SPE Review London

The official e-magazine of the Society of Petroleum Engineers' London branch

NEW! C-Level Talks David Cox (MatthewsDaniel) on how he views success

* Digital Technologies in Action
* Letters from the Chair and the NEW Editor
* Enlightening Future Generations
* CO2-EOR and Storage Potentials in Depleted Reservoirs
* NEW! News Digest



EVENTS

BEHIND THE SCENES MEET THE BOARD

SPE Review London

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ABOUT US

The Society of Petroleum Engineers (SPE) is a not-forprofit professional association whose members are engaged in energy resources, development and production. SPE is a non-profit professional society with more than 156,000 members in 154 countries, who participate in 203 sections and 383 student chapters. SPE's membership includes 72,000 student members. SPE is a key resource for technical knowledge related to the oil and gas exploration and production industry and provides services through its global events, publications, events, training courses and online resources at www.spe.org. SPE London section publishes SPE Review London, an online newsletter, 10 times a year, which is digitally sent to its 3000+ members. If you have read this issue and would like to join the SPE and receive your own copy of SPE Review London, as well as many other benefits - or you know a friend or colleague who would like to join - please visit www.spe.org for an application form.

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Behind the Scenes: SPE Review Editorial Board



Elizaveta Poliakova, Editor in Chief

Elizaveta is a Reservoir Engineer at Trident Energy Management Limited. She has a Master's of Science in Petroleum Engineering from Imperial College London and a Bachelor's in Petroleum Engineering from the University of Leeds.

Elizaveta has been with SPE for more than five years. She was the President of SPE Imperial College Chapter and the President of SPE Leeds Chapter. Previously, she was also on the committee of SPE YP.



Josh Beinke

Graduated from University of Adelaide in 2008 with a Petroleum Engineering degree. Moved to Europe in 2016, and working as a Production/ Exploitation Engineer with Vermilion Energy.

Ffion Llwyd-Jones

B2B writer and editor. Finding, explaining and sharing stories that people can understand and relate to. International experience in technology, environment, animal therapy and not-for-profits.



Mark Beleski

Experienced engineer, with deep understanding of industry practices, trends and challenges. Energy Loss Adjuster with MatthewsDaniel, in London.



Justin Reynolds

Content/features writer, and web designer. Digital and print publications including The New European, openDemocracy, The Calvert Journal, CityMetric, Creative Bloq and Social Europe.

A big Thank You! to all the organisations that support the SPE London section

Imperial College London







GeoScience





Letter from the SPE London Chair

Dear SPE London members and colleagues,

Welcome to the first issue of SPE Review London in 2020! This is also a first edition for **Elizaveta Poliakova, our new Editor**. With this small change we welcome suggestions on additional features you wish to see in the publication.

Since our last communication we have delivered a well-attended (on Wytch Farm project in particular) **Evening Lecture Programme**, with talks including North Sea oil and gas decommissioning, and Digital Technologies in action within the upstream sector by the Young Professionals group. **Future events** include visits to the core and PVT laboratories, Disruptive Transformation of Global LNG, and Rise of the Carbon Majors. Support for additional students on an annual basis, through the Arkwright, and initatives on engaging with the membership are also developing noticeably.

The current industry situation means SPE membership numbers are decreasing across all regions. Nevertheless, SPE stays strong and strengthens our core, the feedstock of incoming talent into our industry. Please get in touch if you can can volunteer time to **support our mentoring efforts** in developing individual interpersonal skills to navigate the energy industry - we would like to start a mentoring programme through our London section. It will also involve sharing professional insights and practical career advice to fellow SPE members. Contact us at: SPELondon@spemail.org

We are also looking for **nominations for the Distinguished Lecturer** (DL) 2021-2022, and especially for **female SPE role models**. We also need many more applicants with **familial links** to Africa, South America and South Asia. If you know someone who could be a DL, please discuss with them and then nominate via: https://www.spe.org/en/dl/nominations.

Next, I would like to congratulate our colleagues in the South-West of England for establishing **the Dorset SPE Chapter**. We will readily share our experience to help guide through the initial stages!

We are always looking for **volunteers to join our ambitious team**, please write to us at: SPELondon@spemail.org.

In closing, here are some undeniable facts about being a petroleum engineer: hard working (100%), problem solving (100%), critical thinking (1100%), mathemagician (200%), while also adequate sleep of 0% and wrong answers of 0%. A wizard all in all. Though not far from truth, we still need constructive feedback and critical guidance about what ties in well with the above-mentioned member mentoring. It is vital to seek different opinions and perspectives to promote our great industry and the eminent society, and open it to the outside world! More on that later...

Let me finish by thanking you all for your continued support.

Maxim Kotenev, SPE London Chair





Letter from the new Editor

Dear SPE London members and colleagues,



My name is Elizaveta and I am a Reservoir Engineer at Trident Energy. I recently joined SPE London Review as Editor, following Jonathan Ovens' transition.

I've been a member of SPE for more than five years, having started as an Undergraduate at the Leeds Student Chapter committee, presiding the Society at Imperial College London and then joining SPE's Young Professionals' board.

The Society of Petroleum Engineers has given me the opportunity to meet outstanding students, academics and industry professionals. Moreover, it has made me bewitched by the industry I now work in. I encourage every reader to engage with the SPE community.

As Editor, I am hoping to find a balance between innovative research discoveries and fascinating personal stories. We will start by introducing two new sections: 'C-Level Talks' is a space where chief-level executives share industry insights, career advice and their own personal stories; and the 'News' section offers a digest of relevant industry news. We hope you'll enjoy both new sections!

Is there any particular topic which you would like to read about? Let us know and the SPE London Review team will do its best to include your suggestions in the following issues.

I would like to thank Ffion Llwyd-Jones, Mark Beleski, Justin Reynolds and Josh Beinke for the guidance and support they have already provided me with at the beginning of my journey as Editor.

Sincerely Yours, Elizaveta Poliakova



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NEWS DIGEST... NEWS DIGEST... NEWS DIGEST

BP looks to new chief executive to navigate energy transition challenges



NEWS

BP-lifer Bernard Looney takes the helm at the corporation this month, seeking to guide the company

through a period that promises to be just as challenging as that which faced his predecessor. Outgoing CEO Bob Dudley took over following the Deepwater Horizon crisis. Mr Looney takes control as BP faces mounting pressure to prove its commitment to investing in green energy. The new CEO has been profiled in several publications since the turn of the year.

Link here for full story And here And here

Future of UK fracking still uncertain postelection

The future of the UK fracking industry remains uncertain, despite the government's imposition last autumn of a moratorium on the production of shale gas after a report by the Oil & Gas Authority highlighted earthquake concerns. The industry was given a lifeline by the re-election of the Conservative government at the general election: all other major parties were committed to a complete fracking ban. Emails released to the Financial Times under a freedom of information request show that Cuadrilla, the UK's principal shale gas operator, has continued to lobby the OGA

to discuss 'workable' oversight systems. The government has reiterated its commitment to the moratorium. Link here for full story

Discerning Scotland's energy future

The Financial Times has an interesting interview with Sir Ian Wood, long time director of the London-listed Wood Group oil services company, on the conflicting forces that will set the future of the North Sea basin and the Scottish energy sector. The industry's demise has been confidently predicted for decades. But fossil fuels still meet 75% of the UK's energy demands, and small agile operators backed by equity funding are using advanced techniques to prolong the output of mature fields. As climate concerns rise they face increasing pressures from government regulation and a marked shift in investor sentiment against hydrocarbons. The Scottish economy, particularly that of the North East, is caught in the crossfire. Sir Ian discusses the Opportunity North East venture he chairs designed to map the region's

economic post-oil future. Link here for full story And here



Introducing the economics of oil and gas

A new book by Dundee University academic Xiaoyi Mu provides a useful introduction to the industry's economics for nonspecialists. The Economics of Oil and Gas, published by AgendaPublishing, examines some of the unique economic challenges the industry faces, including negotiating international contracts with host countries, managing the risks of recovery, implementing crossborder pipelines, dealing with huge variations in the taxation of refined products, and reacting to

the effect of price control and subsidization in the OPEC nations which can create massive volatility in pricing. The



book is light on maths, designed for a broad readership for those interested in the industry and its markets.

Link here for full story

Fossil fuels discussed at first Climate Assembly UK meeting

The first of a series of meetings called by MPs to better understand public opinion on how the UK should meet its net zero carbon emissions target took place on Saturday 26 January. The initiative seeks to bring together people from all walks of life and views on climate change to listen to evidence on the choices the UK faces. The issues include the future of the UK oil and gas sector, aviation and extension of renewables. Just over 100 members attended the first of a series of four meetings, which included an address by Sir David Attenburgh.

Link here for full story And here

Student Chapter Enlightens Future Generation

In January, the SPE Imperial College Student Chapter conducted an 'Energy for Me' programme at Hallfield Primary School, Bayswater, London. Promise Eseoghene Ahante, President of SPE Imperial Student Chapter, shares the event's highlights.





At the school, 11 Masters' students taught Years 4, 5 and 6 Key Stage 2 pupils about sustainable energy, the role of petroleum in the global energy mix, and the challenges for meeting global energy demand in efficient ways and with significantly reduced emissions.

The chapter President delivered a presentation to the children, who all displayed keen enthusiasm and participation. This was further encouraged with demonstrations: highlighting reservoirs storage of oil and gas - using a simple kitchen sponge; showing the process of drilling and producing petroleum - using soda and straws, and sharing a simple analysis showing the impact that differences in reservoir depth and viscosity between fluids can have on production - using syrup, olive oil, and soda.

The pupils also participated in group activities and quizzes, and learned about Science, Technology, Engineering, and Mathematics (STEM) careers.



intelligent questions about science and energy, and working in teams to solve exercises and games.

SPE has always been committed to educating the leaders of tomorrow through its 'Energy-for-Me' programme, and at the core of the Imperial College chapter, we believe every interaction is an opportunity to make a positive impact on others.

It was great to inspire and enlighten the future generation about solving the world's energy challenges.

Thanks to the SPE Imperial College committee members and volunteers, and the pupils, teachers and management of Hallfield Primary School.



CO2-EOR and Storage Potentials in Depleted Reservoirs in the Norwegian Continental Shelf (NCS)



Elhans Imanovs (Reservoir Engineer, Trident Energy) was one of three winners of the SPE UK Student Paper Contest in 2019. His paper was promoted for European Qualifier at the Annual Student Energy Congress (ASEC) 2020 in Croatia.

Elhans analysed different Water-Alternating-Gas (WAG) injection methods using carbon dioxide as an injection gas to find an optimal solution for simultaneous carbon dioxide storage and enhanced oil recovery in one the fields in the Norwegian Continental Shelf (NCS). This project was completed as part of his MSc course at ICL in collaboration with Equinor, supervised by Dr Samuel Krevor (ICL) and Ali Mojaddam Zadeh (Equinor ASA).

Two global challenges are an increase in carbon dioxide (CO_2) concentration in the atmosphere, causing global warming, and an increase in energy demand (UNFCCC, 2015; EIA, 2018). Carbon Capture and Storage (CCS) is believed to be a major technology to considerably reduce CO_2 emissions (Budinis et al., 2018). Applying this technology, the anthropogenic CO_2 could be injected into depleted reservoirs and permanently stored in the subsurface. However, standalone CCS projects may not be economically feasible due to CO_2 separation, transportation and storage costs (Pires et al., 2011). On the other hand, one of the most efficient





Enhanced Oil Recovery (EOR) methods is carbon dioxide injection (Holm, 1959). Therefore, a combination of CO_2 -EOR and storage schemes could offer an opportunity to produce additional oil from depleted reservoirs and permanently store CO_2 in the subsurface in an economically efficient manner.

In this study, a depleted sandstone reservoir located in the Norwegian Continental Shelf (NCS) is used. An innovative development scenario is considered, involving two phases: CO₂ storage phase at the beginning of the project followed by a CO₂-EOR phase. The objective of this paper is to evaluate the effect of different injection methods, including continuous gas injection (CGI), continuous water injection (CWI), Water Alternating Gas (WAG), Tapered WAG (TWAG), Simultaneous Water Above Gas Co-injection (SWGCO), Simultaneous Water and Gas Injection (SWGI) and cyclic SWGI on oil recovery and CO₂ storage potential in the depleted reservoir.

A conceptual 2D high-resolution heterogeneous model with one pair injector-producer is used to investigate the mechanisms taking place in the reservoir during different injection methods. This knowledge is applied in a field scale, realistic 3D compositional reservoir model of a depleted sandstone reservoir in the NCS including ten oil producers and twenty water/gas injectors.

The simulation results demonstrate that innovative development scenario is viable to improve oil recovery and storage capacity in the depleted reservoirs. Different injection scenarios are benchmarked, and cyclic SWGI method is found to be the most efficient scenario in enhancing oil recovery and employing the highest capacity for CO₂ storage, shown in *Figure 1*.

In September 2019, the SPE London Student Section held its Annual Young Professionals/Student paper contest at London South Bank University. Eight papers were presented with students coming from as far afield as Edinburgh, East Kilbride, London and Portsmouth. The judges, from the SPE London Section, chose three winners: Brian Willis (Astrimar Ltd), Keim Nguyen (London South Bank University), and Elhand Imanovs (Imperial College).

Challenging, fun, career-boosting, educational - why not explore the great opportunities with the SPE London team?



LOVE TO ORGANISE? Volunteer with the events section of SPE London – you'll learn lots, be valued for your ideas, and have fun!



GOT GREAT IDEAS? How about sharing and contributing as an SPE London Board member?



YOUNG PROFESSIONAL? Learn, explore and meet your fellow YPs at SPE London

FIND OUT MORE! Get in touch with our Editor, Elizaveta Poliakova via LinkedIn





Self-belief and following opportunities - how to be a successful engineer in today's global world



David Cox, Chief Operating Officer & Managing Director - Europe Based in MatthewsDaniel's London Head Office, David has overall responsibility for the company's Europe and CIS regions, following time managing operations in the Asia Pacific region.

A Mechanical Engineering graduate, David's early career was in the design and validation of subsea equipment and floating production systems, when he obtained a number of patents for his designs. With this highly specialised knowledge and experience, he is a recognised expert in the investigation of failures of subsea equipment on a range of international high profile claims arising from operational and construction losses.

Who is David Cox? Tell us about yourself and about MatthewsDaniel.

I am a mechanical engineer who made the transition into the energy insurance sector 14 years ago. I now largely use my engineering skills to understand failures in the energy industries, particularly offshore oil and gas, and to keep my bicycles and collection of soon-to-be-classic British cars on the road.

I work for MatthewsDaniel, which is a loss adjusting and marine services company focused on the energy insurance market. Loss adjusters are impartial experts who assist in the settlement of complex insurance claims by working between the asset owner and their insurers to investigate losses and their cause, and report on the repairs required, their costs, and advise on how these costs might be recoverable under insurances in place.

Walk us through your career - you moved from engineering to insurance?

I joined MatthewsDaniel after six years in engineering consultancy for the oil and gas sector during a down cycle in the industry and at a point that most opportunities in engineering were leading to the US or Middle East, neither of which were locations I really wanted to move to at that time. I had worked with loss adjusters a number of times during my career during investigations into failures of subsea equipment. The role interested me as it had significant involvement in the practical side of the engineering work I had been doing, but opened up the new world of risk management and insurance to me.

I started my career in London, which remains the world's specialist insurance capital, particularly

through the Lloyd's market, and worked on losses across the world, travelling progressively more to meet with operators and project teams, and see first-hand what had happened. Being able to talk to the engineers, and understanding what they were explaining was key to being able to report back to the insurance market, where many people are not from technical backgrounds. A large part of the loss adjuster job is communicating technical information to non-technical audiences, through presentations and written reports.

You worked as Managing Director in Singapore for almost seven years and then moved back to London. What are the differences between managing a company in Asia and one in Europe? After about two years in London, I was offered the role of Managing Director of Asia-Pacific. Despite not having really thought about an overseas placement I accepted the challenge and moved with my family to Singapore to embark on the next phase of my career. At that time, Lloyd's had set up in Singapore and many insurers were expanding there. It was an exciting time in Singapore, as a growing hub for both the offshore oil and gas industry and its insurers. The region is much bigger than just Singapore, and I spent a lot of time travelling: India, China, Japan, New Zealand, Indonesia, Australia, Vietnam and many other places. Each country is unique - the attitude of its people, the ways of doing business and how I had to work with people. Trust is important as a loss adjuster and developing this trust, particularly though a language barrier, was often challenging, but ultimately rewarding. Aside from the practicalities of working in such a large and diverse region, the challenge of understanding laws and practice was always there. Ideas that you may

Self belief and following opportunities ... continued

take as a given from English law and the associated cultural norms may be entirely alien in other countries. While I always had support from professionals in this area, I had to develop a broad knowledge of different legal systems, contracting norms and unwritten customs to work effectively across the region. The manner in which a negotiation occurs in (for example) Japan is entirely different to that in Vietnam.

It is only really with my return to management positions in the UK, that I have really understood and appreciated both the similarities and differences of working in Asia and the UK. On one hand, people's motivations are very similar, but the manner in

"I never want to have to tell someone that a family member is not coming home from work."

which these are displayed, or in fact hidden, are manifold. Perhaps the most difficult difference to observe was always the attitude to health and safety around the world; I

believe they are changing for the better, but the pace of change in some sectors and some countries is slow. It is important as a manager responsible for people across a wide area to always ensure you do not lose sight of what international best practice is, and to apply it consistently. The hardest claims to be involved in are those where there has been loss of life, and I never want to have to tell someone that a family member is not coming home from work.

You graduated from UCL with a BEng Degree in Mechanical Engineering. Was it a natural path into Oil & Gas after completing your Mechanical Engineering degree or did you see yourself in a different industry?

I have now spent broadly half my life working and half in education, and it think it is fair to say that I did not have insurance in mind at any point during the majority of that. Like many, I suspect, I followed a natural path into an engineering degree; good at maths and physics, spatially perceptive and practically minded, it seemed the logical, sensible, thing to do. I did feel at the end of my degree that I wanted nothing to do with engineering though – the excitement and charms had been lost in proportion to the long hours invested, and so I graduated with no clear direction. I did consider architecture, but another seven years at university did not appeal. It didn't take long, and a few failed attempts to find employment in pubs, for me to realise that I did want to work as an engineer, and a role that involved problem solving was going to be right for me. I was fortunate to be offered a job at a small oil and gas consultancy and, from that point, I didn't look back. The opportunities that consultancies, especially small ones, can offer such a diverse range of work for an even more diverse range of clients is perhaps unsurpassed. It is a fantastic feeling to work with clients who respect the ideas of a young engineer, and having the platform to bring ideas into reality is an engineer's dream.

What current developments in the industry get you excited and what advice would you offer to graduates wanting to enter the petroleum industry? The petroleum industry can be ruthless, as the recent and long downturn has shown, and unfortunately engineers can feel the full force of it. It is not unique to this sector that engineers are often undervalued, and it is a challenge in society at large. The majority of my university course peer group went into financial services of some sort, and I ended up there to – albeit after practicing as an

engineer. My move into insurance was in part driven by a desire for more certainty and not to end up jumping from

"The pace of change is the most exciting part of my day"

project to project. I couldn't give up engineering completely and I still see engineering challenges on a daily basis in my current role.

It is an exciting time to be working with the energy industries as we transition to a low-carbon economy. Offshore floating wind is driving change in the cable design, and this will also have significant impacts for the oil and gas sector. Life extension and decommissioning are bringing new challenges both to industry and their insurers, and the rise of automation is bringing opportunities and risks that weren't even contemplated just a few years ago. The pace of change is the most exciting part of my day and it is good to see engineers are at the heart of this and uniquely qualified to adapt to it.

I think people embarking on a career in the petroleum industry today need to be aware of this: a career can be many jobs, and the confidence to follow opportunity and what motivates you will make it a successful one.

Digital twins transforming upstream operations

SPE YP London's evening talk on 'Digital Technologies in Action within the Upstream Sector', (in association with Infosys Consulting) was an opportunity to gain insight into the different ways oil&gas majors and service companies are deploying digital technologies to optimise operation, enabling better informed decision making.



Adam Zalewski (Petroleum Engineer, BP) presented on the topic of Digital Twin Technology: A digital replica of a living/non-living physical entity.

He began with an overview of the Digital Twins before sharing the experience of working with this technology based on the BP's Apex Production Optimization and Surveillance digital twin. Adam also discussed tackling the common misconception that jobs will be made redundant due to digital technologies, and stressed the potential synergy as digital technologies still rely on the experience and knowledge delivered by conventional engineers. This discussion brought us to the changing scope of skills required for an engineer, with repeatable tasks being automate while there is a requirement for additional knowledge of coding and data pipelines.

Jorge Ruiz (Portfolio Manager, Schlumberger) showcased SLB's digital efforts.

Announced in 2015, DELFI is a digital platform that connects all SLB's offerings through APIs and powerful computing to create a seamless collaborative experience for geologists, petroleum engineers. Jorge took us through the varying domain driven visions and workflows for the multi-disciplinary platform, and also illustrated how ML can be integrated to help increase the speed and accuracy of seismic interpretations among other datasets.

We would like to thank our hosts, Infosys Consulting, for allowing us to use their Experience Centre in London as a venue for our evening talks and for participating in our event.

Infosys Consulting is a global leader in next-generation digital services and consulting, enabling clients in more than 40 countries around the world to navigate their digital transformation.





Meet the SPE London Board

SPE is a non-profit professional society with more than 156,000 members in 154 countries, who participate in 203 sections and 383 student chapters. SPE's membership includes 72,000 student members. The SPE London Section, with an average 2,000 members and seven associated student chapters, is an active section with an aim to connect, engage and promote the exchange of knowledge within the London energy community of technical and commercial professionals. The SPE London board is the governing body for the SPE London section. The different committees oversee the chapters various activities including the evening programme, various SPE events, Young Professionals, Women in Energy and associated student chapters.



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Membership Chair Richard Prior

What's happening in 2020?

SPE local and international events, and on-demand webinars

SPE London Dinner Meeting

Talk 1: Disruptive Transformation of Global LNG, Peter Cameron and Jalil Jumriany, Energy Markets Global. Talk 2: Rise of the Carbon Majors, Bas Sudmeijer, Managing Director and Partner, BCG's Energy and Social Impact practice.

19-20 February

25 February

SPE Symposium: ESP Journey to the Future

This SPE Symposium is a specialized biannual event on Electrical Submersible Pump (ESP), covering insights of the ESP industry in its technical, operational, and commercial aspects.

It is essential to embrace and collectively support this event as the Artificial Lift industry's dependence on Electrical Submersible Pump applications continues to grow, which can be seen by many existing and newly emerged ESP projects worldwide.

28 February Stratum Reservoir Core Lab Visit (SPE YP)

SPE YP London Committee invites you to a day at Stratum Reservoir Laboratories in East Grinstead. Join us for this excellent opportunity to gain insight into the different ways core samples from various reservoirs in the oil and gas industry are analysed, and understand the core analysis data that acts as one of the main precursor, in a reservoir development and planning study. This lab tour for Conventional Core Analysis and SCAL is aimed at young professional engineers, researchers, geoscientists and students interested in learning more about specific laboratory practices.

31 March

SPE London Dinner Meeting

Talk 1: Chrysaor's vision of the future of the UK and Norwegian North Sea oil and gas production. Speaker: Emma Spence and Bob Fennel. GM and Ops Director.

Talk 2: Imperial College research forum. Speaker: Professor Martin Blunt and research team.

22 April

SPE Norway Subsurface Conference

Renowned as the most significant forum for oil and gas professionals in Norway and the rest of the world. Our industry is in change. The focus on energy transition is growing, which is driven by the positive steps put forward in global climate discussions and rapid technology development. However, population and economic growth still drive the global need for energy to increase and we believe oil and gas will be an important part of our energy mix for decades to come. Established for more than 30 years and formerly known as the SPE Norway One Day Seminar, the SPE Norway Subsurface Conference brings together the E&P industry to expand industry technical knowledge, connect with innovators and leaders and address technical challenges facing upstream oil and gas professionals.

13-14 MaySPE Workshop: In-well Fiber-Optic Sensing: Applications for FieldDevelopment and Field Management

This workshop will address all aspects of in-well fiber-optic sensing, from initial development optimisation through lifeof-field operations and abandonment. In recent years a greater focus has been given to the role of down-hole fiber-optic (FO) sensing in completions diagnostics, particularly for the development of unconventional oil and gas resources.

ONLINE EDUCATION Environmental Impact Evaluation

The learner will be introduced to the systematic process used by international companies to identify, mitigate, and manage environmental impacts of proposed upstream oil and gas projects using World Bank Standards and the Equator Principles, as well as: learn the scope and application of environmental regulations necessary to receive environmental permits to proceed with exploration projects, learn the essence of environmental and social impact statements (EIS), their scope and implementation for exploration projects using the World Bank process as a universal model, learn how to apply the Equator Principles for international projects that require bank financing, learn how to manage the EIS process from initiation to final audit for an E&P project, and review summaries of EIS filings for actual exploration projects.

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