



2024

Urja Varta

Collaborate • Innovate • Synergize

Date: 11-12 July 2024

Venue: Bharat Mandapam, New Delhi

Event Report

About UrjaVarta 2024

As India's energy sector is progressively moving towards the path of energy transition, energy security serves as a backbone for reliable and continual energy access to 140 crores citizens of India. India is successfully navigating the complexities in global energy market by adopting 4-plank energy security strategy based on increasing Exploration and Production efforts, diversifying supplies, usage of alternate energy sources and moving towards green energy to ensure a sustainable future

India's exploration and production sector continues to play a pivotal role in meeting the nation's energy demands and propelling economic growth. With India striving to boost domestic oil and gas production to satisfy its escalating energy requirements and reduce reliance on imports, stakeholders are exploring innovative strategies across exploration, development and production. The goal is to

attract investments, leverage leading practices, and deploy advanced technologies to unlock the vast potential of its hydrocarbon resources, much of which remains still untapped.

Aligned with the goal, Directorate General of Hydrocarbon (DGH) hosted UrjaVarta 2024, a two-day event designed to serve as a strategic forum for industry operators, policymakers, service providers, experts, think tanks, and academia to exchange knowledge, network, and collaborate towards realizing the full potential of India's upstream hydrocarbon resources in a sustainable manner. This two-day event focused on the themes that are essential for the resilience and growth of the industry, emphasizing the importance of collaborative efforts, policy incentives, technology and digital solutions, emerging business opportunities, and decarbonization.



Thematic areas for the conclave

Theme - 1

Collaboration and Partnerships

In a highly interconnected global economy, the resilience of the upstream sector hinges on the ability to collaborate effectively across various domains. This theme explored strategies that can energize collaboration between industry, policy makers and other relevant stakeholders to drive implementable and scalable innovations. The sessions within the theme delved into:

- Exploring avenues for the nation to harness its untapped potential to pioneer new frontiers and emerge as a global leader in exploration.
- Emerging trends, innovative financing models, and the role of financial institutions in driving E&P growth.
- Strategies for effective joint operations and resource sharing.



Theme - 2

Technology Innovation

Technological innovation is the cornerstone of progress in the E&P domain. This theme focused on cutting-edge technologies that are transforming E&P operations, enhancing efficiency, and cost optimization. Specific themes for the discussion included:

- Insights into innovations in exploration technology such as advanced seismic imaging and data interpretation techniques etc.
- Technical advancements in drilling, covering innovative tools, techniques, and methodologies aimed at optimizing drilling operations.
- New-age technologies specifically tailored for increasing productivity of the field.



Theme - 3

Digital Transformation of upstream operations

Digital transformation is revolutionizing the upstream oil and gas sector, driving efficiencies, reducing costs and enabling data-driven decision making. With quantum leap in the technology – low-cost sensors, high data connectivity, faster computing and self-learning capabilities, a holistic approach needs to be adopted to reshape the existing business and operating models to ensure a far-reaching transformational impact. This theme explored emerging digital technologies and their impact in E&P operations including the following:

- Opportunities in leveraging digital technologies to optimize exploration, drilling production.
- Case studies on the implementation of digital technologies such as AI, IoT, and big data analytics in E&P.
- Demonstrations of digital tools and platforms from startups, academia and industry experts for enhancing operational efficiency.



Thematic areas for the conclave

Theme - 4

Policy and Regulatory incentives

Regulatory frameworks and policy interventions are critical in shaping the business landscape of the upstream sector. The theme explored how the sector is evolving with the current policy framework and explore incentives that can attract investments, drive innovation and enhance ease of doing business in the sector. In particular, it focused upon:

- Policy gaps and recommendations for enhancing E&P outputs.
- International policy and regulatory frameworks and its relevance in Indian context.
- Steps required by the government to improve ease of doing business especially in the statutory approval process.
- Role of regulators to encourage E&P industry collaboration to drive resources, technology and infrastructure sharing



Theme - 5

Decarbonizing the Upstream Operations

Considering the global trend of moving towards greener fuels in line with the aim of reducing carbon emissions, there is a requirement to greening E&P operations which is crucial for reducing the environmental impact of the upstream sector. This theme focused on strategies and technologies aimed at minimizing carbon footprints and promoting green practices. it discussed:

- Approaches for aligning business strategies with decarbonization goals
- Case studies on successful implementation of sustainable practices in E&P operations
- Role of government institutions in enabling decarbonization including carbon credits, CCUS/CCS, green hydrogen, geothermal etc.
- Global leading E&P practices ensuring reduction of carbon emissions.



Theme - 6

Emerging Investment Opportunities in the Upstream Sector

As the upstream sector evolves, new business opportunities are emerging, driven by market dynamics, technology and digital innovations, and policy shifts. This theme explored these opportunities, providing insights into investment prospects, market trends, and strategic growth areas. The sessions within the theme delved into:

- Promising prospects for investment in the E&P sector and policy reforms that enhance ease of doing business.
- Case studies of innovative business models that are succeeding in the upstream sector.
- Insights into attracting and managing investments in the upstream sector.



Events at a Glance



Strategic Summit

Featured critical dialogues including high-level panels, leadership presentations, and spotlight sessions, hosting 40+ speakers focusing on key strategic priorities and exploring the key role that upstream oil & gas sector in India will play in shaping the future of energy.



Technical Conference

Offered invaluable technical expertise across 10 breakaway sessions on latest innovations, industry leading practices and technology advancements that enhance Oil & Gas exploration, drilling and production efficiency.



Innovation Center

Dedicated platform for both domestic and international energy businesses to network, showcase their products and services, and explore new opportunities in the energy sector.



Exhibition Gallery

Demonstration of new-age solutions in upstream sector by start-up, academia and inventors.



VIP Lounge

Exclusive arena for government officials, business leaders and industry experts, fostering productive connections.



Meet and Greet Zone

Dedicated pavilion and meeting rooms for networking and engaging stakeholders across energy sector.

Conclave Participation



665 Registrations
were received for the event



316 Abstracts
were received for the event



10 Strategic Panel Discussions
were held in Strategic Summit of the event



47 Speakers
participated in Strategic Panel Discussions



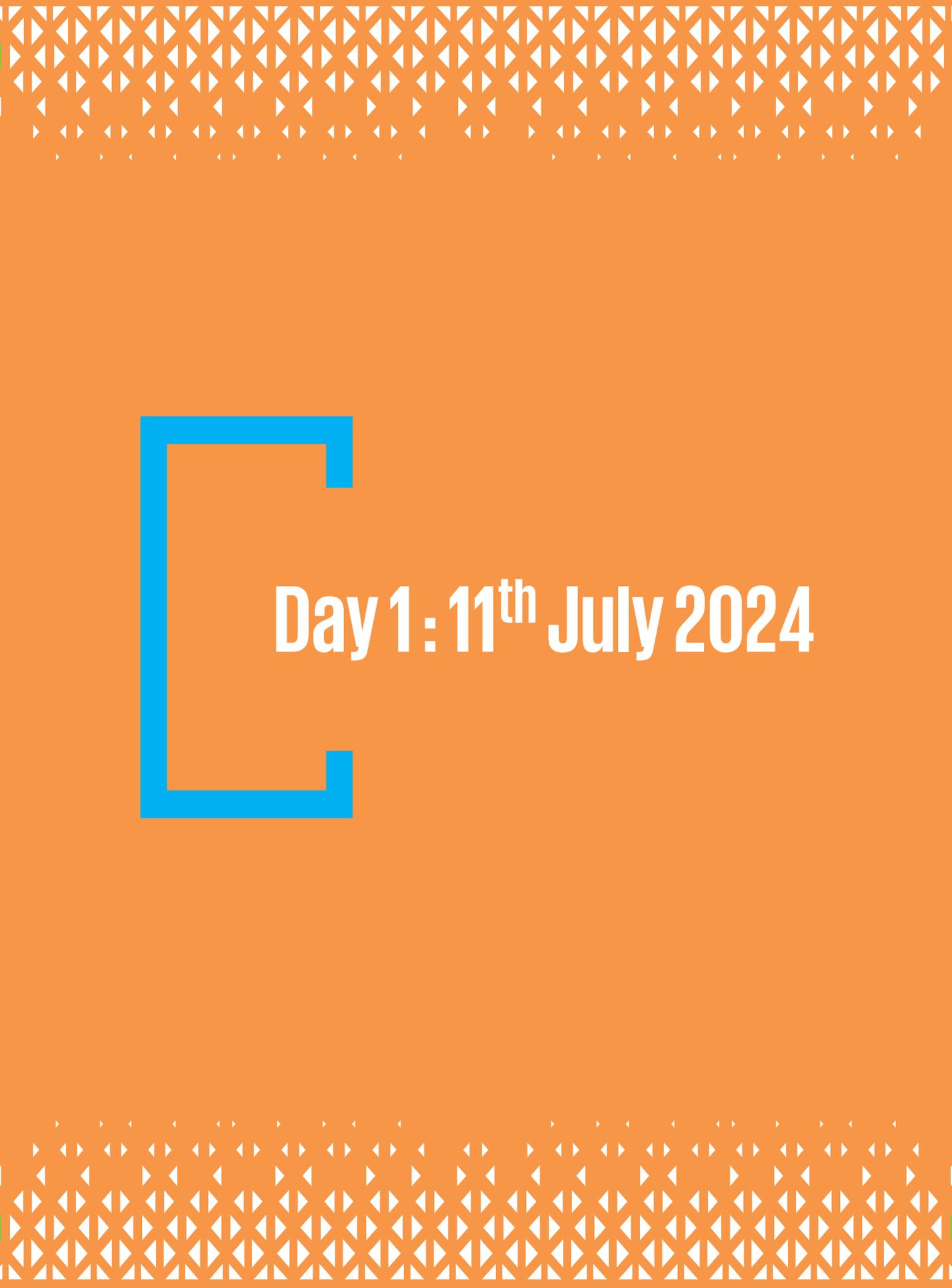
43 Technical Conference Presentations
were showcased during the event



14 Innovative Solutions
were showcased in the Innovation Center



36 Technical Posters
were showcased in the Exhibition Gallery



Day 1: 11th July 2024

Lighting of the Lamps

Hon'ble Minister, PNG, Shri Hardeep Singh Puri inaugurated UrjaVarta 2024 by marking the occasion with lightning the ceremonial lamp



In the frame, left to right, Dr. Pallavi Jain Govil IAS, DG, DGH and Hon'ble Minister, PNG, Shri Hardeep Singh Puri inaugurating UrjaVarta 2024 by lighting the lamp



In the frame, left to right, Mr. Praveen Mal Khanooja, Additional Secretary, PNG; Mr. Arun Kumar Singh, Chairman and CEO, ONGC; Hon'ble Minister, PNG, Shri Hardeep Singh Puri and Dr. Ranjit Rath, Chairman and MD, OIL, lighting the lamp

Welcome Address by DG, DGH



In the frame, Dr. Pallavi Jain Govil, DG - DGH

- The Director General of the Directorate General of Hydrocarbons (DGH) warmly welcomed attendees to the inaugural session of UrjaVarta, emphasizing its role in sustainably unlocking India's untapped upstream hydrocarbon resources. She highlighted that UrjaVarta is a vital platform for fostering investment, innovation, partnerships, and sustainable growth within India's hydrocarbon sector.
- The event gathered leaders, industry experts, service providers, and academia from traditional and non-traditional energy sectors to discuss challenges and opportunities in India's upstream oil and gas industry and energy transition. With over 400 delegates, 50 exhibitors, and 100 speakers, the program features strategic summits, panel discussions, B2B meetings, and technical presentations on topics like enhanced oil recovery and digitalization in the oil and gas sector.
- The DG also announced the unveiling of the 31st digital annual publication of India's Hydrocarbon Outlook by Shri Hardeep Singh Puri, Minister of Petroleum & Natural Gas and introduced a new handbook of environmental guidelines for upstream operations. Additionally, the launch of the Department for Hydrocarbon Efficiency and New Energy marks a significant step towards enhancing sustainability and efficiency in the sector. The DG concluded by expressing confidence in UrjaVarta's potential to drive collaboration and innovation in ensuring India's energy security and sustainable development.

Launch by the Minister (1/3)

1. Launch of Centre for Hydrocarbon Efficiency and New Energy

- Directorate General of Hydrocarbons launched the Hydrocarbon Efficiency and New Energy (HENE) department, advancing towards a clean, green, and more sustainable future.
- HENE will focus on enhancing hydrocarbon efficiency, monitoring flaring, venting, and leakages in oil and gas operations, and integrating new geological energies such as geothermal and natural hydrogen into existing exploration and production operations. Through HENE, DGH will be able to significantly contribute towards India's ambitious path towards Net Zero emissions.



In the frame, left to right, Mr. Arun Kumar Singh, Chairman and CEO, ONGC; Dr. Pallavi Jain Govil IAS, DG, DGH; Hon'ble Minister, PNG, Shri Hardeep Singh Puri; Mr. Praveen Mal Khanooja, Additional Secretary, PNG, and Dr. Ranjit Rath, Chairman and MD, OIL at the launch of Centre for Hydrocarbon Efficiency and New Energy

Launch by the Minister (2/3)

2. Launch of India Hydrocarbon Outlook 2023-24

- The 31st edition of the DGH Annual Publication 'India's Hydrocarbon Outlook 2023-2024' was launched at the UrjaVarta Conclave. The publication encapsulates comprehensive details of the accomplishments and progress made in the Indian E&P sector, by showcasing key statistics, trends and data, providing valuable insights that enable informed decision making and strategy planning, and hence serves as an extensive resource for all the industry stakeholders.



In the frame, left to right, Mr. Arun Kumar Singh, Chairman and CEO, ONGC; Dr. Pallavi Jain Govil IAS, DG, DGH; Hon'ble Minister, PNG; Shri Hardeep Singh Puri; Mr. Praveen Mal Khanooja, Additional Secretary, PNG, and Dr. Ranjit Rath, Chairman and MD, OIL at the launch of India Hydrocarbon Outlook 2023-24

Launch by the Minister (3/3)

3. Launch of Handbook for Environmental Guidelines for Upstream

The 'Handbook for Environmental Guidelines for Upstream' was unveiled at the UrjaVarta conclave. This comprehensive guide aims to streamline environmental clearance processes for oil and gas projects, primarily focusing on India's North-East region. It is designed to facilitate business operations by reducing EDS/ADS queries, identifying common causes of delays, and providing a clear, step-by-step approach to obtaining necessary approvals. The handbook will be a vital resource for E&P operators, helping them navigate complex environmental regulations, minimize delays, and contribute to the sustainable development of India's upstream sector.



In the frame, left to right, Mr. Arun Kumar Singh, Chairman and CEO, ONGC; Dr. Pallavi Jain Govil IAS, DG, DGH; Hon'ble Minister, PNG, Shri Hardeep Singh Puri; Mr. Praveen Mal Khanooja, Additional Secretary, PNG, and Dr. Ranjit Rath, Chairman and MD, OIL at the launch of Handbook for Environmental Guidelines for Upstream

Address by Hon'ble Minister, MoPNG



In the frame, left to right, Hon'ble Minister, PNG, Shri Hardeep Singh Puri at podium, Mr. Arun Kumar Singh, Chairman and CEO, ONGC; Dr. Pallavi Jain Govil IAS, DG, DGH; Mr. Praveen Mal Khanooja, Additional Secretary, PNG, and Dr. Ranjit Rath, Chairman and MD, OIL during the address by Hon'ble Minister, PNG

- Shri Hardeep Singh Puri, Minister of Petroleum & Natural Gas, emphasized the vast investment opportunities in India's Exploration and Production (E&P) sector, projecting an influx of 100 billion USD by 2030. Speaking at the inaugural session of UrjaVarta, he highlighted the importance of the E&P sector for achieving energy self-sufficiency and sustaining economic growth. India's 26 sedimentary basins contain substantial untapped reserves of crude oil and natural gas. Despite significant progress, only 10% of India's sedimentary basin area is currently under exploration, expected to increase to 16% by the end of 2024 with new blocks awarded under the Open Acreage Licensing Policy (OALP).
- Minister Puri underscored the government's efforts to streamline operational and regulatory processes to catalyze investments in E&P. He mentioned that the Ministry of Petroleum and Natural Gas (MoPNG) has implemented comprehensive reforms to empower stakeholders. Initiatives such as the OALP and the Discovered Small Field (DSF) Policy are

Address by Hon'ble Minister, MoPNG

accelerating exploration activities, with 144 blocks awarded through the first eight OALP bid rounds and a further 136,596 sq. km offered in OALP IX.

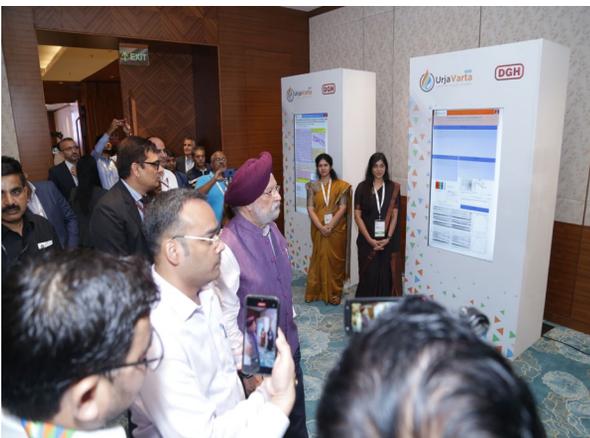
- Since its inception in 2015, the DSF Policy has attracted approximately 2 billion USD in investments and brought 29 new players into the field. Emphasizing scientific, data-driven exploration, Minister Puri highlighted an investment of ₹7,500 crores in acquiring new seismic data, financing stratigraphic wells, and aerial survey data for difficult terrains. The National Data Repository's upgrade to a cloud-based system by DGH will facilitate instant dissemination of seismic, well, and production data.
- Minister Puri discussed the government's efforts to enhance the ease of doing business in the E&P sector by consolidating and simplifying 37 approval processes into 18, with nine now eligible for self-certification. He stressed the importance of reducing delays in approving field development plans, annual plans, and other regulatory permissions, especially given the rising import dependency.
- To address industry concerns and improve business conditions, Minister Puri announced the formation of a Joint Working Group (JWG) comprising private E&P operators, National Oil Companies, MoPNG, and DGH.
- In conclusion, Minister Puri expressed confidence that UrjaVarta 2024 would drive collaboration and innovation in the energy sector. He invited stakeholders from industry, academia, and government to use the platform to advance India's energy security goals.
- Following his address, Hon'ble Minister inaugurated an Exhibition Gallery and Innovation Centre, showcasing technical papers and innovations in the oil and gas sector, reinforcing India's commitment to technological advancement and sustainable energy practices.

Inauguration of Exhibition Gallery and Innovation Centre by Hon'ble Minister, PNG

The Hon'ble Minister, PNG, Shri Hardeep Singh Puri graced the UrjaVarta 2024 event by inaugurating the Exhibition Gallery and Innovation Center



In the frame, Hon'ble Minister, PNG, Shri Hardeep Singh Puri; Mr. Praveen Mal Khanooja, Additional Secretary, PNG, and Dr. Pallavi Jain Govil IAS, DG, DGH



Hon'ble Minister, PNG, Shri Hardeep Singh Puri at Exhibition Gallery



Hon'ble Minister, PNG, Shri Hardeep Singh Puri at Innovation Center

Networking Tea with Hon'ble Minister, PNG with CXO's

The Hon'ble Minister, PNG, Shri Hardeep Singh Puri, convened a pivotal meeting with CXO's of leading upstream companies at UrjaVarta 2024



In the frame, left to right, Mr. S. Roychaudhury, Selan; Mr. Manish Maheswari, Invenire Energy; Ms. Barnali Barua Tokhi, BPRL; Hon'ble Minister, PNG, Shri Hardeep Singh Puri at center; Dr. Pallavi Jain Govil IAS, DG, DGH; Dr. Ranjit Rath, OIL; Mr. Monte Dobson, ExxonMobil; Dr. Steeve Moore, Vedanta; Mr. Nipun Pradhan, Shell, and Mr. Pankaj Kalra, EOGEP



Hon'ble Minister, PNG, Shri Hardeep Singh Puri entering the venue for the Networking Tea with CXO's



In the frame, left to right, Mr. Monte Dobson, ExxonMobil; Dr. Steeve Moore, Vedanta; Mr. Nipun Pradhan, Shell and Mr. Pankaj Kalra, EOGEP

Strategic Summit Panel-1: Navigating New Frontiers: Unveiling India's Exploration Potential (1/7)



In the frame, left to right, Mr. Vivek Rahi (Moderator), Mr. Saloma Yomdo (Speaker), Ms. Sushma Rawat (Speaker), Mr. Praveen Mal Khanooja (Speaker), Dr. Kaustav Nag, Mr. Biswanath Ghosh (Speaker), Mr. David Hume (Speaker) and Mr. Jim White (Speaker)

Panel Brief

In a rapidly evolving global landscape, where innovation and exploration pave the way for progress, India stands at the threshold of new possibilities. This panel sought to delve into the theme of "Navigating New Frontiers," focusing specifically on unveiling India's exploration potential across various domains.

The conversations explored the vast untapped potential within India's sedimentary basins, focusing on the opportunities and challenges in expanding exploration activities. Panelists discussed the significance of reclassifying basins, the need for advanced data acquisition, and the strategic vision for increasing acreage and drilling deeper wells.

The importance of international collaborations, technological advancements, and efficient resource management was highlighted to enhance exploration success and monetize discoveries. The discussion emphasized the critical role of government policies and industry efforts in driving India's exploration initiatives forward.

Strategic Summit Panel-1: Navigating New Frontiers: Unveiling India's Exploration Potential (2/7)

Speakers and Key Takeaways

- **Mr. Praveen Mal Khanooja, Additional Secretary, MoPNG**
 - Mr. Praveen Mal Khanooja highlighted India's rapidly growing energy demand, projecting that by 2047, the country's energy requirement will be about three times the current levels. He emphasized that while oil will remain a significant part of the energy mix, the share of gas and renewables are expected to increase, moving towards a sustainable energy paradigm.
 - Mr. Khanooja discussed the government's role in shaping the future of the energy sector, focusing on various initiatives aimed at addressing the Energy Trilemma (energy security, energy equity, and environmental sustainability). Some key actions include shifting from Production Sharing Contracts (PSC) to Revenue Sharing Contracts (RSC), awarding 4.242 lakh sq. km. in 144 blocks across eight OALP rounds, and providing a seven-year royalty holiday for deep water and ultra deep-water basins.
 - Talking further about regulatory and policy reforms, he mentioned steps such as complete marketing freedom for all hydrocarbon production under OALP blocks and the significant reduction of No-Go areas by 99%. Moreover, to facilitate early monetization of discoveries, blocks have been awarded in three Discovered Small Fields (DSF) rounds, and there are currently 12 active Coal Bed Methane (CBM) blocks.
 - He added that data availability and accessibility through cloud services have been a key focus for the government, supporting sector growth and enabling informed decision-making.
 - In his concluding remarks, Mr. Khanooja underscored the proactive efforts towards decarbonization and achieving India's Net Zero targets, reflecting the government's commitment to a sustainable energy future.

Strategic Summit Panel-1: Navigating New Frontiers: Unveiling India's Exploration Potential (3/7)

- **Ms. Sushma Rawat, Director (Exploration), ONGC**
 - While sharing her perspective on the vast unexplored resource potential of Indian sedimentary basins, Ms. Sushma Rawat highlighted that there is a shift in ONGC's focus on exploratory activities, especially in Category 2 and Category 3 basins.
 - She highlighted the need for a comprehensive re-categorization of India's sedimentary basins to reflect their operational difficulties and potential, particularly in challenging plays such as Krishna-Godavari offshore, which holds significant untapped potential. This re-categorization, coupled with continued and enhanced seismic data acquisition, could unlock substantial untapped resources, particularly in deeper and more challenging plays. The upcoming bid rounds are expected to play a crucial role in this effort, potentially transforming the exploration and production landscape in India.
- **Mr. Saloma Yomdo, Executive Director, Oil India Limited**
 - Mr. Saloma Yomdo shared his strategy of expanding exploration activities by increasing acreages and focusing on near-field exploration, deeper drilling, and engaging with international partners. He mentioned that OIL, in last 3-4 years, has increased its acreage to almost 6 to 7 times and aims to double it in the next couple of years.
 - He underscored the importance of vision, strategic partnerships, and advanced technologies in boosting exploration success and production levels. He discussed about the gradually changing exploration portfolio and OIL's shift in focus to the newer areas, especially deep offshore with prospects 6 kilometers below MSL. He stated that OIL is in final stages of talks with international players such as TOTAL, Petronas, PetroVietnam etc. for their upcoming exploration campaigns, whether it is Mahanadi offshore, Andaman offshore or Kerala offshore.

Strategic Summit Panel-1: Navigating New Frontiers: Unveiling India's Exploration Potential (4/7)

- **Mr. Biswanath Ghosh, Director (Exploration), Vedanta Limited**
 - Mr. Biswanath Ghosh discussed the vast opportunities in India's 26 sedimentary basins, especially with the New Hydrocarbon Exploration and Licensing Policy (HELP) and high yet-to-find resources, while addressing the challenges of predictability, monetization, and efficiency. He commended the government's decision to unlock 99% of offshore erstwhile No-Go Areas for exploration activities.
 - He also stressed upon the need for technological advancements and its adoption and commented that seismic data imaging is the key data point in exploration, but technologies such as full tensor gravity radiometry, Magnetics etc. along with thriving collaborations and multiclient services, and transparent data-sharing are presenting great opportunities in resolving our challenges and improving exploration success rates.
 - He highlighted the importance of reducing the cycle time from discovery to production, realizing the true value of the block, improving efficiency and leveraging India's talent pool through joint Industry-Academia programs.
- **Mr. David Hume, Domain Expert, University of Houston**
 - Mr. Hume emphasized the critical role of data accessibility and collaboration among oil and gas companies when asked about the approach E&P companies must adopt to expand their exploration activities.
 - He suggested that the data-sharing agreements and stratigraphic wells to gather more comprehensive data, particularly in basins such as Andaman, Mahanadi and Bengal, which would enhance exploration efforts and reduce costs. He also added that Machine Learning and AI have massive potential in improving data analysis and optimizing exploration processes.

Strategic Summit Panel-1: Navigating New Frontiers: Unveiling India's Exploration Potential (5/7)

- He talked about how DGH's strategy to conduct stratigraphic wells in these basins will provide valuable data, enhancing India's exploration efforts.
- **Speaker 6: Mr. Jim White, Executive Director, SEG, USA**
- Mr. White highlighted the growing importance of AI and machine learning in exploration and development. Data processing has seen tremendous leaps in the last decade to give more meaning to the datasets.
- He discussed the importance of geoscientific data collected irrespective of the zone of interest and advised E&P companies to not skim through the datasets in search of hydrocarbons only. Such data may also lead them to solutions for forthcoming utilizations such as CCUS.
- He concluded, stating that leveraging AI could significantly improve data analysis, predict geological outcomes, and optimize exploration processes.

Key Insights

Mr. Praveen Mal Khanooja:

- "Oil would be by and large a very important feature of the energy mix in 2047, but the share of gas and renewables would increase. This is the sustainable energy paradigm we are looking at today."
- "Data Availability and Accessibility using cloud services have been key areas of focus for the government."

Ms. Sushma Rawat:

- "The resource potential is really big, and to give more impetus, we need to look at recategorizing basins, based on depth and difficulties of the plays to unlock hidden resources."
- "For ONGC, the aim is to extend our exploration efforts significantly, especially in challenging and deeper plays, which is also supported by the availability of data on Category 2 and 3 basins today."

Strategic Summit Panel-1: Navigating New Frontiers: Unveiling India's Exploration Potential (6/7)

Mr. Saloma Yomdo:

- “Our vision is to double our current acreage in the next few years, with a focus on deeper drilling and international partnerships to enhance exploration success.”
- “We are shifting towards advanced technologies and deeper drilling to explore new areas and maintain production levels, particularly in Mahanadi and Andaman offshore regions.”

Mr. Biswanath Ghosh:

- “The key challenge is to improve predictability and monetization of discoveries while leveraging technological advancements and collaboration.”
- “Efficiency and sustainability are crucial, and collaboration will play a key role in addressing the challenges in exploration, particularly in deep water areas.”

Mr. David Hume:

- “Access to data is fundamental. Collaboration and data-sharing agreements among companies can significantly reduce exploration costs and enhance success.”
- “AI and machine learning will soon be widely adopted in our industry, improving predictive capabilities and optimizing exploration processes”

Mr. Jim White:

- “The integration of AI and machine learning in data analysis will shorten cycle times and accelerate exploration opportunities.”
- “Collating and making seismic data compatible using AI will enhance data accessibility and utility for geoscientists and engineers.”

Connect with the Speakers

- **Mr. Praveen Mal Khanooja, Additional Secretary, MoPNG** (asmopng@gov.in)
- **Ms. Sushma Rawat, Director (Exploration), ONGC** (dir-expl@ongc.co.in)

Strategic Summit Panel-1: Navigating New Frontiers: Unveiling India's Exploration Potential (7/7)

- **Mr. Saloma Yomdo, Executive Director, Oil India Limited** (saloma@oilindia.in)
- **Mr. Biswanath Ghosh, Director (Exploration), Vedanta Limited** (Biswanath.Ghosh@cairnindia.com)
- **Mr. David Hume, Domain Expert, University of Houston** (dhume@central.uh.edu)
- **Mr. Jim White, Executive Director, SEG, USA** (jwhite@seg.org)

Strategic Summit Panel-2 : Policy Perspective: Navigating Energy Trilemma (1/4)



In the frame, left to right, Mr. Akash Goyal, Mr. Anish De (Moderator), Dr. Pallavi Jain Govil IAS (Speaker), Dr. Sujit Kumar Bajpayee (Speaker), Dr. Ranjith Rath (Speaker), Dr. Steve Moore (Speaker), Mr. Kartikeya Dube (Speaker) and Mr. Arun Kumar Singh (Speaker)

Panel Brief

In today's complex energy landscape, policymakers face the challenge of balancing three critical objectives: energy security, affordability, and environmental sustainability - known as the energy trilemma. This session aimed to explore the policy perspective on navigating this trilemma, ensuring a sustainable and resilient energy future.

Speakers and Key Takeaways

- **Dr. Pallavi Jain Govil, IAS, Director General, Directorate General of Hydrocarbons**
 - Dr. Pallavi Jain Govil emphasized the pivotal role of the government in ensuring the sustainable production of oil and natural gas. She highlighted the establishment of the Centre for Hydrocarbon Efficiency and New Energy as a significant step towards this goal.

Strategic Summit Panel-2 : Policy Perspective: Navigating Energy Trilemma (2/4)

- Dr. Govil stressed the importance of monitoring and reducing flaring to zero and exploring synergies with new energy sources such as geothermal and natural hydrogen. She also mentioned new initiatives like methane reduction, fuel blending, and Carbon Capture, Utilization, and Storage (CCUS) as possible pathways to achieve sustainability.
- Dr. Govil asserted that the DGH can serve as key enablers in these initiatives. She also noted that capital expenditure (CAPEX) remains a significant challenge for small Exploration and Production (E&P) companies and suggested that forums like UrjaVarta could act as collaborative platforms for resource sharing.
- **Mr. Arun Kumar Singh, Chairman & CEO, ONGC**
 - Mr. Arun Kumar Singh discussed the ongoing exploration efforts by ONGC and emphasized that ONGC's objective is aligned with national objective to maximize exploration, with a significant focus on offshore drilling. Mr. Singh also expressed confidence in ONGC's ability to drill deeper wells.
 - Mr. Singh highlighted the high intensity of asset monetization, and the challenges posed by a limited number of players in the EPC (Engineering, Procurement, and Construction) sector within the country.
 - He detailed ONGC's ambitious targets, including achieving zero methane emissions, eliminating avoidable flaring, and reducing Scope 1 emissions to zero, all by 2030.
- **Dr. Ranjit Rath, Chairman & Managing Director, OIL**
 - Dr. Ranjit Rath highlighted that India remains largely unexplored in terms of oil and gas reserves. He stated that OIL will continue to focus on near-field exploration and increase seismic survey and highlighted the adoption of a sequential exploration strategy involving seismic surveys followed by drilling.

Strategic Summit Panel-2 : Policy Perspective: Navigating Energy Trilemma (3/4)

- He also emphasized OIL's commitment to the renewable sector, exploring avenues such as green hydrogen and geothermal energy, and utilizing abandoned wells. Dr. Rath underscored the importance of zero flaring efforts for OIL's sustainability.
- **Dr. Sujit Kumar Bajpayee, Joint Secretary, MoEFCC**
 - Dr. Sujit Kumar Bajpayee emphasized that sustainability encompasses both environmental and business aspects. He discussed the Ministry of Environment, Forest and Climate Change's (MoEFCC) efforts to streamline policies, making processes more seamless. This includes simplifying the terms of reference and public hearings.
 - Dr. Bajpayee also spoke about PARIVESH 2.0, a platform created for approvals, which was developed with inputs from all relevant stakeholders.
- **Mr. Kartikeya Dube, SVP, bp Group**
 - Mr. Kartikeya Dube highlighted the importance of energy security and affordability. He stressed the need to invest in both current and future energy systems to ensure sustainable development.
 - Mr. Dube emphasized the significance of energy efficiency for the BP group. He welcomed the stability and continuity of government policies, noting that policy enablers are crucial for future energy developments. He also suggested that financing infrastructure for exploration could be a potential area of focus.
- **Mr. Steve Moore, Deputy CEO, Vedanta Limited**
 - Mr. Steve Moore discussed the need to bridge the energy trilemma and navigate the energy transition through collaboration. He emphasized the importance of maximizing recovery and discovering new resources sustainably.
 - Mr. Moore highlighted the necessity of stable contracts to secure large investments. He suggested looking at practices in larger countries and adopting policies that incentivize exploration and proposed the establishment of a forum for resource sharing.

Strategic Summit Panel-2 : Policy Perspective: Navigating Energy Trilemma (4/4)

Key Insights

Dr. Pallavi Jain Govil

- “DGH is working towards the question- What can we do to produce more, longer and better, with respect to hydrocarbon production”

Mr. Arun Kumar Singh

- “ONGC is aligned with the national objective to explore as much as possible“

Dr. Ranjit Rath

- “As a National oil company, our prime focus will continue to be an E&P player and also focusing on near field exploration”

Dr. Sujit Kumar Bajpayee

- “Sustainability is not just environment sustainability; it also includes business standability”

Mr. Kartikeya Dube

- “Invest in Today's energy system and you have to invest in future energy systems simultaneously “

Connect with the Speakers

- **Dr. Pallavi Jain Govil, IAS, Director General, DGH** (dg@dghindia.gov.in)
- **Mr. Arun Kumar Singh, Chairman & CEO, ONGC** (cmd@ongc.co.in)
- **Dr. Ranjit Rath, Chairman & Managing Director, OIL** (cmd@oilindia.in)
- **Dr. Sujit Kumar Bajpayee, Joint Secretary, MoEFCC** (sujit.baju@gov.in)
- **Mr. Kartikeya Dube, SVP, bp Group** (Kartikeya.Dube@se1.bp.com)
- **Mr. Steve Moore, Deputy CEO, Vedanta Limited** (Steve.Moore@cairnindia.com)

Strategic Summit Panel-3: Fueling the Future: Strategic Financing in the Energy Sector (1/4)



In the frame, left to right, Mr. Akash Goyal, Mr. Hitesh Sachdeva (Moderator), Ms. Kaumudi Sharma (Speaker), Mr. Manish Maheswari (Speaker), Mr. R Shailesh Unnithan (Speaker), Mr. Ranajit Banerjee (Speaker)

Panel Brief

As the energy sector undergoes rapid transformation driven by technological innovation, climate imperatives, and evolving consumer preferences, strategic financing plays a pivotal role in shaping its trajectory. This session aimed to explore the dynamics of strategic financing in the energy sector especially for E&P sector, focusing on emerging trends, innovative financing models, and the role of financial institutions in driving energy availability and affordability.

Speakers and Key Takeaways

- **Mr. R Shailesh Unnithan, Chief General Manager, State Bank of India**
- Mr. R Shailesh Unnithan mentioned that within SBI's extensive Advances Portfolio, only a small percentage is invested in the hydrocarbon industry, with an even smaller part in E&P due to underlying risks.

Strategic Summit Panel-3: Fueling the Future: Strategic Financing in the Energy Sector (2/4)

- He also discussed the initiatives SBI has undertaken as a committee member appointed by the Ministry of Petroleum and Natural Gas. This included several de-risking recommendations, one of which was to utilize the reports provided by the certain entities on the E&P firms on which banks can rely for financing in E&P sector.
- Talking further about the SBI role towards sustainability, he mentioned that SBI has made a significant investment of ₹45,000 crore in renewable energy projects, entailing to bank's ESG goals to be carbon neutral by 2030, but there will be high demand of fossil fuels moving forward with growing energy demand.
- **Mr. Ranajit Banerjee, Advisor, HDFC Bank**
 - Mr. Ranajit Banerjee addressed misconceptions regarding banks' funding of E&P activities, stating that 100% of the work commitments on HELP and DSF blocks are funded through Bank Guarantees. He shared a key success story of HOEC, established by the promoters of HDFC.
 - He highlighted a distinction between discovered fields and commercially successful fields, citing several success and failure stories of commercial bank investments in E&P sector to present the idea that a discovered field may not always be commercially successful.
 - He emphasized that commercial banks need to establish an optimal set of requirements for investment in E&P sector and to cater those requirements there should be a risk capital with a reasonable rate of return and probability of loss at ~50% for which a window should be created by government and funded through suitable channels at initial stages.
- **Mr. Manish Maheshwari, Executive Manager, Invenire Energy Pvt. Ltd.**
 - Mr. Manish Maheshwari began by highlighting the forecasted belief that is leading to the world's disappearing reliance on fossil fuels and hence making capital more elusive for the E&P Firms.

Strategic Summit Panel-3: Fueling the Future: Strategic Financing in the Energy Sector (3/4)

- He mentioned the fact that a lot of global commercial banks have pledged at the UN COP26 to constrain lending to O&G firms, but several banks have retracted O&G Bonds.
- For addressing this issue, he stated that his company has re-positioned itself as 'Developers and Producers' and has utilized existing cash flows from producing assets to catalyze accessibility to new resources and capital for developing projects acquired in DSF bid rounds.
- Talking further about alternate sources of funding, he suggested establishment of Strategic Energy Security Fund on the lines of National Investment and Infrastructure Fund or National Agricultural Infra and Financing Facility, wherein the government, the anchor investor, takes care of the risk capital which will create a snowball effect to attract more investment from large investors and companies to fund the middle and small E&P companies.
- **Ms. Kaumudi Sharma , Deputy Director, Indian Ministry of Finance**
 - Ms. Kaumudi Sharma mentioned that the role of government in financing upstream sector is multifaceted which includes Policy initiatives, Regulatory framework and Financial mechanisms.
 - She listed few financial mechanism that E&P sectors can explore to address the financial challenges which includes Private-Public Partnership (PPP), Viability Gap Funding, Supportive FDI Policy, Royalty Concessions provided by government at early production stage for Category I, II and III basins, collaborations with financial institutions like ADB , World bank etc.
 - Further she mentioned the policy initiatives by government in Oil and Gas Sector which includes concession in OIG Cess rates, reduction in custom duties to reduce import dependency, exemption of royalty from deep and ultra deep-water projects for 7 years.

Strategic Summit Panel-3: Fueling the Future: Strategic Financing in the Energy Sector (4/4)

Key Insights

Mr. R Shailesh Unnithan:

- “The E&P sector face financial challenges due to the risk involved. Banks would only step in for investment in E&P Sector when there is some sort of risk mitigation.”

Mr. Ranajit Banerjee:

- “There is a heterogeneity in DSF and CBM blocks and Discovered does not mean de-risk , there are significant amount of risk involved and commercially viability is a small subset of discovery. Once there is a successful demonstration of deliverability then only the bank would step in for funding.”

Mr. Manish Maheshwari:

- “The E&P sector companies should be able to segment the risk and re-position themselves in terms of their capabilities and strengths to mitigate financial challenges”

Ms. Kaumudi Sharma:

- “The efforts of government in financing E&P sector is multifaceted and the country is aiming towards achieving energy security along with sustainable development”

Connect with the Speakers

- **Mr. R Shailesh Unnithan, Chief General Manager, SBI**
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- **Mr. Manish Maheshwari, Executive Manager, Invenire Energy**
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- **Ms. Kaumudi Sharma , Deputy Director, Indian Ministry of Finance**
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Strategic Summit Panel-4 : Production Enhancement: Challenges and Opportunities (1/5)



In the frame, left to right, Mr. Sachiv Kumar, Mr. Vivek Rahi (Moderator), Mr. Pankaj Kumar (Speaker), Mr. Pankaj Goswami (Speaker), Mr. S. Roychaudhury (Speaker), Mr. Deepak Agarwal (Speaker) and Dr. Hemanta Sarma (Speaker)

Panel Brief

In an era marked by increasing demand for energy and evolving market dynamics, the imperative to enhance production efficiency and capacity has become paramount across various industries. This session aimed to delve into challenges and opportunities in enhancing oil and gas production, particularly in mature fields.

The panelists discussed the importance of continuous redevelopment, advanced technologies, and collaboration between operators and service providers. Strategies for maintaining and upgrading production facilities, managing declining productivity, and monetizing small and marginal discoveries were highlighted.

The discussion also emphasized the need for supportive policies to foster small and medium operators and the role of technological innovations in optimizing production processes and improving overall efficiency.

Strategic Summit Panel-4 : Production Enhancement: Challenges and Opportunities (2/5)

Speakers and Key Takeaways

- **Mr. Pankaj Kumar, Director (Production), ONGC**
 - Mr. Pankaj Kumar emphasized that 70% of production comes from mature fields and the main challenges in production enhancement stem lies in managing mature fields, which require significant investments to maintain and upgrade facilities.
 - He highlighted the need for constant redevelopment and the adoption of advanced technologies to improve recovery rates and overcome declining productivity which stem from challenges such as sand and water ingress. To enhance production, it is crucial to update facilities with current fluid characteristics and adopt innovative technologies to improve recovery and maintain the reserves-to-production (R/P) ratio
 - Mr. Kumar emphasized the importance of collaboration with operators and service providers, mentioning ONGC's outsourcing initiatives and partnerships with technical service providers for production management, especially in mature fields with declining production trends.
- **Mr. Pankaj Goswami, Director (Operations), Oil India Limited (OIL)**
 - Mr. Pankaj Goswami pointed out the importance of collaboration among operators and service providers to enhance production.
 - He provided notable examples of successful adoption of near-field exploration technologies, such cyclic steam stimulation technology in Rajasthan, which increased production from 100 to 600 barrels of oil per day.
 - He also stressed for effective production enhancement, an understanding of both static and dynamic behavior analysis for near-field exploration is essential since most fields are very old, ranging from 100 years to just one year. He concluded by suggesting that focus on reviving sick wells are crucial.

Strategic Summit Panel-4 : Production Enhancement: Challenges and Opportunities (3/5)

- **Mr. S. Roychaudhary, Director, Selan Exploration Technology Limited**
 - Mr. S. Roychaudhary discussed the challenges faced by small and medium operators, particularly in financing and accessing advanced technologies, and stated that Indian banks often lack expertise in subsurface projects. The technological gaps in the oil and gas sector can be addressed by these small and medium-sized companies can contribute effectively
 - He suggested that production enhancement contracts should be structured to support these operators while leveraging their ability to bring value through faster turnaround times and efficient operations.
- **Mr. Deepak Agarwal, Director- Sales & Marketing, South-East Asia, SLB**
 - Mr. Deepak Agarwal highlighted the dynamic nature of technological innovations in the oil and gas industry through adoption of remote operations, predictive analysis and lift operations.
 - He discussed the shift towards making oil and gas assets cleaner, more resilient, and efficient, with examples of new technologies and best practices.
 - He emphasized the importance of advanced logs for identifying missed oil pools and integrating production services to add real value.
- **Prof. Hemanta Sarma, University of Calgary**
 - Professor Hemanta Sarma stressed the need for closer collaboration between industry and academia to enhance production technologies. To improve production, it's essential to return to the fundamentals, which involve understanding the three key forces in the reservoir: capillary pressure, viscosity, and gravity.
 - He pointed out that co-development with academia, rather than outsourcing, is essential for creative management and innovative solutions, especially in mature fields. He added that understanding and managing reservoir pressure and permeability is critical for effective production.

Strategic Summit Panel-4 : Production Enhancement: Challenges and Opportunities (4/5)

Key Insights

Mr. Pankaj Kumar:

- “We have designed a process for collaborating and engaging Technical Service Providers and have opened our data rooms to the potential bidders and expect positive outcomes in monetizing our marginal as well as medium fields.”

Mr. Pankaj Goswami:

- “Enhancing production by near-field exploration is crucial. Collaboration is the way forward, especially in remote areas such as Northeast, with its unique challenges.”
- “Our strategy involves venturing into new areas and leveraging successful technologies to increase oil production. We have a technology induction policy to identify and implement new technologies.”

Mr. S. Roychaudhary:

- “The production enhancement contract should be like a service contract, where an operator gets a piece of money per barrel, but the assets and reserves do not belong to the operator.”

Mr. Deepak Agarwal:

- “Technological innovations have taken us to new territories like Shale Oil and Ultra Deep Water. Remote operations and predictive analysis are revolutionizing the industry by reducing costs, maximizing safety, and preventing downtime.”

Prof. Hemanta Sarma:

- “It’s not just about outsourcing to academia but co-developing with academia to find resolutions to our local challenges and accelerate the implementation of advance technologies.”
- “We need more creative management than traditional gas injection to address the challenges in depleted fields of Assam.”

Strategic Summit Panel-4 : Production Enhancement: Challenges and Opportunities (5/5)

Connect with the Speakers

- **Mr. Pankaj Kumar, Director (Production), ONGC** (dir_prod@ongc.co.in)
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- **Mr. S. Roychaudhary, Director, Selan Exploration Technology Limited** (s.roy@selanoil.com)
- **Mr. Deepak Agarwal, Director- Sales & Marketing, South-East Asia, SLB** (DAgarwal@slb.com)
- **Prof. Hemanta Sarma, University of Calgary** (Hemanta_Sarma@ucalgary.ca)

Strategic Summit Panel-5 : Developing Gas Markets and Connectivity with Consumers (1/3)



In the frame, left to right, Mr. Anish De (Moderator), Mr. Sanjay Kumar (Speaker), Mr. Gautam Sinha, Mr. Ajit Kumar Thakur (Speaker), Mr. Pankaj Kalra (Speaker) and Mr. Rajesh K Mendiratta (Speaker)

Panel Brief

This panel aimed to explore the changing dynamics of gas markets, focusing on infrastructure development, market integration, policy frameworks, and consumer engagement. The session discussed upon the challenges and opportunities in enhancing gas market connectivity and ensuring a reliable and efficient gas supply to end consumers.

Speakers and Key Takeaways

- **Mr. Ajit Kumar Thakur CEO, IGGL**
 - Mr. Ajit Kumar Thakur discussed the unique challenges of working in Northeast India, particularly due to its difficult geography.
 - Despite the availability of gas in the region there are issues in finding sources to connect to the grid and customers willing to use the grid. This reluctance is partly due to government subsidies for gas.
 - He called for policy decisions to enhance the gas market, including mandates for sources to evacuate gas to the grid to improve market connectivity and utilization.

Strategic Summit Panel-5 : Developing Gas Markets and Connectivity with Consumers (2/3)

- **Mr. Sanjay Kumar, Director Marketing GAIL (India) Limited**
 - Mr. Sanjay Kumar discussed the challenges and opportunities in the natural gas pipeline sector. He highlighted the issue of underutilization, noting that even the heavily utilized HVJ pipeline is not operating at full capacity, with only the Dabhol Uran pipeline working at maximum utilization.
 - He pointed out that the capital-intensive nature of pipelines, coupled with their underutilization, significantly impacts profitability. He emphasized that investment in the natural gas pipeline sector is insufficient due to operational challenges and delays, with pipeline laying costs exceeding initial estimates by 30-40%.
 - Furthermore, he stressed the need for a mandate of natural gas offtake and to encourage the shift from traditional fuels such as fuel oil and pet coke to natural gas.
 - He emphasized that a proper fiscal regime for natural gas is necessary, alongside initiatives for the conversion of high carbon emission fuels to natural gas. Further, faster infrastructure development by GA entities and the inclusion of natural gas in the GST can facilitate quicker conversion from traditional fuels.
- **Mr. Pankaj Kalra CEO,EOGPL**
 - Mr. Pankaj Kalra emphasized the potential of Coal Bed Methane (CBM) in India, noting that out of the 92 TCF of CBM reserves, only 10% has been explored, and only three CBM licenses have seen commercial production.
 - He highlighted that over 350 wells have been drilled, but evacuation remains an issue, leading to the shutdown of wells due to the lack of pipeline connectivity.
 - Mr. Kalra pointed out that CBM can play a crucial role in providing energy security, equity, and sustainability.

Strategic Summit Panel-5 : Developing Gas Markets and Connectivity with Consumers (3/3)

- **Mr. Rajesh K. Mendiratta, MD and CEO, Indian Gas Exchange Limited**
- Mr. Rajesh K. Mendiratta spoke about the progress and challenges of the Indian Gas Exchange (IGX), which has been operational for the past three and a half years, facilitating the trade of 3 MMSCMD last year, involving over 200 participants.
- He stressed the need for more liquidity in the exchange, as it benefits market convenience for buyers, but a lack of players can sometimes result in volume or customer loss.
- Mr. Mendiratta advocated for the inclusion of domestic producers in the exchange, not just RLNG participants, to increase market stability.
- He also highlighted the importance of access to pipelines and infrastructure to drive demand in the power sector, while noting that price remains a limiting factor, as prices above \$11-\$12/MMBtu may lead to reduced demand from the power sector.

Key Insights

Mr. Rajesh K. Mendiratta

- “The volume in exchange should grow because liquidity on the exchange gives market benefits to the participants”

Connect with the Speakers

- **Mr. Ajit Kumar Thakur CEO, IGGL** (ajit.thakur@iggl.co.in)
- **Mr. Sanjay Kumar, Director Marketing GAIL (India) Limited** (sanjay@gail.co.in)
- **Mr. Pankaj Kalra CEO,EOGPL** (pankaj.Kalra@essarenp.co.in)
- **Mr. Rajesh K. Mendiratta, MD and CEO, Indian Gas Exchange Limited** (rajesh.mendiratta@igxindia.com)

Strategic Summit Panel-6 : Health, Safety and Environment (HSE) in Upstream (1/4)



In the frame, left to right, Mr. Sanjay K. Lale, Mr. Arun Mittal (Speaker), Mr. Ajay Dixit (Speaker), Mr. Anurag Sharma (Moderator), Mr. Sanjay Govind Nikoshe (Speaker) and Ms. Mandira Jain (Speaker)

Panel Brief

This session aimed to delve into the critical intersection of health, safety, and prosperity within the realm of exploration and production operations. As the energy industry continues to evolve, ensuring the well-being of workers while maximizing operational efficiency and prosperity is of utmost importance. Through insightful presentations, case studies, and expert insights, this session explored innovative strategies and best practices to foster a culture of safety, enhance occupational health standards, and drive sustainable growth in exploration and production endeavors.

Speakers and Key Takeaways

- **Mr. Arun Mittal, Executive Director, Oil Industry Safety Directorate**
- Mr. Arun Mittal highlighted significant challenges in our industry related to accidents caused by inspection and maintenance issues, as well as non-compliance to regulations. He further categorized risks into two buckets : unsafe acts and unsafe conditions. The proposed solutions involves rigorous HSE management practices, reporting unsafe acts and working on competencies to mitigate risks.

Strategic Summit Panel-6 : Health, Safety and Environment (HSE) in Upstream (2/4)

- Mr. Mittal further discussed on how quality is maintained, for both internal and external auditors. He highlighted measures taken to ensure quality such as mandatory courses, stringent selection process, multiple cycles of reviews of audit report. The speaker also emphasized on future initiatives such as Suraksha Samvaad, single regulator for entire oil and gas sector to streamline the auditing process.
- **Mr. Ajay Dixit, Executive Director-CHSE, Oil and Natural Gas Corporation Limited**
 - Mr. Ajay Dixit shed light on how people develop risk appetites and hence unsafe practices. He further emphasized workforce that does not adhere to safety regulations needs to be identified and focus on fostering safety culture. He shared the success of Project- Safety Perception Survey at conducted by ONGC. The survey helped understand how the organization is doing with respect to its safety standpoint. From 2021-24, ONGC has seen 40% reduction in incidents and improvement in HSE systems and 141% Improvement in accident rates.
 - He shared highlights of successful implementation of ONGC's Project Parivartan. 4000 officials were trained for risk competency and leadership behavior and 3000 frontline management were trained. These measures led to a significant positive shift in the HSE culture.
- **Mr. Sanjay Govind Nikoshe, Chief General Manager- Head of Corporate HSE, Oil India Limited**
 - Mr. Sanjay Govind Nikoshe emphasized in mature and ageing fields within upstream oil and gas sector, HSE standards become imperative. Substantial changes in operational practices emerge, necessitating leadership at all levels to rigorously uphold and implement SOPs. Additional commitment is required to ensure equipment integrity. He further underscored the importance of good practices such as conducting dynamic studies and well blowout simulations by operators in drilling deep shore wells, to mitigate risks effectively.

Strategic Summit Panel-6 : Health, Safety and Environment (HSE) in Upstream (3/4)

- He shared how the perception survey conducted at OIL enabled an understanding of OIL's safety status. To close gaps in HSE, the leadership at this organization is working towards achieving a high HSE Maturity Index.
- **Ms. Mandira Jain, Head-HSE, Schlumberger**
- Ms. Mandira Jain highlighted the importance of leveraging AI solutions to enhance HSE practices. She shared examples of AI driven HSE solutions such as smart cameras to detect unsafe conditions and behaviors, redzone management systems to ensure compliance with safety protocols.
- She highlighted how Schlumberger is working towards fostering a culture of safety. She provided instances of ongoing programs at her organization that inculcate safety culture. Unlock your power – support for mental health, Digital Lift Plan- to safely lift loads by stimulating in digital systems, Safety Captain- a way to volunteer for ensuring peers, safety at well sites and HSE Stop – to empowered workforce to stop unsafe acts were examples of HSE programs.

Key Insights

Mr. Arun Mittal:

- “Industry has seen several accidents because of inspection, maintenance issues, non-adherence to regulations.”

Mr. Ajay Dixit:

- “Task is humungous to maintain but gives opportunity to build resilient HSE management system.”
- “Safety is a way of life and needs to be inculcated in the lives of all workers.”

Mr. Sanjay Govind Nikoshe:

- “We need to reach a proactive stage and become more independent in HSE practices.”

Ms. Mandira Jain:

- “If you see an unsafe act, you are empowered to stop it there”

Strategic Summit Panel-6 : Health, Safety and Environment (HSE) in Upstream (4/4)

Connect with the Speakers

- **Mr. Arun Mittal, Executive Director, OISD** (ed-Noida.oisd@gov.in)
- **Mr. Ajay Dixit, Executive Director-CHSE, ONGC** (dixit_ajay@ongc.co.in)
- **Mr. Sanjay Govind Nikoshe, Chief General Manager- Head of Corporate HSE, OIL** (sanjaynikoshe@gmail.com)
- **Ms. Mandira Jain, Head-HSE, Schlumberger** (MJain4@slb.com)

Technical Conference Session 1: Production Optimization and Enhancement Technologies (1/3)



In the frame, left to right, Mr. S.K. Moitra (Session Chair); Mr. Vinod Raghothamarao (Presenter); Mr. Sunil Rastogi (Presenter); Mr. Adarsh Kumar (Presenter) and Mr. Aman Saraf (Presenter)

Session Brief

In the ever-evolving landscape of the oil and gas industry, the adoption of emerging technologies is crucial for maximizing production efficiency, reducing costs, and optimizing asset performance. This session featured a series of presentations by industry experts on cutting-edge technologies specifically tailored for enhancing production of hydrocarbon.

Presenters and Key Takeaways

- **Mr. Vinod Raghothamarao, Mature Fields Optimization** 
- Mr. Vinod Raghothamarao covered production optimization methodologies, emphasizing continuous improvement and innovation. He discussed current challenges, catalysts, and scaling up efforts in the industry
- He highlighted the importance of data acquisition and a robust reservoir management plant and encouraged new operators and a new way of thinking for improved outcomes. He emphasized that even a 1% recovery improvement can yield significant results

Technical Conference Session 1: Production Optimization and Enhancement Technologies (2/3)

- Mr. Raghothamarao gave example of Forties, Beatrice, Montrose and Hazira field, which were not economical for operations. Numerous efforts were done to optimize the operations and enhance production. Increasing number of work hours, reducing manpower drastically, analyzing historical data, were some initiatives discussed to enhance production.
- **Mr. Sunil Rastogi, Optimizing and Augmenting Production through Initiatives ,Innovation and Development** 
- Mr. Sunil Rastogi covered SunPetro's turnaround story of nonproductive fields through technology and innovation. The presenter gave example of production enhancement in Baola and Modhera fields, non-producing fields, wherein SunPetro introduced a new technology of Chemical injection and was able to put the fields in production in less than 6 months
- Extensive maintenance and painting for continuing operations is done to increase lifecycle of equipment in Hazira, earlier a loss-making field. Now Hazira field is making profits. Another example shared was that of Bhaskar field. He emphasized on in-house design and innovations such as unique design of cylinder jack, steel smart platform and geo data anlysis.
- **Mr. Adarsh Kumar, Reduced Rod-tubing Wear and Run Time Increment with Modified Completions in Progressive Cavity Pumped CBM Wells** 
- The presentation was focused on controlling hole in tubing (tubing failure), a primary reason for failure in PCP completions.
- A cost-effective solution to control this failure is CBM, wherein slimer couplings are utilized to reduce contact loading or simulate similar behavior of continuous rod or absorb eccentric motion. Use of 3-1/2" Tubing with Slim hole coupling, Pony rod S-Type wells gives better results.
- **Mr. Aman Saraf, Deliquefying & Reviving Gas Fields with Velocity String: Coiled Tubing Deployed Future Ready Completion Solution** 
- Mr. Aman Saraf gave two comprehensive solutions to resolve the challenge of reservoir depletion and gas pressures declining in wells
- The two solutions presented were "Velocity String" and "Live well deployment" respectively. C-tube is extensively required in India for well recovery. It gives the benefit of increased production and ultimate recovery rate, cost saving, and faster installation (within 24 hours)

Technical Conference Session 1: Production Optimization and Enhancement Technologies (3/3)

Connect with the Presenters

- **Mr. Vinod Raghothamarao, Director India and Middle East, GaffneyCline**
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- **Mr. Sunil Rastogi, VP-Head Operations, Sun Petrochemicals Pvt Ltd**
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- **Mr. Adarsh Kumar, Deputy Manager Production, EOGEP**
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- **Mr. Aman Saraf, Field Engineer, SLB** (asaraf2@slb.com)

Technical Conference Session 2: Advancement in Drilling Technologies (1/2)



In the frame, left to right, Mr. Anurag Sharma (Session Chair), Mr. Satheesh Srinivasan (Presenter), Mr. Md Imtiaz (Presenter), Mr. Dheeraj Kapoor (Presenter)

Session Brief

Drilling technology plays a pivotal role in the exploration and extraction of hydrocarbon resources, driving efficiency, safety, and cost-effectiveness in the oil and gas industry. This session featured a series of presentations by industry experts on recent technical advancements in drilling, covering innovative tools, techniques, and methodologies aimed at optimizing drilling operations.

Presenters and Key Takeaways

- **Mr. Satheesh Srinivasan, Screen Pulse enhanced Recovery System** 
- The presenter discussed about the Screen Pulse Enhanced Recovery System, highlighting the importance of reduction of drilling waste and cost reduction on waste disposal. He also emphasized the essence of cost reduction of drilling fluids due to loss on mud through cuttings
- He then discussed the functioning of the system, which involves transmission of pulsating vacuum on the discard end of the shaker screen, thus resulting in recovery of drilling fluids and reduction of mud on cuttings
- The presenter cited that Screen Pulse resulted in recovery of 1384 barrels of drilling fluid and an associated cost savings of nearly \$ 520 million in Congo-offshore

Technical Conference Session 2: Advancement in Drilling Technologies (2/2)

- **Mr. Md Imtiaz, Case Study: Recovering complete fish by spotting Enzyme pill.** 
 - The presenter discussed a case study wherein ONGC's Tripura asset has put its exploratory well back on track after recovering complete fish by spotting enzyme spill. He covered a detailed case history and key methodology used in the Tripura asset
 - He started by stating that stuck pipe events are one of the major reasons for NPT, with three prevalent stuck pipe event mechanisms, namely, differential (23%), hole geometry (32%) and pack off and bridging (45%). He also mentioned that string stuck-ups are normally released by conventional methods as per SOPs released by IDT, Dehradun
 - He elaborated on the usage of a concentrated, high temperature, stable alpha-amylase and cellulose enzyme complex to break down the integrity of the filter cake evenly.
 - He stated that efficient but specific hydrolysis would reduce the surface area of contact and release any differential stuck up, thus making enzymes an alternative to harsh chemical treatments in high temperature formations
- **Mr. Dheeraj Kapoor, Application of Internet of Things (IOT) in Reducing NPT & Improving Drilling Operational Efficiency** 
 - Mr. Dheeraj Kapoor discussed the application of Internet of things (IoT) in reduction of NPT and improvement of drilling operational efficiency. He stated the various causes of NPT, like, tripping operations, well control events, drilling fluid issues, wellbore instabilities, etc.
 - He discussed a case study that describes the role of software developed by Halliburton In real-time decision making and prediction of upcoming events during drilling operations
 - He further elaborated that the usage of IoT-based software can help in collection of precise data pertaining to drilling operations. IoT can not only help in reduction of NPT but can also enhance real-time well monitoring (RTWM)

Technical Conference Session 2: Advancement in Drilling Technologies (2/2)

Connect with the Presenters

- **Mr. Satheesh Srinivasan, WCE-Sales Representative, Schlumberger**
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- **Mr. Md Imtiaz, Executive Engineer (Production), ONGC**
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- **Mr. Dheeraj Kapoor, Consultant, Halliburton**
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Technical Conference Session 3: Decommissioning Best Practices (1/3)



In the frame, left to right, Mr. T.K Sen Gupta (Session Chair), Mr. Rajagopal Mahalingam (Presenter), Mr. Gurjot Singh (Presenter), Mr. Amit Jain (Presenter), Mr. Keshab Baishya (Presenter)

Session Brief

As oil and gas fields reach the end of their productive lives, decommissioning becomes a critical aspect of sustainable resource management and environmental stewardship. This session featured a series of presentations by industry experts on the future of decommissioning oil and gas wells, focusing on strategies, technologies, and regulatory considerations for safe and cost-effective decommissioning operations.

Presenters and Key Takeaways

- **Mr. Rajagopal Mahalingam, Evolution of the Decommissioning frameworks and Maturation of Supply chain** 
- Mr. Rajagopal Mahalingam discussed about the current state and the evolution of decommissioning best practices globally, highlighting the need for investments and collaborations to shape the industry.
- He then discussed the decommissioning framework, which included a comparative assessment required for a comprehensive decommissioning plan. Further he highlighted the challenges faced in Rig 2 reef and how to mitigate them. The presenter also talked about the value addition from front end activities such as eliminating hydrocarbon, collecting data through surveys and evaluation of various yards in India to shortlist the potential yards that may be considered during execution.

Technical Conference Session 3: Decommissioning Best Practices (2/3)

- Mr. Mahalingam further talked about how to develop a mature supply chain, contracting strategy and efficient execution. Hence covering the decommissioning plan in a comprehensive manner.
- **Mr. Gurjot Singh, : Decommissioning of floating structures** 
- Mr. Gurjot Singh through his presentation, covered case history and key takeaways from the Black Sea Georgia Decommissioning of Floating structure.
- He discussed the comprehensive field study which covered the biggest risk of hydrocarbon leak and how possible barriers (primary and secondary) were identified. It led to a potential saving of 1,85,000 hours.
- **Mr. Amit Jain, Development of best practices for decommissioning of fixed offshore platforms in Indian Western offshore** 
- Mr. Amit Jain discussed why decommissioning is required and highlighted decommissioning procedures and practices.
- Some examples of decommissioning procedures such as complete removal, rig to reef, alternate use were discussed in detail.
- The presenter underscored the shift of decommissioning practices to a more practical approach instead of stringent. He then mentioned the pivotal role of domestic regulators and supply chain management factors.
- **Mr. Keshab Baishya, Policy framework for Decommissioning in India** 
- Mr. Keshab Baishya advocated the policy framework of decommissioning and the decommissioning projects in India. He also highlighted the current procedures and challenges faced in decommissioning.
- He talked about the various reforms and policies in place and brought out the nuances of the policies.
- He stressed that contract carrying out a decommissioning project should have a clear understanding of the regulations. Guidelines and amendment in Site restoration Fund (SRF), must be created immediately after the first oil and gas production.
- He concluded the session by talking about how DGH is working towards improving procedures and practices of decommissioning.

Technical Conference Session 3: Decommissioning Best Practices (3/3)

Connect with the Presenters

- **Mr. Rajagopal Mahalingam, BOM & Project Manager, Shell**
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- **Mr. Gurjot Singh, Principal Design Engineer, Oceaneering**
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- **Mr. Amit Jain, Chief Engineer (Civil), IOCL** (jain_amit@ongc.co.in)
- **Mr. Keshab Baishya, Coordinator PF-II, DGH**
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Technical Conference Session 4: Unconventional Energy Sources – Potential and Challenges (1/3)



In the frame, left to right, Mr. Dustin Fife (Session Chair), Mr. Rajeev Upadhyaya (Presenter), Mr. Jagdish Chand (Presenter), Ms. Troyee Dasgupta (Presenter), and Mr. Ryan Clerico (Presenter)

Session Brief

Unconventional energy sources, such as Tight oil and gas, CBM, Shale Oil and Gas, Gas Hydrates etc. are gaining traction as optional resources to traditional fossil fuels. This session featured a series of presentations by industry experts on exploring the potential and challenges associated with these energy sources.

Presenters and Key Takeaways

- **Mr. Rajeev Upadhyaya, A preliminary study of quantification of CO₂ sequestration potential and associated incremental methane recovery from Jharia Coalbed Methane (CBM) field considering the CBM reservoir flow dynamics** 
- Production of Coal Bed Methane (CBM) by reduction of partial pressure is termed as Enhanced Coal Bed Methane Recovery (ECBM).
- Through his paper, Mr. Rajeev Upadhyaya aimed to integrate the existing knowledge of Indian CBM fields and present a mathematical model based computational approach to quantify the incremental recovery of methane when CO₂ sequestration is implemented in CBM reservoirs.
- He added that the study demonstrated the methodological approach in Jharia CBM field, though the workflow can be replicated in other coal fields of India for a comprehensive ECBM study for all CBM fields of India.

Technical Conference Session 4: Unconventional Energy Sources – Potential and Challenges (2/3)

- **Mr. Jagdish Chand, CBM Production Enhancement: Integration of Subsurface understanding and recent technological advancements- A case study** 
 - Mr. Jagdish Chand deliberated there are recent technological advancements which if integrated with proper understanding of subsurface, can not only enhance and accelerate gas production but also advance the process of gas recovery dramatically.
 - He added that with an objective to enhance gas production, new technologies were adopted in Sohagpur CBM block which includes in-seam lateral drilling, under balance drilling, use of Down Hole Gauge (DHG) and improvised downhole completion assembly.
 - He concluded saying Sohagpur experience showed a production improvement of 4-5 times from horizontal wells than vertical.
- **Ms. Troyee Dasgupta, Exploration of Deeper Coal bed reservoirs and optimisation of hydrofracturing design for optimum production** 
 - Ms. Troyee Dasgupta discussed that deeper coal seams are generally matured and has better gas content and saturation. Accordingly, though the wells targeting deeper seams often gives early gas break out but fails to achieve sustained pressure.
 - She added that combining core and petrophysical analysis, it is possible to identify the potentiality of deeper coal seams. A successful case study of Raniganj in India was also put forward.
 - She concluded with the importance of optimum dewatering which is required to enhance reservoir productivity hence maximise gas production.
- **Mr. Ryan Clerico, Oil Shale Co-Pyrolysis – A New Solution for the Circular Economy and Energy Security** 
 - Mr. Ryan Clerico apprised that retorting of oil shale has long been fundamental to Estonia's energy industry. Until recently, retorting oil shale posed economic challenges. However, advancements in technology and co-pyrolysis of waste materials have led to increased production of shale oil.
 - He highlighted India's untouched oil shale reserves present an opportunity for leveraging unconventional extraction through Enefit Technology. By tapping into these resources, India can diversify its energy portfolio.

Technical Conference Session 4: Unconventional Energy Sources – Potential and Challenges (3/3)

Connect with the Presenters

- **Mr. Rajeev Upadhyaya, Associate Professor, IIT (ISM)**
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- **Mr. Jagadish Chand, Reliance Industries Limited**
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- **Ms. Troyee Dasgupta, Deputy General Manager, EOGEP**
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- **Mr. Ryan Clerico, CEO of Enefit Outotec** (ryan.clerico@enefit.com)

Technical Conference Session 5: Energizing Role of Artificial Intelligence (AI) and Machine Learning (ML) in E&P (1/3)



In the frame, left to right, Dr. P. Chandrasekaran (Session Chair), Mr. Nakul Varma (Presenter), Mr. Umang Nagpal, Mr. Arun Babu Nalamara (Presenter) and Dr. Bappa Mukherjee (Presenter)

Session Brief

Artificial Intelligence (AI) and Machine Learning (ML) are transforming the oil industry, optimizing processes, reducing costs, and enhancing decision-making. This session featured a series of presentations by industry experts on how these technologies are reshaping oil production.

Presenters and Key Takeaways

- **Mr. Nakul Varma, First ever production enhancement from India's western offshore Assets through digitalization of well and network flowlines monitoring and analysis through AI-ML based workflows** 
- Mr. Nakul Varma started with bringing the Tech Revolution from the consumer world to the industry. He began with pointing out several differences between 20 years ago and now, and then highlighted the necessity of digitization in E&P. He points out the issue of production challenges in old fields and unconventional fields which are difficult to monitor and highlights a distinction between questions we know to ask and when we have unstructured data and don't know what to conclude from it.
- He also spoke on the reduction of CO2 emissions and costs on the company's end through digitization. He also said that digitization could help in safer operations.

Technical Conference Session 5: Energizing Role of Artificial Intelligence (AI) and Machine Learning (ML) in E&P (2/3)

- Finally, he concluded by highlighting that most industrial problems arise in 3 domains, Intelligent Operations, Production Assurance and Asset Performance, and how digitization can help in reduction of such problems.
- **Mr. Umang Nagpal, Optimizing Seismic Facies Analysis in E&P using Machine Learning Techniques** 
- Mr. Umang Nagpal presented his research paper on the topic of optimizing the analysis of seismic facies using Machine Learning. He explained how there has been an increasing amount of data and that the development of an unsupervised learning enabled model could help deepen the sense of the analysis.
- He then elaborated further on his model, pointing out that unsupervised data was arranged into similar clusters through its utilization. This meant grouping of observations that are closer together in terms of properties. He lastly pointed out a matrix that helps decide the optimal number of clusters being fed into the model.
- **Mr. Arun Babu Nalamara, Machine Learning Assisted Reservoir Characterization in BakrolField, Cambay Basin, India** 
- Mr. Arun Babu Nalamara begins with explaining that his model deals with supervised learning, wherein the input data and the corresponding output are fed into the program so that it can learn how to calculate and calculate with least error possible for future inputs.
- He demonstrated on how, through data cleaning, 3D seismic data, transformer models etc, the program was able to predict suitable areas for drilling with a high accuracy. He also mentioned that six new successful wells have been dug using this in previously undeveloped areas.
- The models incorporated 3D seismic data and well logs from 22 wells, and their performance was validated using blind wells, demonstrating high accuracy and reliability. The CNN model achieved 78% accuracy for Density and 71% for Resistivity.

Technical Conference Session 5: Energizing Role of Artificial Intelligence (AI) and Machine Learning (ML) in E&P (3/3)

- **Dr. Bappa Mukherjee, Energizing missing log imputation with deep learning: A case study from Bhogpara oil field, Assam-Arakan basin** 
- Dr. Bappa Mukherjee stated that missing log data is a common issue in Indian E&P, particularly in complex geological formations with multiple stratigraphic units. Traditional methods like K-nearest neighbors and random forests struggle with this due to lack of memory and inability to handle sequential information.
- He proposed application of Long Short-Term Memory (LSTM) networks to address the missing log problem. Data preprocessing steps include amalgamation, correlation matrix analysis, and histogram analysis to prepare the data for modeling.
- The LSTM model effectively predicts missing log values, with accuracy evaluated using metrics like root mean square error. The presenter demonstrated the model's performance on a case study with multiple missing logs in different formations.
- He presented a case study from a complex geological setup in an Indian Oil Gas basin with missing data across multiple formations and wells. Introduced advanced deep learning techniques such as Long Short-Term Memory (LSTM) networks and bidirectional LSTM to handle missing log data across multiple stratigraphic units

Connect with the Presenters

- **Mr. Nakul Varma, Production Subject Matter Expert - Digital & Integration, Schlumberger** (NVarma4@slb.com)
- **Mr. Umang Nagpal, Geophysicist(S) at SPIC, ONGC** (Nagpal_Umang@ongc.co.in)
- **Mr. Arun Babu Nalamara, Principal Geophysicist, Selan** (arun.babu@selanoil.com)
- **Dr. Bappa Mukherjee, Scientist B, Wadia Institute of Himalayan Geology** (bappamukherjee@wihg.res.in)

Technical Conference Session 6: Opportunities and Challenges in Emerging Indian Offshore Basins (1/3)



In the frame, left to right, Mr. David Hume (Session Chair), Mr. Subodh Notiyal (Presenter), Mr. Soumen Paul (Presenter), Ms. Rachaita Sen (Presenter), Ms. Bhavya K.B. (Presenter)

Session Brief

India offshore basins offers significant opportunities due to their untapped hydrocarbon reserves which underscores the need for a balanced approach to maximize the potential. This session featured a series of presentations by industry experts on how these opportunities can be harnessed while addressing the inherent challenges, paving the way for resilient and thriving offshore energy sector in India.

Presenters and Key Takeaways

- **Mr. Subodh Notiyal, East India seismic database generation and utilization for regional interpretation and Gross Depositional Environment (GDE) mapping** 
- Mr. Subodh Notiyal discussed the process of generation of seismic database for east India and utilization of the same for regional interpretation and Gross Depositional Environment (GDE) mapping
- He elaborated on the technique which requires the input 2D data from several legacy surveys to be matched for phase, time and amplitude, and is then transformed into 3D. The seismic data in combination with data from over 60 wells is used for a detailed regional interpretation
- He stressed on the importance of a comprehensive and accessible database for subsurface data that could result in time and cost savings for companies performing regional interpretation

Technical Conference Session 6: Opportunities and Challenges in Emerging Indian Offshore Basins (2/3)

- **Mr. Soumen Paul, Exploration opportunities in Andaman Back-arc basin, India** 
 - Mr. Soumen Paul discussed the hydrocarbon exploration opportunity currently presented by the Andaman back-arc basin in India by integrating the existing database along with the newly acquired seismic data
 - He mentioned that the total area under active exploration in the Andaman basin is 22,862 square kilometers. The basin is part of a major island arc-trench system extending from Myanmar in the north to Indonesia in the south.
 - He highlighted the initiatives taken by the Government of India in the Andaman basin like the Deep Andaman Offshore Project, sponsorship of one parametric well, and clearing a large swath of no-go areas for exploration
- **Ms. Rachaita Sen. A Success Story of Seismic Attribute Driven Satellite Exploration Pool** 
 - Ms. Rachaita Sen gave an overview of the Ravva PKGM-1 block which is a part of the KG offshore basin. The field has produced nearly 350 MMBBL oil and 450 BSCF gas till date.
 - She mentioned that attribute-driven sand-probability maps in the isolated reservoirs have aided in defining their lateral extents, which has paved the way for further analysis and integration of data to de-risk more LLM reservoirs across Ravva
- **Ms. Bhavya K.B., Evidence for Stretched Continental Crust in Northwestern Indian Deep Offshore: Opportunity for Hydrocarbon Exploration** 
 - Ms. Bhavya K.B discussed the evidence of stretched continental crust in northwestern (NW) Indian deep offshore which poses an opportunity for hydrocarbon exploration
 - She discussed how the NW continental margin has been evolving since the break of East and West Gondwana. She also mentioned that nature of the crust has direct implication on thermal maturation
 - She discussed that the earlier Moho interpretation, SDRs and magnetic anomaly interpretation in the NW offshore maybe deceptive. The extension of continental crust beyond EEZ uncovers hidden hydrocarbon potential for India

Technical Conference Session 6: Opportunities and Challenges in Emerging Indian Offshore Basins (3/3)

Connect with the Presenters

- **Mr. Subodh Notiyal, Business Development Manage, TGS**
(subodh.notiyal@tgs.com)
- **Dr. Soumen Paul, Deputy General Manager (Geology), ONGC**
(drsoumenpaul@gmail.com)
- **Ms. Rachaita Sen, Geologist, Vedanta** (rachaita.sen@cairnindia.com)
- **Ms. Bhavya K.B., Superintending Geophysicist, ONGC**
(b_bhavya@ongc.co.in)

Cultural Programme

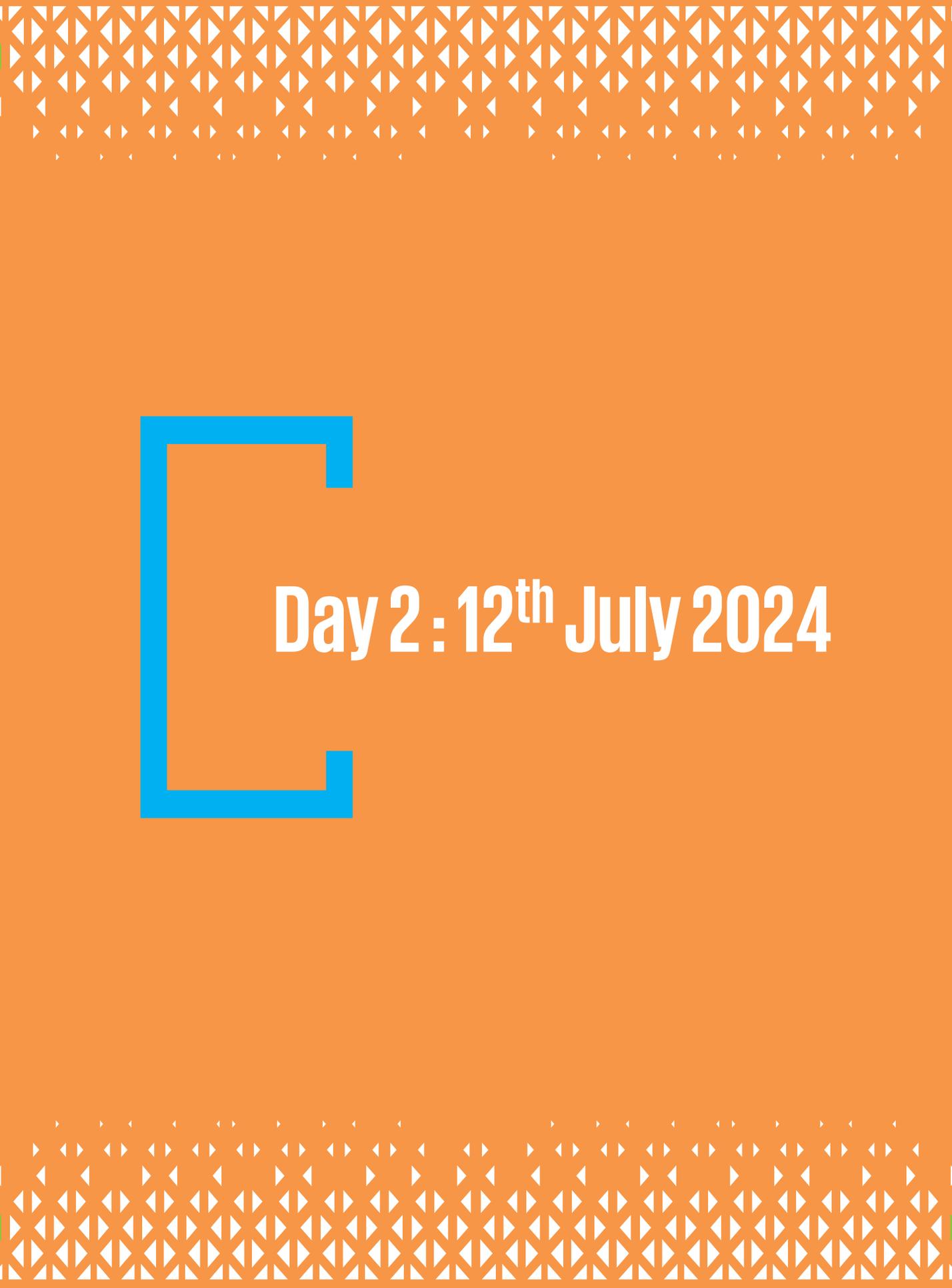
The cultural programme featured a captivating blend of music and tradition. The HAMELIN Band beautifully united culture and music, enchanting the audience and setting the perfect tone for the evening. The performance was followed by a mesmerizing Rajasthani folk performance by Ustad Gafur Khan Manganiar & Group leaving a lasting impression on all attendees.

HAMELIN Band: The Journey of Melody and Rhythm



Ustad Gafur Khan Manganiar & Group





Day 2 : 12th July 2024

Strategic Summit Spotlight Session: Emerging Opportunities for Investments in E&P Sector (1/4)



In the frame, left to right, Mr. Gautam Sinha (Speaker), Dr. Kaustav Nag (Speaker), Mr. Sachiv Kumar (Speaker), Ms. Pooja Verma (Speaker) and Ms. Neha Bhagat (Moderator)

Panel Brief

The exploration and production (E&P) sector remains pivotal in meeting global energy demands, and with evolving market dynamics and policy reforms, new opportunities for investment continue to emerge. This session delved into the promising prospects for investment in the E&P sector, focusing on new blocks on offer and policy reforms that enhance ease of doing business.

Key Takeaways

- **Policy reforms for ease of doing business, Mr Gautam Sinha, advisor strategy and planning DGH**
- Mr. Gautam Sinha delivered an insightful presentation on policy reforms aimed at enhancing ease of doing business in the oil and gas sector. He began by discussing the crucial reforms within the upstream sector, emphasizing their significance in streamlining operations and boosting investor confidence. He provided a comprehensive evaluation of the Exploration and Production (E&P) value chain, highlighting areas of improvement and potential opportunities for growth.

Strategic Summit Spotlight Session: Emerging Opportunities for Investments in E&P Sector (2/4)

- He underscored the importance of exploring untapped resources, particularly in India's upstream sector, and presented a detailed analysis of the current exploration landscape. By identifying new exploration opportunities,
- He elaborated on the recent policy reforms designed to create a more conducive business environment. These reforms aim to reduce bureaucratic hurdles and enhance regulatory clarity. Mr. Sinha stressed that such reforms are critical for attracting investment, fostering innovation, and ensuring sustainable development in the oil and gas industry
- **Exploration opportunities in the Indian Offshore Basin, Dr. Kaustav Nag, Additional Director General - Exploration, DGH**
 - Dr. Kaustav Nag's presentation delved into the exploration opportunities within India's offshore basin, providing a thorough overview of the oil and gas sector in India. He began by outlining the basics of the sector, highlighting India's status as an energy-deficient country that relies on imports to meet a significant portion of its energy needs. He pointed out that by 2050, India is expected to account for 14% of global energy demand, underlining the urgent need for strategic exploration and development.
 - Dr. Nag elaborated on the various basins across the country, emphasizing that a substantial amount of hydrocarbon reserves remain untapped. He discussed the potential locked within these reserves and the imperative of unlocking them to ensure energy security and sustainability. Acreage expansion and the introduction of new blocks were highlighted as key components of India's strategy to boost exploration activities.
 - A significant emphasis was placed on data-driven exploration, with Dr. Nag showcasing examples from the extensive data repository available at DGH. He stressed the importance of leveraging data to enhance exploration efficiency and accuracy, noting that data analytics and advanced technologies play a crucial role in modern exploration strategies.

Strategic Summit Spotlight Session: Emerging Opportunities for Investments in E&P Sector (3/4)

- **Opportunities in DSF and CBM , Mr. Sachiv Kumar, Additional Director General – Development, DGH**
 - Mr. Sachiv Kumar discussed about the opportunities in DSF and Coal Bed Methane (CBM) sectors. He began by discussing the DSF policy aimed at monetizing India's substantial hydrocarbon reserves. He provided an overview of the status of DSF policy implementation.
 - Transitioning to the topic of CBM, Mr. Kumar provided an update on its status and production potential. He emphasized the significant untapped potential within CBM reserves, noting that advanced technologies and innovative approaches can unlock this potential. He discussed the use of abandoned mines for CBM extraction.
 - Furthermore, Mr. Kumar advocated for infrastructure-led exploration. He emphasized that developing robust infrastructure is critical to support exploration activities and facilitate the efficient extraction and transportation of hydrocarbons. By investing in infrastructure, India can significantly enhance its exploration capabilities and operational efficiency.
- **Enhancing efficiency in environmental clearances, A case study of DGH, Ms. Pooja Verma, Consultant, DGH**
 - Ms. Pooja Verma presented an insightful case study on enhancing efficiency in environmental clearances within the Exploration and Production (E&P) sector, detailing DGH's strategic approaches and achievements. She began by outlining the statutory clearances required for E&P activities, emphasizing their critical role in ensuring environmentally responsible and sustainable operations.
 - Ms. Verma highlighted DGH's remarkable progress in reducing the significant backlog of environmental clearances. Through diligent efforts and streamlined processes, DGH has successfully transitioned from a period of substantial clearance delays to a more efficient and expedited system.
 - Ms. Verma identified the major reasons for delays in obtaining environmental clearances, She elaborated on the specific actions taken by DGH to mitigate these issues.

Strategic Summit Spotlight Session: Emerging Opportunities for Investments in E&P Sector (4/4)

Connect with the Speakers

- **Mr. Gautam Sinha, Advisor (Strategy and Planning), DGH**
(gautam.sinha@dghindia.gov.in)
- **Dr. Kaustav Nag, Additional Director General (Exploration), DGH**
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- **Mr. Sachiv Kumar, Additional Director General (Development), DGH**
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- **Ms. Pooja Verma, Environment Consultant, DGH**
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Strategic Summit Panel 7: Decarbonizing E&P: Challenges and Charting the Path Forward (1/4)



In the frame, left to right, Mr. Anish De (Moderator), Dr. Kaustav Nag, Mr. Ashish Verma (Speaker), Mr. Neeraj Sethi (Speaker) and Dr. Vikram Vishal (Speaker)

Panel Brief

As the world transitions towards a low-carbon future, decarbonizing the exploration and production (E&P) sector is imperative to mitigate climate change impacts. This session focused on the urgent need to decarbonize the oil and gas industry while maintaining energy production.

Panelists discussed strategies for reducing greenhouse gas emissions, including carbon capture and storage (CCS), reducing flaring and venting, and adopting renewable energy sources. The role of technological innovations, such as methane hydrolysis and advanced materials for hydrogen transport, was emphasized.

Industry-academia collaboration was highlighted as crucial for developing and implementing new decarbonization technologies. The discussion underscored the need for a comprehensive technological roadmap to achieve sustainable energy production and meet future decarbonization goals.

Strategic Summit Panel 7: Decarbonizing E&P: Challenges and Charting the Path Forward (2/4)

Speakers and Key Takeaways

- **Mr. Ashish Verma, Global Account Director, Schlumberger**
 - Mr. Ashish Verma highlighted the dual challenge of providing affordable energy while reducing greenhouse gas emissions.
 - Further, he elaborated that to tackle decarbonization, Schlumberger focuses on four key pillars: reducing its own emissions, decarbonizing oil and gas operations, assisting hard-to-abate industries with carbon capture and storage (CCS), and innovating for future energy systems.
 - He also discussed Schlumberger's transition technologies that help reduce emissions in oil and gas operations while improving performance. These include advanced drilling, completion technologies, and end-to-end emission solutions for reducing flaring and venting.
- **Mr. Neeraj Sethi, Area Director, Baker Hughes**
 - Mr. Neeraj Sethi highlighted the role of digital technologies in enhancing energy efficiency and reducing carbon emissions, mentioning specific applications like predictive analysis and remote operations, with specific instances of turbines with record low emissions and high efficiency, remote well steering during drilling etc.
 - He emphasized the need for research-driven solutions to address decarbonization challenges and the importance of anticipating future technological needs and maneuvering the research activities in proof-of-concept stage to meet the anticipated needs as only approx. 25% of the necessary technologies are available.
 - He discussed the potential of new technologies and materials, such as methane hydrolysis for hydrogen production and advanced materials for hydrogen transport infrastructure.

Strategic Summit Panel 7: Decarbonizing E&P: Challenges and Charting the Path Forward (3/4)

- **Dr. Vikram Vishal, Professor, IIT Bombay**
 - Dr. Vikram Vishal pointed out that two major reasons for the slow progress of CCUS technology development and adoption are lack of public support and absence of regulatory policy framework.
 - He discussed the potential of basalt formations for CO₂ storage and stated that India's storage potential is up to 340 gigatons and there is a pressing need for more research and funding in this area to build capabilities across institutions and industry.
 - He also underscored the need for investment in new technologies and materials, such as methane hydrolysis for hydrogen production, to achieve long-term decarbonization goals. The importance of hydrogen transportation infrastructure and the use of base metals instead of Gold or Platinum, for water splitting were highlighted as key areas of research.
 - While responding to a question on local talent development catering to the oil and gas industry during the Q&A session, he mentioned the need to prepare students and early-career professionals for roles in the evolving energy sector. This includes strong specialization with the ability to generalize across disciplines and continuous learning to adapt to new technological advancements.

Key Insights

Mr. Ashish Verma:

- “The challenge is how do we navigate this dilemma of providing affordable and accessible energy to billions while decarbonizing to mitigate climate change.”
- “Our transition technologies helped reduce around 800,000 tons of CO₂ emissions in 2023, showcasing the potential of technological innovation in decarbonizing oil and gas operations.”

Strategic Summit Panel 7: Decarbonizing E&P: Challenges and Charting the Path Forward (4/4)

Mr. Neeraj Sethi:

- “We need to invest in new technologies that are still in the lab today, like methane hydrolysis, to ensure a sustainable future 30 years down the line.”
- “Hydrogen transportation and the materials used for pipelines are critical challenges that need to be addressed for large-scale hydrogen use.”

Dr. Vikram Vishal:

- “India has almost up to 340 gigatons of CO₂ storage potential in basalt formations, but research is limited and needs more support and collaboration from the government and the industry.”
- “It’s essential to look at affordable materials for hydrogen production, such as base metals for water splitting, to scale up decarbonization efforts.”

Connect with the Speakers

- **Mr. Ashish Verma, Global Account Director, Schlumberger** (averma4@slb.com)
- **Mr. Neeraj Sethi, Area Director, India and Bangladesh, Baker Hughes** (neeraj.sethi@bakerhughes.com)
- **Dr. Vikram Vishal, Professor, IIT Bombay** (v.vishal@iitb.ac.in)

Strategic Summit Panel 8: Empowering Industry Landscape: Collaborative Resource Sharing (1/2)



In the frame, left to right, Mr. Sanjay K. Lale, Mr. Aman Sethi (Moderator), Ms. Molyama Kromah (Speaker), Mr. Rakesh Agiwal (Speaker), Mr. Ashutosh Kumar (Speaker) and Mr. R K Srivastava (Speaker)

Panel Brief

Collaborative resource sharing between large and small oil and gas producers presents a unique opportunity to optimize resource utilization, enhance operational efficiency, and foster industry collaboration. This session explored the potential benefits, challenges, and best practices associated with collaborative resource sharing initiatives in the oil and gas industry.

Speakers and Key Takeaways

- **Ms. Molyama Kromah, Head- Technical Solutions, BP**
 - Ms. Kromah stated that there are four main players in the E&P industry- the producers, the investors, the supply chain and the regulatory bodies. She mentioned that collaboration at various levels in the value chain reduces risks in the business, ensures resource development, and increases stable outcomes, particularly in challenging environments like India's oil and gas sector.

Strategic Summit Panel 8: Empowering Industry Landscape: Collaborative Resource Sharing (2/3)

- She mentioned instances of collaboration among E&P players in the Gulf of Mexico, where one of the oil companies from the Middle East collaborated to overcome a technology challenge, and in the Central North Sea where Shell and BP collaborated with the company that discovered the oil field
- **Mr. Rakesh Agiwal, Chief Policy and Regulatory Officer, Vedanta**
 - Mr. Rakesh Agiwal mentioned that Vedanta values collaborative partnerships. He gave an example of a partnership between an operator and a technology partner by stating that Vedanta has identified technology partner to provide low-cost offshore platforms which is very relevant for strategic discoveries offshore.
 - He highlighted that industry players can help each other upgrade contingent reserves, localize resources, and make unviable projects feasible, leading to overall cost reduction.
 - He also talked about Production Enhancement Contracts (PEC) where operators join hands. 29 new parties have joined for the DSF blocks. He stated that such collaborations are crucial for production from marginal fields.
- **Mr. Ashutosh Kumar, Chief Operating Officer, Oilmax Energy**
 - Mr. Ashutosh Kumar highlighted that Oilmax started onshore operations in Assam during the pandemic and resource sharing was a very critical part of its operations.
 - He mentioned about the collaborations between Oilmax and a local institute in Jorhat, Assam, to impart technical training to the students. He also illustrated the importance of collaboration with eminent institutes like IITs and IIMs to build competency.
 - Later, Oilmax partnered with Antelopus as a Joint Lead Operator of the Duarmara block in the Assam-Arakan Basin. Mr. Ashutosh mentioned that resource sharing saves both time and cost of procuring and maintaining resources.

Strategic Summit Panel 8: Empowering Industry Landscape: Collaborative Resource Sharing (3/3)

- **Mr. R K Srivastava, Country Head, Apeiron Management**
- Mr. R K Srivastava discussed the importance of resource sharing from the lens of greater exposure to specialized skills and capabilities beyond the boundaries of an organization. He also mentioned that sharing capabilities also enables in spreading the risk across several partners
- Mr. Srivastava stated that accessibility of the shared data and ease of storage of large volumes of data is crucial to resource sharing. He emphasized the importance of an open channel for communication

Key Insights

Ms. Molyama Kromah

- “If we all try to do it on our own independently, I think it's going to be a long journey before we see these things coming into the market..”

Mr. Rakesh Agiwal

- “Cost reduction, speed and strategic business partners are important levers for monetization of blocks”

Mr. Ashutosh Kumar

- “Competency building as an industry, and not a company is critical”

Mr. R K Srivastava

- “Building trust among the partners and early alignment to goals and values are important factors to be kept in mind during resource sharing”

Connect with the Speakers

- **Ms. Molyama Kromah, Head Technical Solutions, bp** (kromahm@bp.com)
- **Mr. Rakesh Agiwal, Chief Policy and Regulatory Officer, Vedanta** (rakesh.agiwal@cairnindia.com)
- **Mr. Ashutosh Kumar, Chief Operating Officer, Oilmax Energy Private Limited** (ashutosh@oilmax.in)
- **Mr. R K Srivastava, Country Head, Apeiron Management** (rks1_1962@rediffmail.com)

Strategic Summit Panel 9: Women in Oil and Gas sector (1/3)



In the frame, left to right, Ms. Swati Garg (Moderator), Dr. Pallavi Jain Govil IAS, Ms. Varsha Sinha (Speaker), Ms. Barnali Barua Tokhi (Speaker), Ms. Rashmi Govil (Speaker), Ms. Pomila Jaspal (Speaker)

Panel Brief

The session aimed to bring spotlight to the critical role of women in the oil and gas industry, with a focus on exploration and production (E&P). This panel discussion explored the challenges, successes, and future opportunities for women in oil and gas sector.

Speakers and Key Takeaways

- **Ms. Varsha Sinha, Secretary, Oil Industry Development Board**
 - Ms. Varsha Sinha advocated for nurturing the talent at a young age to see more women in leadership roles . She emphasized that establishing leadership programs, fostering a supportive environment, and ensuring fair consideration are pivotal in empowering women to ascend to leadership positions.
 - She further shed light on why women not continue in the workforce. She emphasized the need to balance family and work, which can be achieved by adjustments in the system such as offering flexible mode of working and sensitization of male counterparts

Strategic Summit Panel 9: Women in Oil and Gas sector (2/3)

- **Ms. Barnali Baruah Tokhi, Managing Director, Bharat PetroResources Limited**
 - Ms. Barnali Baruah expressed that to entice young professionals and new talent to join the energy industry, the industry should align itself for fulfilling net zero targets and a promising future of oil and gas.
 - She mentioned that there are policies to extend support to women. Some examples of such policies are 6 month of maternity leave, childcare leaves, POSH. She encouraged women to utilize this support and take part in operations to normalize all genders in the E&P industry
- **Ms. Rashmi Govil, Director (HR), Indian Oil Corporation Limited**
 - Ms. Rashmi Govil highlighted the programs and initiatives done by IOCL to help them overcome the challenges of geographical issue, low representation in a technical sector. She gave an example of Umeed outlets, which bring women prisoners to run outlets.
 - She further underscored the importance of gender sensitivity and behavioral change to remove unconscious bias against women.
 - She also stressed the importance of ensuring collaboration between male and female counterparts, so that they can work together effectively. She gave an example from her experience of how she ensured that even male colleagues are comfortable around her presence
- **Ms. Pomila Jaspal, Ex-Director (Finance), Oil and Natural Gas Corporation Limited**
 - Ms. Pomila Jaspal highlighted the pivotal role of a definitive program, which impart support to women candidates and encourage them to work. She shared her personal experience highlighting the evolution of infrastructure and programs designed to support women.
 - Ms. Pomila Jaspal advised the young generation to keep upscaling themselves and gain knowledge from available forums. She emphasized the importance of knowing the business and thus gaining confidence to indulge in conversations with the leadership

Strategic Summit Panel 9: Women in Oil and Gas sector (3/3)

Key Insights

Ms. Varsha Sinha:

- “To get women into leadership roles, first, we have to, at the early stage, identify, this talent and nurture it through various leadership development programs. When women To lead, everyone benefits”.

Ms. Barnali Baruah:

- “If you look at the industry today, at one point, we were talking about transition, but today we are more looking towards a net zero target, to entice the new talent to come into this industry, we have to position ourselves in a way that we are doing everything to have a net zero target which we will be fulfilling in the given time.”

Ms. Rashmi Govil:

- “For me, inclusivity is about a behavioral change. So, if the workplace has to be truly inclusive with a small segment of women, there has to be a behavioral change brought in in the mindsets Many a time, you know, there are unconscious gender biases in the systems, which we are not even aware of.”

Ms. Pomila Jaspal:

- “Females now at this point of time, they have to do is that they must have the determination, they must have the grit, and they must have the resilience to adapt to any situations”

Connect with the Speakers

- **Ms. Varsha Sinha, Secretary, OIBD** (secy.oidb@nic.in)
- **Ms. Barnali Baruah Tokhi, Managing Director, BPRL** (Barnali.tokhi@bharatpetroresources.in)
- **Ms. Rashmi Govil, Director (HR), IOCL** (govilr@indianoil.in)
- **Ms. Pomila Jaspal, Ex-Director (Finance), ONGC** (pomila24@gmail.com)

Strategic Summit Panel 10 : Digital Transformation in Upstream Operations (1/4)



In the frame, left to right, Mr. Sushant Rabra (Moderator), Mr. Gautam Sinha, Mr. O.P. Singh (Speaker), Mr. Atul Patni (Speaker), Mr. Anupam Srivastava (Speaker), Mr. John Chapman (Speaker) and Mr. Chitwan Garg (Speaker)

Panel Brief

The upstream sector of the oil and gas industry is undergoing a profound transformation driven by digital technologies, paving the way for enhanced efficiency, productivity, and decision-making capabilities. This session delved into the various aspects of digital transformation in upstream operations, exploring the latest trends, challenges, and opportunities in leveraging digital technologies to optimize exploration, production, and reservoir management activities such as IoT-enabled smart sensors for equipment monitoring, AI-powered predictive maintenance systems, blockchain for transparent supply chain management, and cloud computing for data storage and analysis.

Speakers and Key Takeaways

- **Mr. O.P. Singh, Director T&FS, ONGC**
 - Mr. O.P. Singh started with familiarizing the digital aspect of ONGC, and of how it has always been a front runner for digital transformation.

Strategic Summit Panel 10 : Digital Transformation in Upstream Operations (2/4)

- He talked about how there is a trend of regular adoption and upgradation within the company as well as it's influence on the strategy 2024, wherein they expect a big jump in revenue, efficiency , safety concerns etc.
- He further elaborated about the four pillars of ONGC (Safety, Productivity, Efficiency and Business Processes) and the role of technological development in each of these. He then gave examples of key initiatives such as digital analytics for safety in plants like Hazia and Dahej, and the online billing supervisor concept to improve efficiency and reduce offshore team size. The ONGC Darpan, Digital Cente, facilitates real-time data monitoring and issue resolution. Additionally, AI has been implemented in HR and finance, centralizing invoices and speeding up vendor payments.
- The usage of video analytics for safety measures, online drilling supervision for reduction of offshore personnel as well as centralization of all invoices in finances and H.R. of the company showed up some examples of the above.
- **Mr. Atul Patni: Head, Digital, Vedanta Ltd.**
 - Mr. Atul Patni started with elaborating on the concept at the core of technological innovation within the company, impacting KPIs. He discussed Vedanta's digital transformation efforts aimed at optimizing exploration, development, asset management, and safety.
 - He gave examples of key initiatives such as online process optimization at Suwadi and Barmer plants, resulting in a 30% reduction in bearing issues, IoT deployment for real-time data monitoring, edge computing for artificial lift systems, and the use of over 200 safety surveillance cameras to enhance proactive safety measures.
- **Mr. Anupam Srivastav: Director BD, North Emmerson**
 - Mr. Anubhav Srivastav highlighted the importance of real-time data in decision making within the company and how traditional data collection is infrequent and inefficient, hence adversely affecting decision-making.

Strategic Summit Panel 10 : Digital Transformation in Upstream Operations (3/4)

- He then showcased examples of the usage of technology in decision making, such as smart sensors which provide data directly to software and processes it into actionable information.
- **Mr. John Chapman, Regional Service Manager, APAC**
- Mr. John Chapman talked about the history of the usage of technology in the Oil and Gas sector, beginning with the fact the O&G led the world in using computers and machines in the 20th Century. He then pointed out that the trend shifted in early 2000s when off-the-shelf tech was starting to be utilized in O&G.
- Mr. Chapman then highlighted the modern state of technology in O&G, wherein now different tech within the same company comes from different vendors and how there has been a rise in collaborations with vendors recently.
- The Speaker also highlighted that the solutions now involve people and processes and therefore the technology is now utilized by all stakeholders.
- **Chitwan Garg, Divisional Country Manager, SLB**
- Mr. Chitwan Garg mentioned how the energy sector pioneered the adoption of technology as the driving force. He then elaborated on the several collaborative projects between SLB and ONGC.
- Mr. Chitwan highlighted key digital transformation projects in India's upstream oil and gas sector. Discussed ONGC's implementation of SCADA at enterprise scale to identify and resolve production bottlenecks, and collaborations with ONGC, Oil India and Vedanta on automating drilling reporting systems and real-time operation centers. These initiatives have significantly enhanced operational efficiency and productivity by enabling real-time monitoring and data.
- He further underscored the importance of companies collaborating to standardize drilling data for in-depth analysis.

Strategic Summit Panel 10 : Digital Transformation in Upstream Operations (4/4)

Key Insights

Mr. O.P Singh:

- "There are four foundational pillars of ONGC's operations. The first and foremost is safety, which is of paramount importance to us. The second pillar is productivity, third pillar is efficiency, optimizing our resources and processes. The fourth pillar encompasses our business processes. We are committed to enhancing each of these segments through dedicated digital efforts"

Mr. Atul Patni :

- "All these initiatives are centralized, allowing petroleum engineers to make informed decisions. We've deployed over 200 safety cameras, resulting in more than 7,000 observations of unsafe conditions over two years, leading to proactive actions. This technology helps streamline decision-making and enhances overall safety.

Mr. Chitwan Garg:

- "Collaboration among operators, service partners and technology providers is crucial for advancing digital transformation. Additionally, investing in cybersecurity and cloud computing will unlock the potential of gathered data, enhancing efficiency in digital operations."

Connect with the Speakers

- **Mr. O.P Singh, Director Technology and Fields Services, ONGC** (dir_tfs@ongc.co.in)
- **Mr. Atul Patni, Head Digital, Vedanta Limited** (atul@cairnindia.com)
- **Mr. Anupam Srivastav, Director Sales, North, Emerson India** (anupam.srivastava@emerson.com)
- **Mr. Chitwan Garg, Divisional Country Manager, Schlumberger** (cgarg@slb.com)
- **Mr. John Chapman, Regional Service Manager, APAC Halliburton** (john.chapman2@halliburton.com)

Technical Conference Session 7: Advances in Subsea Technologies (1/3)



In the frame, left to right, Mr. T.K Sen Gupta (Session Chair), Mr. Hari Srivastava (Presenter), Mr. Chirag Jayswal (Presenter) and Mr. Chinna Rao Gorli (Presenter)

Session Brief

Subsea technologies are critical for offshore oil and gas exploration, renewable energy installations, and underwater infrastructure. This session featured a series of presentations by industry experts on recent advances in subsea technologies, highlighting innovations and their impact on the industry.

Presenters and Key Takeaways

- **Mr. Hari Srivastava, Drilling & Completion of Deepwater wells in R Cluster KG Basin** 
- Mr. Hari Srivastava discussed three recent subsea projects and highlighted major issues, including narrow drilling margins, wellbore instability, hydrate formation, lack of well control, and weather problems.
- He presented a case study from RIL on the successful execution of the R-Cluster deep-water project in East Coast, India. Despite challenges, including the COVID-19 pandemic, the project achieved significant savings of approximately 11 days per well and maintained non-productive time (NPT) within 5%. This was accomplished through risk evaluation, mitigation measures, and best practices such as 24/7 real-time monitoring and the Alternate Path Sand Screen System.

Technical Conference Session 7: Advances in Subsea Technologies (2/3)

- He also mentioned the role of technology in the project, stating several different technologies used and how they helped in an unstable environment.

- **Mr. Chirag Jayswal, Managing late-life subsea assets with an integrated approach: Leveraging advanced technologies including Subsea Robotics and Remote Operations** 

- Mr. Chirag Jayswal discussed the use of robotics and remote operations for managing subsea asset integrity. He highlighted that IMT, which constitutes about 25-30% of operational expenses, can be replaced with Oceanaries' IMRG, focusing on better data processing and technology for subsea inspections.

- He explained the workings of the underwater vehicle system developed by the company, its ability to determine asset health through 3D models, and the substantial cost and carbon footprint reduction it achieves.

- He also mentioned the customizability of the products to suit client needs and introduced other products for subsea asset management.

- **Mr. Chinna Rao Gorli. Flow Assurance Strategies in Indian Deep waters** 

- Mr. Chinna Rao presented on flow assurance strategies in Indian deep water. He discussed his research paper, which aimed to analyze the risks associated with current wax fouling methods and elaborated on a product that mitigated these risks effectively.

- He explained that Indian deepwater crude oil contains high levels of paraffin, which can solidify and clog pipelines. The oil, with high wax content and pour point, substantial yield strength, and cold seabed temperatures (4-10 degrees Celsius), presents formidable flow assurance challenges in oil production and transport.

- After several experiments, the viscosity of the wax content, with an initial flowing temperature of 30-50 degrees Celsius, was reduced to 8-9 degrees Celsius using Pour Point Depressants (PPDs).

- He emphasized that the technique has increased production to 12,000 barrels of oil per day. With the addition of two more fields, production is expected to reach 45,000 barrels per day. Additionally, diesel has no impact on crude oil's pour point, viscosity, or yield strength.

Technical Conference Session 7: Advances in Subsea Technologies (3/3)

Connect with the Presenters

- **Mr. Hari Srivastava, Senior Lead -Drilling and Completion, Reliance Industries Limited** (hari.srivastava@ril.com)
- **Mr. Chirag Jayswal, Engagement Head, Oceaneering** (cjayswal@oceanengineering.com)
- **Mr. Chinna Rao Gorli, Sr.Chemist, ONGC** (gorli_chinnarao@ongc.co.in)

Technical Conference Session 8: Unlocking Potential: Revival of Non-flowing Wells (1/3)



In the frame, left to right, Mr. N.K. Bharali (Session Chair), Mr. Shahjan Bukhari (Presenter), Mr. Amit Saxena (Presenter), Mr. Vipin Gupta (Presenter) and Ms. Shreya Singh (Presenter)

Session Brief

Reviving non-flowing oil wells, also known as "shut-in", "sick" or "abandoned" wells, presents a significant opportunity to increase oil production. This session featured a series of presentations by industry experts on the methods, technologies, and economic implications of revitalizing these wells.

Presenters and Key Takeaways

- **Mr. Shahjan Bukhari, Unlocking Potential: Revival of Nonproducing field of Bhandut** 
 - Mr. Shahja Bukhari presented the case study of the Bandhut Field, located near Surat, and provided a brief timeline of events leading up to Kiri Energy's acquisition of the field and the events following the acquisition.
 - He began with the timeline of the field, starting with its discovery by ONGC in 1976 and its acquisition by GSPC and Niko in 1994, after which Niko drilled four more wells. The field was acquired by Kiri Energy in 2021, and since then, the company has drilled four additional wells. There are now a total of 11 wells, with 2 for exploration, 2 for appraisal, and 7 for development.

Technical Conference Session 8: Unlocking Potential: Revival of Non-flowing Wells (2/3)

- Mr. Bukhari highlighted the developments made by Kiri Energy, such as drilling four wells with in-house equipment and achieving a peak production of 2 lakh SCM.
- He also elaborated on the current issues the firm is facing with the field, including sand problems and water loading. To address these issues, the firm is taking measures like conducting reservoir studies, performing PLT tests, and using echo techniques to identify production arrest
- **Mr. Amit Saxena, Microwave-Assisted Mobilization of Viscous Crude Oil for Improved Oil Recovery and Flow Assurance Applications: A Study on Lab-to-Field Approach** 
 - Mr. Amit Saxena delved into his research paper on microwave-assisted mobilization of viscous crude oil, co-written with Mrs. Shivanjali Sharma. He began by listing common problems faced by firms, such as fire tubes, hotspot generation, and depositions, and suggested that a sustainable solution could lie on a different path..
 - Mr. Saxena proposed his idea of a Microwave 3-phase separator which uses microwaves for upgrading crude oil. It is suggested to be cost-effective and environmental. A few more incentives for usage of the separator as the presenter talked about selective heating and a lower temperature upgrading the oil.
 - He addressed the challenge of microwaves heating only polar components, noting that while crude oil is non-polar, the presence of asphaltenes, which are polar, aids in upgrading at lower temperatures.
 - He mentioned that the separator reduced the processing time from 1.5 to 2 hours to just 45 minutes. He also discussed plans for upscaling the project for large oil fields and ongoing work on downhole units to achieve separation below the surface.
- **Mr. Vipin Gupta, Realizing Locked In Potential (LIP) through Idle Well Restoration (IWR) Strategy & Framework** 
 - Mr. Vipin Gupta presented a case study from Southeast Asia on realizing LIP (Locked in Potential) through IWR (Ideal Well Restoration). He sought to answer why there is an increasing number of idle wells, referencing the technical and operational problems faced by companies and the process of restoring idle wells.

Technical Conference Session 8: Unlocking Potential: Revival of Non-flowing Wells (3/3)

- He emphasized that a significant part of the issue lies in the management of such projects. He pointed out the lack of visibility of these wells within firms, as most KPIs are production-oriented. Additionally, he noted the challenge of coordinating multiple departments for these projects.
- Further, he discussed a case study of a firm where initially 10% of the wells were idle, and this number began to double. The firm's solution involved creating visibility and accountability, fostering a collaborative work environment and forums, compiling a consolidated list of opportunities with clear and regularly tracked actions, implementing the forum, and identifying appropriate technology.
- **Ms. Shreya Singh, Unlocking Hidden Production Potentials through an Integrated Rigless Intervention Approach in Southeast Asia** 
- Ms. Shreya Singh presented two case studies titled "Unlocking Hidden Production Potential through Integrated and Innovative Rigless Intervention." She emphasized that both innovation and integration were key approaches in these case studies.
- She highlighted the importance of selectivity, noting that the high number of idle wells makes it impossible to address all of them simultaneously. She proposed the concept of an integrated team, involving personnel from all relevant processes working together.
- The first case study focused on a company with over 400 identified strings. After candidate analysis and selection, the number was significantly reduced. An integrated team, including but not limited to an artificial lift engineer and a completion engineer, was appointed. The campaign was divided into two parts: a study and execution, addressing problems such as sand influx and well integrity.
- The second case study was similar in approach but focused on issues related to sand and gas lift efficiency.
- In both cases, the process involved identifying the pool, conducting a tech review to reveal shut-in wells, ranking candidates, and mobilizing resources.

Technical Conference Session 8: Unlocking Potential: Revival of Non-flowing Wells (3/3)

Connect with the Presenters

- **Mr. Shahjan Bukhari, Drilling Engineer, Kiri Company and Logistics** (drilling.bmr@kirienergy.in)
- **Mr. Amit Saxena, Assistant Professor, RGIPT** (asaxena@rgipt.ac.in)
- **Ms. Shreya Singh, Lead Business Development, Schlumberger** (ssingh116@slb.com)

Technical Conference Session 9: Towards Net Zero: New Energy Sources (1/2)



In the frame, left to right, Mr. Tevfik Kaya (Session Chair and Presenter), Prof Birendra Jha (Presenter), and Mr. Partha Roy (Presenter)

Session Brief

As the world transitions towards a net-zero carbon emissions future, the exploration and adoption of new energy sources are crucial. This session featured a series of presentations by industry experts on emerging energy sources that have the potential to contribute to achieving net-zero emissions targets.

Presenters and Key Takeaways

- **Mr Tevfik Kaya, Holistic Geothermal Solution: Merging Subsurface and Surface Expertise to Optimize Geothermal Plant Design and Execution** 
- Mr Tevfik Kaya shared a successful case study wherein Schlumberger collaborated with Yerka Electricity Generation Co. to provide an end-to-end service necessary for the successful exploration and development of the Mount Ida geothermal project [a key project in Turkey's priority efforts to diversify its energy mix for electricity generation from renewable sources].
- He highlighted successful projects require risk characterization and multi-disciplinary experienced geoscience and engineering expertise to bring projects online economically and to maintain their productivity over terms of 20 years or more for commercial success.
- He concluded with discussing the geothermal potential in India along with a map of favourable areas for geothermal development in India.

Technical Conference Session 9: Towards Net Zero: New Energy Sources (2/2)

- **Prof Birendra Jha, Advanced geomechanical modeling for optimizing well location and well control during CO2 storage and enhanced hydrocarbon recovery** 
- Initiating the discussion on exploring the emerging energy sources that have the potential to contribute to achieving net zero emission targets, the presenter showcased the geomechanics studies.
- He emphasized the critical role of geological faults in carbon storage and their impacts due to proximity. Prof. Jha also highlighted the importance of geomechanical modeling in understanding fault behavior and its implications for leakage prevention, as well as its significance in carbon and hydrogen storage.
- He shared his detailed scientific inputs on how long-term depletion/injection can cause irreversible deformation and how optimisation distributes injection among wells such that fracturing is avoided.
- **Mr. Partha Roy, Towards Net Zero: New Energy Sources** 
- Mr. Partha Roy informed that as a prudent oil and gas operator, the various green initiatives adopted by SunPetro has been playing a vital role to meet the target of net zero carbon emissions future.
- He presented the various initiatives taken by SunPetro including but not limited to – introduction of zero gas flaring at all sites, around 50 innovations implemented so far across the E&P business out of which few have been patented, chemical injection by gravity, use of ejector for gas compression, use of energy saving equipment at process plants, commissioning of state-of-the-art inhouse system for refuse, reduce, reuse, recycle, and repurpose.

Connect with the Presenters

- **Mr Tevfik Kaya, Manager- New Energy Geothermal, Schlumberger** (TKaya@slb.com)
- **Prof Birendra Jha, Assistant Professor of Petroleum Engineering, University of Southern California** (bjha@usc.edu)
- **Mr. Partha Roy, General Manager - Projects & Development, SunPetro** (partha.roy@sunpetro.com)

Technical Conference Session 10: Advances in Reservoir and Well Management (1/3)



In the frame, left to right, Dr. Hemanta Sarma (Session Chair), Mr. Pankaj Kumar (Presenter), Mr. Anurag Misra (Presenter), Mr. Hugo Espinosa (Presenter) and Mr. Pradhan Maheswar (Presenter)

Session Brief

Effective reservoir and well management are essential for optimizing oil and gas production, maximizing recovery rates, and ensuring operational efficiency. This session featured a series of presentations by industry experts on recent advancements in reservoir and well management practices and technologies

Key Takeaways

- **Mr. Pankaj Kumar, Evaluating Carbonated Water Injection (CWI) for Enhanced Oil Recovery (EOR) in the Upper Assam Basin** 
- Mr. Pankaj Kumar's presentation explored the potential of Carbonated Water Injection (CWI) as an Enhanced Oil Recovery (EOR) technique and CO₂ sequestration method in a mature Indian oil field in Assam. Laboratory and reservoir modeling studies were conducted, utilizing a high-resolution geocellular model that successfully matched 34 years of production data using a commercial simulator.
- The presentation detailed various development scenarios and CWI EOR modeling, demonstrating how CWI, by dissolving CO₂ into the oil phase, improves oil mobility and causes oil swelling. The successful implementation of CWI in India promises to significantly boost oil production while reducing the carbon footprint, highlighting its dual benefits of enhanced recovery and environmental sustainability.

Technical Conference Session 10: Advances in Reservoir and Well Management (2/3)

- **Mr. Anurag Misra, Solving Complex Hydraulic Fracture Diversion Challenge in Multi-Layered Heterogeneous and Depleted Reservoirs** 
 - The presentation addressed the complexities of hydraulic fracturing diversion in multilayered heterogeneous and depleted reservoirs, highlighting key technological advancements and processes. With 100 wells drilled in the case study, the discussion focused on the intricacies and limitations of hydraulic fracturing, particularly in the context of reservoir depletion.
 - The impact of reservoir depletion on hydraulic fracturing efficiency was thoroughly examined, underlining the challenges faced in maintaining optimal production levels. To mitigate these challenges, the implementation of supplementary diversion technology was discussed, showcasing innovative approaches to enhance fracturing efficiency and ensure sustainable reservoir management.
 - This presentation underscored the importance of adopting advanced technologies to address the multifaceted challenges in hydraulic fracturing, aiming to optimize resource extraction and maintain the longevity of reservoir productivity.
- **Mr. Hugo Espinosa, Dynamic reservoir characterization using Deep-Transient Testing** 
 - The presentation delved into the innovative approach of Dynamic Reservoir Characterization using Deep-Transient Testing (DTT). He highlighted the sustainable benefits of this method for reservoir-scale management.
 - He elaborated on the advantages of DTT over traditional Drill Stem Testing (DST), emphasizing its efficiency and accuracy. The process of conducting DTT and the various measurements it provides were discussed in detail. These measurements are crucial for creating a comprehensive reservoir characterization, offering valuable insights for optimizing resource extraction and ensuring sustainable reservoir management without conducting a full DST.

Technical Conference Session 10: Advances in Reservoir and Well Management (3/3)

- **Mr. Pradhan Maheswar, Integrated approach for Improving Reservoir Management and unlocking the Bypassed reserves: A case study for a Mature Carbonate Reservoir of Mumbai Offshore** 
- The presentation provided a comprehensive case study addressing bypassed oil recover. Utilizing an integrated approach combining classical reservoir engineering and reservoir simulation, the study aimed to improve production and ultimate recovery.
- The methodology involved performance analysis, interwell tracer surveys, and streamline analysis to quantify Improved Oil Recovery (IOR) opportunities.
- Findings revealed that water preferentially moved into lower layers of the M3 reservoir due to permeability contrasts. To better understand reservoir anisotropy, the static model was revised, leading to a good history match in dynamic simulation. The study also suggested exploring additional hydrocarbon accumulations in shallower reservoirs.
- Consequently, a development scheme was formulated, leading to the drilling of 12 new wells from two offshore platforms, targeting the M3 reservoir and probing the shallower M1 reservoir for extended hydrocarbon recovery.

Connect with the Presenters

- **Mr. Pankaj Kumar, Dy. Chief Reservoir Engineer, OIL** (pankaj_kumar@oilindia.in)
- **Mr. Anurag Misra, Head Capex, Petroleum Engineering, RJ South, Vedanta** (anurag.misra@cairnindia.com)
- **Mr. Hugo Espinosa, Petrophysics & Acoustics Domain Champion, Schlumberger** (hespinosa@slb.com)
- **Mr. Pradhan Maheswar, Chief Manager(Reservoir), ONGC** (pradhan_maheswar@ongc.co.in)

Technical Conference Session 11: Advancements in Geophysical Technologies for Oil and Gas Exploration (1/3)



In the frame, left to right, Dr. Manas K. Sharma (Session Chair), Mr. Mrinmoy Sharma (Presenter), Mr. Nasimudeen Nedeer (Presenter), Prof. Rajesh Nair (Presenter) and Mr. Sanjiv Kalita (Presenter)

Session Brief

Dr. Manas K. Sharma commenced his address by highlighting the critical role of geophysical techniques employed by Exploration and Production (E&P) companies to locate and characterize potential oil and gas deposits in both conventional and unconventional reservoirs. He emphasized the importance of geophysical technologies, noting their ability to provide increased accuracies, especially in frontier areas and challenging plays. These technologies are extensively used for reservoir characterization, offering cost efficiency and non-invasive methods. This session featured a series of presentations by industry experts on discussions and research conducted by companies and academia, focusing on enhancing data interpretation and our understanding of reservoirs.

Presenters and Key Takeaways

- **Mr. Mrinmoy Sharma, Basement fracture characterization using AVAZ-VVAZ for basement play in South Assam shelf** 
- Mr. Sharma and his team conducted a study on Basement Characterization using amplitude and velocity variation with azimuth in the Borholla field, Assam, one of India's largest fields producing from a basement reservoir.

Technical Conference Session 11: Advancements in Geophysical Technologies for Oil and Gas Exploration (2/3)

- Their study found that wells with drilling-induced fractures parallel to the direction of maximum horizontal stress were good oil producers and mapping these fractures can help them in identifying productive wells.
- Their future objective is to enhance production from a basement reservoir in a field nearby Borholla field with this geophysical understanding and placing the wells in locations where major faults in the basement align with the maximum horizontal stress direction. This strategy will leverage the understanding of geophysics, vector physics, and reservoir characteristics to boost output from nearby fields.
- **Mr. Nasimudeen Nedeer, Integrated Seismic inversion study and facies modelling for effective delineation and de-risking of a gas field: A case study from Mumbai offshore basin** 
- The presentation was based on a study conducted by Adani Welspun's team in the Tapti-Daman Block of the Mumbai Offshore Basin aimed to delineate reservoir geometry and continuity with reasonable certainty and build a facies model by integrating geoscientific data. It highlighted the application of seismic technology as part of an integrated analysis to establish the reservoir boundaries and channel geometries with reasonable certainty.
- Their methodology involved seismic well tie, cross plot analysis, and wedge modelling which indicated a strong correlation between the hydrocarbon reservoir and seismic amplitude anomaly. This approach demonstrated the added value of seismic data in predicting reservoir thickness away from well and supporting reservoir and fluid continuity across fault blocks.
- Mr. Nasimudeen Nedeer further explained how seismic inversion-guided facies modelling helped delineate reservoir limits and identify different channel architectures, such as central channels and overbank facies. The model increased confidence and reduced development cycle time. Moreover, the study found that V_p/V_s ratio and acoustic impedance are effective discriminators for fluid, and this information was utilized in the inversion process to capture missing data.

Technical Conference Session 11: Advancements in Geophysical Technologies for Oil and Gas Exploration (3/3)

- **Prof. Rajesh Nair, Deep-Learning-Based Low-Frequency Reconstruction in Full-Waveform Inversion Using Regularized Objective Functions and Velocity Distribution Information from Wells** 
 - Prof. Nair presented his derivations from integrating deep neural networks (DNNs) with full-waveform inversion (FWI) provides a powerful solution by merging data-driven and physics-based methods. He stated that this approach allows for quick and accurate predictions of subsurface properties, reducing computational costs and improving accuracy, which is beneficial for geophysical exploration and hazard management.
 - The study used several techniques to improve inversion efficiency. A Hanning-based window was designed to reduce the Gibbs effect during frequency splitting. An encoder-decoder-type 3D CNN converted high-frequency traces to low-frequency counterparts, accurately reconstructing low frequencies and reducing cycle-skipping issues.
 - High-Resolution Prior Model was created from predicted mean and variance fields to improve inversion resolution. The professor underscored that this model preserved high-resolution well information and improved FWI accuracy by including the statistical relationship between the initial FWI model and facies from well logs.
- **Mr. Sanjiv Kalita, Carbonate Reservoir Characterization using collective Geophysical Interpretation Techniques** 
 - Mr. Sanjiv Kalita presented a study that employed four methodologies for geophysical interpretations – 3D seismic attribute analysis and calibration with well data, genetic inversion using neural networks, generalized spectral decomposition (GSD) and RGB blend, and stochastic geological modeling – to collectively indicate facies variation and important reservoir characteristics.
 - He discussed how lateral variation of average porosity is crucial for characterizing carbonate reservoirs. This variation helps differentiate reservoir facies between dry wells and discovery wells
 - He added that when the results from the three average porosity maps, and the RGB blend were combined, identifying sweet spots for placing initial development wells became easier.

Technical Conference Session 11: Advancements in Geophysical Technologies for Oil and Gas Exploration (3/3)

- He concluded by mentioning that updating the study with new well data can provide more insights into lateral facies variation, demonstrating the value of integrating various geophysical techniques for effective reservoir characterization.

Connect with the Presenters

- **Mr. Mrinmoy Sharma, Suptdg. Geophy.(S), ONGC**
(sharma_mrinmoy@ongc.co.in)
- **Mr. Nasimudeen Nedeer, Deputy General Manager – Geophysics, AWEL**
(nasimudeen.nedeer@awel.com)
- **Prof. Rajesh Nair, Professor, IIT Madras** (rajeshnair@iitm.ac.in)
- **Mr. Sanjiv Kalita, Senior Geologist and Geomodeller, Invenire Energy**
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Valedictory Session- Remarks by Secretary, MoPNG

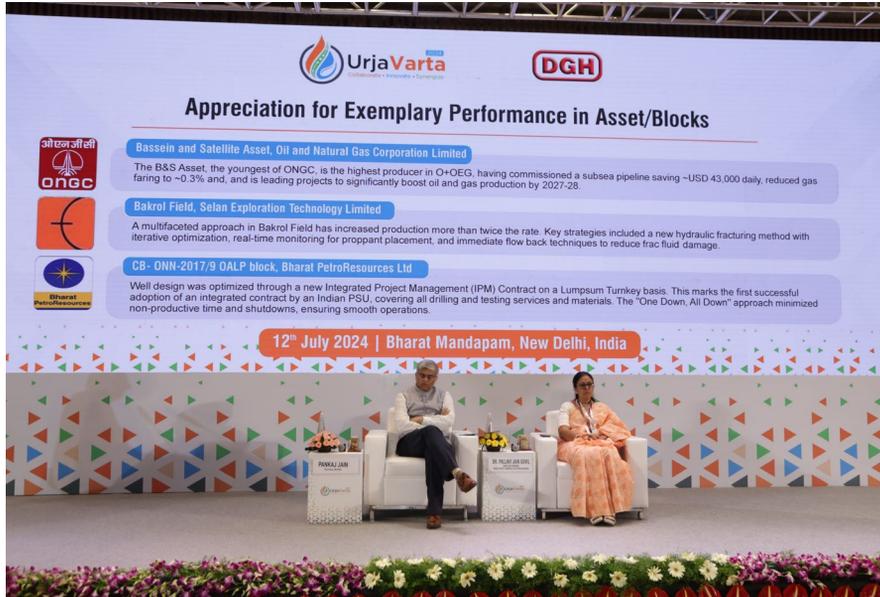


In the frame, Pankaj Jain, Secretary MoPNG

- Mr. Pankaj Jain, Secretary MoPNG, in his closing remark, underscored that UrjaVarta established a space to address critical issues of exploration sector, urging introspection to effectively resolve challenges.
- He highlighted the urgent need to expediate the timelines, by breaking them, and recognizing the vital role of energy in our nation's growth.
- He stressed the necessity to increase the workforce in the exploration sector, innovate and adopt new approaches through building upon past successes such as revenue sharing, DSF, investments in data and finding new fields in Andaman.
- The Secretary emphasized that quantum of data is available and can be utilized in processing technology
- He also mentioned that we need to support our burgeoning startup system and hence stimulate development of new-age solutions that benefit companies
- The Secretary noted substantial improvements through research and development on equipment is happening internationally. These developments are particularly beneficial for remote and challenging geographies.
- The Secretary suggested that India should focus on optimizing costs, revisiting specifications, generating and hence offering new contracts, and streamlining approval

Valedictory Session – Appreciation for Exemplary Performance in Asset/Block

Appreciated: ONGC, Selan Exploration Technology and BPRL



In the frame, Mr. Pankaj Jain, Secretary MoPNG and Dr. Pallavi Jain Govil IAS, DG, DGH

Description:

- ONGC's Bassein and Satellite Asset in Mumbai Offshore Basin has significantly reduced OPEX, enhanced productivity and sustainability with their subsea pipelines, and reduced gas flaring. As the youngest ONGC asset, it has mitigated production loss and safety risks, saving approximately USD 43,000 daily by commissioning a 37.50 km subsea pipeline and reducing gas flaring to 0.3% through the Asset Exchange Policy and improved turbine efficiency.
- Bakrol Field in Cambay Basin, operated by Selan Exploration Technology Limited, has more than doubled its production. They adopted an innovative approach with multiple iterations to optimize production through frac half-length and frac conductivity. Their real-time monitoring system to optimize proppant placement and immediate flow-back technique to minimize frac fluid-related damage is highly commendable.
- BPRL's CB-ONN-2017/9 OALP Block in Cambay Basin epitomizes the successful adoption of an Integrated Contract approach, covering all services and materials required for drilling and testing wells. This is the first time an Indian PSU has implemented this approach.

Valedictory Session – Appreciation for Exemplary Performance in Health, Safety and Environment

Appreciated: ONGC, OIL and SLB



In the frame, Dr. Kaustav Nag, Additional Director General (ADG) - Exploration, DGH

Description:

- ONGC's Mehsana asset has developed a dense forest by planting over 5,000 saplings using treated effluent water. The asset is also utilizing treated effluent water for irrigation leading to zero groundwater dependency in North Gujarat region.
- OIL's Madhuban Asset is ensuring safe disposal of treated formation water to disposal wells, piloting trials of a Zero Liquid Discharge (ZLD) desalination plant to reuse ETP treated water and is providing mobile healthcare services to nearby communities under the CSR initiative 'SPARSHA'.
- SLB reduced total recordable injury frequency by 51% and automotive accident rate by 69% in 2023. They introduced various initiatives such as the "Safety Captain" for workforce participation in HSE, the "LiveWell program" for employee well-being, and advanced telematics and AI integration for enhanced driver safety.

Valedictory Session – Appreciation for Exemplary Performance in Energy Efficiency and Innovation

Appreciated: Essar Oil and Gas Exploration and Production Limited, Zemblance Hydrocarbons and Syook



In the frame, Mr. Pankaj Jain, Secretary MoPNG and Dr. Pallavi Jain Govil IAS, DG, DGH

Description:

- Essar Oil and Gas Exploration and Production Limited has implemented sustainable practices such as using gas generators, reducing fugitive emissions, and enhancing engine efficiency with a water sprinkler system. Their commitment to energy efficiency is paving the way for a more sustainable future in our industry.
- Zemblance Hydrocarbons has implemented python-based programming models to enhance seismic signals. The company is also improving Geo-mechanical models with innovative programming.
- Syook's innovative idea involves monitoring and identifying officials in an installation/plant from a single window, which helps in promptly identifying and notifying hazards during emergencies.

Valedictory Session – Appreciation for Exemplary Performance in Small Fields

Appreciated: Sun Petrochemicals, GAIL India Limited, Kiri and Company Logistics



In the frame, Mr. Pankaj Jain, Secretary MoPNG and Dr. Pallavi Jain Govil IAS, DG, DGH

Description:

- SunPetrochemicals increased reserves and productivity through a hybrid development strategy. By an amalgamation of inhouse developed mobile test separator for regular testing of wells without any downtime and deploying multiskilled manpower for optimum use, SunPetro has successfully drilled 17 development wells.
- GAIL India Limited has efficiently produced crude oil, saved significant man-hours with their innovative programming, and planned for solar facility installation to reduce operational costs. It has now become the third PSU to produce crude oil as Operator in Galiyana Field.
- Kiri and Company Logistics has transformed a non-producing field into a productive asset, conducted comprehensive reservoir studies, and upgraded facilities to enhance production. Their resourcefulness and strategic management has set a benchmark for others.

Valedictory Session – Appreciation for Exemplary Performance in Technical Papers

Appreciated: Chirag Jaiswal, Oceaneering; Jagdish Chand and Bibhu Paridha, RIL and Mohd. Shahzar and Amit Saxena, RGIPT



In the frame, Mr. Pankaj Jain, Secretary MoPNG and Dr. Pallavi Jain Govil IAS, DG, DGH

Description:

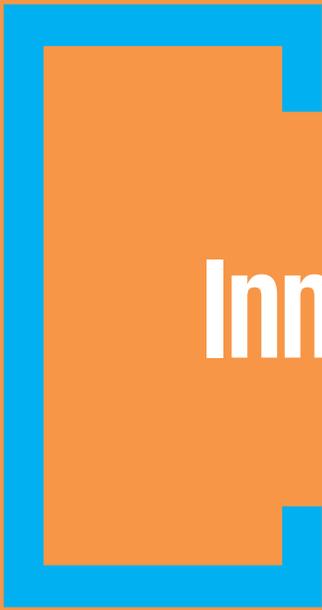
- The technical abstract by Chirag Jaiswal titled “Managing late life subsea assets with an integrated approach; leveraging abstract technologies including subsea robotics and remote operations”, showcased an integrated approach on inspection, maintenance, repair of subsea assets using innovative technology that is cloud based, automated and customized.
- The technical abstract by Jagdish Chand and Bibhu Paridha titled “Coal Bed Methane production enhancement; Integration of Subsurface understanding and recent technological advancements” demonstrated CBM production enhancement arresting field decline through multiple horizontal drilling.
- The technical abstract by Mohd. Shahzar and Amit Saxena titled “Performance evaluation of Graphene Oxide Nanosheets improve HPHT Wellbore Integrity by using as an additive in oil Well cement slurry” demonstrated use of carbon based nanosheets as an additive in cement slurry for improving overall performance of HPHT wells.

Valedictory Session – Closing Ceremony



In the frame, left to right; Mr. Akash Goyal, Additional Director General (ADG) - Coordination, DGH, Mr. Pankaj Jain, Secretary MoPNG and Dr. Pallavi Jain Govil IAS, DG, DGH

- Mr. Akash Goyal gave a congratulatory remark to all the initiatives undertaken in the E&P sector and appreciated the players for their outstanding work.
- On behalf of DGH, he concluded the conclave by expressing his deepest gratitude to all the participants, speakers, and organizers for their invaluable contributions. He recognized the presence and active engagement showcased by all attendees that made inaugural edition of UrjaVarta an impactful event.



Innovation Center

Innovation Centre



U Green Technologies Limited

Gaurav Dwivedi (gaurav.dwivedi@ugreentechnology.com)

U Green Technology is a company passionately dedicated to developing innovative solutions for a greener and more sustainable future. At Urja Varta 2024, UGreen showcased OCOFix, their groundbreaking carbon capturing device, sparking significant interest and discussions on its potential in mitigating climate change while transforming sustainability into revenue.



Caliche Technologies Limited

Ankit Kumar (ankitkumar@calicheglobal.com)



Caliche Technologies Limited showcased their innovative solution GARBH which an indigenously developed end-to-end seismic data processing software, incorporates AI modules which aims to provide high-quality subsurface imaging for better decision-making. GARBH offers a revolutionary solution to subsurface imaging challenges, promising significant improvements in efficiency and accuracy for the petroleum industry.



Innovation Centre

Seros Energy Private Limited

Prashant Nautiyal (prashant.nautiyal@seros.co.in)



Seros Energy Pvt. Ltd. offers comprehensive solutions supporting crucial well life cycle phases, emphasizing strong HSE practices. Seros enhances oil and gas discovery and production through a wide range of services including drilling, hydraulic fracturing, workover, well stimulation, coiled tubing, nitrogen services, and fluid lab testing.



Wellrx Technologies Private Limited

Rahul Gupta (rahul.gupta@wellrxtech.com)



WellRx delivers well construction through advanced practices, technology, and cross-product-service-line experience in drilling, geology, petrophysics, and geomechanics. WellRx Project Management applies broad global expertise in contracting, integrating, and providing oversight of rigs and other critical third-party services throughout all phases of well design and construction



Innovation Centre

SNF Flopam India Private Limited

Shital Khot (skhot@snf.com)



SNF has introduced EASEOR™ as the smart monitoring system for Enhanced Oil Recovery. Based on IIoT technologies (Industrial Internet of Things), EASEOR™ solution enables data collection to improve projects' efficiency, productivity, and safety.



Emerson Process Management India Private Limited

Sanjay Patil (sanjay.patil@emerson.com)



Emerson has introduced innovative solutions to enhance safety and sustainability in oil and gas well pad production facilities, which handle high-pressure combustible and toxic elements. Their well pad manifold architecture and WirelessHART® network integration, including the Rosemount™ 928 Wireless Gas Monitor, provide real-time gas monitoring. Additionally, ultrasonic gas leak detectors and flame detectors like Rosemount 975UR offer rapid detection and wide area coverage for potential leaks.



Innovation Centre

Zemblance Hydrocarbons Private Limited

Dr. Venkatesh (venkatesh@zemblance.com)



Zemblance Hydrocarbons Pvt. Ltd., a start-up at IIT Madras Research Park. They employ indigenous and advanced technologies like Python-based models to enhance seismic signals and geomechanical models. Their innovations include Bio-CNG production from water hyacinth and advanced reservoir characterization. Zemblance excels in optimizing underground coal gasification, integrating seismic data with thermodynamic modeling, and using 3D stress field modeling for optimal drilling and subsidence risk assessments.



Syook

Vanky Kenny Kataria (vanky@syook.com)



Syook's 'InSite' (an enterprise intelligence platform built on RTLS -Real Time Location Systems), provides a simple and easy way to monitor both onshore and offshore oil and gas installations. It enables operator to manage and optimize petroleum operations. All mobile assets, Contract workers and skilled employees can be viewed and managed on a single platform helping operator achieve higher productivity, safety and compliance.



Innovation Centre

Manan Oilfield Services Private Limited



Vineet Khandelwal (vineet.k@mananos.com)

Manan Oilfield Services aims to support DSF operators in India by offering specialized drilling, completions, and workover expertise. The company presented their groundbreaking experiences from Southeast Asia, focusing on transformative strategies to rejuvenate idle wells, which could offer unparalleled success in the Indian market and highlighted how advanced technologies and innovative practices could revitalize India's hydrocarbon resources.



Oil India Limited

Tonmoy Dutta (tonmoydutta@oilindia.in)



ऑयल इंडिया लिमिटेड
Oil India Limited

Oil India Limited showcased their Innovative solution for exploration and production of heavy oil using Cyclic Steam Stimulation (CSS) technology in Baghewala field in Rajasthan. CSS involves injecting steam into the reservoir to lower the viscosity of heavy oil, making it flow more easily. This breakthrough unlocks new potential for heavy oil production from similar reservoirs across India.



Innovation Centre

ONGC Limited (Mehsana Asset)

J N Sukanandan (sukanandan_j@ongc.co.in)



ONGC showcased a project which they executed at Mehnsana with Saroj Tiny Bubble to treat effluent water for service use and surface disposal in order to address the challenge of produced water handling in oil and gas fields and reduce groundwater dependence. Additionally, ONGC and V Power Solar Services implemented a pilot solar power project, which is reducing carbon emissions by 69,000 tons CO₂ per SRP well annually.



Sanron Energy Private Limited

Satish Gusain (satish.gusain@sanronenergy.com)



Sanron Energy is embracing advanced technologies like AI and machine learning to address declining reserves, rising costs, and environmental and safety concerns related challenges faced by operators in industry. AI and ML offer solutions to enhance operational efficiency, cut costs, and reduce environmental impact.



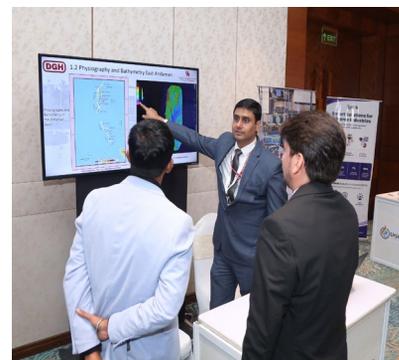
Innovation Centre



DGH Collaboration with University of Houston, USA

David Hume (dhume@central.uh.edu)

DGH has signed an MoU with the University of Houston (UH) to leverage its academic and research excellence for subsurface geoscientific studies of offshore Indian sedimentary basins. At Urjavarta 2024, Mr. David Hume presented the preliminary studies on Eastern India's offshore basin which includes a review of the oil and gas exploration potential of Andaman, Mahanadi and Bengal Basins considering new frontier exploration Plays.



Innovation Factori, Delhi SLB

Abhinav Chawla (achawla2@slb.com)



At Innovation Factori locations of SLB, experts develop integrated, highly customized, tailored solutions build for scale based on users' unique needs for faster time to value. Underpinned by network of Innovation Factori centers, tailored solutions use cutting-edge AI and machine learning techniques to deliver mature, deployable solutions to suit use cases across the energy industry.





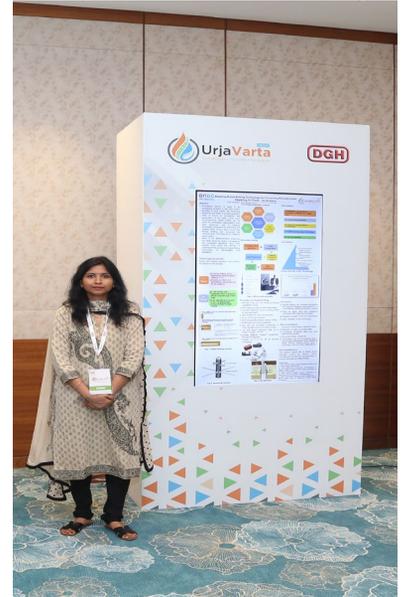
Exhibition Gallery

Theme : Production Optimization and Enhancement Technologies (1/2)

Adopting radial drilling technology for enhancing recovery from depleting oil fields- An Analysis

- Yashrakshita and Jai Prakash Kohar, ONGC

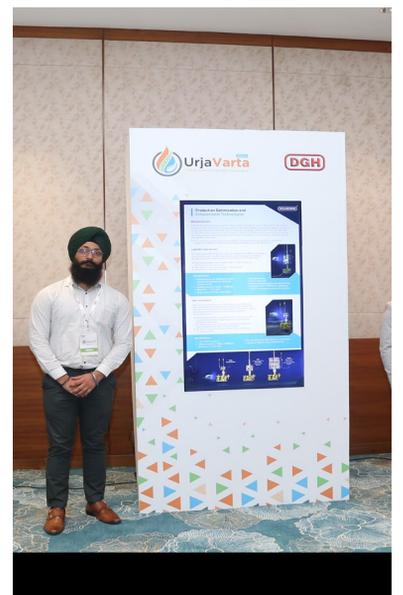
The poster presented the Radial Drilling (RD), an economical and eco-friendly technique for enhancing oil recovery from depleted or damaged reservoirs by drilling micro-diameter lateral wells from existing wells. The Poster emphasis has been given to review and analyze the published literatures and case studies from India and abroad to understand the process of radial drilling technology, highlighting RD's advantages in overcoming premature well shut-ins and improving recovery before resorting to costly IOR-EOR methods. It also assesses the economic feasibility of RD and provides recommendations for its implementation in depleted Indian oil fields.



Riserless Light Well Intervention System (RLWI)

- Ripandeep Singh and Chandan Gupta, Oceaneering International Inc

The poster showcased the Riserless Light Well Intervention (RLWI) solutions, designed to save time and costs in subsea well operations by eliminating the need for risers. The IRIS system, offers interchangeable tool strings and are capable of being configured to run slickline or e-line to meet the demands of various well conditions and applications. RLWI control functions are managed via the umbilical and electrical down-line (EDL) and are deployable from a range of hosts including dynamically positioned multi-purpose service vessels (MPSVs) and mobile offshore drilling units (MODUs). Oceaneering's technology has been operational in fields of Angola and Gulf of Mexico since 2017, these systems also show potential for operations off India's east coast.

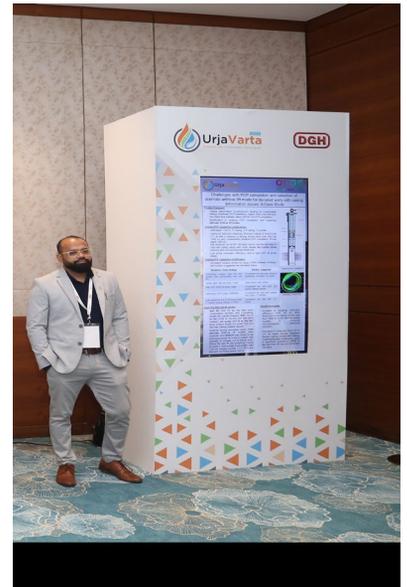


Theme : Production Optimization and Enhancement Technologies (2/2)

Challenges with existing PCP completion and selection of alternate artificial lift mode for deviated wells with casing pinching issues

- Kshitij Ramprasad Vijayvargia and Ankit Garg, ONGC

The poster presented a case study on PCP completions in wells with casing deformation (ovality/pinch) in deviated wells. These deformations lead to complex flow paths, installation challenges, and frequent failures, resulting in shallow pump placement and low volumetric efficiency. The study utilized C-FER software for simulations and found that efficiency is increased using moored lined tubing and smaller pumps. The author also considered alternative artificial lift methods like gas lift and ESP. Optimized solutions increased the mean time between failures from 40 to 180 days, reduced rod/tubing wear, and improved pumping efficiency from 48% to 60%. Implementing these solutions could mitigate issues caused by casing deformation, extend the operational lifespan of the wells, and reduce maintenance frequency.



Leveraging Process Digital Twin for Enhanced Operations in Onshore Oil and Gas Facilities

- Amita Borad and Rajeshree Rathod, Vedanta Limited

The poster highlights the growing trend of digitalization in the oil and gas industry, focusing on the use of Process Digital Twin (PDT) technology in onshore facilities. PDT creates a virtual replica of facility processes by integrating real-time sensor data, analytics, and simulations. This technology enhances operational efficiency by identifying inefficiencies and hazards, optimizing processes like fuel gas usage, and enabling predictive maintenance. It also aids in training by simulating scenarios without affecting actual operations. In Cairn, the implementation of PDT led to significant revenue optimization, including increased oil production and improved fuel gas efficiency, demonstrating its potential to enhance operational performance, safety, and sustainability in onshore oil and gas facilities.

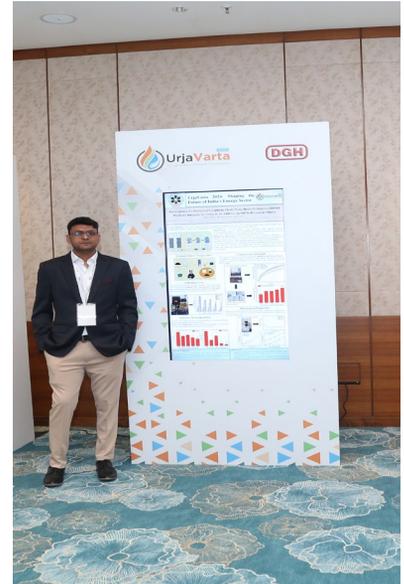


Theme: Advancement in Drilling Technologies (1/2)

Performance Evaluation of Graphene Oxide Nanosheets to Improve HPHT Wellbore Integrity by Using as an Additive in Oil Well Cement Slurry

- Mohd Shahzar and Amit Saxena, RGIPT

The poster showcased enhancement of Class G cement for oil well cementing under high-pressure and high-temperature (HPHT) conditions by adding graphene oxide nanosheets (GO-NS). The cement slurries, with GO-NS concentrations of 0.0025-0.01 wt% BWOC, show significant improvements in compressive strength, as monitored at 100°C. This novel approach demonstrates that GO-NS can effectively improve oil-well integrity under HPHT conditions.



An investigative report on the effect of Iron oxide nano particles in water-based drilling fluids

- J.S Gupta, Dr Viswanadh Nalla, N Kathiravan, M Chozhan and M Suresh, Regional Geoscience Laboratory Cauvery Basin

The poster presented an investigative laboratory study on the HTHP properties of water-based drilling fluids with Iron Oxide (Fe_2O_3) nanoparticles to reduce formation damage. The study used KCL-PHPA Polymer water-based mud as the base, testing Fe_2O_3 concentrations of 0.0085-0.015%. The results showed that adding 0.0090% w/v Fe_2O_3 improved the filtrate volume by 6.38% compared to the base fluid. Scanning Electron Microscopy (SEM) images indicated a thinner and more compact filter cake formation, suggesting potential for reduced formation damage and increased hydrocarbon production. The additive's application could lead to better filter cake quality, efficient water loss control, reduced differential sticking, and lower torque and drag.



Theme: Advancement in Drilling Technologies (2/2)

Deliver the Best Production Potential by Drilling laterals in existing depleted wells using Coiled Tubing Drilling Technology

- Madhurjya Dehingia, Schlumberger

The poster presented underbalanced coiled tubing drilling as a cost-effective method for enhancing production from existing wells by avoiding formation losses and reducing the need for stimulation. This technique eliminates the need for costly mud systems, minimizes fluid damage, and allows for efficient drilling of laterals in depleted wells. The poster highlights its successful use in various countries and suggests it could significantly benefit depleted fields in India by improving reservoir contact and reducing overall well costs.



Initiatives by DGH to promote safety in the E&P industry

- Md Neyazuddin and Gopal Bansal, DGH

The poster provided an overview of DGH's safety initiatives in the E&P industry, following the High-Level Committee's recommendations after the Baghjan and Tauktae incidents. Key actions included training and capacity building for small and medium field operators, emergency control and response initiatives, safety audits, and improved offshore weather forecasts. Highlights include the active participation of small and medium operators in training sessions, increased compliance with OISD ESA observations, and DGH's input on safety matters. Additionally, Cairn-Vedanta signed an MoU with ONGC for crisis management and blowouts. The initiatives aim to raise awareness of the High-Level Committee's recommendations and foster a safety culture in the industry.

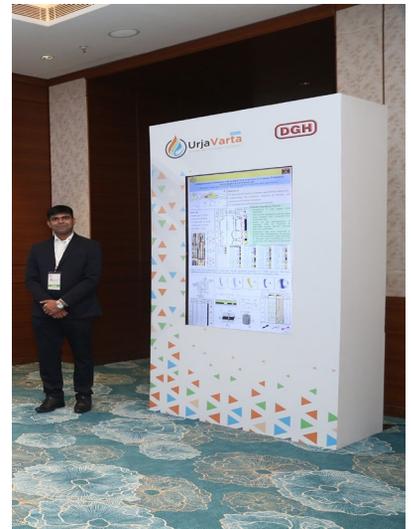


Theme : Unconventional Energy Sources – Potential and Challenges

Linking Fracture Orientation with Inclined Well Trajectory to Evaluate Production Performance in CBM Reservoir

- Abir Banerjee, Sameer Bakshi, Ramchandra Soren, Anupam Banerjee, Pradipta Mitra, NawinLugun and Aloke Das, ONGC

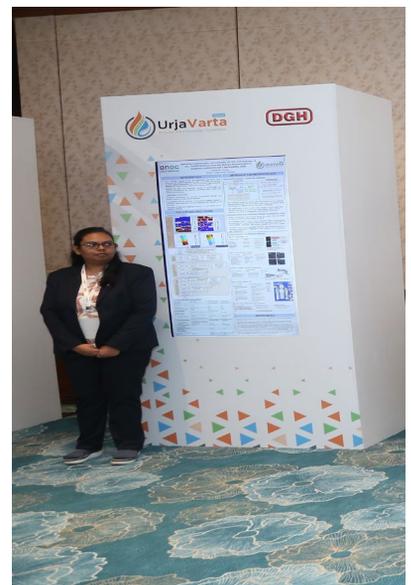
The poster explored the relationship between fracture orientation, network connectivity, and geological discontinuities in CBM reservoirs, and how these factors affect inclined well trajectories. The study analyzed image logs, sonic logs, and production data from multiple wells. The methodology included identifying fracture orientation and shear wave azimuth, generating fracture network maps, and analyzing production data. Findings revealed that inclined wells along fracture paths have better production performance. This research is valuable for future drilling in the Bokaro and Raniganj blocks, providing insights into improving production efficiency and optimizing well trajectories



Optimizing implementation and evaluating the risks and challenges of CO₂ – ECBMR (Enhanced Coal Bed Methane Recovery) pilot in Gondwana coalfield through a pre-feasibility study

- Priyanka Gupta, ONGC

The poster detailed a study on CO₂-Enhanced Coalbed Methane Recovery (CO₂-ECBMR), emphasizing its benefits for carbon sequestration and increased CBM production. It introduced a reservoir management methodology using core studies and numerical models, validated at micro and macro scales. A pre-feasibility study evaluated existing coalfields, with insights from U.S. and Chinese projects, focusing on challenges like permeability reduction and well integrity. A flowchart-based approach optimized injection operations and reservoir management, starting with core-scale CO₂ saturation experiments to study alterations in coal properties. The study identified East Bokaro as a prime candidate for CO₂-ECBMR based on IEA criteria and outlined a systematic approach for pilot project planning

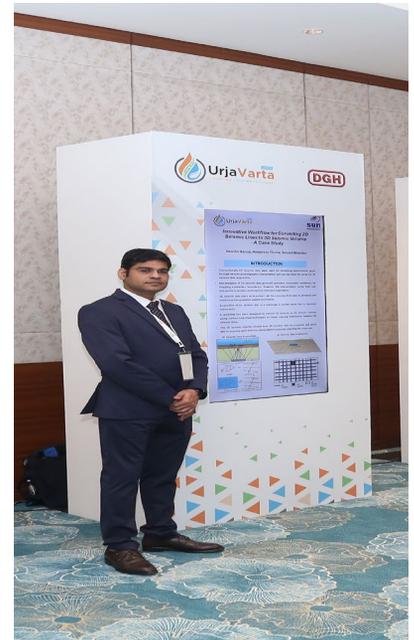


Theme : Energizing Role of Artificial Intelligence (AI) and Machine Learning (ML) in E&P (1/2)

Innovative Workflow for Converting 2D Seismic Lines to 3D Seismic Volume-A Case Study

- Vasudev Bansal, Hemanshu Thusiar and Satyesh Bhandari , Sun Petrochemicals Pvt. Ltd. (SunPetro)

The poster highlighted the limitations of 2D seismic data in hydrocarbon exploration, which requires extensive experience for interpretation. While 3D seismic data offers greater accuracy, its acquisition can be logistically difficult. The poster showcases a new workflow that converts 2D seismic data into 3D volumes using statistical techniques to interpolate missing information between 2D lines. The study generated a 3D seismic volume using twelve 2D lines over a 75 sq. km area. The resulting 3D volume, oriented differently from the 2D lines, matched well with the reconstructed 2D data. Various seismic attribute maps were generated to analyze subsurface geology, which was not possible with 2D lines alone. However, the workflow demands high computer processing capabilities due to the extensive computations involved.



ML for rate of penetration (ROP) prediction and simulation modeling

- Dr Sunil Kumar Khare, PTRE TRANS AI Private Limited

The poster showcased the use of machine learning (ML) for predicting and modeling Rate of Penetration (ROP) in drilling operations. ROP is crucial for reducing well costs but is difficult to predict due to its reliance on multiple, often interrelated variables like Weight on Bit (WOB), Standpipe Pressure (SPP), Revolutions Per Minute (RPM), and Torque (TQA). The study used existing well datasets and applied ML techniques, including multiple linear regression, random forest, and artificial neural networks (ANN), to create a simulation model for optimal ROP prediction. The results, validated with data from the Utah Forge field, showed an R^2 value of 0.85. The ML models provide values for various mechanical variables necessary to achieve optimal ROP at different depths, helping to plan and reduce drilling time and costs.

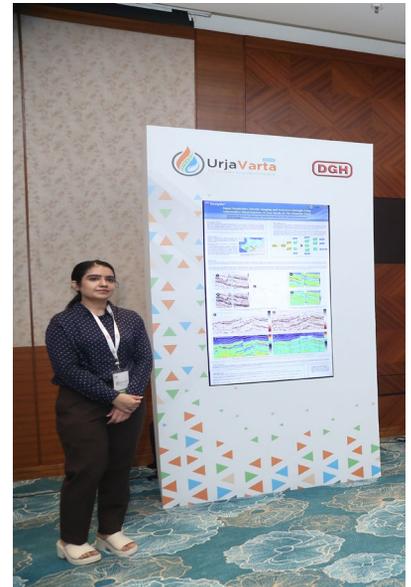


Theme : Energizing Role of Artificial Intelligence (AI) and Machine Learning (ML) in E&P (2/2)

Super Resolution Seismic Imaging and Inversion through Deep Information Maximization: A Case Study of the Chandon Field

- Mannat Khanna, Narendra Verma, Abhimanyu Yadav, Dip Nanda, Vinay Bhardwaj, Tapas Mitra, Siddhant Pattanaik and Nipul Seervi, Rezlytix Technologies

The poster detailed a novel generative deep learning method for high-resolution seismic imaging and inversion in reservoir characterization. This method overcomes challenges of low resolution and limited bandwidth, as demonstrated in the Chandon Field, NW Australia. The workflow integrates outputs from multiple deep neural networks and machine learning models, using a 3D structural model as a constraint. This approach provided detailed interpretations, revealing previously unresolved stratigraphic and structural elements, and improving the mapping of lateral facies continuity. The algorithm also enhances rock property models, aiding in refined geological interpretations and informed decision-making in hydrocarbon exploration and reservoir management.



GARBH: An Indigenous Seismic Data Processing Software

- Ashutosh Kumar and Ankit Kumar, Caliche

The poster introduced GARBH, an AI-powered exploration software developed by Caliche Global. This software aims to streamline seismic data processing in Indian basins. Garbh utilizes deep learning to automate repetitive tasks and standardize processing parameters across different basins, significantly reducing processing time and improving data quality. It processes seismic data by dividing each line into sections based on statistical features and using these sections to train the model. The poster highlights GARBH's potential impact on the E&P software sector by offering rapid, high-quality data processing and interpretation. Future enhancements include a user-friendly interface and ongoing development for GIS tool integration and rare earth element exploration tools.



Theme : Opportunities and Challenges in Emerging Indian Offshore Basins (1/2)

FPSO Redeployment: Opportunities and Challenges in emerging India offshore basins

- Ashish Kumar Minocha, Invenire Energy Pvt Ltd

The poster highlighted FPSO redeployment as a viable solution to meet India's energy needs. A robust approach is required, including assessing the FPSO's feasibility and condition, securing necessary permits, and conducting environmental impact studies. Key aspects include adapting the FPSO's design for the new field and ensuring a seamless installation and operational handover. Continuous monitoring and optimization are crucial for efficient production. Benefits of FPSO redeployment include cost savings, reduced time to first oil, built-in storage facilities, and extended asset life, promoting sustainability. The approach offers flexibility in asset management and has been successful in marginal fields, as demonstrated by the FPSO Svetah Venetia at the PY3 field in the Cauvery Basin. This strategy supports India's energy goals and contributes to its net-zero emission targets



Ensuring Security in Offshore Energy: Challenges and Strategic Solutions

- Lt.Swati, DGH

The poster demonstrated an analysis of the security challenges in India's offshore oil and gas industry, which is crucial for the country's energy security and economic growth. The paper identifies threats like terrorism, cyberattacks, and environmental risks, reviews existing literature and data, and analyzes notable incidents and security frameworks. It provides new insights into these unique security challenges faced by India's offshore exploration and production sector.

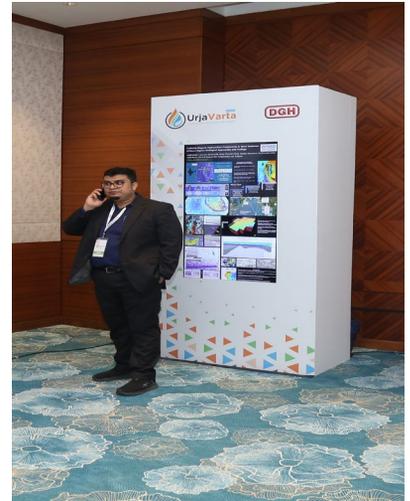


Theme : Opportunities and Challenges in Emerging Indian Offshore Basins (2/2)

Exploring Biogenic Hydrocarbon prospectivity in West Andaman Offshore Region: Geological Approaches and Findings

- Arijit Sahu, Soumen Deshmukh, Deep Chandra Pant, Sanjoy Goswami and Suchismita Saha, ONGC

The poster discussed the untapped biogenic hydrocarbon potential in the West Andaman Offshore region, which lacks exploratory wells and faces logistical challenges. The study uses seismic attribute analysis, AVO analysis, and geological modeling to identify prospective zones. Key findings indicate significant biogenic gas presence in Upper Miocene-Pliocene zones, with favorable sedimentary features for accumulation. The Neogene theater of the Bengal Fan also shows potential for future exploration. The study confirms biogenic gas generation potential based on 2D seismic models and stresses the need for further de-risking and new seismic data acquisition



Recent Mahanadi Offshore Discovery: Opportunities and Challenges

- Kallol Maity, Priyajit Ghosh, Amit Kumar, Swagatam Swain, Sanjoy Goswami and D C Pant, ONGC

The poster is focused on the Mahanadi Offshore basin, known for its substantial sedimentary thickness exceeding 10 km. The present two blocks MN-DWHP-2018/1 and MN-UDWHP-20122/1, covering 12,288.64 sq km feature substantial discoveries, with notable wells MDW-27 (Utkal Krishna Discovery) and MDW-26 (Konark Discovery) producing gas at 300,341 scmd and 458,629 scmd, respectively. Key challenges in production include heterogeneous sands and lack of structural elements impacting reservoir distribution and entrapment. The study emphasizes the need for localized charging mechanisms, biogenic system reservoir characterization, and distinguishing biogenic from thermogenic gas for deeper exploration. Advanced high-frequency broadband data analysis has been crucial in delineating the Pliocene reservoir's extent and heterogeneity, supporting exploration prospects and early monetization efforts.



Theme: Advances in Subsea Technologies (1/2)

Vashishta& S1 development project – Challenges and Lessons learnt in offshore Installation of Subsea Structures in adverse weather conditions

- Rishi Katiyar, DGH

The poster highlighted the challenges and mitigation strategies in an offshore installation project that involved installing subsea structures, pipelines, and umbilicals over 50 km, extending to 700 meters depth within 18 months. The key challenges included a tight 20-month timeline with only a 4-month weather window, engineering and procurement issues for long lead items, environmental challenges like high currents and cyclones, and obtaining Right of Use for onshore umbilical installation during the monsoon. The project was divided into different packages (Subsea Production System, Onshore Terminal, Offshore Installation, Drilling & Completion), involving multiple vendors and stakeholders. It highlights the effective use of ONGC's in-house OPMAC system for coordinating, interacting, and tracking project interfaces and documentation, which facilitated the smooth tracking of project events and were crucial in completing the project efficiently and within budget



Retrieval Augmented Generation Agent for E&P Business

- Dipayan Baidya and Prashant Bisoi, Reliance Industries Ltd.

The poster showcased E&P's RAG agent designed to manage high-frequency data and extensive documents from their offshore fields. The system uses Speech-to-Text, semantic search, Large Language Models, and Text-to-Speech technologies to generate insights and deliver them through a digital avatar. This approach improves decision-making turnaround time, reduces reliance on experts, and enhances training and information access for business users.



Theme: Advances in Subsea Technologies (2/2)

Next-Generation Subsea Pumping Technology: Efficiency and Reliability in the Sea

- Pallav Mehra and Abhineet Gupta, Oceaneering International Inc

The poster showcased Subsea Pumping Technology (SPT), which revolutionizes chemical storage and injection in offshore operations. Unlike traditional methods requiring extensive topside infrastructure, SPT's scalable and modular design enhances efficiency, reduces costs, and minimizes environmental impact. The technology, qualified at TRL Level 4/6, has been proven through rigorous testing, including hyperbaric and tank simulations. The poster highlights SPT's potential to transform offshore operations by improving efficiency and safety while offering adaptable solutions for various challenges.

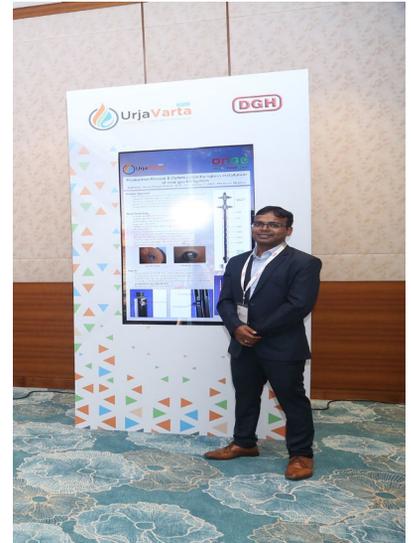


Theme : Unlocking Potential: Revival of Non-flowing Wells (1/2)

Production Revival & Optimization by Rigless Installation of New Gas Lift System

- Shashi Ranjan Kumar and H S Chadda, ONGC

The poster focused on the Western offshore field of ONGC India, which has been producing oil since 1974, has seen successful production optimization through the installation of Kinley Insert check valves by slickline. This method is both economical and technically less risky compared to other alternatives, and it has resulted in a 100% success rate in increasing production. Specifically, from 12 strings, the field has achieved a total liquid gain of approximately 1400 barrels per day (BOPD) and an oil gain of around 490 barrels per day (BOPD).



Reviving Non-Flowing Wells by Decoding Low Resistivity Low Contrast Mandhali Sands: A Case Study from Jotana Field of ONGC Mehsana

- Suman Saurabh , ONGC

The poster showcased the use of analytical analogy from open hole logs of nearby oil wells and Nuclear Magnetic Resonance logs from distant exploratory wells to evaluate formation and historical core studies. The study's results included the successful reactivation of 10 vintage wells that had been unproductive for over 10 years by identifying low resistivity, low contrast pay zones in the Mandhali Sands of the Cambay Basin, potentially applicable to other fields in the region.



Theme : Unlocking Potential: Revival of Non-flowing Wells (2/2)

Integration of Reservoir Data to Unlock bypassed oil in a brown field-A case study from South Sumatra Basin, Indonesia

- Bulleyya Chowdary, Invenire Energy

The poster showcased an analytical approach to identify undrained zones in a clastic brown field reservoir. Despite no visible shale breaks indicating vertical compartmentation, a bypassed hydrocarbon zone was discovered in the lower part of the vertically stacked reservoir. This zone was not apparent in conventional wireline logs and seismic data. The study emphasizes the need for a holistic, multidisciplinary approach to effectively target and unlock these unexploited hydrocarbon potentials



Theme : Towards Net Zero: New Energy Sources (1/2)

DGH's Tryst with Net Zero: Bio-fuel's Pivotal Role on Platter.

- Dr. Ritesh Mittal, Engineers India Limited (EIL)

The poster highlighted the oil and gas sector's role as a major greenhouse gas emitter and the need for emission reductions. The focus was on India's strategies to attain net zero viz 2G-Ethanol for EBP (Ethanol Blending Program) to meet 20% benchmark , Economic viability of Bio-Refineries with Lignin Valorization & Co-Production of Bio-VACs (Value Added platform Chemicals) , Bio-ATF SAF plants for CORSIA 2nd Phase post 2025 with India as Bio-fuel Re-fuelling hub for Trans-Asian flights, Bio-Diesel from UCO (Used Cooking Oil) utilization, Green Hydrogen from Biomass-National Green Hydrogen Mission 2024, DeepTech Sunrise Biofuel Advanced Technologies/Products like Drop in Fuels, Biomass Thermo-Chemical Pyrolysis, Bio-oil Hydro-De-Oxygenation (HDO), Green Nano-Cellulosic-Bio-Products (NCBP). It also discussed policy initiatives to support biofuel integration, aiming to help India meet its net-zero goals.



Decarbonizing Offshore Energy - Technological advances for Floating Production Systems.

- Tejas Mankar, Aidan Cheong and Subhojyoti Lahiri, Shapoorji Pallonji Energy Private Limited

The poster presented an overview of India's current energy landscape and its transition toward a more sustainable future. The country's energy production is heavily reliant on coal, but there is significant potential for renewable energy sources like solar, wind, and hydro. To meet its net-zero emissions target by 2070, India aims to increase its renewable energy capacity and invest in technologies like hydrogen and carbon capture. The analysis emphasizes the need for cleaner energy sources to reduce CO2 emissions and achieve India's climate goals.



Theme: Towards Net Zero: New Energy Sources (2/2)

Valorising waste emissions for generation of Sustainable Fuels and Chemicals via Novel Gas Fermentation Technology

- Vineet Bakshi, LanzaTech

The poster showcased a novel technology for converting waste gas streams and CO₂-rich streams into sustainable fuels and chemicals. This gas fermentation technology, which has commercial references, transforms carbon molecules in waste gases into ethanol, a blendable and eco-friendly fuel. The paper includes case studies demonstrating how this technology adds value to existing facilities by producing ethanol, thus contributing to national energy security and sustainability in a cost-effective manner



Collaboration of Geothermal Energy + CCUS + CBM + Helium Extraction: A New Approach towards Net Zero.

- Ramesh Satla, ONGC

The poster showcased a plan to achieve NetZero by 2070 through integrating Geothermal Energy, Carbon Capture Utilization and Storage (CCUS), and Coal Bed Methane (CBM) helium extraction. The Manuguru Geothermal Field in the Pranabita Godavari Basin is identified as a suitable site for this integration. The approach involves using geothermal energy to separate and compress CO₂ from coal, then transporting and injecting it into a geothermal reservoir where it captures heat to generate power via a Brayton cycle. Excess CO₂ will be sequestered in coal seams, replacing CBM which will be extracted. The integration aims to enhance efficiency and reduce emissions, with the added benefit of commercial helium extraction, supporting India's energy security and sustainability goals.



Theme : Advances in Reservoir and Well Management (1/2)

AVO modelling for Quantitative interpretation of porosity in high impedance gas sand : A case study from Offshore Cauvery basin

- *Vilkrishnaveni Emani, ONGC*

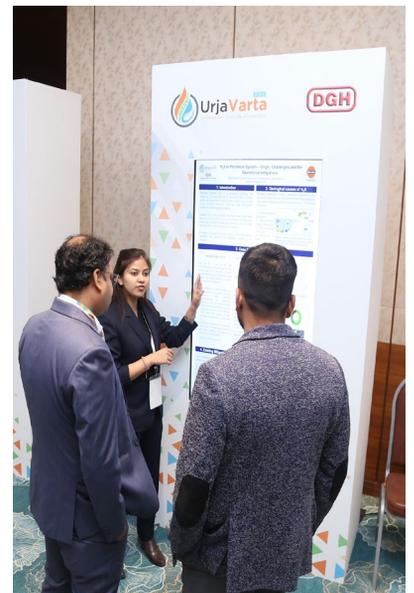
The poster presented a study on modeling effective porosity in a high impedance reservoir for quantitative interpretation of porosity interpretation in a well where Class I anomaly was evident for high impedance gas reservoir. Fluid replacement modeling was used to assess the effect of porosity in the reservoir. The study focused on tight reservoirs in the Cauvery basin, characterized by high impedance and high Vp/Vs due to very low porosity, making them difficult to identify seismic sections. It is demonstrated that AVO modeling can aid in interpreting and analyzing actual seismic data, helping to identify reservoir properties.



H₂S in Petroleum System – Origin, Challenges and the Operational Mitigations

- *Rakesh Roshan Rana, Sakshi Sharma, Gulshan Kumar and Vaibhav Sharma, IOCL*

The poster highlighted the risks, causes, and mitigation strategies for hydrogen sulfide (H₂S) in petroleum systems. They analyzed geological and non-geological factors, mechanisms of reservoir souring, and chemical reactions during source rock maturation. The study evaluated existing H₂S scavenging technologies and highlighted key generation mechanisms, such as thermal cracking of kerogen and bacterial sulfate reduction. This work provides a checklist for assessing H₂S probability and underscores the need for proper well design to avoid high costs and operational issues. Fast kinetics of in situ bacterial reduction of drilling fluid and sulphate generation can also be used as remedial measure during exploration and production in wells.



Theme : Advances in Reservoir and Well Management (2/2)

Fluid characterization through acoustic studies on core samples in low contrast reservoirs of north of Gandhar and Jambusar area of Cambay Basin.

- Parmod Kumar, Parama Nand, S S Khanna and Mrs. Beena Jhaldiyal, ONGC

The poster demonstrated a study on characterizing fluid types in complex reservoirs using acoustic studies on core samples from the Hazad, Gandhar, and Jagobusas fields. By analyzing porosity, grain density, and bulk density, and measuring compressional (V) and shear wave (V_s) velocities under different fluid saturations (air, brine, oil), the study found that fluids significantly impact acoustic parameters. Brine showed the highest P-wave velocity and acoustic impedance, followed by oil and air. The study established V/V_s and Poisson's ratio ranges for gas, oil, and water-bearing zones, aiding fluid identification in challenging reservoirs. The findings were validated with DSI log and production testing data, offering a valuable method for hydrocarbon exploration



Optimization of Flow Dynamics and Hydrocarbon Potential through Reservoir Well Log Data and 3D Transient Numerical Modelling.

- Tanmoy Chetia, Supriya Halder, Pallavi Banerjee Chattopadhyay and A D Sarath Kumar, IIT Roorkee

The poster demonstrated optimized fluid flow dynamics and hydrocarbon potential in reservoirs using well log data and 3D numerical modeling. The study analyzed pressure-dependent permeability and clay content, revealing significant variations in fluid flow and reservoir behavior. It identified optimal drawdown rates for production efficiency and discussed the effects of CO_2 sequestration. Overall, the research enhances hydrocarbon recovery techniques and integrates sustainable CO_2 sequestration, informing energy management decisions

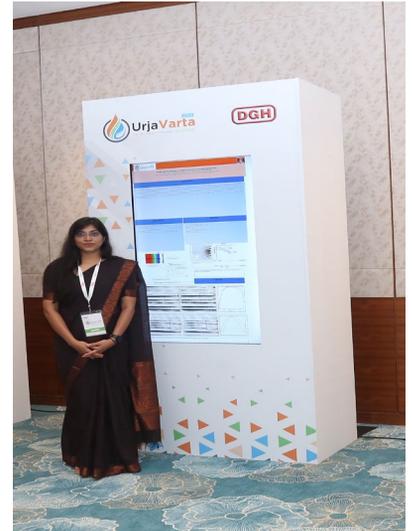


Theme : Advancements in Geophysical Technologies for Oil and Gas Exploration (1/2)

Angle domain Wavelet stretch correction with high fidelity AVO.

- Biva sharma, V.L.L Krishnaveni and M.Sudhakar, ONGC

The poster showcased frequency spectrum enhancement in the far offset by estimating a de-stretch operator in the angle domain, preserving AVO attributes. This de-stretch operator, obtained using a common reference angle with a broad frequency spectrum. The operator is stationary over time and is robustly implemented by a Weiner-Levison method. The increased frequency in higher angles allows the gathers to be used for higher-order AVO analysis and density inversion.



Analysis of hydrocarbon prospectively in the unexplored open acreage area in matured Cambay Basin: a key study carried out in east of Gandhar field leading to first onland OALP (CB-ONHP-2021/2) discovery.

- Sabyasachi Khan, Neha Bajpai, Purnima Pathakr, ONGC

The poster showcased a study focused on analyzing hydrocarbon prospects in the OALP block CB-ONHP-2021/2, located east of the Gandhar field in the Narmada-Broach block of the Cambay Basin. The study aimed to identify potential locations for hydrocarbon exploration. Using old 3D seismic data and additional geological and geophysical data, the first well, W-1, was drilled, revealing hydrocarbon-bearing zones. Following this success, new 3D seismic data were acquired and analyzed along with attribute analysis using wireline sonic well logs and RPM well data to determine the reservoir facies' extent. The study highlighted the challenges of seismic attribute analysis due to the thin nature of the reservoir facies.



Theme : Advancements in Geophysical Technologies for Oil and Gas Exploration (2/2)

Enhanced Lithology Discrimination and Reservoir Characterization in the Aishwariya Field using Multi-Attribute Rock Physics Models.

- R Malavika, Kondal Reddy, Vedanta Limited

The poster presented a study focused on rock physics analysis to distinguish lithology and fluid content on the Fategarh formation of Aishwarya field in the Barmer basin, Rajasthan, India, Initial cross plots indicated that Fatehgarh rocks are sensitive to Density, Acoustic Impedance (AI), Poisson Ratio (PR), and Vp/Vs ratio. After multiple iterations, the AI - PR cross plot domain was chosen for its effective separation, enhancing lithology discrimination and providing a better understanding of reservoir quality.



Identification of fine depositional patterns and subtle stratigraphic plays by Seismic Data Reprocessing and Diffraction Imaging.

- Umang Sundriyal, Sudhir Chauhan, BPRL

The poster demonstrated Seismic Reprocessing (PSTM/PSDM and Diffraction Imaging) of the vintage data that has brought out finer depositional elements present in the Kalol Formation and showcased at Spectral decomposition at top of K-IX level and RMS attribute map at K-V, K- VI- VII within K-IX and Kallol formation level. 3D seismic acquisition was done in three different vintages with similar acquisition parameters. However, all the data sets were different in terms of phase, frequency and S/N ratio. Reprocessing mitigated issues related to variable mis-ties along the legacy survey boundaries, improved S/N ratio and frequency content, enhanced fault imaging and normalized amplitude values. Object oriented Reprocessing of the seismic data brings out sizable improvements in terms of vertical resolution (Frequency content), phase and definition of discontinuities.





Annexure

Annexure 1: Agenda (1/9)

Date: 11th July 2024, Thursday

Venue: Bharat Mandapam, New Delhi

DAY 1

Inaugural Session	
08:30 AM – 10:30 AM	Registration and Networking
10:30 AM – 10:35 AM	Lighting of the Lamps
10:35 AM – 10:40 AM	Short Documentary on Indian Energy Sector
10:40 AM – 10:45 AM	Welcome Address by the DG, DGH
10:45 AM – 10:50 AM	Launch by Hon'ble Minister, PNG <ul style="list-style-type: none">Centre for Hydrocarbon Efficiency and New EnergyIndia Hydrocarbon Outlook 2023-24Handbook for Environmental Guidelines for Upstream
10:50 AM - 11:05 AM	Address by Hon'ble Minister, PNG
11:05 AM - 11:15 AM	Inauguration of Exhibition Gallery and Innovation Centre by Hon'ble Minister, PNG
11:15 AM- 11:45 AM	Networking Tea with Hon'ble Minister, PNG with CXO's
Strategic Summit	
Panel I 11:30 AM– 12:15 PM	Navigating New Frontiers: Unveiling India's Exploration Potential <p>In a rapidly evolving global landscape, where innovation and exploration pave the way for progress, India stands at the threshold of new possibilities. This panel seeks to delve into the theme of "Navigating New Frontiers," focusing specifically on unveiling India's exploration potential across various domains. From technological advancements to scientific endeavors, economic opportunities, and beyond, the panel aims to explore how India can harness its untapped potential to pioneer new frontiers and emerge as a global leader in exploration.</p> <p>Moderator: Mr. Vivek Rahi (Partner, KPMG India)</p> <p>Speakers:</p> <ul style="list-style-type: none">Mr. Praveen Mal Khanooja (Additional Secretary, Ministry of Petroleum and Natural Gas)Ms. Sushma Rawat (Director-Exploration, Oil and Natural Gas Corporation)Mr. Saloma Yomdo (Executive Director, Oil India Limited)Mr. Biswanath Ghosh (Director-Exploration, Vedanta Limited)Mr. David Hume (Domain Expert, University of Houston)Mr. Jim White (Executive Director, Society of Exploration Geophysicists)
Panel II 12:15 PM – 01:00 PM	Policy Perspective: Navigating Energy Trilemma <p>In today's complex energy landscape, policymakers face the challenge of balancing three critical objectives: energy security, affordability, and environmental sustainability - known as the energy trilemma. This session aims to explore the policy perspective on navigating this trilemma, ensuring a sustainable and resilient energy future.</p> <p>Moderator: Mr. Anish De (Partner and Global Head ENRC, KPMG International)</p> <p>Speakers:</p> <ul style="list-style-type: none">Dr. Pallavi Jain Govil (Director General, Directorate General of Hydrocarbon)Dr. Sujit Kumar Bajpayee (Joint Secretary, Ministry of Environment, Forest and Climate Change)Mr. Arun Kumar Singh (Chairman & CEO, Oil and Natural Gas Corporation Limited)Dr. Ranjith Rath (Chairman and Managing Director, Oil India Limited)

Annexure 1: Agenda (2/9)

	<ul style="list-style-type: none"> Mr. Kartikeya Dube (Senior Vice President, bp Exploration Alpha Limited) Dr. Steve Moore (Dy. Chief Executing Officer-Oil and Gas, Vedanta Limited)
01:00 PM - 02:00 PM	Networking Lunch
Panel III 02:00 PM – 02:45 PM	<p>Fueling the Future: Strategic Financing in the Energy Sector</p> <p>As the energy sector, particularly upstream oil and gas sector, undergoes rapid transformation driven by increasing capex, technological innovation and climate imperatives, strategic financing plays a pivotal role in shaping its trajectory. The session is curated with an aim to explore the dynamics of strategic financing in the energy sector, focusing on emerging trends, innovative financing models, and the role of financial institutions in driving energy availability and affordability.</p> <p>Moderator: Mr. Hitesh Sachdeva (Partner, KPMG India)</p> <p>Speakers:</p> <ul style="list-style-type: none"> Ms. Kaumudi Sharma (Deputy Director at Indian Ministry of Finance) Mr. Manish Maheswari (Executive Chairman, Invenire Energy Private Limited) Shri R Shailesh Unnithan (Chief General Manager PF&S SBU, State Bank of India) Mr. Ranajit Banerjee (Advisor, HDFC Bank Limited)
Panel IV 02:45 PM – 03:30 PM	<p>Production Enhancement: Challenges and Opportunities</p> <p>This session aims to delve into the current challenges and emerging opportunities in enhancing production within the upstream oil and gas sector. It will provide a platform for industry leaders, experts, and policymakers to discuss innovative solutions, share best practices, and outline strategic initiatives to optimize production efficiency and maximize resource recovery.</p> <p>Moderator: Mr. Vivek Rahi (Partner, KPMG India)</p> <p>Speakers:</p> <ul style="list-style-type: none"> Mr. Pankaj Kumar (Director-Production, Oil and Natural Gas Corporation Limited) Mr. Pankaj Goswami (Director- Operations, Oil India Limited) Mr. S. Roychaudhury (Director, Selan Exploration Technology Limited) Mr. Deepak Agarwal (Director – Sales and Marketing Southeast Asia, Schlumberger) Dr. Hemanta Sarma (Professor, University of Calgary)
Panel V 03:30 PM – 04:15 PM	<p>Developing Gas Markets and Connectivity with Consumers</p> <p>This panel aims to explore the changing dynamics of gas markets, focusing on infrastructure development, market integration, policy frameworks, and consumer engagement. The session will discuss the challenges and opportunities in enhancing gas market connectivity and ensuring a reliable and efficient gas supply to end consumers.</p> <p>Moderator: Mr. Anish De (Partner and Global Head ENRC, KPMG International)</p> <p>Speakers:</p> <ul style="list-style-type: none"> Mr. Sanjay Kumar (Director Marketing- GAIL (India) Limited) Mr. Ajit Kumar Thakur (Chief Executing Officer, Indradhanush Gas Grid Limited) Mr. Pankaj Kalra (CEO, Essar Oil and Gas Exploration and Production Limited) Mr. Rajesh K Mendiratta (Managing Director and Chief Executing Officer, India Gas Exchange Limited)

Annexure 1: Agenda (3/9)

<p>Panel VI 04:15 PM– 05:00 PM</p>	<p>Health, Safety and Environment (HSE) in Upstream</p> <p>This session aims to delve into the critical intersection of health, safety, and prosperity within the realm of exploration and production operations. As the energy industry continues to evolve, ensuring the well-being of workers while maximizing operational efficiency and prosperity is of utmost importance. Through insightful presentations, case studies, and expert insights, this session will explore innovative strategies and best practices to foster a culture of safety, enhance occupational health standards, and drive sustainable growth in exploration and production endeavors.</p> <p>Moderator: Mr. Anurag Sharma (Ex-Director Onshore, Oil and Natural Gas Corporation Limited)</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Mr. Arun Mittal (Executive Director, Oil Industry Safety Directorate) • Ms. Mandira Jain (Country Head-HSE, Schlumberger) • Mr. Ajay Dixit (Executive Director, CHSE, Oil and Natural Gas Corporation Limited) • Mr. Sanjay Govind Nikoshe (Chief General Manager- Head of Corporate HSE, Oil India Limited)
<p>6:30 PM– 8:00 PM</p>	<p>Cultural Programme</p>
<p>8:00 PM Onwards</p>	<p>Networking Dinner</p>
<p>Technical Conference</p>	
<p>Session I 11:30 AM – 12:15 PM</p>	<p>Production Optimization and Enhancement Technologies</p> <p>In the ever-evolving landscape of the oil and gas industry, the adoption of emerging technologies is crucial for maximizing production efficiency, reducing costs, and optimizing asset performance. This session will feature a series of technical presentations by industry experts on cutting-edge technologies specifically tailored for enhancing production of hydrocarbon.</p> <p>Session Chair: Mr. Sanjay Kumar Moitra, Ex-Director Onshore, Oil and Natural Gas Corporation Limited</p> <p>Presenters:</p> <ul style="list-style-type: none"> • Mr. Chris Freeman and Mr. Vinod Raghothamarao (GaffneyCline) • Mr. Sunil Rastogi (Sun Petrochemicals Private Limited) • Mr. Adarsh Kumar (Essar Oil and Gas Exploration and Production Limited) • Mr. Aman Saraf (Schlumberger)
<p>Session II 12:15 PM– 01:00 PM</p>	<p>Advancement in Drilling Technologies</p> <p>Drilling technology plays a pivotal role in the exploration and extraction of hydrocarbon resources, driving efficiency, safety, and cost-effectiveness in the oil and gas industry. This session will feature presentations by industry experts on recent technical advancements in drilling, covering innovative tools, techniques, and methodologies aimed at optimizing drilling operations.</p> <p>Session Chair: Mr. Anurag Sharma, Ex-Director Onshore, Oil and Natural Gas Corporation Limited</p> <p>Presenters:</p> <ul style="list-style-type: none"> • Mr. Md Imtiaz (Oil and Natural Gas Corporation Limited) • Mr. Dheeraj Kapoor, Mr. Akash Tyagi and Mr. Pramit Chakraborty (Halliburton) • Mr. Satheesh Srinivasan (Schlumberger) • Mr. Md. Sameer (Oil India Limited)
<p>01:00 PM- 02:00 PM</p>	<p>Networking Lunch</p>

Annexure 1: Agenda (4/9)

Technical Conference

Session III

02:00 PM– 02:45 PM

Decommissioning Best Practices

As oil and gas fields reach the end of their productive lives, decommissioning becomes a critical aspect of sustainable resource management and environmental stewardship. This session will feature presentations by industry experts on the future of decommissioning oil and gas wells, focusing on strategies, technologies, and regulatory considerations for safe and cost-effective decommissioning operations.

Session Chair: Mr. T.K Sengupta, Ex-Director Offshore, Oil and Natural Gas Corporation Limited

Presenters:

- Mr. Rajagopal Mahalingam and Mr. Udhayasankar (Shell)
- Mr. Gurjot Singh (Oceaneering International Limited)
- Mr. Amit Jain, Mr. Praveen Bhat and Mr. Rachit Agarwal (Oil and Natural Gas Corporation Limited)
- Mr. Keshab Baishya (Directorate General of Hydrocarbons)

Session IV

02:45 PM – 03:30 PM

Unconventional Energy Sources: Potential and Challenges

Unconventional energy sources, such as Tight oil and gas, CBM, Shale Oil and Gas, Gas Hydrates etc. are gaining traction as optional resources to traditional fossil fuels. This panel will explore the potential and challenges associated with these energy sources.

Session Chair: Mr. Dustin Fife, Head-Subsurface Group, Reliance Industries Limited

Presenters:

- Mr. Ryan Clerico, Mr. Riho Kruuv and Mr. Mohammed Layachi (Enefit Outotec Technology and Eesti Energia AS)
- Ms. Troyee Dasgupta, Mr. Dipanjan Maiti, Mr. Adarsh Kumar and Mr. Karan Raj, (Essar Oil and Gas Exploration and Production Limited)
- Mr. Rajeev Upadhyaya, Mr. Saurabh Datta Gupta, Mr. Ashutosh Kumara, Mr. Raj Kirana, Mr. Vinay Kumar Rajaka (IIT-Indian School of Mines)
- Mr. Jagadish Chand and Mr. Bibhu Parida (Reliance Industries Limited)

Technical Conference

Session V

03:30 PM– 04:15 PM

Energizing Role of Artificial Intelligence (AI) and Machine Learning (ML) in E&P

Artificial Intelligence (AI) and Machine Learning (ML) are transforming the oil industry, optimizing processes, reducing costs, and enhancing decision-making. This panel will explore how these technologies are reshaping oil production.

Session Chair: Dr. P. Chandrasekaran, Ex-Director, Oil India Limited

Presenters:

- Mr. Nirbhay Kumar Mishra, Mr. Aaheli Bhattacharjee, Mr. Deepesh Khandelwal, Mr. Nakul Varma, Mr. Vaibhav Deshpande, Ms. Nandhini D, Ms. Tejashwini, Ms. Nandita Gussain and Ms. Meenu Gupta (Schlumberger)
- Mr. Umang Nagpal, Mr. Ayush Kumar and Mr. Santosh Dhubia (Oil and Natural Gas Corporation Limited)
- Mr. Arun Babu Nalamara, Mr. VR Sundar, Mr. Manabesh Chowdhury, Mr. Pinakadhar Mahapatra (SETPL)
- Dr. Bappa Mukherjee, Mr. Kalachand Sain (Wadia Institute of Himalayan Geology)

Annexure 1: Agenda (5/9)

Session VI

04:15 PM– 05:00 PM

Opportunities and Challenges in Emerging Indian Offshore Basins

India offshore basins offers significant opportunities due to their untapped hydrocarbon reserves which underscores the need for a balanced approach to maximize the potential. This session will delve into how these opportunities can be harnessed while addressing the inherent challenges, paving the way for resilient and thriving offshore energy sector in India.

Session Chair: Mr. David Hume, University of Houston

Presenters:

- Mr. Subodh Notiyal, Verity Agar (TGS)
- Mr. Soumen Paul, Mr. Sivaprabha S., Mr. Ujjwal Nandi, Sonu, Mr. Sanjay Goswami, Mr. D C Pant, (Oil and Natural Gas Corporation Limited)
- Ms. Rachaita Sen, Mr. Dibyendu Chatterjee, Ms. Madhumita Jana, Ms. Moumita Sengupta, Ms. Shakti Jain, Ms. Monosvita Chaliha, Mr. Kondal Reddy (Vedanta Limited)
- Ms. K.B Bhavya (Oil and Natural Gas Corporation Limited)

Annexure 1: Agenda (6/9)

Date: 12th July 2024, Friday

Venue: Bharat Mandapam, New Delhi

DAY 2

Strategic Summit

Spotlight

Session by DGH

10:00 AM – 10:45 AM

Emerging Opportunities for Investments in E&P Sector

The exploration and production (E&P) sector remains pivotal in meeting global energy demands, and with evolving market dynamics and policy reforms, new opportunities for investment continue to emerge. This session will delve into the promising prospects for investment in the E&P sector, focusing on new blocks on offer and policy reforms that enhance ease of doing business.

Moderator: Ms. Neha Bhagat (Directorate General of Hydrocarbons)

Speakers:

- Presentation by Mr. Gautam Sinha (Advisor-Strategy and Planning) on policy reforms for ease of doing business
- Presentation by Dr. Kaustav Nag (Additional Director General (Exploration)) on exploration opportunities in Indian basin
- Presentation by Mr. Sachiv Kumar (Additional Director General (Development)) Opportunities on DSF and CBM fields
- Presentation by Ms. Pooja Verma (DGH) on enhancing efficiency in clearances related to environment: A case study of DGH

Panel VII

10:45 AM– 11:30 AM

Decarbonizing E&P: Challenges and Charting the Path Forward

As the world transitions towards a low-carbon future, decarbonizing the exploration and production (E&P) sector is imperative to support the government of India in realizing net zero 2070 goal and mitigate the impact of climate change. This session will focus on the challenges and opportunities associated with decarbonizing E&P operations, with a particular emphasis on usage of Carbon Capture and Utilization Storage (CCUS) technology, hydrogen and renewable energy etc. while charting the path forward towards sustainable energy practices.

Moderator: Mr. Anish De (Partner and Global Head ENRC, KPMG International)

Speakers:

- Mr. Dinesh Dayanand Jagdale (Joint Secretary, Ministry of New and Renewable Energy)
- Mr. Neeraj Sethi (Area Director, Baker Hughes Oilfield Services India Private Limited)
- Mr. Ashish Verma (Clean Energy, Schlumberger)
- Dr. Vikram Vishal (Professor, Indian Institute of Technology Bombay)

Panel VIII

11:30 AM – 12:15 PM

Empowering Industry Landscape: Collaborative Resource Sharing

Collaborative resource sharing between large and small oil and gas producers presents a unique opportunity to optimize resource utilization, enhance operational efficiency, and foster industry collaboration. This session will explore the potential benefits, challenges, and best practices associated with collaborative resource sharing initiatives in the oil and gas industry.

Moderator: Mr. Aman Sethi (Director, KPMG India)

Speakers:

- Ms. Molyama Kromah (Head Technical Solutions-India, bp Exploration Alpha Limited)
- Mr. Mandeep Narang (Director-Operations, Vedanta Limited)
- Mr. Ashutosh Kumar (Chief Operating Officer, Oilmax Energy Private Limited)
- Mr. R K Srivastava (Country Head, Apeiron Management)
- Mr. K Raghavan (Chief Technical Officer, Hindustan Oil Exploration Company Limited)

Annexure 1: Agenda (7/9)

<p>Panel IX 12:15 PM – 1:00 PM</p>	<p>Women in Oil and Gas sector</p> <p>The session aims to bring spotlight to the critical role of women in the oil and gas industry, with a focus on exploration and production (E&P). This panel will explore the challenges, successes, and future opportunities for women in oil and gas sector.</p> <p>Moderator: Ms. Swati Garg (Manager, KPMG India)</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Ms. Varsha Sinha (Secretary, Oil Industry Development Board) • Ms. Barnali Barua Tokhi (Managing Director, Bharat PetroResources Limited) • Ms. Rashmi Govil (Director HR, Indian Oil Corporation Limited) • Ms. Pomila Jaspal (Ex-Director Finance, Oil and Natural Gas Corporation Limited)
<p>01:00 PM- 02:00 PM Networking Lunch</p>	
<p>Panel X 02:15 PM – 03:00 PM</p>	<p>Digital Transformation in Upstream Operations</p> <p>The upstream sector of the oil and gas industry is undergoing a profound transformation driven by digital technologies, paving the way for enhanced efficiency, productivity, and decision-making capabilities. This session will delve into the various aspects of digital transformation in upstream operations, exploring the latest trends, challenges, and opportunities in leveraging digital technologies to optimize exploration, production, and reservoir management activities such as IoT-enabled smart sensors for equipment monitoring, AI- powered predictive maintenance systems, blockchain for transparent supply chain management, and cloud computing for data storage and analysis.</p> <p>Moderator: Mr. Sushant Rabra (Partner, KPMG India)</p> <p>Speakers:</p> <ul style="list-style-type: none"> • Mr. O.P. Singh (Director (T&FS), Oil and Natural Gas Corporation Limited) • Mr. Atul Patni (Head Digital, Vedanta Limited) • Mr. Anil Bhatia (Vice President and Managing Director, Emerson India) • Mr. John Chapman (Regional Service Manager, APAC, Halliburton) • Mr. Chitwan Garg (Divisional Country Manager, Schlumberger)
<p>Valedictory</p>	
<p>03:00 PM – 03:15 PM</p>	<p>Remarks by Secretary, MoPNG</p>
<p>Appreciation for Exemplary Performance 03:15 PM – 03:45 PM</p>	<p>This session will highlight the achievements made in the following thematic areas.</p> <ol style="list-style-type: none"> 1. Asset/Blocks 2. Health, Safety and Environment (HSE) 3. Energy Efficiency and Innovation 4. Small Fields 5. Technical Papers
<p>Closing Ceremony 03:45 PM – 04:00 PM</p>	<p>Here we end the event with a closing ceremony highlighting the review of day one and day two with a final thank you and farewell message, by ADG (Coordination) Mr. Akash Goyal encouraging attendees to stay connected and engaged until the next gathering.</p>

Annexure 1: Agenda (8/9)

Technical Conference	
Session VII 10:00 AM – 10:45 AM	Advances in Subsea Technologies Subsea technologies are critical for offshore oil and gas exploration, renewable energy installations, and underwater infrastructure. This panel will explore recent advances in subsea technologies, highlighting innovations and their impact on the industry. Session Chair: Mr. T.K Sengupta, Ex-Director Offshore, Oil and Natural Gas Corporation Limited Presenters: <ul style="list-style-type: none">• Mr. Hari Srivastava and Amit Musale (Reliance Industries Limited)• Mr. Chirag Jayswal (Oceaneering International Limited)• Mr. Chinna Rao Gorli (Oil and Natural Gas Corporation Limited)
Session VIII 10:45 AM – 11:30 AM	Unlocking Potential: Revival of Non-flowing Wells Reviving non-flowing oil wells, also known as “shut-in”, “sick” or “abandoned” wells, presents a significant opportunity to increase oil production. This panel will explore the methods, technologies, and economic implications of revitalizing these wells. Session Chair: Mr. N.K Bharali, Ex-Director, Oil India Limited Presenters: <ul style="list-style-type: none">• Mr. Shahjan Bukhari (Kiri Energy)• Mr. Amit Saxena, Dr. Shivanjali Sharma (RGIPT)• Mr. Vipin Gupta (Manan Oilfield Services)• Ms. Beryl Audrey and Ms. Shreya Singh (Schlumberger)
Session IX 11:30 AM – 12:15 PM	Towards Net Zero: New Energy Sources As the world transitions towards a net-zero carbon emissions future, the exploration and adoption of new energy sources are crucial. This panel will explore emerging energy sources that have the potential to contribute to achieving net-zero emissions targets. Session Chair: Mr. Tevik Kaya, Manager New Energy-MENA Geothermal & CCS, Schlumberger Presenters: <ul style="list-style-type: none">• Prof. Birendra Jha (University of Southern California)• Mr. Tejaswini Gautam, Dr. Anirbid Sircar and Ms. Kriti Yadav (PDEU & Patna University)• Mr. Partha Roy (Sun Petrochemicals Private Limited)• Mr. Tevfik Kaya, Mr. Shubh Srivastava and Mr. Attakan Janpidok (Schlumberger)
Technical Conference	
Session X 12:15 PM – 01:00 PM	Advances in Reservoir and Well Management Effective reservoir and well management are essential for optimizing oil and gas production, maximizing recovery rates, and ensuring operational efficiency. This panel will explore recent advancements in reservoir and well management practices and technologies. Session Chair: Dr. Hemanta Sarma, University of Calgary Presenters: <ul style="list-style-type: none">• Mr. Pankaj Kumar, Mr. Akhtar Uddin, Mr. Ahmed and Mr. Ranjit Dutta (Oil India Limited)• Mr. Anurag Misra, Mr. Akash Damani, Mr. Vishal Ranjan, Mr. Alok Kumar Sharma and Mr. Burhanuddin Khuzema Alirajpurwala (Vedanta Limited)• Mr. Hugo Espinosa and Mr. Francois Dubost (Schlumberger)• Mr. Pradhan Maheswar, Mr. Pathak Poonam, Mr. Prasad SR and Mr. Ram Binay (Oil and Natural Gas Corporation Limited)

Annexure 1: Agenda (9/9)

01:00 - 02:00 PM	Networking Lunch
Session XI 02:15 PM – 03:00 PM	Advancements in Geophysical Technologies for Oil and Gas Exploration India upstream sector is evolving with introduction of advanced technologies ensuring strong economic growth and energy security. This session will delve into the transformative impact of cutting-edge geophysical methods on exploration and production of hydrocarbons apprising its critical role in addressing challenges of modern oil and gas exploration. Session Chair: Dr. Manas K. Sharma, Ex-Director Oil India Limited (OIL) Presenters: <ul style="list-style-type: none">• Mr. Ashutosh Verma, Mr. PV Vinod, Ms. Jyoti Verma, Ms. Madhurima Katiyar, Mr. Amardeep, Mr. Alok Kumar Rao, Mr. Mrinmoy Sharma and Ms. Sonali Baba (Oil and Natural Gas Corporation Limited)• Mr. Nasimudeen Nedeer, Ms. Moumita Dubey Chakravorty and Mr. Debakanta Biswal (Adani Welspun Exploration Limited)• Prof. Rajesh Nair (IIT-Madras)• Mr. Sanjiv Kalita (Invenire Energy Private Limited)

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See you next time!



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