

Changing Gear: New Roles in the Energy Expansion

Free webinar **Tuesday 5th December 2023 (14.00 – 16.00 CET)**

Carbon Capture & Storage



David Pickering
Market Manager,
CCUS & Geoscience, Ramboll

Nuclear Waste Disposal / Energy Underwriting



Rodney Garrard
Geo Energy Advisor,
Arch International

Subsurface Project Management



Louise Vad-Pickering
Project Manager, COWI

Hydrogen & Energy Storage



Alex Orbell
Hydrogen BD Advisor, bp

Science Journalism & Training



Henk Kombrink
GeoExpro / North Sea Core
Editor / Director

Sustainability



Rosalie Constable
Co-founder, Sustain:able

Helium Exploration



Lorna Blaisse
CEO, Helium One Global

Geothermal



Andy Wood
Geothermal Advisor

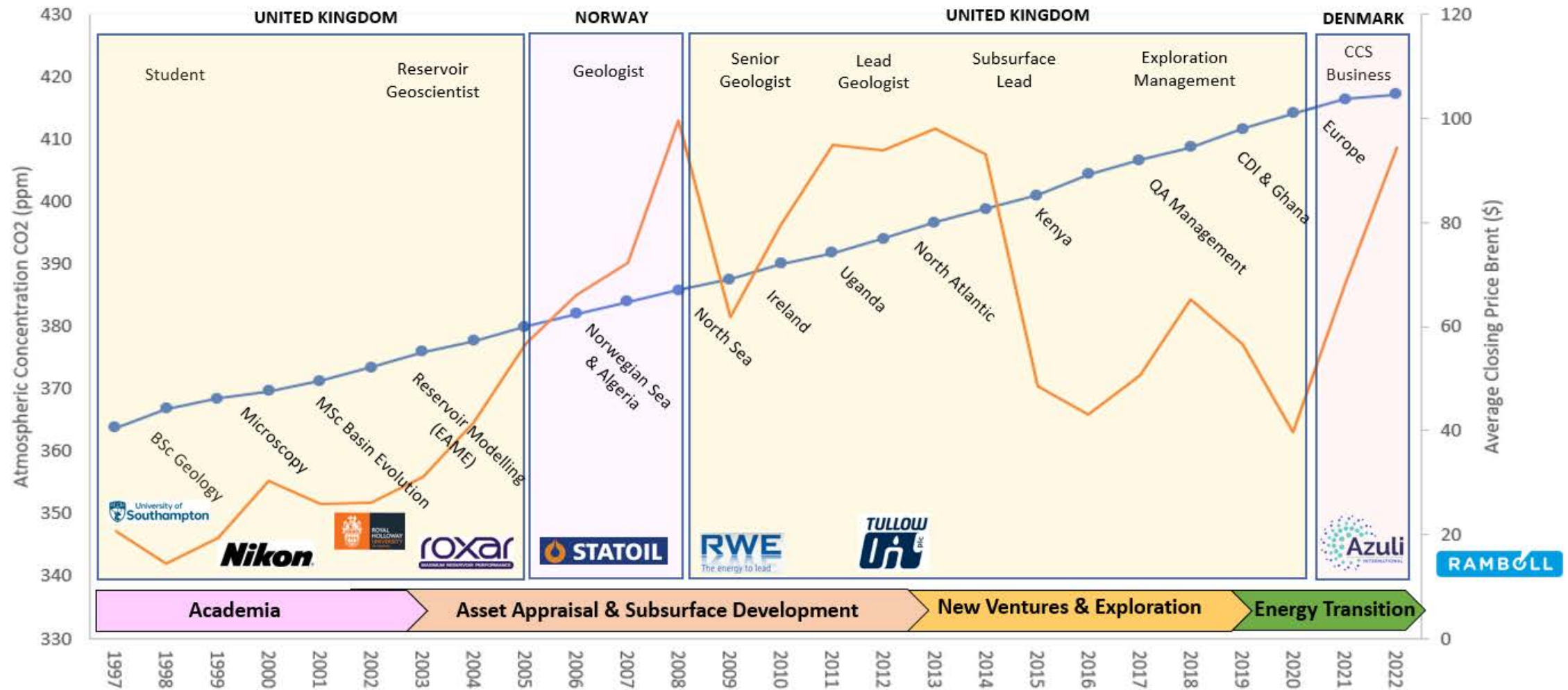
Agenda

- **Welcome**
- **Presentations (c. 14 mins each)**
 - David Pickering (Carbon Capture and Storage)*
 - Rosalie Constable (Sustainability)*
 - Rodney Garrard (Nuclear Waste Disposal / Energy Underwriting)*
 - Henk Kombrink (Science Journalism)*
 - Alex Orbell (Hydrogen)*
 - Louise Vad-Pickering (Subsurface Project Management)*
 - Andy Wood (Geothermal)*
- **Q&A**

David Pickering (Carbon Capture, Utilisation and Storage)

Market Manager - Geoscience

Ramboll



Recent Training and Continuous Career Development

- Advanced Modelling of **Fluvial and Deltaic Architecture** (2011)
- Extensional **Tectonics** and Normal Faulting (2012)
- Exploration **Management Best Practice** (2012)
- Potential of **Source Rocks** (2014)
- Sedimentology** and **Stratigraphy** in Clastic Systems (2015)
- Geological **Model Development** in Fluvial Reservoirs (2016)
- Tullow Senior **Leadership** Programme (2017 – 2019)
- Economics** (2019)
- Reservoir** and Petroleum Systems in Rifts (2017)
- GeoLogica Masterclass Carbon Capture & Storage** (2021)
- AAPG Geothermal Energy** (2021)
- Planning for a **Sustainable Future** (2021)

Insights and observations

- Your career path will have some **twists and turns**. It is a fun and exciting journey, but it might not happen overnight, hence you should ensure you have the **right financial setup**.
- You will **need to get noticed**. Hence you need to network effectively. Can't just 'like' someone's comments on LinkedIn.
- There is a massive subsurface knowledge gap outside of O&G. Just need to **find your niche**.
- You do need to study. But you don't necessarily need a new degree. Importance of **continuous self-investment**: short online courses, webinars, books, networking opportunities. **Be curious**.
- Find a **like-minded person** with whom to share the journey. Share experiences and ideas.



David Pickering ✓

Market Manager - Geoscience | CCUS | Energy Storage | Gec

Talks about #ccs, #energy, #reservoir, #geothermalenergy, and #explorationandproduction

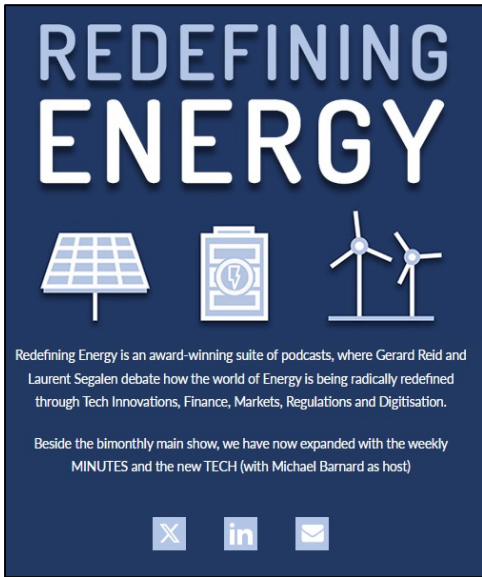
Cookham, England, United Kingdom · [Contact info](#)

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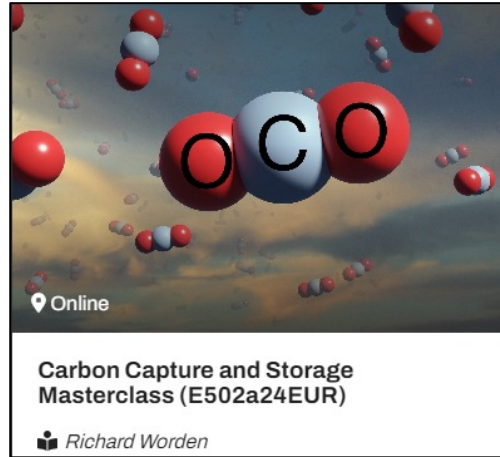
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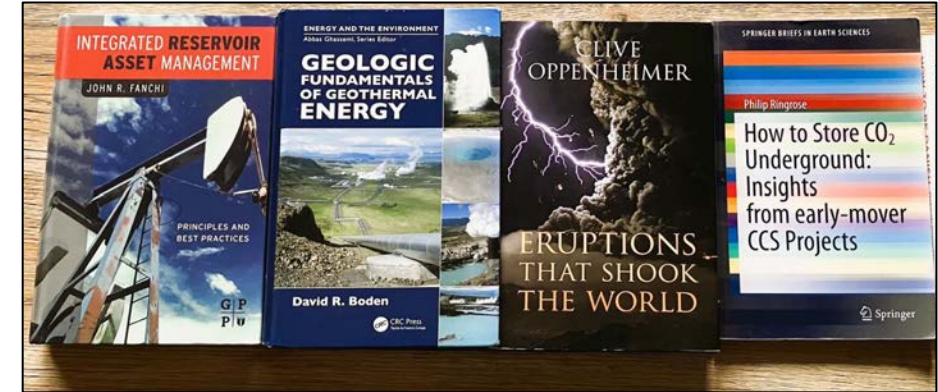
Listen



Talk



Write



Read

Use your (common) senses

Rosalie Constable (Sustainability)

Co-founder

Sustain:able

rosalie constable – my journey so far....



academia

BSc (Hons) and PhD in Earth Science,
University of Adelaide



research & consulting

Geoscience Australia – Petroleum Geoscientist
GNS Science, New Zealand – Sedimentologist



oil & gas geoscientist & manager

OMV New Zealand – Exploration Geologist
OMV AG, Vienna – Senior Geologist - Exploration
Delonex Energy, UK – New Ventures Geologist, Asset
Manager, Geoscience Manager



more studies, business owner, consultant, manager...

Independent Consultant – Energy transition projects
Transition Engineering & Emissions Accounting Courses
Co-founder and Technical Director of *sustain:able*



current role in sustainability



Company Advisory

Supporting companies in developing meaningful, technically-supported ESG and emissions strategies



Due Diligence

Supporting investors and M&A teams with integration of ESG considerations into investment strategies and decision-making processes



Emissions

Helping you measure your emissions footprint and implementing meaningful reduction strategies

Very focussed on our “why” – we all have similar drivers for wanting to do this work and engage with the types of companies we work with

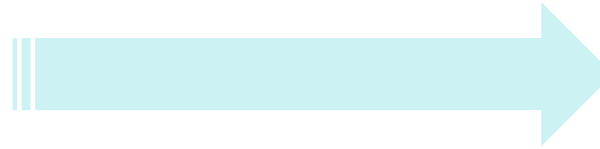
Steep learning curve, but apply experience and skills from my oil & gas career on a daily basis

In the driver’s seat to build a company with a culture that is positive, supportive and rewarding for our staff, while delivering high-quality, impactful results to our clients

- Learning a LOT of new business skills (accounting, legal, staff management, marketing)

risks of changing roles are also opportunities

risks



opportunities

Moving into an area you don't know a lot about, feeling like you're starting from scratch

Apply your passion for learning to a new topic

Utilise valuable transferrable skills & experience

The energy transition is a huge, rapidly evolving area with a lot of uncertainty

Large scope for different roles in the energy transition

Help to shape the progress/direction of a company or industry

Technology/process innovation

Policy/strategy

Speed of the transition

Taking a pay cut

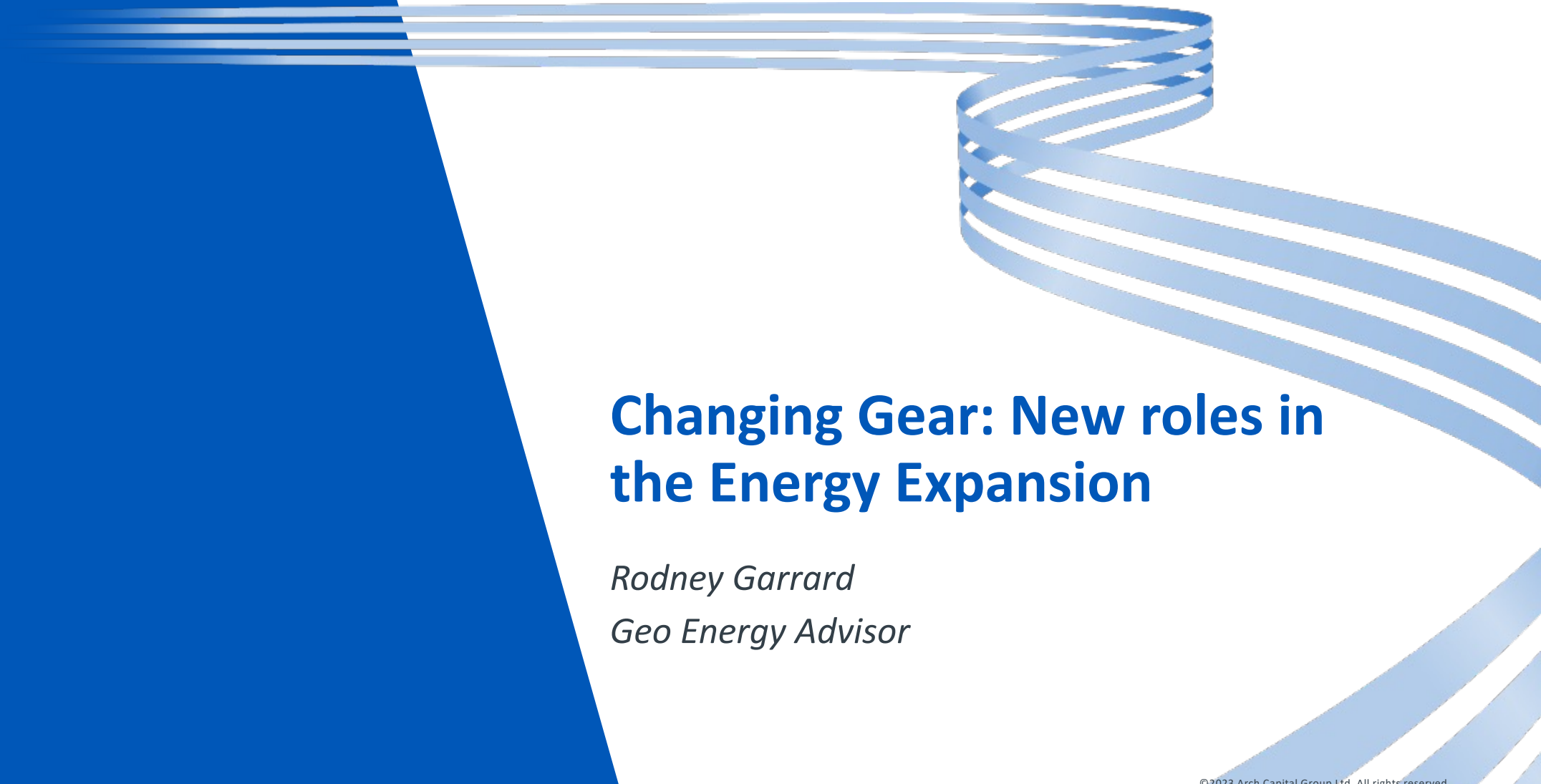
Prepare a financial buffer before moving

Find your "why" – opportunity for more rewarding and fulfilling work beyond salary

Rodney Garrard
(Nuclear Waste Disposal and
Energy Underwriting)

Geo Energy Advisor

Arch International

A decorative graphic consisting of several parallel blue lines that form a ribbon-like shape, starting horizontally and then curving downwards and to the right.

Changing Gear: New roles in the Energy Expansion

Rodney Garrard
Geo Energy Advisor

Who I am...

18 yrs E&P

5 yrs Rad Waste

2 mos insurance



- Career entry point and bedrock: Mudlogging – amazing foundation of experience. *Perseverance*
- Data Engineer/MWD: “deep” water, 1st class data acquisition program (at the time) to characterise HPHT. *Time mgmt. data QC*
- Wellsite/Operations Geologist: *multi disciplinary, integrated WFs, optimization*
- Project Manager Field Investigations/Petrophysics: *data boreholes, integrated WFs, scientific rigor*
- Geo Energy Advisor, Arch Insurance: *leveraging geoscience skills in the finance world..*



- Nuclear waste disposal represented another discipline where an operations geologist type experience of execution and accessing and assessing the subsurface is key.
- *“Nuclear Waste Repositories, a New Frontier for Petrophysical Engineers”..*
https://www.spwla.org/Documents/Newsletter/SPWLA_Today_Newsletter_Vol5_No6.pdf
- See as many projects as possible, not only in your core field, but also other disciplines as this provides contextualizing insights or operational methods i.e., transferable.
- *“The best geologist are the ones who’ve seen the most rocks”.*
- While this holds much truth, it's only part of the subsurface puzzle; to acquire truly "good" understanding we must make observations, not only what is there, but more importantly, what is not there, and identifying anomalies in often imperfect or incomplete datasets.

- You've been there before; you know where you are supposed to go on the map.. maybe not the exact street... but you'll get you and the team there. Gandalf knew that..
- The ability to operate within a team, be flexible about roles, and listen to others when they speak. Gandalf was wise, but never forgot to learn from others..
- If you don't have experience, set the goal to see as many projects as possible, not only in your core field, but also other disciplines as this provides contextualizing insights or operational methods i.e., transferable.
- E&P industry is a dynamic, technical, challenging and difficult industry. A fundamental aspect of a E&P subsurface exploration business is optimization.. Also, being skilled with databases, > vol of data, interpretation and prediction.. i.e., transferable.
- Gandalf's "*all turns to silver glass*" line is a great example about other paths ahead (i.e., careers), so if anything, today then it's keeping your toolkit sharp, and keep navigating in your discipline.

Henk Kombrink
(Science Journalism, Business
Owner and Training)

Editor / Director

GeoExpro / North Sea Core



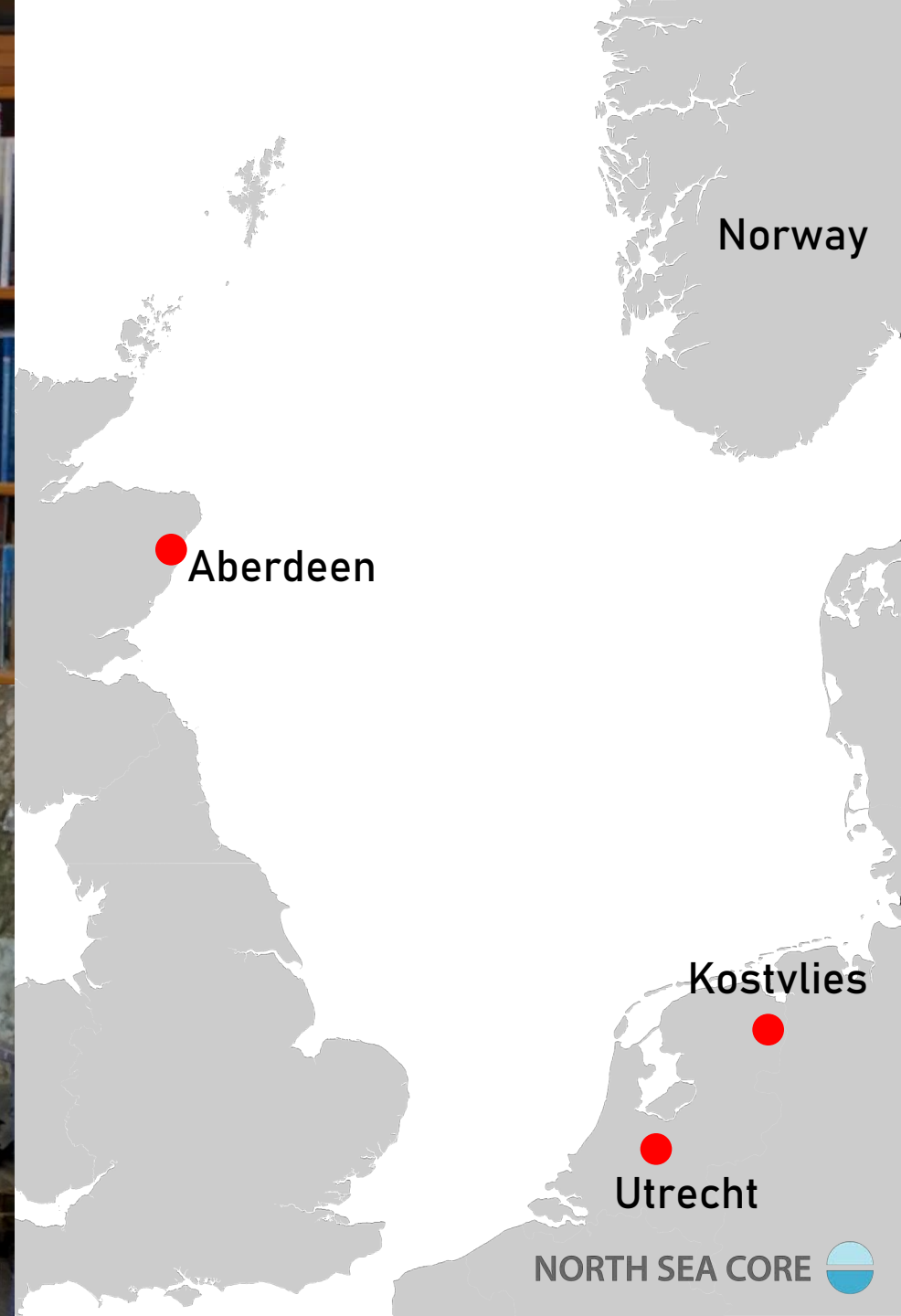
Norway

Aberdeen

Utrecht

NORTH SEA CORE





2023 EAGE ANNUAL
84TH CONFERENCE & EXHIBITION
VIENNA | AUSTRIA
5-8 JUNE 2023



Alex Orbell (Hydrogen)

Hydrogen BD Advisor

bp

The background of the slide is a photograph of a renewable energy landscape at sunset. In the foreground, there is a field of tall green grass and large, dark, irregular rocks. A row of solar panels is mounted on a low structure in the middle ground. To the right, several white wind turbines are visible, with the sun positioned directly behind one of them, creating a bright glow and lens flare. In the far background, a city skyline with various skyscrapers is visible against the twilight sky.

Alex Orbell Commercial Advisor bp Gas & Low Carbon - Hydrogen

December 2023



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My “Gear Change” How did I Get Here

Alex Orbell
Commercial Advisor
bp Hydrogen

Education: Southampton University

Oceanography & Physical Geography

Royal Holloway University of London

Petroleum Geoscience

Work:

HR Wallingford - Engineer

- A specialist consultant working with EPC contractors & other consultants
- Exposure to a range of clients in various industries

Tullow Oil – Exploration Geoscientist - > Commercial Advisor

- 7 years in exploration geology across Mauritania, Kenya and New Ventures
- 5 years in commercial working pipeline infrastructure, new license entry, etc

bp – Commercial Advisor Hydrogen Business Development

- Working with specific projects in NW Europe to bring them towards FID
- Involves every aspect from engine to weather forecast statistics!





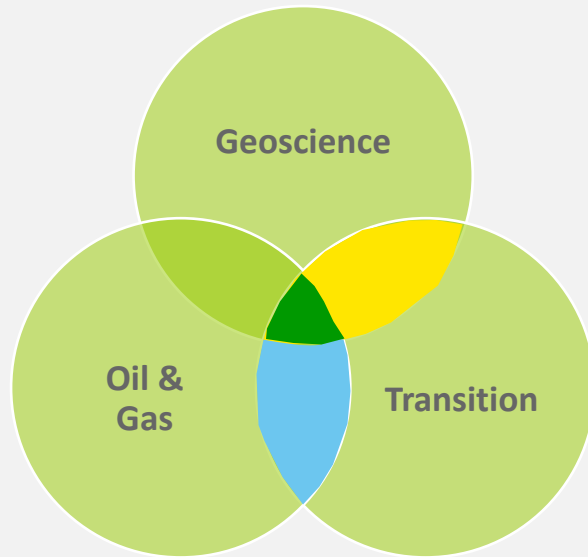
The Process of “Changing Gear” From a Geo Role

- Think about a viable path from your current situation, remember **it may not be direct**, the best place to build your skillset is often within / in addition to the role you are already in e.g.
 - If there is opportunity within your company to take on a **new role in commercial** or even to provide analytical support to the commercial team this is a good way to broaden your horizon.
 - If you are working on a technical project, get involved in the facilities engineering side, how is your asset getting its power? It can be fascinating to get into the **detail of how big oil and gas projects manage their power requirements** across their life, and this is rapidly changing!
 - Is your company/organisation/university involved in **gas production/exploration**? There is a lot of crossover between gas and renewables, get involved in gas projects where you can.
 - How is your company **managing its climate commitments**? Most companies now have at least some form of climate pledge. Get involved in the companies carbon reporting, most UK listed companies now have to do this.
- If you are not currently in role, think about applying to companies that are still predominantly oil and gas companies but that might give you the opportunity to get involved in the above

A Geologist / O&G View on the Transition Skillset



How can you Draw on Subsurface Experience to Make it in an Energy Transition Role?



- **Modelling uncertainty (in particular weather!)**
- **Communicating uncertainty across the business**
- **Working with large datasets & short deadlines**
- **Geospatial analysis/mapping**

- **Production & Completions in h2 storage wells**
- **Biogas (e.g. gas production from landfill)**
- **Carbon Storage**
- **h2 Storage**
- **Screening new ventures opportunities**
- **Teamwork across multiple functions**

- **Projects that are long term with major CAPEX**
- **CAPEX/OPEX forecasting and challenging EPC's**
- **h2 and ccs piping/transportation**
- **Understanding refinery operations**
- **Commercial structures**
- **Modelling policy/fiscal uncertainty**

bp Gas & Low Carbon Energy



Gas & low carbon energy (G&LCE) integrates our existing natural gas capabilities with significant growth in low and zero carbon businesses and markets. We will;

- Invest in and build renewable energy capacity of 20 gigawatts by 2025 and 50 gigawatts by 2030
- Grow our integrated gas portfolio, including equity gas, LNG and merchant portfolio
- Further develop our bioenergy offer solutions for aviation, marine and heavy-duty transportation
- Create a distinctive position in hydrogen and CCUS
- Drive new decarbonization technologies and capabilities to create innovative zero carbon energy solutions.

Louise Vad-Pickering (Subsurface Project Management)

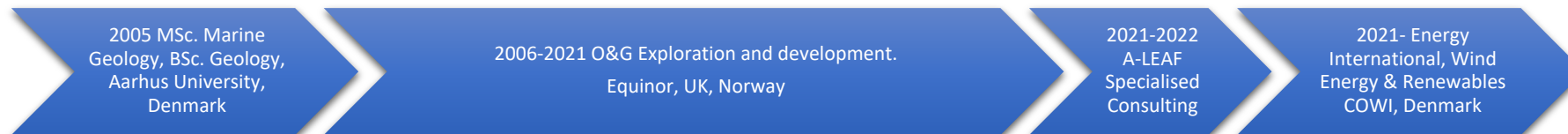
Project Manager

Louise Vad-Pickering

Energy transition | Project Manager | Geoscientist |
Business development



- Subsurface professional with 17+ years of geoscience and leadership experience in the international energy industry
- Has in recent years worked on renewable and low carbon energy projects such as wind farms, CCUS, geothermal and energy infrastructure projects for COWI
- Extensive experience from the oil and gas exploration and development value chain working for Equinor
- MSc and BSc in Geology from Aarhus University, Denmark



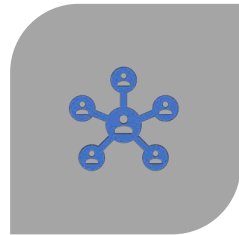
Transferable skills

- **Oil & Gas:**
 - Geoscience/ subsurface knowledge, operations, data analysis and integration
 - Exploration, data mining, idea generation.
 - Risk assessments and management
 - Leadership & project management
 - Licence management, maturation cycles, budgets, contracts and stakeholder management
 - Business development, bid rounds, farm in/outs/data rooms, commercial and strategy mindset
 - Area knowledge
 - Multidisciplinary & international teamwork
 - Communication & presentation
- 
- **Wind farms:** pre-investigations, geophysical surveys, integrated ground models
 - **CCUS & Geothermal:** reservoir characterization, seal, wells, seismic, risk assessments, road maps, data rooms etc.
 - **All sectors:** communication and presentation, project management & leadership. Business development. Area knowledge.

Takeaways



OPEN MINDSET, ADAPTABLE



NETWORK



LEARN, READ, TRAINING
COURSES



STRONG BACKGROUND. OTHER
INDUSTRIES DO NOT
NECESSARILY UNDERSTAND
O&G SKILLSET – EXPLAIN AND
SELL YOURSELF



NEW OPPORTUNITIES FOR ALL
PARTIES

Andy Wood
(Geothermal)

Geothermal Advisor



FÉDÉRATION EUROPÉENNE DES GÉOLOGUES
EUROPEAN FEDERATION OF GEOLOGISTS
FEDERACIÓN EUROPEA DE GEÓLOGOS

Changing Gear – New Roles in the Energy Expansion



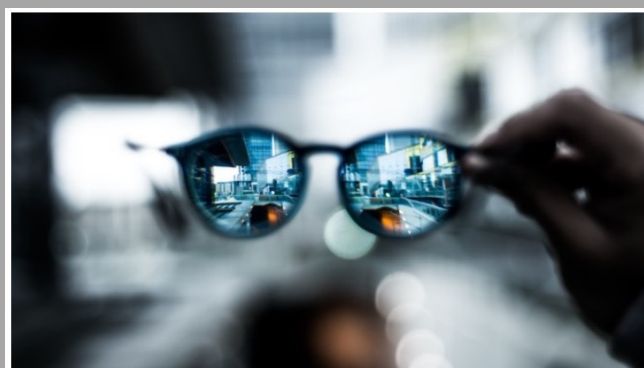
Geothermal Energy – Andy Wood

How To Make The Move?

Ask For Advice, Build Your Network, Interact, Be Relentless.

What to Expect

Reduced Salary compared to O&G, Many Hats, More Fun!



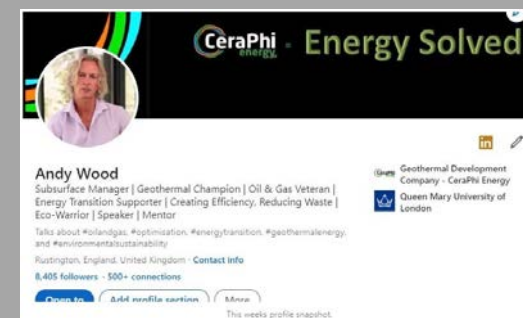
Delivering Clarity

Making the Invisible Visible



Mudlogging in Kurdistan - 1991

MY ENERGY TRANSITION A
Little Self Indulgence and Some
Questions Answered.



LinkedIn for Geologists (and
other social media-challenged
professionals)



Oil & Gas Industry Skills Transfer to the Geothermal Industry

Extensive Training + High Pressure Working Environment .

Geoscience: License Appraisal, Modelling and Target Selection

Wells, Design and Execution, Intervention and all associated services.

Project Management, Process Management, People Management

Business Development & Partner Liaison

Surface Facilities, QHSE, Process Engineering,

Commercial, Contracts, Process Optimisation, Legal.....



Oil & Gas Industry Skills Transfer to the Geothermal Industry

Oil & Gas and Geothermal both target energy through the drilling process.

In recent years Oil & Gas has become interested in Geothermal due to the numerous environmental benefits & the familiar technical landscape.

You may find you don't have to leave Oil & Gas to work in Geothermal Energy. Join your company's Energy Transition Team.

The industry is rapidly expanding. If you are interested in Geothermal Energy join the GEAA LinkedIn Group and feel free to reach out to me.

Q&A
