NCHE

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NATIONAL COUNCIL FOR HIGHER EDUCATION

Skills Needs for Namibia's Emerging Oil & Gas Industry: Implications for the Higher Education System

13th NCHE Public Lecture

May 2025

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The electronic version of this report is available on the NCHE website at www.nche.org.na under publications.

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About us:

NCHE is a statutory body in terms of section 4 of the Higher Education Act, 2003 (Act No. 26 of 2003), established to advise the Minister of Higher Education, Technology and Innovation on issues pertaining to higher education.

Our logo embodies the following:

- The 'hut' symbolises a pyramid of which the 'sticks' represent the different academic streams which lead to excellence.
- The different academic streams join and guarantee 'shelter' for the nation.
- The 'hut' also symbolises unity through binding the different academic streams together.
- This unified effort emphasizes coordination among our higher education institutions.

Visit us at:
www.nche.org.na

Our High-Level Statements

Vision

NCHE aspires, to be a valued leader and partner in coordinating quality higher education in pursuit of a knowledge-based society.

Mission

NCHE exists, to ensure a coordinated and a responsive higher education system through equitable access and quality service delivery.

Core Values

In the execution of our mandate and the pursuit of our strategic pillars, we are inspired and guided by the following values;

Value	Description
Accountability	We take responsibility for our policies, decisions and actions and report, explain and answer for resulting consequences.
Professionalism	We exercise high levels of competence in our work and avoid compromises to our set standards and values.
Integrity	We exhibit the quality of an intuitive sense of honesty and truthfulness with regards to our behaviour and motivation for our actions.
Innovation	We strive for continuous learning, seek creative ways to change, solve problems and find better solutions in the execution of our mandate.
Empathy	We endeavour to cultivate empathy amongst ourselves, customers, and stakeholders, with a view to building positive relationships and boost productivity.

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Abbreviations & acronyms

BOSIET	Basic Offshore Safety Induction and Emergency Training
FPSO	Floating Production, Storage & Offloading
HEIs	Higher Education Institutions
HUET	Helicopter Underwater Escape Training
ILO	International Labour Organisation
NAOGSP	Namibia Association of Oil & Gas Service Providers
NCHE	National Council for Higher Education
NIMT	Namibian Institute of Mining and Technology
NUST	Namibia University of Science and Technology
NQA	Namibia Qualifications Authority
NSFAF	Namibia Students Financial Assistance Fund
NTA	Namibia Training Authority
RPL	Recognition of Prior Learning
SDGs	Sustainable Development Goals
UNAM	University of Namibia

Introduction

Since 2010, the National Council for Higher Education (NCHE) has been convening annual public lectures to provide a platform for public debate on topical issues affecting higher education. The public lectures allow knowledge to be fed back into improving higher education outcomes. Thus, NCHE hosted the 13th public lecture on 22 May 2025 in Windhoek, Namibia, at Fursternhof Hotel under the theme “Skills Needs for Namibia’s Emerging Oil & Gas Industry: Implications for the Higher Education System.”

The objectives of the 13th lecture were to:

- Highlight the importance of skills development: emphasize the critical role of skilled professionals in realising Namibia's oil and gas sector's potential.
- Elaborate critical skills: Discuss the critical skills and training required for the industry.
- Explore effective training and education strategies: Examine successful models and approaches for developing relevant skills in the context of Namibia's unique needs.
- Promote collaboration: Encourage partnerships between industry stakeholders, educational institutions, and government agencies to strengthen skills development efforts.

The public lecture was intended to address the following critical questions:

- What are the skills needed for the oil and gas industry?
- What quality standards are peculiar to the oil and gas industry?
- Is the Namibian higher education system ready to respond to the oil and gas industry's skills needs?

As a sideline activity to the lecture, NCHE had a courtesy visit on 21 May 2025 to Hon. Saneth Steenkamp, Minister of Education, Innovation, Youth, Sports, Arts and Culture, to brief her on the public lecture. The NCHE also had a breakfast meeting on 22 May 2025, with NCHE, Namibia Qualifications Authority (NQA), Namibia Training Authority (NTA), and Namibia Association of Oil & Gas Service Providers (NAOGSP) to discuss the existing tertiary education quality assurance systems' readiness to develop quality programmes and produce the required graduates for the emerging oil and gas industry/energy sector skills needs.

The NCHE Chairperson, Prof. Samuel John, officially opened the lecture, which Mr. Michael Love, Head of Skills Policy at OPITO, delivered. Patrick Sam moderated the public lecture. As part of the lecture, a discussion led by the moderator and keynote speaker allowed the audience to engage with the presenter. Dr. Sylvia Demas, Deputy Executive Director, NCHE Secretariat, delivered the vote of thanks for the lecture.

This report documents the NCHE 13th Public Lecture proceedings and is accessible from the NCHE website: www.nche.org.na/publications.

Welcoming remarks: Prof. Samuel John, NCHE Chairperson

Professor Samuel John delivering welcoming remarks

Prof. John delivered the welcoming remarks, expressing delight to welcome the attendees to the 13th NCHE Public Lecture series indicating that, NCHE consistently held public lectures for over 13 years, thus enabling the organisation to engage the public in topical and relevant discourses on higher education issues in Namibia.

He extended a special word of welcome to Mr. Michael Love, the keynote speaker, and his accompanying colleague, Ms. Laura Peinke, from OPITO. Their willingness to share their experiences with Namibia was highly valued and would surely assist the country in developing an informed higher education strategic roadmap to the oil and gas industry skills needs.

Prof John indicated that the last two public lectures focused on Minimum Standards and Open and Distance Learning, themed: “Enhancing Higher Education System Performance and Efficiency through Minimum Standards” and “Unpacking the Future of Open and Distance Learning: Trends and Policy Considerations for Namibia”, respectively. The insights gained from those lectures significantly shaped practices within the higher education sector.

He indicated that the current lecture focused on oil and gas, motivated by developments in the sector and its current potential. The government has prioritised human capital development, and the oil and gas industry showed great potential demand for a skilled workforce in the near future. Therefore, as higher education coordinators/ regulators, it became necessary to engage industry experts and the public to establish the skills needs and standards that trainees and training providers should meet to produce the required workforce that meets Namibian and international standards. Thus, the theme of the lecture was indeed timely and relevant.

Furthermore, Prof. John revealed that the above sentiments were indeed shared by Hon. Sanet Steenkamp, Minister of Education, Innovation, Youth, Sport, Arts and Culture, during a courtesy visit to brief her on the public lecture. The Honourable Minister extended her regards to all in-person and online attendees and emphasised the need for action-oriented outcomes from the deliberations. She discouraged working in isolation and encouraged collaboration and partnerships within the sector to facilitate the exchange of best practices and experiences. She also conveyed her apologies for her absence due to other pressing commitments at the time of the lecture.

Prof. John stressed that while the Higher Education Act, Act No. 26 of 2003 established the National Council for Higher Education in 2003, the NCHE opened its doors in November 2005. This year marks 20 years of NCHE's existence, an existence that paved the way for the promulgation of regulations for registration of private higher education institutions and approval of the quality assurance system for higher education in Namibia, in 2009. The legal instruments established a framework for advancing access, ensuring quality, and fostering a coordinated higher education system that empowers students, strengthens institutions, and supports national development agendas. Therefore, he urged the public to stay tuned for upcoming NCHE activities as it celebrates and interrogates its existence over the last 20 years.

He indicated that the presence of those in attendance, whether in person or virtually, was a testament to a shared commitment to knowledge exchange and collaboration and urged attendees to embrace the spirit of partnership and intellectual curiosity that drives progress in higher education. He expressed his desire for the lecture to inspire meaningful discussions and lasting connections and wished everyone an engaging and insightful session.

With the above remarks, the participants were welcomed to the 13th Public Lecture of NCHE.

Keynote presentation: Mr. Michael Love, Head of Skills Policy, OPITO

The keynote speech by Mr. Michael Love is presented as verbatim, to conserve the essence of his presentation with no distortion to any part through summary.

Opening Remarks

Good evening distinguished guests, members of the National Council for Higher Education, colleagues, students, and friends. It is a privilege to be here with you today in Namibia, at a moment of profound opportunity and responsibility, and I must thank you for your hospitality throughout my trip thus far.

As we gather here today, the eyes of the global energy industry are increasingly focused on this great country, drawn by the promise of offshore reserves and a pioneering commitment to hydrogen development, among other things.

But, alongside this excitement comes the need for careful, deliberate planning: particularly in developing the skills and workforce capacity needed to seize this opportunity sustainably.

It's this which I want to discuss with you today.

Part 1: Introduction & OPITO Overview

Let me begin with a bit of context, if I may.

My name is Michael Love, and I have spent 15-years immersed in the global challenges and opportunities around skills development. My career spans the oil and gas, offshore renewables and maritime sectors, working across industry, with training providers, with regulators and with skills bodies.

I specialise in skills and energy policy issues and, hailing from Aberdeen in Scotland (the self-proclaimed energy capital of Europe!) it's probably not surprising that I found my way into the energy industry!

I grew up in Aberdeen and was fortunate to reap the benefits of a city experiencing the 'golden age' of oil and gas production. My father, in fact, was instrumental in laying the foundations for digital training and eLearning at the time, through his leadership of Atlas Interactive.

Upon leaving school, I studied English Literature and Politics at the University of Aberdeen before joining the energy industry in a low-level project management role.

During a period of industry fluctuation in 2014, I moved sideways from the oil and gas sector into the maritime sector. This was a role that soon saw me working with major shipping companies and cruise ship operators, through to the crews of small, Shetland-based fishing vessels. I then joined OPITO in 2018, which brought me back closer again to the oil and gas agenda.

Throughout my career to-date, I've worked across the UK and spent extended periods of time in the Far East, Middle East and in Houston. I've been very fortunate to have worked with stakeholders and experienced various cultures in over 30 countries.

While working for OPITO, I also studied for and received an MBA from the University of Aberdeen in 2020.

Always focusing on training, competence, skills and education, my previous roles have centred on instruction, compliance, quality assurance, project management, and strategy development.

Now, I lead the Skills Policy directorate at OPITO, responsible for domestic and international policy, lobbying and advocacy, labour market intelligence and research, and international advisory services and consultancy.

I also sit on the board of an awarding organisation called NCFE (not to be confused with NCHE!) that is based in England and has serviced the social care, healthcare and sports and fitness sectors internationally for nearly 180 years.

Operating for over 50 years, OPITO is an industry-owned, not-for-profit organisation that works with governments and industry worldwide. We drive consistency and safety compliance across global standards and qualifications, creating long-lasting workforce development solutions.

OPITO is a global leader in energy workforce safety, leading the skills-focused dialogue with international governments as our industry prepares for emerging challenges. To ensure a safe workforce of the future, OPITO delivers clear, global standards and qualifications that utilise innovative workforce development solutions.

With operational hubs in four key regions – UK and Europe, Middle East and Africa, Asia Pacific and the Americas – OPITO drives safety and competence improvements to benefit the global, energy industry.

Today, over 500,000 individuals undertake and complete OPITO training every year, across more than 50 countries through our network of over 240 accredited training providers.

We work closely with our centre and industry forums to ensure that all our services and products remain up-to-date, and relevant to the needs of an evolving workforce.

Worldwide, we provide access to a range of services designed to support workforce safety and skills development. We also consult with our international partners and national governments to ensure that the energy industry is focused on meeting its future skills needs, and the needs of national agendas and plans.

Our values are what we pride ourselves on. We have integrity. We collaborate. We are adaptive.

OPITO's mission today is future-focused – grounded in innovation, global collaboration, and preparing the workforce for a changing energy landscape. But that mission was born from experience – and, more specifically, from tragedy. To truly understand why we are so committed to safety, training, and competence, we must look back at one of the most defining moments in our industry's history.

On July 6, 1988, the Piper Alpha oil platform in the North Sea suffered a catastrophic series of explosions and fires. It remains the deadliest offshore oil disaster in history, with 167 lives lost out of 226 crew members. But what exactly went wrong?

Well, Piper Alpha was a case study in organisational failure - a devastating combination of poor communication, insufficient training, inadequate safety systems, and a culture that did not prioritise risk prevention.

The chain of failure began with a simple maintenance task.

A condensate injection pump - Pump A - was removed for routine maintenance earlier in the day. A temporary blank flange was fitted to seal the system, but crucially, this pump was not ready to be restarted. The work permit for this maintenance was incomplete, and its handover between shifts was poorly communicated.

That evening, a problem arose with the second pump - Pump B. With limited options, and unaware that Pump A was unsafe to use, the night crew attempted to restart it. This mistake triggered a gas leak - highly pressurised condensate escaped from the unsealed flange. Within seconds, the gas ignited.

The first explosion was followed by a fireball. But this was just the beginning. Piper Alpha was not built to withstand this kind of event. The platform's design had not kept pace with its changing purpose. Originally an oil platform, it had been converted to also handle gas processing. Crucially, its emergency systems and firewalls were inadequate for the new configuration.

When the first explosion occurred, critical safety systems failed. The automatic fire suppression system, which relied on manually activated deluge valves, did not engage. There was no effective shutdown of fuel sources - gas continued to feed the fire from connected platforms via risers. Evacuation routes were blocked or unclear, and emergency training for crew members had been inconsistent.

The result was a cascading disaster. Two more explosions followed. Flames engulfed the platform. Rescue was chaotic. Many crew members died in smoke-filled quarters, unable to reach escape routes. It was a preventable tragedy.

The aftermath led to transformation.

The Cullen Report, a two-volume investigation led by Lord Cullen, made 106 recommendations, including:

- The separation of safety regulation from oil production oversight,
- The introduction of a goal-based safety regime requiring operators to demonstrate risk control through Safety Cases,

- Mandatory structured training and competence assurance, such as BOSIET (Basic Offshore Safety Induction and Emergency Training),
- A shift in culture - safety was no longer just a protocol; it became a leadership responsibility.

Whilst already in existence, the importance of OPITO's role was highlighted as part of this transformation – an organisation created by industry, for industry, to raise standards and improve competence.

Today, we remain just as committed to that mission, but on a global scale. Through our work, we ensure that workers are prepared, standards are aligned, and lives are protected.

For Namibia, as it builds its offshore sector, the message is clear: you do not need to learn these lessons the hard way. You can learn them now - by adopting international best practices, embedding safety into training systems, and building a culture that values human life above all else.

Part 2: Namibia's Energy Outlook and Skill Challenges

Namibia stands on the brink of an energy revolution. Recent discoveries in the Orange Basin by companies like Shell, TotalEnergies and Galp Energia have ignited international interest. If even a single Floating Production Storage and Offloading vessel reaches production, estimates suggest up to a 5.8% GDP increase and 7,000 jobs created. Hyphen Hydrogen's green hydrogen project could add another 3,000 permanent roles.

To understand the scale of this opportunity, we must first consider Namibia's energy history and current economic profile. Namibia has traditionally depended on imports for the majority of its energy needs, sourcing electricity primarily from South Africa, with limited domestic generation capacity. The existing energy mix has relied heavily on hydropower and a small contribution from solar.

The broader economy is supported by key sectors including mining - with diamonds, uranium, and gold leading exports - as well as tourism, agriculture, and fisheries. These industries have long been the foundation of the Namibian economy. However, with a population of roughly 3 million and a working-age population of just over 1.6 million, unemployment remains stubbornly high at nearly 37%.

In response, the Namibian government has adopted several strategies aimed at economic transformation and sustainability. The "Harambee Prosperity Plan II" and the "Fifth National Development Plan" prioritise industrialisation, skills development, and energy security.

Additionally, the Ministry of Mines and Energy's National Energy Policy outlines ambitions for greater self-sufficiency and clean energy adoption, positioning Namibia as a regional hub for green energy innovation.

Crucially, the Green Hydrogen Strategy has placed Namibia on the global map. This bold initiative aims to harness Namibia's solar and wind resources to produce green hydrogen for domestic use and export.

It aligns with global decarbonisation goals and has already attracted significant foreign investment. But here's the catch: oil and hydrogen wealth does not automatically translate to prosperity. Many countries have learned that lesson the hard way. As I mentioned, Namibia's unemployment rate stands at nearly 37%. Just 5.1% of tertiary graduates currently hold qualifications aligned to the oil and gas sector or other, related sectors.

According to the Engineering Council of Namibia, only 2 petroleum engineers were registered at the start of this year. This is not criticism; it's context. Namibia is entering a brand-new chapter. Until now, there has been no real oil and gas sector. Skills planning understandably reflects the economy as it was. But that now must change.

The 2024 Industrial Baseline Survey highlighted both opportunities and challenges. It called for skills transfers and training focused on youth, prioritised employment of qualified Namibians, and alignment between national skills and the emerging energy sector.

However, readiness remains a concern – both in terms of educational infrastructure and available talent. This is the time for Namibia to learn from others, to build the right policies, and to invest in skills as a national strategic priority. The energy transformation is not just about barrels or megawatts – it's about people. And, when we talk about skills, it is impossible not to also link that to health and safety; the two must be front and centre of any serious country's goal to expand and bolster their energy prospects.

Part 3: The Importance of Health, Safety, and Skills Standards

Let me be clear: safety is not a box-ticking exercise.

Health and safety are the cornerstones of the industry: they are a matter of life and death. Piper Alpha, Deepwater Horizon, Exxon Valdez—these incidents remind us that the combination of

technical training, international safety standards, and competent leadership saves lives. Unfortunately, it tends to be the occasional failings that make the headlines. But there are numerous and positive examples where robust training and standards have prevented disaster.

In Norway, Statoil (now Equinor) developed a comprehensive safety culture based on structured, scenario-based training and simulation exercises. On one occasion in the North Sea, a subsea gas leak was detected early and contained without injury because platform workers had repeatedly drilled emergency response procedures.

In Qatar, during a major expansion of LNG operations, strict adherence to international training standards resulted in one of the best health and safety records in the region, despite a significant influx of new workers. The workforce was required to complete BOSIET, HUET (Helicopter Underwater Escape Training) and job-specific OPITO-accredited certifications, all integrated into daily operations.

In Angola, a long-term partnership with international training providers reduced recordable incident rates by over 60% across five years through targeted upskilling and safety refreshers. These results stem from consistent investment in structured training.

So, what about Namibia?

Well, Namibia has begun laying the groundwork. While it does not yet have a national oil and gas health and safety framework, the mining sector's approach provides aspects that could be integrated into an industry-specific model.

NAMDEB performs land-based prospecting, mining and rehabilitation operation and services. Through its operations and training, the Namibian Institute of Mining and Technology utilises structured technical and safety standards.

Institutions such as the NQA and the NTA oversee the quality of vocational education and certification. The Centre for Oil & Gas at the Namibia University of Science and Technology and support from PETROFUND have created early momentum.

Still, a comprehensive national framework – aligned to international best practice – is urgently needed. Without it, there is a risk of fragmentation, duplication, and missed opportunities. Adopting internationally recognised systems such as those developed by OPITO would allow Namibia to accelerate readiness.

For example, ensuring any worker deployed offshore has undergone BOSIET and HUET training, as well as job-specific competence certification, should be a baseline. These are not just compliance tools. They provably save lives, enhance operational efficiency, and open doors to international employment.

It is imperative that Namibia treats health and safety as a fundamental building block within its energy strategy. Without it, even the best development plans can unravel. With it, Namibia can build a workforce that is not only skilled, but protected, empowered, and respected on a global scale.

Part 4: Sector-Wide Skills Needs

To prepare for the diverse and expanding workforce needs of Namibia's oil, gas, and hydrogen sectors, it's essential to understand what types of skills are required at each development stage of a typical energy project.

First, let's start with the exploration phase.

Currently, Namibia is in this early phase. Most operations are conducted by specialist vessels and offshore rigs operated by international contractors. Roles in this phase often include:

- Roustabouts
- Welders and boilermakers
- Logistics coordinators
- Motor room technicians
- Storemen and offshore caterers

While these are often filled by existing international teams, they offer excellent entry points for local personnel if appropriate training is in place. Exposure to offshore environments at this stage also builds early awareness of health and safety protocols and offshore life.

Recent engagement initiatives, like TotalEnergies' youth visits to the Deepsea Mira drilling rig, demonstrate the importance of immersive exposure. These experiences allow young Namibians to understand not just the job titles, but the responsibilities, environments, and standards involved.

Next, the construction phase.

This is where the majority of job opportunities arise. Should Namibia move to a full-field development with FPSOs or onshore processing, thousands of skilled workers will be needed. Typical roles here include:

- Pipefitters
- Welders
- Riggers and crane operators
- Winch operators and deck crew
- Underwater technicians and divers

- Subsea engineers and barge operators

This phase demands strong maritime skills, mechanical and structural knowledge, and stringent health and safety standards. The jobs are physically demanding and require formal certification - something OPITO-accredited centres are specifically built to provide.

Then, the production phase.

Once facilities are operational, the skills focus shifts to operation and maintenance, including:

- Plant and process operators
- Mechanical technicians
- Instrumentation and electrical engineers
- Control room operators
- Health and safety, and emergency response coordinators

These roles often offer long-term employment and are best suited to workers with a mix of formal qualifications and hands-on experience. They also represent core positions for implementing local content regulations.

Beyond offshore platforms, efficient operations rely on robust onshore logistics. Marine and supply base operations support crewing, materials handling, waste management, and port activities and include roles like:

- Supply base coordinators
- Logistics and transportation managers
- Marine technicians
- Safety and maintenance officers

Maritime qualifications, basic seamanship training, and offshore transport certifications are essential even for these onshore-linked roles.

As digital and analytical skills become even more prevalent in a changing world, it’s important to also consider them—base levels of digital literacy, even for traditional roles, are set to increase over the coming years.

And, as energy operations digitise, the need for tech-savvy professionals grows, including:

- Data scientists
- SCADA technicians
- Digital twin modelers
- Predictive maintenance analysts

A 2017 global study predicted the need for 12,000 data scientists in upstream oil and gas alone, and that number has only grown. Namibia now has an opportunity to integrate digital modules into technical training to help future-proof its workforce.

As I've already alluded to, there are some gaps relevant to Namibia – which is to be expected. The 2024 Industrial Benchmarking Survey and data from the Engineering Council of Namibia emphasises these gaps:

- Only 16 mining engineers
- 12 chemical engineers
- 8 metallurgical engineers
- 2 petroleum engineers

This reflects not a lack of interest, but a lack of availability in domestic education pathways and career guidance. Additionally, several vocational roles critical to oil and gas - divers, pipefitters, riggers, scaffolders, and laboratory technicians - are in negligible supply.

A possible aid is micro credentials – this includes valuable programmes like the Certificate in Fundamentals of Oil and Gas Engineering, offered by the University of Namibia.

Short-course, standard-based certifications - such as OPITO's suite of technical standards - allow faster deployment of skills. These include:

- Banksman Slinger
- Rigger Training
- Mechanical and Electrical Maintenance
- Welding and Pipefitting
- Working at Height and Confined Space Entry
- Scaffolding and Painting

These modular credentials are essential for filling urgent workforce gaps while longer-term degree and diploma programmes take shape. Critical across all project phases is the adherence to globally recognised health and safety certifications. BOSIET, HUET, and Basic H2S Training should be baseline requirements and are in multiple areas globally.

Without widespread health and safety training, Namibia risks workforce readiness delays and safety liabilities. By embedding these standards into early-stage training and qualifications, the country builds resilience and investor confidence.

The OPITO Skills Screening tool should also be considered in this context. This practical toolkit enables both individuals and employers to assess skill levels and create customised training plans. It helps reduce unnecessary blanket training and ensures resources are directed where they're needed most.

For example, a mechanical technician could be screened, identified as lacking Banksman Slinger Stage 1 certification, and put through a focused programme to achieve that qualification. This approach is efficient, cost-effective, and scalable.

To better put current training infrastructure into perspective, Sub-Saharan Africa has 17 OPITO-accredited centres across 6 countries. These centres train 17,000–18,000 learners annually.

Namibia can tap into this ecosystem now, while simultaneously building its own domestic training infrastructure. This approach not only fills immediate gaps but also provides a roadmap for local accreditation, Train-the-Trainer programmes, and certification of Namibian assessors.

Importantly, Namibia can also learn from the experiences of countries such as Guyana and Mozambique.

In Guyana, the discovery of offshore oil in 2015 catalysed a rapid economic transformation. However, initial stages were marked by a shortage of local skills. The government, in partnership with the International Labour Organisation, created the "Oil & Gas Skills Roadmap 2022–2026." It emphasised prioritising technical skills, formalising on-the-job training, and building public-private partnerships to develop scalable, certified training models. These measures helped ensure better labour market alignment and increased local employment in successive project phases.

Mozambique, similarly, saw large gas discoveries off its northern coast. Early project phases revealed a critical mismatch between available skills and sector requirements. To address this, Mozambique developed national skills audits, partnered with private operators to build training facilities, and aligned curricula with international standards. However, progress was at times hindered by coordination challenges and delayed policy implementation - demonstrating the necessity of proactive, unified planning across government, academia, and industry.

Both countries show that success hinges on early, transparent planning and shared commitment between all stakeholders. Namibia has the opportunity to learn from these models, sidestep pitfalls, and accelerate impact. Namibia's sector-wide skills strategy must be phased, data-driven, and internationally aligned. The foundational systems - NCHE, NTA, NQA, PETROFUND, and the Namibia University of Science and Technology - are already in place.

The next step is aligning their efforts into a coordinated national roadmap grounded in real industry needs and global standards.

Part 5: Higher Education Readiness and Strategy

Namibia has made important strides in building a higher education system that is both resilient and forward-looking. Institutions like the University of Namibia and the Namibia University of Science and Technology offer a strong foundation for training the next generation of engineers, scientists, and technicians.

Public and private Vocational Training Centres, along with institutions like the Namibian Institute of Mining and Technology, provide technical and artisan-level education that is vital for industrial development.

However, the pace and complexity of growth in the energy industry demands a strategic evolution in higher education offerings. Meeting future workforce demands requires aligning academic programmes, vocational training, and research capabilities with the specific technical and safety requirements of the energy industry.

Namibian universities and colleges must expand their curriculum to include programmes in petroleum engineering, subsea operations, reservoir management, energy economics, and environmental management specific to extractive industries.

At present, offerings in petroleum or energy-specific disciplines are minimal. There is also a need for interdisciplinary programmes that blend engineering, environmental science, data analytics, and project management. Developing these curricula in close consultation with industry partners - including national bodies like NAMCOR and international majors like Shell and TotalEnergies - will ensure relevance and employability.

Course accreditation by the Namibian Qualifications Authority and alignment with international standards, like OPITO's, will be key to ensuring these programmes are recognised globally. Infrastructure and curricula alone, though, are insufficient without qualified trainers and lecturers. This must be a multi-faceted approach.

Namibia must invest in a "Train-the-Trainer" strategy - upskilling local instructors to deliver accredited and internationally recognised content. Partnerships with OPITO and other global training bodies can provide access to technical certification for instructors, as well as methods for outcome-based education.

Opportunities exist to bring in experienced trainers on a short-term basis to support curriculum rollout and mentorship while Namibian trainers undergo upskilling. This ensures continuity and quality in programme delivery. Practical, hands-on learning requires modern, industry-standard training environments.

Institutions like the Namibian Institute of Mining and Technology already offer workshops and technical labs, but scaling this infrastructure for oil and gas-specific training, including drilling

simulation, fluid dynamics, valve operation, safety response drills, and offshore evacuation scenarios, will be essential.

Where public sector funding is limited, public-private partnerships can play a critical role in establishing and equipping training facilities. Industry-led consortia may even sponsor specialised centres of excellence hosted within existing universities or vocational campuses.

With a view to supporting immediate workforce needs, Namibia should accelerate the development of short, modular programmes offering micro-credentials that align to international technical standards. These include certifications in welding, scaffolding, instrumentation, BOSIET, and mechanical maintenance; these could be delivered either independently or as part of broader qualifications. These programmes offer quick wins: fast-tracked, industry-relevant upskilling opportunities for recent graduates, experienced artisans from other sectors, or even youth entering the labour market.

OPITO's globally recognised suite of technical standards and associated competence assessment and reassessment frameworks can serve as a template. However, universities alone cannot carry the responsibility of talent pipeline development. Namibia must also cultivate early interest in STEM fields through high school programmes, outreach initiatives, and national awareness campaigns.

Platforms like My Energy Future – OPITO's flagship engagement initiative – are designed to do just that: showcasing real-world energy careers, creating interactive learning experiences, and connecting young people with emerging opportunities across the energy mix.

The Namibia Youth Energy Forum and similar civil society organisations can be partners in engaging students and parents alike. Creating energy industry career days, sponsoring science and robotics competitions, and building pathways into apprenticeships and internships can help make the industry tangible and desirable to young Namibians.

Higher education institutions must be encouraged and supported to partner with global counterparts. Existing international exchange and dual-degree arrangements should be expanded. Partnerships with universities in countries like the UK, Norway, Malaysia, and Brazil - which have strong energy education systems - can help fast-track Namibia's knowledge transfer.

Faculty exchange, collaborative research, and shared accreditation can all form part of these strategic academic alliances. This global exposure benefits both faculty and students while reinforcing Namibia's reputation as an emerging energy education hub.

In terms of enablers, PETROFUND plays a pivotal role in supporting Namibians to acquire skills related to petroleum and energy sectors. Continued and expanded financial support from PETROFUND should be matched with strategic alignment to national training goals and

monitoring frameworks. Scholarships should prioritise programmes aligned with known skills gaps, whether through domestic institutions or foreign universities. PETROFUND can also serve as a coordinating body for industry involvement in curriculum review, student mentorship, and internship opportunities.

Universities should also contribute to sectoral advancement through applied research in energy technologies, policy frameworks, and local content development. National research funds should consider establishing dedicated themes on oil and gas innovation, hydrogen development, and sustainability in extractive industries. Research centres aligned to the Centre for Oil & Gas at the Namibia University of Science and Technology, or a similar hub at the University of Namibia, can become leading contributors to Namibia's evidence-based policy and skills ecosystem.

In short, Namibia's higher education system has the structural capability to meet the country's ambitious energy sector demands - but a coordinated, well-resourced, and future-looking strategy is essential. With the right investments in curriculum, faculty, facilities, and partnerships, Namibia can build a world-class energy workforce from within.

Part 6: Lessons from Global Best Practice

So far, I've referenced several case studies and opportunities for Namibia to learn lessons from international examples. Something worth capturing, though, is the North Sea Transition Deal because it gives a good indication of what future planning looks like in terms of balancing a country's energy ecosystem.

The North Sea Transition Deal is a pioneering agreement between the UK Government and the offshore oil and gas sector. The UK's oil and gas sector has long been a cornerstone of the nation's energy supply and economic strength. However, given the government's desired move toward net-zero emissions by 2050, the UK began to look to decarbonise its energy system.

The Deal was established to manage this transition responsibly, ensuring that the wider industry evolves rather than declines abruptly. Some of the key commitments in the Deal include reducing greenhouse gas emissions from offshore production by 10% by 2025, 25% by 2027, and 50% by 2030, relative to 2018 levels.

Up to £16 billion is being jointly invested by government and industry by 2030 in new energy technologies, including:

- £3 billion for Carbon Capture, Utilisation, and Storage
- £10 billion for hydrogen production
- £3 billion for electrification of offshore platforms

The Deal aims to support up to 40,000 jobs across the supply chain by 2030, focusing on reskilling workers for roles in carbon capture, hydrogen, and the offshore wind sectors. There is a voluntary target for 50% local UK content across the lifecycle of all related new energy technology projects by 2030, including oil and gas decommissioning.

The Deal supports the development of infrastructure necessary for carbon capture and hydrogen, including the establishment of industrial clusters and the deployment of new business models to enable these technologies at scale. Since its inception, the North Sea Transition Deal has catalysed significant progress.

Carbon emissions from the sector have decreased by more than 24% compared to 2018. Twenty-one (21) licenses have been awarded for offshore carbon storage. And, initiatives are underway to electrify offshore installations. As a result, domestic production has never been cleaner in the UK.

The North Sea Transition Deal serves as a blueprint for how governments and industries can collaborate to achieve an expansion of the energy system to help ensure national security. It is an important snapshot of how the UK is looking to the future but also stresses the importance of taking forward the lessons learned, and the successes gained through decades of oil and gas activity.

Similarly, as we stand at the crossroads of an unprecedented level of diversity in the energy landscape, the need for an agile and future-ready workforce has never been more critical. To navigate this transformation effectively, we require not just ambition but also precise intelligence about our workforce's current capabilities and future needs.

Enter the Energy Skills Intelligence Hub - a groundbreaking initiative developed collaboratively by OPITO and Opergy Group. This platform is designed to provide a comprehensive, data-driven understanding of the UK offshore energy industry workforce’s requirements from now through 2050.

The hub serves as a centralised, cloud-based platform that assimilates, integrates, and interprets data from various sources to present a unified picture of the people and skills needed across the offshore energy industry. It focuses on oil and gas, offshore wind (both fixed and floating), hydrogen production, and carbon capture, utilisation, and storage, as well as solar and nuclear. It offers detailed insights into current workforce demographics and forecasts future skills demand, enabling stakeholders to make informed decisions about training and recruitment.

Designed as a public good, the Energy Skills Intelligence Hub is freely accessible to all stakeholders, ensuring transparency and widespread utility. By providing accurate and comparable data, it allows for targeted interventions to address skills gaps, supports the development of training programmes aligned with industry needs, and facilitates workforce

mobility across sectors. This initiative exemplifies the power of collaboration between industry bodies, government agencies, and private sector partners.

OPITO has also seen success with its STCW Conversion standard. Designed in collaboration with industry stakeholders, it allows skills possessed by those in the maritime sector to be effectively recognised across oil and gas, further easing transition pathways.

These case studies have empowered stakeholders with the intelligence needed to make strategic decisions, and I fundamentally believe that they are exemplars that Namibia can adopt going forward.

Part 7: The Road Ahead

So what should Namibia do next?

Well, as we look to the horizon, it is clear that Namibia has both a tremendous opportunity and a weighty responsibility. The pathway to developing a skilled, safe, and globally competitive energy workforce will not be without its challenges. But with the foundations already laid and a strong coalition of institutions, government bodies, and industry players, the road ahead is not just possible – it's promising.

Let me outline a strategic vision, not only as a recommendation but as a practical and achievable call to action.

Firstly, we must define the skills demand in detail. While macroeconomic models have already predicted GDP growth and job creation potential from oil, gas, and hydrogen developments, these must now be broken down into granular, role-specific targets.

Nationally, NCHE – in developing the Human Resources Development Strategy – has given a great deal of consideration to the holistic, economic growth trajectory and associated workforce requirements.

Key questions include:

- How many welders, riggers, or process technicians will be needed annually over the next 10 years?
- What certifications must accompany each role, and what is the anticipated timing of their demand?

This breakdown will allow Namibia to set annual training targets and investment benchmarks.

Collaboration between NCHE, NTA, NQA, PETROFUND, NAMCOR, the Namibian Association of Oil and Gas Service Providers, and other energy companies will be vital. This process should also engage multilateral development partners like the ILO and the United Nations Industrial Development Organisation to ensure it is internationally benchmarked.

There is then a need to establish national education and training infrastructure. We're not starting from nothing, but once skills targets are identified, Namibia must invest in developing institutional capacity to meet them.

This includes:

- Expanding Vocational Training Centres with an energy industry focus
- Supporting universities to create new programmes or adapt existing ones to meet industry needs
- Investing in training equipment and simulation tools to reflect real operational environments

For instance, Namibia could build a modular training facility offering OPITO-accredited short courses while long-term programmes take shape. This dual-track approach enables immediate workforce participation while developing lasting capability.

A national health and safety framework must be created. The development of an overarching health and safety regulatory framework - covering mining, hydrogen, and oil and gas - is a national imperative. Without this, companies will default to their own standards, leading to fragmentation, duplication, and inefficiency.

By embedding safety standards into licencing and operational requirements, Namibia can:

- Protect its workforce
- Assure international investors
- Align with global environmental, social, and governance benchmarks

This framework could mandate standards like BOSIET, HUET, and job-specific technical qualifications across all offshore and hazardous roles.

We must coordinate public-private collaboration. No one institution can meet this challenge alone. Coordination is key. A national taskforce or steering committee - co-chaired by government and industry - could oversee skills planning, funding alignment, curriculum development, and reporting.

Such a body can:

- Monitor training outputs against forecasted demand
- Identify policy gaps or institutional needs

- Facilitate partnerships between local and international training providers

We must encourage a culture where universities, vocational colleges, industry trainers, and energy companies share data, forecast together, and plan collaboratively.

Importantly, we must embed local content policies with practical application. Local content policies should go beyond aspirational job quotas. They must be backed by measurable, time-bound targets, with clear guidelines for training investment, technology transfer, and workforce nationalisation.

For example:

- Licencing agreements could include commitments to hire a percentage of Namibian staff by a certain year, conditional on training milestones.
- Operators could be required to contribute to national skills funds or sponsor targeted programmes in high-need areas like mechanical maintenance or instrumentation.

There must be an effort to increase public awareness and career pathway visibility. A strong technical workforce starts with awareness and aspiration. Students need to know what careers are available, what they pay, how long training takes, and how to get there. We must demystify and construct pathways and promote them widely.

This could include:

- Nationwide career fairs focused on energy
- Mass media campaigns highlighting success stories
- Industry-supported STEM clubs and competitions

By showing real opportunities to real students, we begin to bridge the gap between potential and participation.

It is critical to leverage both regional and global partnerships. Namibia is not starting from scratch. As we've seen from examples in Angola, Guyana, and Uganda, there are proven models and existing networks to draw from.

Leveraging OPITO's international standards, aligning with African regional training hubs, and accessing international funding will allow Namibia to leap-frog traditional barriers.

Namibia can also explore cross-border training exchanges, curriculum co-development with international universities, and technical twinning of local institutions with experienced training centres in the region.

This roadmap is not a theoretical exercise. It is a practical, phased, and collaborative strategy. It begins with understanding demand. It moves through infrastructure development and policy alignment. And it culminates in a skilled, employed, and empowered Namibian workforce.

The choices Namibia makes today will shape its energy future for decades. By investing in its people, aligning with global standards, and fostering strong partnerships, Namibia can ensure that its energy revolution is not just an economic win, but a societal one.

Closing Remarks

Ladies and gentlemen, Namibia stands at a crossroads. The decisions made today will determine whether this country builds an energy industry that benefits all, or one that bypasses too many.

Skills are the bridge between potential and prosperity. With planning, partnership, and perseverance, Namibia can build a workforce that is capable, confident, and competitive.

OPITO stand ready to support you on that journey every step of the way. Not just with frameworks and standards, but with partnership and shared learning.

I look forward to a long, meaningful, and enduring relationship with you all.

Discussion with Moderator and Audience

The discussion of the public lecture opened with a critical inquiry from the moderator, Mr Patrick Sam, into the dimensions of Namibia's energy transition, specifically the fate of communities historically tethered to oil and gas as wind, carbon capture, and green hydrogen initiatives that are on the ascend. Mr. Love indicated that each nation's trajectory is bespoke, yet the pathway must be informed by global precedents. Emphasising Namibia's comparative advantage in pre-existing stakeholder engagement and data availability provides a robust foundation for tailoring external blueprints to local exigencies. This underscores the necessity of synchronising decommissioning timelines for fossil infrastructure with the phased commissioning of alternative energy projects to mitigate socio-economic dislocation.

The conversation then shifted to the locus of agency when governmental leadership falters, with Mr. Love noting that industry actors must transcend narrow commercial interests to articulate the broader societal benefits of energy development. By doing so, they can counter the "resource curse" narrative and sustain momentum even amid wavering political support. He further contended that a unified, well-resourced coalition of operators, armed with compelling evidence of local dividends, which addresses issues of employment, infrastructure, skills development can generate a tipping point in public policy and investor confidence by safeguarding the continuity of energy programmes.

Addressing systemic governance, Mr. Love asserted that confidence in complex global value chains accrues only through deliberate capacity-building and phased objectives and recommended immediate public-awareness campaigns to demystify upcoming industry opportunities and timelines, thereby cultivating a sense of shared purpose among Namibians. Only once a baseline understanding is achieved can more sophisticated engagements such as vocational training and sectoral partnerships take root. This dual strategy of communication and capacity development seeks to pre-empt the ad hoc proliferation of services and to embed energy sector literacy across civil society.

Confronting the pronounced deficit of domestic specialists, which is evidenced by sparse numbers of mining, chemical, metallurgical, and petroleum engineers requires the endorsement of short-term deployment of expatriate experts under fixed-term "train-the-trainer" arrangements. Such interventions must operate under stringent local-content regulations to ensure that foreign expertise serves as a catalyst for Namibian capability building rather than a long-term substitute. This model balances the urgent need for technical proficiency with the strategic imperative of local skills transfer.

Distilling his global experience into practice-oriented guidance, Mr. Love identified genuine collaboration as the cornerstone of success and cautioned against commercial rivalries and protectionist attitudes that impede cross-recognition of qualifications and labour mobility. Instead, he urged stakeholders to embrace shared frameworks, transparent standards, and mutual trust as a cooperative ethos, he stated, enables the cohesive evolution of competency regimes and accelerates the alignment of training outputs with industry expectations.

Furthermore, on structuring Namibia's industrial policy, Mr. Love recommended a clear delineation of high-growth sectors, each accompanied by phased, publicly communicated milestones, as flexibility to absorb geopolitical shocks that must coexist with disciplined prioritization. He advised resisting the temptation to "boil the ocean" by attempting simultaneous, large-scale reforms. Drawing on the North Sea's half-century of competence regime evolution, he suggested that Namibia adopt a similarly incremental yet comprehensive approach: one that balances immediate objectives with the scaffolding of long-term institutional architecture.

He provided a tripartite action plan for distinct stakeholder groups:

- Individuals urged to perform self-assessment against sector trajectories and to seek targeted certifications through bodies such as OPITO.
- Training providers were encouraged to pursue rigorous quality assurance. specifically OPITO P2 accreditation to position themselves as primary conduits for emerging workforce demands and
- All parties were called upon to cultivate an ecosystem of collaboration, sharing data and convening regularly to co-design curricula and synchronize training with real-time industry requirements.

Following this exchange between Mr. Love and the moderator, the audience was invited to join in on the discussion by posing questions:

Question 1: *I previously trained for the oil and gas industry but, owing to economic necessity, have worked as a physics and mathematics teacher for several years. My original qualification now remains unused. What mechanisms can stakeholders implement to enable professionals in my situation to re-enter the sector without having their credentials rendered obsolete?*

Mr. Michael Love (OPITO): Addressing this issue requires a dual approach. First, it is imperative to establish formal pathways for recognising prior oil-and-gas qualifications and professional experience. Namibia's regulators, industry employers, and accredited training providers should adopt mutual-recognition frameworks like Recognition of Prior Learning (RPL) that permit individuals with previous sector credentials to transition directly into appropriate roles, thereby obviating the need to repeat fundamental training. Second, the industry must actively re-market itself to former practitioners, not solely through competitive remuneration packages but by emphasising the sector's broader purpose and community impact. Nationwide education campaigns from school outreach programmes to community forums can reshape perceptions, demonstrating that returning to oil and gas is not merely a career choice but a contribution to national development and stability.

Question 2: *Given that Namibia remains in the exploration and appraisal phases, with first production not anticipated until around 2030, should current training efforts focus on*

downstream skills that will be required post-production, or on immediate, entry-level competencies?

Mr. Michael Love (OPITO): A phased training strategy is essential. In the immediate term, focus must be placed on exploration-phase competencies: seismic-survey support, rig logistics, vessel operations, and foundational health-and-safety certifications such as BOSIET, HUET, and H_2S awareness. These micro-credential programmes deliver rapid deployment opportunities and offshore exposure. Concurrently, curriculum development for midstream and downstream disciplines, include reservoir management, process operation, and instrumentation engineering; which should commence now. Aligning degree and diploma programmes to graduate their first cohorts by 2030 ensures that Namibia will possess the requisite expertise precisely when full-field development enters the production stage, thereby avoiding both skill shortages and mismatches.

Question 3: *My work centres on explosives management. Are there existing OPITO or analogous pathways tailored to oil-and-gas–specific explosive engineering, distinct from mining-industry qualifications?*

Mr. Michael Love (OPITO): At present, OPITO's portfolio does not include a bespoke oil-and-gas explosives engineer certification; the COMPEX suite addresses hazardous-atmosphere competencies primarily for mining. Nonetheless, OPITO is committed to collaborative programme development. Should Namibia's regulators and industry identify a need for oil-and-gas-specific explosive engineering training, OPITO stands ready to partner with COMPEX and other relevant bodies to co-design a modular qualification. Such a programme would integrate traditional on-land explosive handling with offshore environmental protocols, safety management systems, and industry best practices, thereby ensuring alignment with both local requirements and global standards.

Question 4: *Our private institution has delivered vocational and higher-education programmes entirely within Namibia for 24 years. We welcome the oil and gas prospects but face three major obstacles: the high capital outlay required for international accreditation (for example, OPITO P2 approval); the difficulty of securing long-term work visas for foreign subject-matter experts; and delays caused by an understaffed national accreditation authority. How can private training providers navigate these systemic barriers?*

Mr. Michael Love (OPITO): Your concerns highlight systemic challenges that demand coordinated solutions. First, to mitigate the capital burden of international accreditation, institutions should leverage data-driven financial modelling, thereby engaging early with major operators to forecast enrolment and revenue scenarios, thereby establishing clear break-even projections. Blended financing structures can then be pursued, combining Petrofund grants, concessional loans from development banks, and cost-sharing arrangements with industry sponsors. Second, to

streamline the deployment of foreign experts, advocate for a dedicated "Skills Pathway" visa category that ties visa validity to specific, short-term "train-the-trainer" assignments, thus reducing administrative complexity and ensuring focused knowledge transfer.

Third, to accelerate national accreditation processes, private colleges could form a consortium to engage jointly with NCHE and the NQA. By pooling resources and presenting a unified proposal, the consortium may secure framework-level approvals for oil and gas curricula, accompanied by a fast-track pilot accreditation mechanism that leverages existing foreign-accredited programmes as provisional benchmarks while local quality-assurance audits proceed in parallel. Central to all three measures being sustained is public-private dialogue. Establishing a joint working group of industry representatives, training providers, and regulatory authorities can formalise service-level agreements governing accreditation turnaround times, visa facilitation, and financing support. Collective engagement will dismantle silos and expedite Namibia's readiness to deliver sector-aligned skills.

Question 5: *With recent oil and gas discoveries, what measures are required to cultivate the necessary skills base and attract the investment needed to establish indigenous refining capacity in Namibia?*

Mr. Michael Love (OPITO): Developing a domestic refining industry hinge upon synchronizing human capital development with capital investment cycles. He advocated a staged approach: initially focusing on upstream exploration and appraisal competencies to build local capability and confidence, while concurrently engaging potential investors in the medium term to secure financing for refining infrastructure. This strategy entails forging public–private partnerships in which training providers, industry operators, and government co-design bespoke curricula for process operators, petrochemical engineers, and plant maintenance technicians. Simultaneously, incentives such as matching grants or tax offsets that should be structured to de-risk private equity participation in refinery projects, thereby aligning skill development with tangible investment pipelines.

Question 6: *In many advanced economies, robust, accessible data underpins energy-sector planning. In Namibia, however, essential statistics often require formal requests and ministerial signoffs, delaying research and perpetuating reliance on foreign expertise. Furthermore, our education system remains oriented toward knowledge rather than critical thinking or structured career guidance, leaving many Grade-12 students uncertain about which scientific discipline to pursue. How can Namibia streamline data access and reform curriculum development to prepare a workforce for an industry whose commercial viability remains uncertain?*

Mr. Michael Love (OPITO): Limited data transparency and cumbersome bureaucratic processes are endemic challenges in emerging markets. He recommended establishing an integrated "Energy Data Clearinghouse" a publicly accessible portal managed jointly by regulators and

industry associations to expedite non-sensitive data sharing for research and forecasting. This mechanism would standardize data-request procedures, eliminate redundant approval layers, and support scenario modelling essential for evidence-based skills planning. On education reform, he argued that transitioning from teaching to outcomes-based learning requires early career exposure initiatives such as lab visits to operational rigs, guest lectures by industry professionals, and dedicated career-counselling modules in secondary schools. He advised fast-tracking accreditation pathways for nascent oil-and-gas curricula, permitting provisional delivery of foreign-benchmarked programmes under supervised pilot schemes. By combining transparent data systems with dynamic, career-oriented pedagogies, Namibia can cultivate both the analytical and practical competencies demanded by a nascent and uncertain industry.

Mr. Patrick Sam (Moderator): In tandem with these reforms, the NAOGSP is launching a Global Skills Mobility Programme known as the Namibia Oil & Gas Graduate Apprenticeship Program (NOGGAP). This dual-track initiative will train Namibians to international standards, for example, riggers, gas-container specialists, confined-space operators and they will be deployed locally, regionally and globally. Such outward mobility will generate remittance income while ensuring that domestic training infrastructure matures in parallel. By equipping our citizens with portable qualifications, we create a resilient workforce that thrives regardless of local project timelines.

Question 7: *In 2012–13, our university partnered with Petrofund and NAMCOR to deliver public lectures on exploration, production, and reskilling. Looking ahead, what is a realistic timeline to develop a standardized, industry-aligned curriculum for oil and gas so that graduates are workforce-ready? Additionally, how can we regulate equitable compensation when Namibian graduates, even from institutions such as Aberdeen, earn significantly less than expatriates in equivalent roles?*

Mr. Michael Love (OPITO): A two-phase curriculum development strategy. In the first six months, foundational micro-credential modules, covering offshore safety, basic process operations, and environmental protocols can be drafted and trialled, enabling immediate certification of entry-level roles. Concurrently, a collaborative working group of academia, industry, and regulators should co-design comprehensive diploma and degree programmes. With expedited accreditation processes, full Bachelor's-level curricula could be operational within 18 to 24 months. On compensation equity, he argued for mandatory local content policies and collective-bargaining frameworks that enshrine salary parity between Namibian and expatriate professionals performing identical functions. He recommended embedding these provisions in licensing agreements and host-government contracts, thereby institutionalizing transparent, graduated salary bands that reflect both local cost-of-living considerations and requisite experience levels.

Question 8: *You have underscored the necessity of a highly skilled workforce. How can stakeholders ensure that graduates who acquire these competencies are actually absorbed into the sector, given Namibia's persistently high unemployment rate?*

Mr. Michael Love (OPITO): Three complementary mechanisms should be outlined. First, industry-sponsored internships and apprenticeships should be embedded within academic programmes, with formal guarantees of interview opportunities upon successful completion. Second, a public–private job portal that is managed jointly by industry associations and educational institutions should list all sector vacancies exclusively for certified graduates. Third, targeted hiring quotas for entry-level roles should be enforced through regulatory licensing conditions for operators, ensuring that certified local talent is prioritized for available positions. These measures, collectively, would convert training outputs directly into employment outcomes.

Question 9: *How might Namibia integrate OPITO's global standards and the Scottish Credit and Qualifications Framework (SCQF) into its national qualification frameworks, and what steps are required to "domesticate" OPITO accreditation within our regulatory ecosystem?*

Mr. Michael Love (OPITO): A four-step integration process is required. First, conduct comprehensive regulatory mapping to align OPITO competencies with NQA and NCHE standards, identifying overlaps and gaps. Second, convene a joint curriculum development working group, which comprises of OPITO, NQA, NCHE, and industry in order to adapt OPITO modules into Namibian-accredited syllabi. Third, negotiate mutual-recognition agreements and memoranda of understanding that permit reciprocal credit transfer between OPITO certifications and local qualifications. Fourth, implement "train-the-regulator" workshops delivered by OPITO to accredit local auditors in global auditing protocols. This dual-track approach preserves global standardization while reinforcing national regulatory sovereignty.

Question 10: *Our TVET sector houses thousands of welders, fitters, and artisans. The immediate imperative is up-skilling these existing cadres for oil and gas applications rather than funding extensive new research. How can we balance the exigencies of urgent vocational training with the longer-term needs of research, and what engineer-to-artisan ratios should inform workforce planning?*

Mr. Michael Love (OPITO): It is recommended to prioritize modular up-skilling programmes, which cover process-plant maintenance, instrument calibration, and offshore safety survival courses that can be deployed within current workshop infrastructures at minimal incremental cost. Parallel to these initiatives, he advised establishing small, focused R&D units within TVET centres to continuously inform and update training materials without halting existing artisan courses. Regarding workforce ratios, he noted that construction phases typically require one engineer per 10 to 15 technicians, whereas steady-state operations often align to one engineer per 20 to 25 artisans. These ratios, however, must be calibrated to project scale, complexity, and duration, guided by data-driven forecasting and industry input.

Question 11: *We have had extensive discussions but limited implementation. What institutional mechanism can translate these dialogues into coordinated action, breaking down silos and ensuring accountability?*

Mr. Michael Love (OPITO): By proposing the establishment of a permanent National Skills Task Force, co-chaired by government and industry, with representation from academia, regulators, and civil society, this Task Force would be mandated to conduct an initial comprehensive skills audit that includes mapping current capabilities against projected demand. Publish an annual National Energy Skills Roadmap with quantifiable targets and timelines, and maintain a publicly accessible dashboard monitoring training enrolments, certification completions, and employment placements. By institutionalizing this multi-stakeholder governance mechanism, Namibia can convert strategic dialogue into measurable progress, thereby driving systemic alignment across policy, education, and industry.

Vote of Thanks: Dr Sylvia Demas, Deputy Executive, Director - NCHE Secretariat

Dr Sylvia Demas delivering the vote of thanks

Dr Sylvia Demas, Deputy Executive Director of the NCHE, commenced her vote of thanks by formally acknowledging the Honourable Minister of Education, Innovation, Youth, Sports, Arts and Culture, Sanet Steenkamp; though unable to be physically present, the Minister's policy guidance and endorsement were held up as foundational to the evening's success. The Minister emphasised the need for research-driven, cross-sectoral outcomes that underpins the NCHE's own mandate to align higher education quality with national development imperatives.

Additionally, she celebrated Mr. Michael Love and lauded his keynote address for elegantly synthesising global best practices with Namibia's specific context. His insights chart a clear roadmap for workforce development in the country's emerging oil and gas sector. She also thanked Ms. Laura Peinke for her complementary perspectives, further underscoring the value of international partnership and collaborative knowledge exchange.

Furthermore, she expressed particular gratitude to Professor Samuel John, Chairperson of the NCHE Council, for his strategic opening remarks and leadership, as well as to Dr Francine Keendjele and the whole Council, commending their thoughtful curation of the lecture's theme and their responsiveness to national priorities. She highlighted the NCHE's agility in addressing

the technical demands that provide a platform to address the skills challenges for Namibia's energy sector and the required broader educational reforms.

In a gesture of sector-wide cohesion, Dr Demas thanked sister regulatory bodies, the NQA, NTA, and the NAOGAP for their close collaboration, noting that the synergies forged during the day's planning sessions would form the bedrock of robust, industry-aligned training frameworks.

Additionally, turning to the leaders of tertiary institutions, she paid tribute to vice-chancellors, deans, directors, and training-provider representatives. She acknowledged the rigours of accreditation and quality-assurance processes, applauding their steadfast commitment to aligning curricula with evolving industry needs, particularly within the strategically important oil and gas sector.

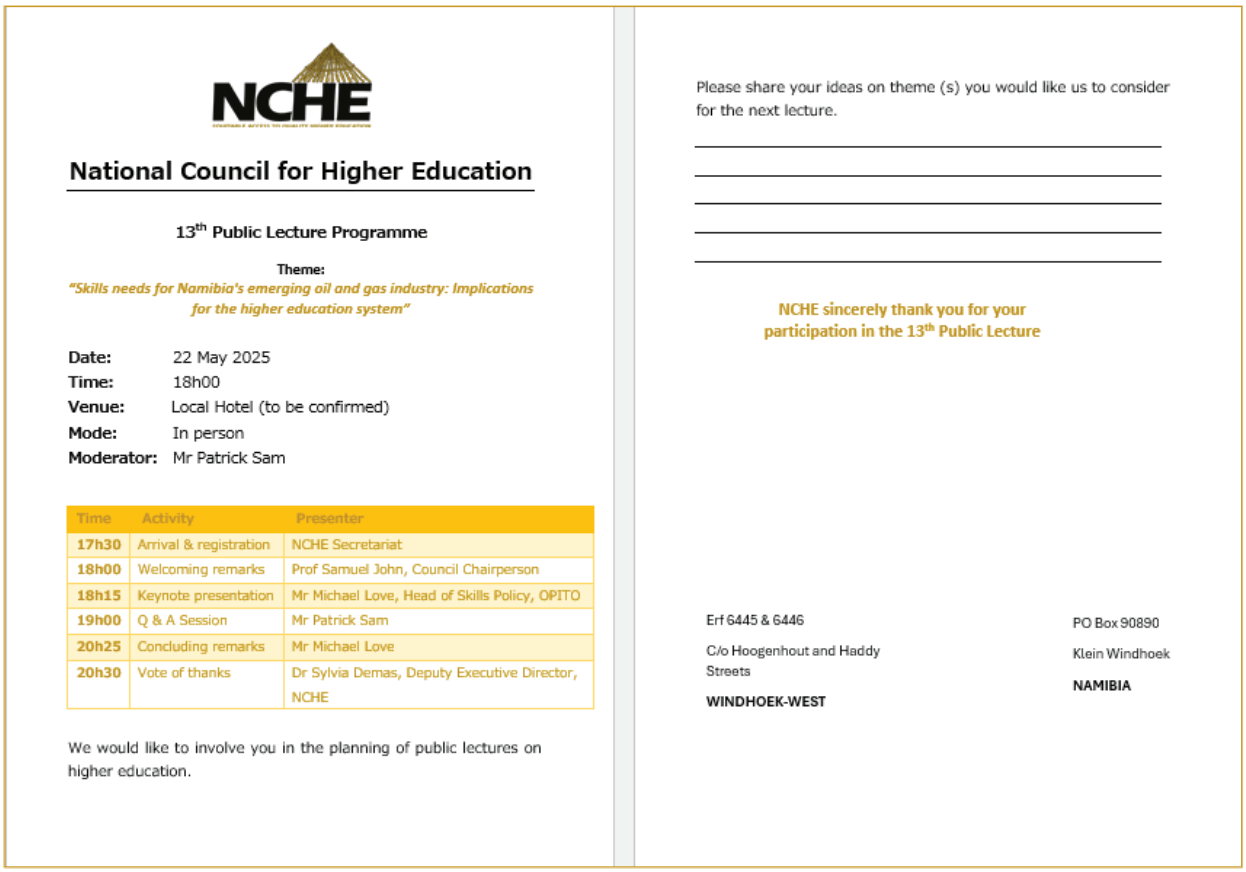
Furthermore, she underscored the event's inclusivity by recognising attendees from government, civil society, the media, and the student body, emphasising that their presence validates the evening's theme. She affirmed that Namibia's energy future must be a national conversation grounded in transparency, public awareness, and active youth participation.

Moreover, a special commendation was reserved for Mr. Patrick Sam, the session moderator and key collaborator in bringing the public lecture to fruition, whose facilitation maintained both dynamism and focus. She also acknowledged the NCHE Secretariat, IT staff, and public relations team for ensuring seamless programme execution by demonstrating that operational precision is essential for high-calibre public discourse.

In her closing synthesis, Dr Demas reaffirmed that Namibia's energy ambitions hinge not merely on resource exploration but on the quality of its human-capital ecosystem, thereby identifying "skills, standards, and systems" as the decisive variables determining national readiness for a competitive global industry. Her final exhortation called on all stakeholders to translate the evening's insights into coordinated policies, institutional reforms, and measurable outcomes, thereby setting the stage for Namibia's sustained success in oil and gas.

Appendix A: Media advert

Appendix B: Public Lecture Programme



NCHE

National Council for Higher Education

13th Public Lecture Programme

Theme:
"Skills needs for Namibia's emerging oil and gas industry: Implications for the higher education system"

Date: 22 May 2025
Time: 18h00
Venue: Local Hotel (to be confirmed)
Mode: In person
Moderator: Mr Patrick Sam

Time	Activity	Presenter
17h30	Arrival & registration	NCHE Secretariat
18h00	Welcoming remarks	Prof Samuel John, Council Chairperson
18h15	Keynote presentation	Mr Michael Love, Head of Skills Policy, OPITO
19h00	Q & A Session	Mr Patrick Sam
20h25	Concluding remarks	Mr Michael Love
20h30	Vote of thanks	Dr Sylvia Demas, Deputy Executive Director, NCHE

We would like to involve you in the planning of public lectures on higher education.

Please share your ideas on theme (s) you would like us to consider for the next lecture.

NCHE sincerely thank you for your participation in the 13th Public Lecture

Erf 6445 & 6446
C/o Hoogenhout and Haddy Streets
WINDHOEK-WEST

PO Box 90890
Klein Windhoek
NAMIBIA

Appendix C: Breakfast Meeting Agenda

National Council for Higher Education

Public Lecture Breakfast Agenda

Avani Hotel & Casino – Stratos Restaurant

22 May 2025

Moderator – Eben Eser Makari

Attendance: NCHE, NQA, NTA, NAOGSP

TIME	ACTIVITY	PRESENTER
07h30-07h50	Welcoming remarks	Mr Sem Shikongo
07h50-08h30	***Discussion topic***: Are the existing tertiary education quality assurance systems ready to develop quality programmes and produce the required graduates for the emerging oil and gas industry/energy sector skills needs?	Moderator Mr Michael Love Audience
08h30-08h50	Presentation of the Namibia Association of Oil & Gas Service Providers (NAOGSP) - Oil & Gas Graduate Apprenticeship Program (OGGAP)	Mr Patrick Sam
08h50-09h00	Concluding remarks	Mr Eben Eser Makari

NCHE sincerely thanks you for participating in the Public Lecture Breakfast meeting and cordially invites you to attend the lecture this evening.

Appendix D: List of participants

Participant name	Institution
1. Mando Cach	Marman Enterprise
2. Udjorisa Mbaha	NUST
3. Emilly	NUST
4. Eveline Shinana	NCHE
5. Esther Ester Shapaka	SLB
6. Kadhila Amoomo	KALP
7. Charles Seibeb	Labora Investments cc
8. Patrick Sam	NAOGSP
9. Shipepe Daniel	UNAM
10. Knowledge Iipinge	NAOGSP
11. Abner Megameno	SEFMEN CC
12. Michelle Ngaujale	Halliburton
13. Olsen Hamana	MIZ
14. Absula Fillipus	OMITC NAMIBIA
15. Penehafo Pohamba	COSDEF
16. Alfred Kamunguma	Independent
17. Johanna Endjala	UNAM
18. Quest Beaucherine	NUST
19. Kendell Iinane	NUST
20. Liesl Boois	MIN of LABOUR
21. Anna Imalwa	IOL
22. Happy Shapaka	FAWEWA
23. Akpo	IUM
24. Philip Hishoimone	UNAM
25. Johannes Tapalo	Tapelo
26. V. Herman	APOS
27. Astrid Mughongora	NCHE
28. J. Haifela	UNAM
	FUTURE ENERGY
29. Trudi Stevens	PARTNERS
30. Panduleni Michael	NUST (Student)
31. Martha	Nampol-Explosives
Nghipandulwa	NUST
32. A. Zulu	OPM
33. David Anghuwo	NUST
34. Nekonda Hileni	NIMT
35. Kisomo Ngolo	ATI
36. Dr. Alweendo	INSPECT/COGMANAM
37. Petrus Kamitse	HWN
38. Albert	

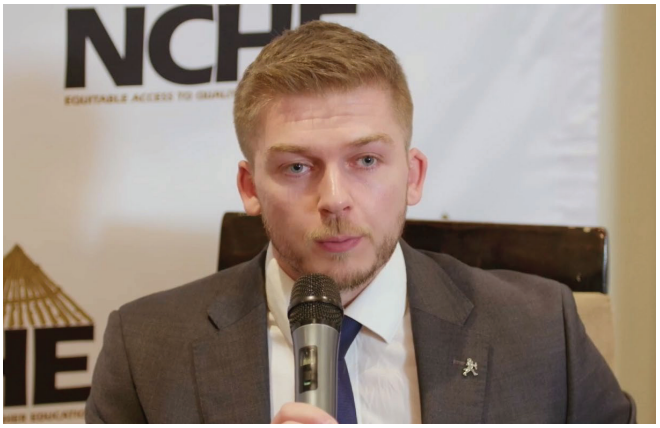
Participant name	Institution
39. Josef Shikeva	Private
40. Amukugo Katuna	Private
41. Rachel Haikali	Private
42. Taapopi John	Private
43. Nuunyango Sarafina	Private
44. M Mutemachani	Sunshine Private College
45. Prof Awarab Marvin	Welwitchia University
46. Gerhard Haulume	Private
47. Veikko Vahengo	UNAM
48. Ndamona Lupaka	NCRST
49. Hilya Nghiwete	HSTEA
50. Letu Demas	NUST (student)
51. Willy O	ATI (Lecturer)
52. Kakehongon	UNAM (Lecturer
53. Mwaka C Shivula	Lingua Lecturer
54. Simeon N. Simeon	UNAM
55. Ndamona Shikoyeni	ITC ITO
56. Amesho	UNAM (Professor)
57. Vijay	UNAM
a. Tobias Shiku	NUST (Student)
58. Mc Tjiurutue	UNAM
59. J. Dumeni	INSPECT
60. Thomas Nangonja	MAPS
61. Ateeq Rehman (Prof)	UNAM
a. Kainos Nghitila	Private
62. Andreas Paulus	Private
63. Toni Angolo	Welwitchia Unversity
a. Fanuel Shinedima	Total Energies
64. Shatillwe Cutowa	SAS STAFFING JOBO 2030
65. C. Kandjiriomwini	Briefcase Media
66. Prof David R	Haile Training - College
67. Ingrid Mettler	Lingua
68. Andreas	Bv
69. Raoph Bussel	NIMT
a. Frans Persendt	UNAM
70. Wilhem Mulunga	Mulunga Electrical
71. Vino Kayirua	UNAM
72. Fransina Mulike	Private

Participant name	Institution
73. Julia Nekongo	Petrofund
74. Adelaide Ndjukuma	Private
75. Peneneameno Frans	NAMCOL-Student
76. Floyd Keteedas	ENTREPRENEUR
	NUST ENGINEERING
77. Mathias Malengi	STUDENT
78. Maduako Okorie	NUST
79. Erling Kavita	NUST
80. Otto Lucas	Loyal Trailer CC
a. Frans Dominicus	VIZAZI
81. Uschen Goses	
82. Andreas Mwoombola	Welwitchia
83. Veino Shaumbwa	SLB
84. Epafras S. Jonas	MCP
85. John - Kakuni	Rockshield
86. Sioni Iikela	IUM
87.	
88. Salome Veldskoen	NUST
89. HERMAN Kosta	SWAKOP URANIUM
90. Ester Simon	NUST
91. Amon Mwapopi	Komatuta
92. Herman Andreas	DEBMARINE
93. Ishmael Hamutenya	Green Hydrogen
94. Sibandjeni dibe	POVATE
95. Joseph Amunyela	NQA
96. Jason Kambonde	Namchen
97. Launa Moses	NALOBA
98. EF Nenghwanya	NTA
99. Nelvin Mureko	Atlantic Training
100. Ulji Nguaiko	Skin-Chem
101. Ingo S.	Tyrant cc
102. Hilma	Atlantic Training
103. Patience Makwele	Confidente
104. Othello Joseph	CCI
105. Daniella Ngapure	GOGANAM
106. Maria Mukena	UNAM
107. Andreas Elombo	NUST-NEI
108. V.H. Kaulinge	OPM
109. Prof Samuel John	NCHE
110. Rochelle Elias	NCHE
111. Dr Fransine Keengele	NCHE

Participant name		Institution
112.	Dr Sylvia Demas	NCHE
113.	Bertha Njembo	NCHE
114.	Mr Michael Love	OPITO
115.	Ms Laura Peinke	OPITO
116.	Mr Sem Shikongo	NCHE
117.	Ms Teopolina Uutsi	NCHE
118.	Ms Agnes Nicodemus	NCHE
119.	Ndapewa Hamutenya	NCHE
120.	Eben Makari	NCHE
121.	A.N. Mbulu	NCHE
122.	Vigilant Hangula	NCHE
123.	S. Ilovu	NCHE
124.	Wilfred Sam	NCHE
125.	Victoria Hangula	NCHE

NB: This list excludes approximately 60 online attendees

Appendix D: Photo Gallery



Notes

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