it has signed multiple memoranda of understanding with French players, including a key deal to explore a hydrogen-powered vehicle business with Gaussin — a pioneer in clean and intelligent transport solutions.

The agreement between Aramco and Gaussin aims to establish a modern manufacturing facility for on-road and off-road hydrogen-powered vehicles in Saudi Arabia, Aramco said.

"As a first step, Gaussin and Aramco will study the feasibility of a manufacturing facility and a hydrogen distribution business to serve the Middle East region," the company added.

Aramco also signed four MoUs with French players Air Liquide, Alteia and Axens that aim to develop opportunities in carbon capture technology, artificial intelligence and local manufacturing.

A non-binding MoU with Air Liquide plans to "evaluate low carbon-hydrogen and ammonia production, logistics, and back cracking technology" opportunities in Saudi Arabia.

The two companies also signed an "additional non-binding MoU to evaluate carbon capture and sequestration opportunities", Aramco said.

Aramco's non-binding MoU with Alteia looks at developing "advanced artificial intelligence-driven geospatial imagery interpretation and processing capabilities" in Saudi Arabia.

Another similar MoU with Axens plans "to explore the local manufacturing and maintenance services of furnaces and fired heaters".

Aramco chief executive Amin Nasser said the partnership "represents an opportunity to promote hydrogen as a low-carbon solution, not just for motorsport, but eventually for mass transportation as well".

"Such collaboration helps us to advance economic growth in the kingdom as part of the Namaat industrial investment programme and takes us a step closer to our shared vision of a more sustainable future," Nasser said.

As a part of the new deals, Aramco also plans to sponsor the world's first hydrogen-fuelled racing truck, which has been developed by Gaussin and which will compete in the 2022 Dakar Rally in Saudi Arabia. Aramco recently announced it is targeting net zero Scope 1 and 2 greenhouse gas emissions across its wholly owned and operated assets by 2050.

Nasser has said the company's ambition to reach net zero emissions across its operations in less than three decades is a historic step forward that will help tackle the most pressing challenge facing humanity.

Saudi Arabia — the world's largest oil-exporting nation — has also unveiled a target of achieving net zero carbon emissions by 2060, even as it continues to expand its oil and gas production capacity. Crown Prince Mohammed bin Salman said during the recently concluded Saudi Green Initiative Forum that the country aims to reach net zero emissions by 2060 "through the Carbon Circular Economy approach, in line with its development plans and enabling its economic diversification".
Global oil and gas navigating supply chain headwinds

Labour shortages, rising energy prices, spiking material costs and logistics bottlenecks add up to a huge problem for oil companies and contractors.
companies will want to sanction projects and award contracts at such high prices in 2021 or 2022, or wait until 2023, when steel prices and some post-pandemic bottlenecks are expected to ease. “It’s all about weighing up the costs and benefits,” Martinez said.

A trade-off between oil companies and stressed contractors is not simple because a one-year delay could lead to a 50% increase in the costs of a development because of the impact on net present value, he added. He predicted, however, that some projects will be delayed “due to a hesitancy among operators to sanction them.”

Rystad currently estimates $240 billion worth of oil and gas projects will be sanctioned in 2022 and $180 billion in 2023, but rising wages and skills shortages are also a growing concern. Martinez said there could be 8% to 12% increases in labour costs in 2022, in places such as South Korea and Singapore, when major trades unions aim to settle wage demands. He also highlighted the problem of the E&P sector’s “brain drain to renewables” in 2016-17 and 2020-21.

This, he said: “Makes it quite hard to find the right people... and it’s going to take a lot of money to get them back, particularly now that renewables are more interesting to these people.”

Offshore wind projects will be hit by rising steel costs, but Martinez said these schemes are on a more solid financial footing because of the operators’ power purchase agreements. Danish wind farm developer Orsted and wind turbine maker Vestas both highlighted supply chain constraints and rising costs for manufacturers in their latest quarterly results, although a lowering of profit margins for Orsted was just as much about unusually weak winds. Vestas included shortages of components, higher input costs and transport costs among the factors undermining margins. The solar sector, however, is being hit badly by the supply chain crisis. Last month, Rystad reported that the surging cost of bulk materials in the US in 2023 is expected to hit $15.3 billion, about $1.4 billion higher than where it would have been under the costs scenario that was in place until recently.

Higher expected construction wages account for about $1 billion of that extra cost, with the remaining $400 million coming mostly from the rising cost of bulk materials in addition to engineering labour. “If EPCI players fail to adapt to the rising costs, those executing lump-sum contracts and using outdated assumptions for procurement and construction indices will see their margins squeezed,” said Robert Mathey, analyst and supply chain expert at Rystad.

To mitigate the effects of rising costs, contractors will need to be creative with how they source materials and manage procurement services, he added. This year’s EPCI capex is estimated at $12.6 billion, which means the sector is poised for a significant spending increase in 2023, irrespective of the cost rise. The figure will climb even further in 2024 to $18 billion, Rystad said.

Other parts of the supply chain will also see higher costs in 2023, albeit not at the rate in the EPCI business. Subsea supply costs are expected to rise by 8% from 2021, maintenance and operations by 7%, drilling by 6% and seismic by 5%.

Overall, Rystad predicts that US oil and gas spending will rebound from a Covid-19-induced low of $91 billion in 2020 and about $99 billion this year, to hit over $112 billion in both of 2023 and 2024. At the same time, EPCI expenditure is due to experience robust growth, peaking at $18 billion in 2024, up 50% from last year’s $12 billion.

Although the current trend of high oil prices indicates a more favourable economic outlook, said the Oslo-based research company, the growth of EPCI costs is a concern for concern in the near term. Costs are expected to rise even further in 2023, with drilling contractor and subsea cost increases becoming the prime headaches for oil and gas operators. Going into more detail, Rystad said operators should expect engineering costs for US-based projects to rise between 3% and 8% next year and between 5% and 8% in 2023, relative to current levels. Projects later in the lifecycle will also feel the effects of increased costs as the impact of global supply chain issues ripple across the E&P sector and inflate procurement expenses.

Price increases will heavily impact US projects requiring large quantities of cable and pipe from US markets. Rystad estimates cable prices have risen between 20% and 50% in the past year, while pipe costs have increased by between 15% and 70%, depending on material. Estimates also show a price increase in higher-level segments of the North American service industry most heavily exposed to raw material increases, most notably processing equipment, which is set to rise around 7% by 2023. However, Rystad warns, if Brent crude rises to $100 per barrel, that hike could be closer to 15% by 2023.

The rise in costs also challenges projects in the construction phase because wages across all industries will increase around 5% by 2023, a trend that is being pronounced in the oil and gas industry, with increases expected to be closer to 15%. Construction services make up nearly half of EPCI costs and are mainly the result of labour expenses, meaning rising wages could result in more than $1 billion of additional capital expenditure for US upstream projects in 2023.

Rystad noted that EPCI players in recent years have increasingly used high-value engineering centres to carry out more design work, especially as remote working became prevalent during the pandemic. On the procurement front, it said companies have also been seeking out and validating new suppliers in lower-cost regions to keep projects viable. As for talent, the consultancy said EPCI players are “keenly aware” of attracting and retaining talent because the pandemic has led to a worker shortage in the oil, gas and construction industries.

“While cost is a significant factor in the success of a construction project, these companies will also need to consider how shortages in skilled labour and worker turnover will impact project schedules, quality and safety,” it added.
Global Sustainability – the path ahead

On the heels of COP26, the global energy industry is rapidly transforming itself as the world looks to transition to a low carbon future. Both public and private sector organizations are raising their ambitions around decarbonization, emission reduction, and investment in climate initiatives.

Climate change is the number one topic on the global agenda, and the WPC will continue to foster the thinking and dialogue around this topic through its Global Sustainability program at this 23rd World Petroleum Congress. Prioritizing climate and sustainability, the Global Sustainability booth on the exhibition floor is presented by Boston Consulting Group (BCG).

The space combines latest insights on pathways to reduce emissions with presentations and dialogue exploring the strategic opportunities ahead and impactful ways to contribute to global climate commitments.

Over the course of the coming four days, panels and discussions at the booth will cover a range of topics that are actionable, impactful, and support global climate initiatives. Key areas of discussion will include: leveraging new technologies and AI to drive decarbonization; diversity and inclusion; sustainable finance; supply chain transparency and decarbonization; alternative sources of energy, and implications of COP26 for energy companies.

Additionally, we are proud to showcase the BCG Excellence Awards Finalists for Social Responsibility. Realized every three years, these awards highlight some of the most outstanding projects and initiatives that benefit local communities, the environment, and foster beneficial relations and collaboration across all stakeholders. Representatives from Chevron, ExxonMobil, Pertamina, Sakhalin Energy, and Satyl Petroleum Development N.V. will be on our stage to share their experiences.

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From eliminating Malaria in Bioko Island, to electrifying rural communities, we are proud and excited to hear their stories. The Global Forum stage on the booth will showcase the latest thinking from both the private and academic sectors both in relation to young professionals as well as climate and sustainability. Representatives from Boston Consulting Group, the exclusive official Strategic partner of WPC, will address climate change and the role of the oil and gas industry ahead.

Mike Lyons, Managing Director and Partner from BCG’s Houston Office, will explain how we can use artificial intelligence to solve the oil and gas emission challenge.

Rebecca Fitz, Senior Director and founding member of BCG’s Center for Energy Impact, will discuss the latest results of BCG’s oil and gas investor survey.

Other BCG thought leaders will also host discussions around gender diversity, innovation, and the future of energy, Scott Tinker, Director at the Bureau of Economic Geology at The University of Texas at Austin, will host a Q&A with the audience around his latest research, clean and renewable sources of energy, and energy transition.

We are looking forward to a great program and are excited to host both delegates and participants in the Global Sustainability booth as we tackle some of the most complex challenges in the energy industry.

Young Professionals explore the way ahead for the industry

The 23rd World Petroleum Congress Young Professionals Program is located at the Young Professionals Stand within the Exhibition Hall. The program, with a theme of Leading to a Sustainable Energy Future: Who if not us? When if not now?, explores the state of and direction of our industry through conversations between our distinguished panelists and our young professional moderators.

Its key pillars are Industry Leadership, Transformational Technologies, and Sustainable Solutions.

We focus on exploring what it means to lead during the energy transition through sessions such as Coffee with an Industry Leader (Tuesday 12pm), Energy Talks: Women Leading the Energy Transition (Wednesday 12:45pm), and Strategic Review: Transformational Leadership for a Transitioning Industry (Wednesday 2pm). Transformational Technologies are key to bringing to world sustainable energy, and they are explored through our Coffee with an Industry Leader (Wednesday, 11am), Industry Odysseys Exhibition Hall Tours (Monday 3pm, Tuesday 3:15pm, and Wednesday 2pm), and Talks with Giants (Monday 12:00pm) sessions, where startups and leading multinational companies will explore what it means to innovate within our vast industry.

Our third pillar, Sustainable Solutions, is captured in sessions such as Energy Talks: Understanding the Role of Oil & Gas in the Energy Transition (Tuesday, 7pm), Strategic Review: Reflecting on the Spectrum of Sustainability (Tuesday, 2pm), and Energy Lessons: Lessons in Achieving a Sustainable Future (Tuesday, 4pm).

The State of the Young Professionals session (Tuesday, 3pm) brings together the WPC Young Professionals Committee, industry, academia, and outside perspectives to explore the perspectives of future and current young members of our industry.

Additional 23rd WPC YP Program Sessions include the We Want You sessions (Monday 1:30pm, Tuesday 11:00am) where members of the World Petroleum Council’s Young Professionals Committee will introduce ongoing WPC Young Professionals Committee projects and discuss how to get involved in WPC related initiatives beyond the 23rd WPC.

23rd WPC attendees should be certain to come join us at 5pm on Monday and Tuesday for the afterwork sessions, interaction networking sessions focusing on building international, interdisciplinary, and intergenerational as we collectively work towards building a sustainable energy future.
Concern over expiring PSCs

Over 6 billion barrels of oil equivalent in Southeast Asia at risk of being ‘lost’, according to Rystad Energy

AMANDA BATTERSBY
London

UPSTREAM activities in Southeast Asia could suffer in the wake of expiring production sharing contracts this decade that could see substantial discovered resources, particularly gas, remain unexploited.

The PSCs due to expire put over 6 billion barrels of oil equivalent at risk unless host governments initiate early discussions on potential extensions, according to Norwegian consultancy Rystad Energy.

With upwards of 100 blocks covered by expiring PSCs, national oil companies and international oil companies are faced with significant opportunities for discussion, expansion and portfolio re-evaluation.

Although efforts have been made to remove some of the barriers to progress on final investment decisions aiming to boost production in the region — including setting up more favourable exploration policies and fiscal revisions to promote international investments — concerns have been raised over the PSCs due to expire by 2030, Rystad notes.

“Challenges also linger over recent examples of resources nationalisation and the performance of national oil companies on these producing blocks.”

Rystad says that as international players continue to exit projects in Southeast Asia, it allows state companies to capitalise on the opportunity and grab additional interests in top producing blocks.

As such, the share of resources held by oil and gas majors in the region has fallen from about 30% in 2015 to 19% this year and is likely to further decline to around 16% in 2022.

Regional production from these blocks is likely to be over 12% by 2030, and they hold around 10% of the resources planned for sanction by 2030.

While most of the recent PSC extensions in Southeast Asia have been for producing blocks, the resources from acreage due to expire in coming years reflect a mix of around 60% producing and 40% in pre-project sanction stage.

“This represents an additional challenge for expiring contracts, predominantly on blocks located in Indonesia, Thailand and the Malaysia-Thailand Joint Development Area, which alone accounts for close to 4.6 billion boe.

Operators with the greatest exposure to regional PSCs due to expire before 2030 include US supermajor Chevron — about 70% of its Southeast Asian assets fall into this category — and Indonesia’s Medco Energi, which has about 35% of its resources on soon-to-be expiring blocks.

“As most upstream companies are looking to restructure portfolios, the uncertainty around extensions on blocks with expiring PSC in the near term might impact their long-term interest,” Rystad says.

However, on a brighter note, PSC renewals often allow the potential for revised fiscal terms, higher government participation, as well as higher production and investments targets.

“As such, if initiated timely, these PSC extensions might be an opportunity for majors, E&Ps, and industrial and regional players to discuss more favourable terms, expand regional portfolios and look for partnership opportunities with regional national oil companies.”

Indonesia in recent years has been boosting resource nationalisation with state-owned Pertamina increasing equity in, and often taking operatorship of, expiring PSCs.

However, the departure of players such as Total — now TotalEnergies — and BP has come at a price.

Output at some projects has slumped, while losing out on contract renewals has made some international players less enthusiastic over investing in other upstream ventures in the country.

Although, Indonesia has recently announced fiscal incentives… an early discussion on expiring PSCs might be an additional booster, transforming the PSC extension into an opportunity to reassess production and investment targets on the blocks,” Rystad suggests.

Blocks accounting for about 95% of Philippines’ production, 90% of the Malaysia-Thailand JDA production, about 50% of Myanmar’s output and around 40% of Vietnam’s production are subject to PSC renewal by 2030.
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OF GREATER HOUSTON
WGC2022
World Gas Congress 
& EXPO, Houston 2022
Making the most of Houston

The largest city in Texas is a far cry from the notions of many visitors

MARK PASSWATERS
Houston

WELCOME to Houston and the 23rd World Petroleum Congress! You’ve arrived in the fourth-largest city in the US and the energy hub of the world. Here are a few tips as you visit:

Make sure you are driving on the correct side of the road
If you’re from the UK, you drive on the opposite side of the road in the US. And we have enough traffic issues in Houston without visitors driving into oncoming traffic.

This is not the wild west
You may see some people wearing cowboy hats, but not many. People do say “Howdy” but it’s because they’re polite. Houston is a tech hub, the centre of the US space programme and one of the most diverse cities in the nation.

There is a lot to do
If you like shopping, the Galleria is internationally known. NASA’s Johnson Space Center is south of downtown and has numerous attractions, including a Saturn V rocket from the Apollo programme and a tour of the old Mission Control, made famous in the 1960s.

The San Jacinto battlefield, where Texas won its independence from Mexico — and yes, we will tell you about it — is east of town. If you have some strange desire to go to the beach in early December, Galveston is approximately an hour south of Houston.

The city also boasts numerous high-quality museums. If socialising is more your speed, there are dozens of bars on Washington Avenue, just a few miles from downtown.

Be ready to eat
Houston boasts a wide variety of outstanding food choices. If you like steak, Pappas Brothers Steakhouse, Vic & Anthony’s and Brennan’s are fine selections.

Tex-Mex food is legendary, starting with Ninfa’s on Navigation, the home of fajitas. Pappasito’s and La Tapatia are other fine choices for excellent Tex-Mex and large margaritas.

Barbecue is a regional specialty; you may want to check out Houston institution Goode Co. or make the short drive to the southern suburb of Pearland to try Killen’s BBQ, one of the best in the nation.

You are visiting during football season
American football, not what is considered “soccer” in this country.

The Houston Texans football team might be having an awful season but will still be the subject of much discussion amongst the locals. So will the very good baseball team, the Houston Astros, even if their season ended in November. (Note: If you see someone wearing a hat with an H in the middle of a star, that is an Astros hat.)

This is the perfect time of year to visit
The legendary humidity will be at a minimum and temperatures should be lovely. Much of the city will be lit up in preparation for Christmas. The atmosphere should be relaxed and fun.

Welcome to Houston. Enjoy your stay.