Republic of Namibia

Traction III

Namibia's Green Hydrogen Mid-Year Review 2025

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Rev 0 - July 2025

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I am pleased to highlight that this project not only contributes to the global fight against climate change but also underscores Namibia's commitment to a carbon-free economy. By shifting from raw material exports to local value-added production, Namibia will generate six to eight times more economic value.

Dr. Netumbo Nandi-Ndaitwah
President of the Republic of Namibia

Namibia
Green Hydrogen
Programme

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Namibia's Green Hydrogen Mid-Year Review 2025

Acronyms

CUI	Common User Infrastructure
CRM	Critical Raw Materials
EMA	Environmental Management Act
GCF	Gini Coefficient
GDP	Gross Domestic Product
NDP	National Development Plans
NTA	Namibia Training Authority
NQA	Namibia Qualifications Authority
MHETI	Ministry of Higher Education and Training and Innovations
NCHE	National Council of High Education
NGHA	Namibia Green Hydrogen Association,
NUST	Namibia University of Science and Technology
NGHRI	Namibia Green Hydrogen Research Institute
SDSP	Skills Development Strategy and Plan
UNAM	University of Namibia
JCoI	Joint Communique of Intent
TKNP	Tsau //Khaeb National Park
RFP	Request for Proposals
RFQ	Request for Quotations
SCDI	Southern Corridor Development Initiative
NIPDB	Namibia Investment Promotion and Development Board
DIN	German Institute for Standardization
TC	Technical committee
IESG	Impact, Environmental, Social and Governance
GIB	Green Industrial Blueprint
GAHS	Global African Hydrogen Summit
IPPR	Institute for Public Policy Research
NACSO	Namibian Association of Community Based Natural Resource Management Organisations
NTLA	Nama Traditional Leadership Authority
SESA	Strategic Environmental and Social Assessment
SAPP	Southern African Power Pool
ESIA	Environmental and Social Impact Assessment
EIF	Environmental Investment Fund
JIC	Joint Implementation Committee
GHC	Green Hydrogen Council
MIME	Ministry of Industries Mines and Energy
MoF	Ministry of Finance
NPC	National Planning Commission
MEFT	Ministry of Environment, Forestry and Tourism
NCEDA	Northern Cape Economic Development, Trade and Investment Promotion Agency
NGH2P	Namibia Green Hydrogen Programme
CFM	Climate Fund Managers
WESGRO	Tourism, Trade, and Investment Promotion Agency for Cape Town and the Western Cape
VNG	Dutch Association of Local Authorities
OMAs	Offices, Ministries and Agencies
SMIP	SWAPO Manifesto Implementation Plan

Executive Summary

In the first half of 2025, Namibia's green hydrogen sector has achieved remarkable progress, in line with the expectations set out in our Traction II publication. This edition of Traction provides our stakeholders with an updated account of these achievements and outlines planned priorities for the remainder of the year.

Namibia has attracted significant new investment into transformative green hydrogen projects, with approximately N$2.08 billion committed to date across pilot initiatives, commercial developments, and technical consultancy work.

A key highlight was the commissioning of HyIron–Oshivela near Arandis, which on 12 March 2025 began producing sub-Saharan Africa's first green hydrogen-powered iron. Officially inaugurated on 11 April 2025, the facility features a 12 MW electrolyser, the largest of its kind in the southern hemisphere, positioning Namibia as a regional leader in renewable-powered industrial production.

This growth is already delivering tangible socio-economic benefits. Over 800 Namibians have been employed across pilot and early-stage projects, while approximately N$170 million has been channelled into local SMEs, reinforcing our localisation agenda and early value-chain development.

To strengthen coordinated infrastructure planning, the Programme secured N$3.6 million in funding from Germany's Federal Ministry for Economic Affairs and Climate Action (BMWK). The funding mobilized was used to craft a best-practice study on common-user infrastructure, including pipelines, desalination systems, rail, ports, and energy corridors. Expected to conclude by June 2025, this work will guide integrated planning across key parastatals such as NamPort, NamWater, NamPower, and TransNamib.

The Programme is also collaborating with the Environmental Investment Fund and UNIDO to develop a green industrial park concept within the !Nara Namib Industrial Zone near Walvis Bay. This initiative aims to demonstrate the provision of green baseload power and essential infrastructure to de-risk industrial scaling. Lessons from this application could be used to establish green industrial clusters nationwide.

Establishing a regulatory framework remains a core priority. In April 2025, the Programme finalised a draft National Policy on Green Hydrogen and Derivatives. Developed in close consultation with stakeholders, the policy sets out Namibia's approach to:

- Environmental protection and safe handling of hydrogen and its derivatives
- Socio-economic development and worker safety
- Institutional coordination and legislative alignment

This draft is currently under review by the Ministry of Industries, Mines and Energy and is expected to serve as the foundation for future legislation and operational guidelines.

The Programme has also partnered with the Ministry of Environment, Forestry and Tourism to launch a Strategic Environmental and Social Assessment (SESA) for the Southern Corridor Development Initiative (SCDI).

Significantly, Namibia, through an application prepared by the Programme and supported by the Ministry of Finance, has been selected to develop an investment plan for the Climate Investment Fund's Industry Decarbonization Programme (CIF-IDP).

This facility offers concessional capital at around 1% USD interest for eligible projects, with the potential to leverage multilateral development bank funding at up to ten times that amount for Namibia's private sector players focused on decarbonising hard-to-abate sectors.

Namibia's application was ranked 3rd out of 26 globally, underscoring the maturity of the work undertaken since 2021 by Government in partnership with private sector stakeholders.

The Programme, in collaboration with its technical partner Ninety-One, is now developing a detailed investment plan aligned with the forthcoming NDP6, designed to mobilise fit-for-purpose capital for eligible public and private sector projects.

James Mnyupe

HEAD OF THE NAMIBIA GREEN HYDROGEN PROGRAMME

Organisational Identity:

Mission, Vision, Theory of Change and Values

Mission

To foster socio-economic development, the Programme facilitates a conducive environment to catalyse the green industrialization of Namibia and regional economies.

Vision

By prioritizing sustainability and innovation, our vision is to catapult Namibia onto a new economic trajectory by stimulating the establishment of vibrant hubs of green industry. We envision a future where prosperity is equitably shared, unemployment is minimal, gross domestic product (GDP) growth is robust, and proactive measures are taken to combat climate change. Guided by principles of a just transition and a commitment to achieving net-zero targets, we strive for communities to flourish, businesses to thrive, and the natural world to prosper alongside us.

Theory of change

As the NGH2P aims to facilitate a conducive environment to catalyse the green industrialization of Namibia and regional economies, it will contribute to the ultimate long-term ambition of the Namibian Government as set out in Vision 2030. Vision 2030 was launched by Founding President Sam Nujoma in mid 2004 and has guided the various NDPs for the country. NDP6, which is the last NDP under Vision 2020, is currently under formulation.

Vision 2030 transformational ambitions are to:

Diversify the economy and reduce dependency on the primary sector to a maximum of 10% of the country's GDP, from 20% in 2004. Integrating subsistence farming into mainstream activity is an explicit ambition for Vision 2030. This will derisk the country's vulnerability to climate change and price fluctuations in mining and agriculture. Further, the ambition is to move the secondary sector where green and other industrialisation is to take place from 17% of GDP to 42% by 2030. The tertiary sector, which is dominated by the Government and financial sector services, will contribute 48% to GDP in Vision 2030, from 63% in 2004.

The ambition set out in Vision 20230 is to tackle unemployment. This ambition remains to reduce unemployment over the remaining five (5) years from the current high 35% to a low 2.3%. Expectations are high for the green hydrogen industry to create new jobs, income, and skills for Namibians, especially for the youth and women.

To create a more equal society with improved access to economic resources and income, the Gini Coefficient, which measures income inequality and poverty, is to be reduced from a very high 0.7 to 0.3. The green hydrogen industry is well placed to create income opportunities for many Namibians and to change the dial on unemployment in Namibia. It is an intentional objective to ensure that Namibians from urban and rural areas participate in the green industrialisation drive and that new value streams are created. Local content and participation in the value chain of the green hydrogen industry will be pro-actively promoted within social and environmental safeguards.

To achieve the above, effective coordination by the Namibia Green Hydrogen Programme towards collaboration between all relevant stakeholders with a direct or indirect interest in the green hydrogen industry, such as Government, private sector, civil society, and development partners, will be pivotal. Close monitoring of the Programme's contribution to the theory of change drivers will be key to demonstrate the transformational nature of the green hydrogen industry.

Values

To guide organisational behaviour in the execution of the work plan, we will strive to uphold the following values to direct the work of the programme:

Diligence

We are performance driven, reliable and accomplished professionals. We will set and commit to the right goals, be efficient and effective in the execution of our mandate.

Impactful

We aim to produce positive and meaningful outcomes for our environment and society at large.

Inclusivity

We embrace diversity and promote a culture of collaboration. We respect and appreciate the differences among our various stakeholders and aim to leverage their diverse perspectives to achieve our goals.

Integrity

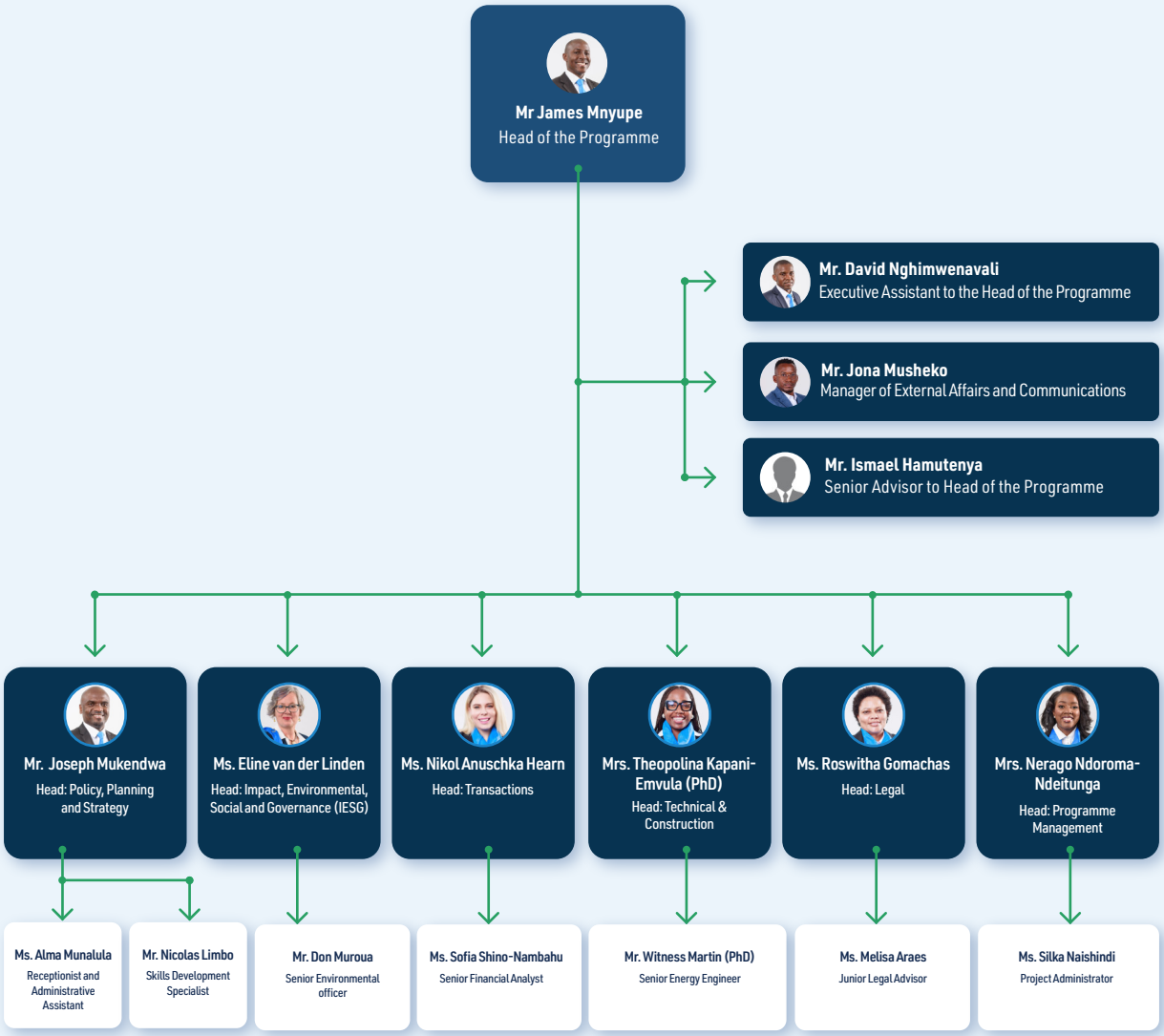
We are honest, open and transparent in our dealings, to earn and sustain a high level of trust.

The Team

Namibia's Green Hydrogen Mid-Year Review 2025

Namibia Green Hydrogen Programme

Organisational Structure



Key Milestones

Namibia's Green Hydrogen Programme Milestones

Key Milestones

Namibia's Green Hydrogen Programme Milestones

- Finalised the draft National Policy on Green Hydrogen and Derivatives.
  April 2025
- Successful CIF application aiming to mobilise up to US$250 million in concessional finance.
  June 2025
- Brought the FIA to Effectiveness.
  December 2024
- Mobilised N$2.5 million to conduct three pre-feasibility studies.
  Oct 2023
- Mobilized N$50 million to launch a wind resource measurement campaign.
  December 2023
- Allocated N$10 million to youth-owned agencies for implementation of a green hydrogen communication strategy and plan.
  May 2025
- N$2.082 billion has already been invested in the projects to date.
  Since inception of projects
- Commissioned a N$3.6 million study on best practices for common-user infrastructure.
  Dec 2024

1

The Guiding Policy and Legislative Frameworks

The following are guiding policy frameworks for the development of this new industry:

The Namibian Constitution:	The supreme law of Namibia creating a foundation of observance of human rights, principles of sustainability, protection of the Namibian People and the environment in exploitation of natural resources, and the advancement of the Namibian people.
Vision 2030:	Sets out Namibia's aspirations to become an industrialised nation.
The Harambee Prosperity Plan II:	Prioritises the green and blue economy as growth enablers, while identifying green hydrogen and its derivatives as key strategic bets.
The SWAPO Manifesto Implementation Plan	Sets out the Party's priority actions over the next five years, translating its vision of Solidarity, Freedom, and Justice into clear, measurable commitments to improve the lives of Namibians and align with National Development Plan 6.
National Development Plans	Set clear, medium-term strategies to transform Vision 2030 into reality by prioritizing sustainable economic growth, inclusive social development, infrastructure expansion, and effective governance.

2

Update on the Implementation of Strategic Actions and Goals

2.1 Head of Programme Business Unit

2.1.1 National Advocacy, Communications and Visibility

Recognising green hydrogen as an emerging sector, the Namibia Green Hydrogen Programme (NGH2P) is implementing targeted communication initiatives to build public awareness and understanding. Activities include radio talk shows, television documentaries, billboard campaigns, social media outreach, academic discussions at higher education institutions, and direct community engagement. These efforts aim to ensure Namibians are informed and prepared to participate in opportunities within the sector.

NGH2P has allocated nearly N$10 million to various youth-owned agencies to participate in implementing a green hydrogen communication strategy and plan. This work covers visual design, documentary production, billboards, public relations, media advertising, and event management, supporting youth entrepreneurship and skills development in the creative sector.

As a result, public perception of green hydrogen has shifted measurably, with awareness and understanding of the sector improving over the past eight months.

2.2 Policy, Planning and Strategy Business Unit

The Policy, Planning and Strategy Business Unit's key focus areas include identifying and developing (or recommending for development) relevant policy frameworks that support green hydrogen development and industrialisation. The Unit is also responsible for developing and refining strategic plans for the Namibia Green Hydrogen Programme to ensure alignment with national priorities and international best practices. This is achieved through translating strategic objectives into actionable work plans with clear timelines and responsibilities. To this end, a 3-year strategic work plan and accompanying budget was developed and approved in May 2024.

The Unit plays a central role in the execution of this strategic plan through monitoring, evaluating and adapting the strategic plan to ensure timely and effective implementation of the Namibia Green Hydrogen and Derivatives Strategy and Namibia's Green Industrialisation Blueprint, both of which were designed to advance Namibia's industrialisation agenda. There is clear alignment between the strategy, the blueprint and the SWAPO Party Manifesto Implementation Plan (SMIP), as they all emphasise the need for industrialisation, value addition and the creation of new economic sectors.

Other than policy and strategy development, the following are key areas of focus and achievements by the Business Unit that directly contribute to the realisation of SMIP and the forthcoming National Development Plan 6.

2.2.1 Establishment of the National Task Force for the development of the SDSP

With the support of the World Bank, work on the development of a comprehensive Skills Development Strategy and Plan (SDSP) commenced in August 2024. The purpose of the SDSP is to support growth and decent employment creation in green hydrogen, its derivatives and other priority sectors which have the potential to increase exports and to contribute to economic diversification. The SDSP will identify existing labour supply and potential skills gaps to match the projected skills demand within the Green Hydrogen and derivatives industry in the country.

The first phase of the SDSP was to conduct stakeholder mapping and ensure a common understanding among key stakeholders of all the key building blocks of the SDSP. This first phase relied on existing data and literature, complemented with stakeholder consultations. The first phase culminated in the development and finalisation of Terms of Reference for a National Task Force on Education, Skills and Research for Green Hydrogen and its Derivatives. The National Task Force shall be responsible for the strategic facilitation, monitoring, and coordination of the SDSP for the green hydrogen and derivatives sector. The picture below was taken at the inaugural National Task Force meeting that took place on 18 March 2025.

The National Task Force comprises of representation from various key stakeholders such as the Ministry of Education, Innovation, Youth, Sport, Arts and Culture, the Namibia Training Authority (appointed as Deputy Chairperson), the Namibia Qualifications Authority, the National Council for Higher Education, the National Commission on Research Science and Technology, NUST and UNAM. The National Task Force is private sector-led and, as such, has representation from green hydrogen project developers, specifically members of the Namibia Green Hydrogen Association, as well as representation from the Namibia Employers Federation and the Construction Industry Federation. The National Task Force is chaired by Dr. Grant Muller, who is also the chairperson of the Namibia Green Hydrogen Association. The development of the Skills Development Strategy is expected to be concluded by the end of Quarter 3, 2025.

2.2.2 Skills Development and Youth Empowerment

Through the Youth for Green Hydrogen Scholarship Programme, funded under the Joint Communiqué of Intent with the German government, scholarships have been awarded to Namibian youth, ensuring inclusive participation in the green hydrogen economy. To date, a total of 183 scholarships have been awarded to Namibian youth studying programmes relevant to the green transition, both at a TVET level (90 students) as well as at university level (93 students). An additional EUR 1.3 million has also been allocated to special capacity building programmes targeting the Hardap and ǁKaras regions, dedicated to youth development initiatives (TVET training). Implementation modalities are being finalised, with training anticipated to commence second quarter of 2025. Other Interim initiatives have been implemented, including the following:

- Soliciting funding to support Skills Development (Global Gateway Facility and CIF: IDP).
- Working with UNDP and other stakeholders to conceptualise/establish a Centre of Excellence for skills development.
- Establishing an MoU with the Namibia Training Authority to train Namibians in Green Hydrogen-related TVET fields.

Given the nascent nature of the sector, research and development are key components to support capacity development. To this end, funding has also been secured for the Namibia Green Hydrogen Research Institute (NGHRI). The NGHRI was established to serve as a national research and capacity-building hub that will conduct local research and development, provide innovative solutions, upskill and reskill Namibians and develop local businesses across the green hydrogen value chain. It is being hosted by the University of Namibia (UNAM). Funding amounting to approximately EUR2 million has been allocated to aid the full operationalisation of the NGHRI.

The funding will specifically support the advancement of safety and sustainability in Green Hydrogen technologies. The intention is to build research and development capabilities in Namibia on topics such as materials compatibility, safety, upscaling of testing, innovative welding procedures and electrolysis technology. The project also covers capacity building and will provide career opportunities to post-doctoral students, doctoral students and technicians emerging from the group of University and TVET students supported as part of the Youth for Green Hydrogen Scholarships.

2.2.3 Economic Growth and Job Creation

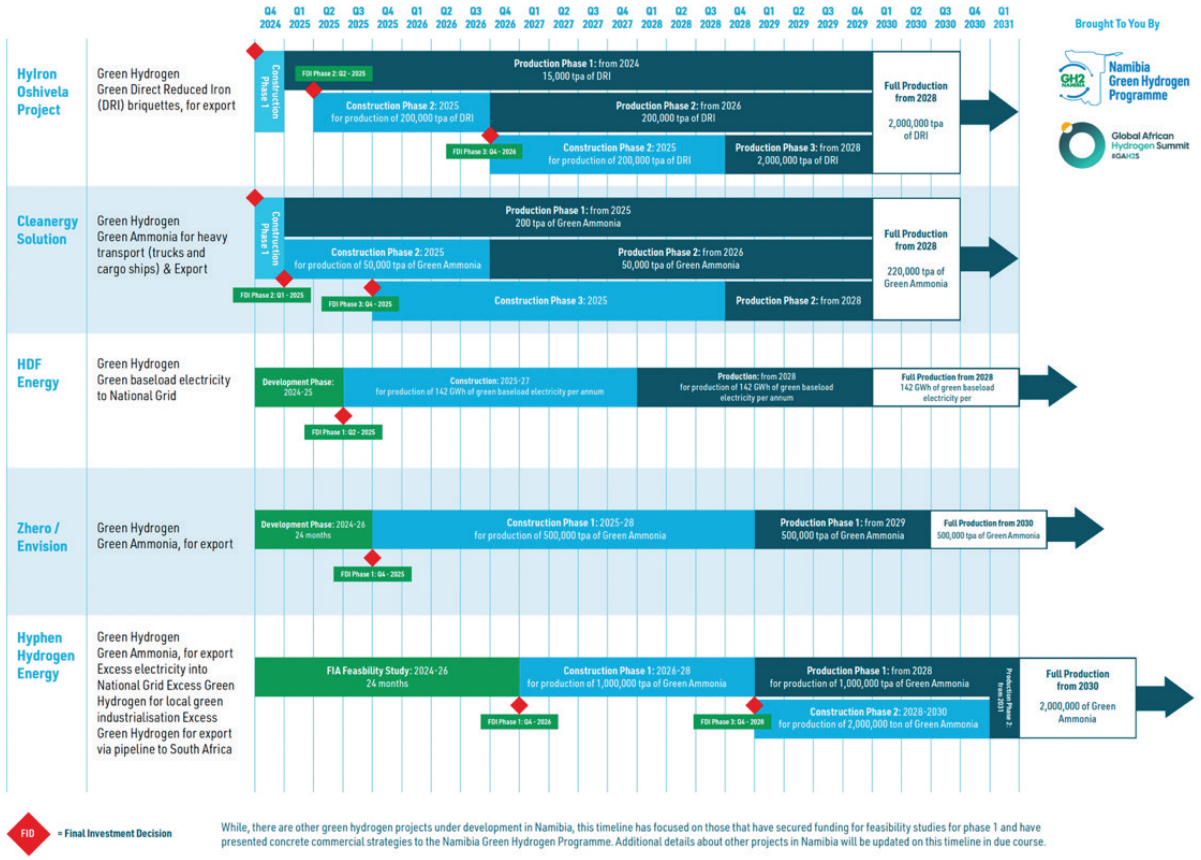
Enterprise and Supplier Development is a key lever to positively contribute to the socio-economic development of the country. To this end, the NGH2P seeks to establish a comprehensive Enterprise and Supplier Development Framework that will aid local MSMEs to benefit from this new industry. With the support of the World Bank, this work will commence during quarter two of 2025. This work will be carried out in partnership with the NIPDB and other key stakeholders.

2.3 Technical And Construction Business Unit

The milestones outlined below demonstrate the NGH2P's commitment to translating Namibia's green industrialisation potential into tangible economic opportunities.

2.3.1 Green Hydrogen Projects in Namibia

Namibia is transitioning from conceptualising green industries to launching and operating projects. Up to quarter one of 2025, the Green Hydrogen sector has attracted investment worth N$2.082 billion has already been invested in the projects to date. Namibia's green hydrogen sector is already delivering meaningful employment outcomes. To date, more than eight hundred (800) Namibians have been employed across pilot and early-stage projects, while approximately N$170 million has been channelled toward local SMEs. On March 12, 2025, Hyiron-Oshivela's project in Erongo Region became the first in Namibia and sub-Saharan Africa to produce green hydrogen. Its 12 MW electrolyser, the largest in the southern hemisphere, is now in production, enabling zero-emission iron production for value-added export. Supported by the government through NGH2P, this milestone advances Namibia's green industrialisation goals. Namibia's green industries sector is experiencing rapid growth, with several transformative projects.



2.3.2 Pre-Pre-Feasibility Studies

The NGH2P has successfully mobilised N$2.5 million to conduct three pre-feasibility studies. These studies have now been completed, and NGH2P is currently developing a framework to operationalise their outcomes.

- **Neckartal Dam Fertiliser Green Scheme Feasibility study** – The study confirmed that establishing a competitive ammonia and fertiliser production plant near Neckartal Dam aligns with its original agricultural purpose. Local production would reduce fertiliser imports, enhance food security, and support agricultural exports.

  Agriculture is one of the key priority areas of the current administration, aligning with activities that the green hydrogen sector has been advancing. For example, the Daures Green Hydrogen Village pilot, which is now 100% complete, has secured additional funding to produce green ammonia for fertiliser synthesis. The 15,000-hectare project aims to supply up to one-third of Namibia's fertiliser needs during its pilot phase. Supported by €13.8 million in funding, the project integrates solar, wind, water, and housing infrastructure to play a pivotal role in enhancing national food security.

- **Gigawatt-Scale Green Hydrogen Plant** – The study identified optimal sites outside the TKNP for large-scale green hydrogen production and its derivatives. These sites have the potential to support industries such as green steel manufacturing, agriculture, lithium beneficiation, and the export of green electricity within the Southern African Power Pool (SAPP), catering to local, regional, and international markets.

- **Offshore wind feasibility study** – The study found Namibia has 20–35 GW of offshore wind potential near Lüderitz, with a pilot turbine project recommended to build local expertise and technical capacity.

2.3.3 Wind Resource Measurement Campaign

The NGH2P has successfully secured N$50million in grant funding from the then German Federal Ministry of Economic Affairs and Climate Action (BMWK) and now Federal Ministry of Economic Affairs and Environment to launch a wind resource measurement campaign. Initiated in quarter one 2025, this campaign aims to assess wind resources for renewable energy within the TKNP. The primary objective is to collect precise and comprehensive wind data over a 12- to 24-month period. This data will be instrumental in ensuring that future Requests for Proposals for renewable energy and green industrialisation projects are backed by accurate, bankable wind resource data that is nationally relevant and key to the success of the forthcoming NDP 6 energy infrastructure objectives.

The NGH2P has initiated two key procurement processes in support of its national wind resource measurement campaign. An RFP has been issued inviting qualified bidders to submit proposals for a project site selection study. This study will identify and assess optimal locations for the deployment of met masts, taking into consideration technical, environmental, and logistical criteria. Concurrently, an RFQ has been released for the design, supply, and delivery of met mast equipment. Interested suppliers are invited to submit quotations that meet the technical specifications required for high-quality, reliable data collection in support of Namibia's wind resource assessment efforts.

2.3.4 Infrastructure Development

Common User Infrastructure Best Practice

The NGH2P has secured N$3.6 million in funding from the then BMWK to commission a study on best practices for the development and operation of common-user infrastructure. This includes pipelines, desalination plants, rail, roads, and port infrastructure to provide strategic guidance to the Namibian Government and key parastatals such as NamPower, NamWater, NamPort, and TransNamib in supporting and collaborating on Namibia's emerging green industrialisation industry. The study will be concluded by the end of June 2025.

Namibia-South Africa Pipeline Study

A cross-border hydrogen pipeline pre-feasibility study covering the Western and Northern Cape in South Africa and southern Namibia was completed in December 2024. The study confirms that linking hydrogen hubs in Lüderitz, Boegoebaai, and Saldanha Bay, extending to Gauteng via an eastern corridor, presents a significant opportunity for a resilient hydrogen infrastructure in Southern Africa. This system is pivotal for sustainable energy, socio-economic growth, and advancing Namibia and South Africa's net-zero goals while positioning both countries as key players in the global hydrogen market. A conceptual master plan for the pipeline infrastructure is scheduled between mid-2025 and mid-2026, with an estimated budget of N$30 million. A significant portion will be funded by Climate Fund Managers and Gasunie (Netherlands), with additional support from the EU. The government of the Western Cape and the Erongo Region are finalising a twinning agreement, with an implementation plan that prioritises Green Hydrogen collaboration.

Green Shipping Corridors

Namibia is emerging as a crucial gateway for trade within Sub-Saharan Africa, with its two existing ports, the Port of Walvis Bay and the Port of Lüderitz, being developed to increase their readiness for alternative fuel handling. NamPort has formalised its commitment to advancing green ammonia exports through Memoranda of Understanding (MoUs) with the Port of Rotterdam and the Port of Antwerp-Bruges. These agreements focus on:

- Seaport development at Angra Point in Lüderitz
- Seaport expansion and upgrades of North Port at the Port of Walvis Bay

Additionally, the Port of Rotterdam works very closely with the NGH2P to provide technical advisory support in terms of infrastructure planning to shape a technical, regulatory and operational environment conducive for green industrialisation ambitions of Namibia. The NGH2P has mobilised funding from GIZ to collaborate with Namibia's Maritime Directorate at the Ministry of Works and Transport on a National Action Plan for Maritime Decarbonisation. This plan will include key components such as a Green Ammonia Bunkering Hub and upgraded port infrastructure, aligning with the objectives of the forthcoming NDP6 on port infrastructure development. The Terms of Reference for the appointment of a consultant to lead the development of the NAP will be launched in July 2025, while the inaugural meeting of the Task Team is scheduled for early August 2025.

2.4 Legal Business Unit

The Legal business unit within the NGH2P provides legal support through legal advisory, legal risk, contract risk and compliance risk management, legal advisory services and developing, for GRN, a proposal of a fit-for-purpose sectoral legislation for the green hydrogen and derivatives industry. The Legal Unit is further mandated to facilitate the implementation of the Feasibility and Implementation Agreement (FIA) between GRN and Hyphen Hydrogen Energy (Pty) Ltd. In essence, the Legal Unit facilitates, through identification of GRN obligations and allocation of identified obligations, notifies GRN of its obligations.

The following key tangible achievements are outlined below:

The following key achievements and additional action items can be noted:

Facilitating policy formulation and legislative development:	**a.** Formulating national policy: The Legal Unit embarked on a process of national policy formulation that will ultimately inform GRN policy and strategic direction on an enabling institutional and legislative framework that will ensure sustainable development and implementation of industry in a manner that that is safe handling of green hydrogen and derivatives, protects the environment, promotes socio-economic development, enhances economic diversification, contributes toward economic development and ensures safety and protection of workers. The Legal Unit has finalised the draft National Policy on Green Hydrogen and Derivatives, which was subsequently submitted to the Executive Director of MIME and the Directorate: Energy in April 2025. **b.** Legislative development: The Legal unit, in collaboration with the MIME, has commenced the procurement process of procuring legislative drafting services. Whilst policy informs law, and the Cabinet considers the national draft policy, the drafting of legislation will commence and be supplemented by any additional comments that may arise from Cabinet discussions of the draft National Policy. Thereafter, country-wide consultations on the policy and draft legislation will be undertaken.
Facilitation of necessary interim regulatory measures	A process of identifying regulations under existing legislation to enact in the interim has commenced and is ongoing. Policy and legislative development within the green hydrogen and derivatives space ensure that a conducive investment environment is created, aimed at sustainable development.
General Legal matters	The Legal unit has recently been joined by a legal advisor, upholding our goal of capacity building, upskilling and skills transfer within the NGH2P and the green hydrogen space. The Legal business unit remains the main legal support arm of the NGH2P and deals with various legally related issues. The Legal unit provided support services that range from reviewing various donor agreements, procurement contracts and strategic partnership instruments (reviewing establishing and operational instruments, Memoranda of Understanding, Letters of Intent, Joint Declarations of Intent, and so forth). The Legal unit also continuously provides advice on legislation, terms of agreements and contracts, and processes and procedures impacting the operations of the NGH2P.

Facilitating the implementation of the FIA	The FIA specifies certain legal obligations and commitments for GRN at a certain point in time. During April 2024, the Legal unit assisted NGH2P in sensitising various executive directors and other representatives of OMAs on various government risk events outlined in the FIA. From February 2024 to December 2024, the NGH2P has facilitated GRN compliance with FIA conditions precedent and brought the FIA to effectiveness. This has unlocked GRN's potential to receive 12 million Euros during the feasibility period (06 December 2024 to December 2026).
CUI Regulatory Measures	The Legal Unit is currently assessing the existing national ownership and governance model and requirements of use to determine the suitability of similar models and requirements of use in the green hydrogen sector. This exercise is aimed at determining the most suitable ownership and governance model and determining the requirements of use. Over the past three months, the FIA-related CUI model and Global best practices have been reviewed.
Fiscal Regime and Incentives	The Legal Unit plays a support role in the development of the most suitable fiscal incentives and regime for the green hydrogen industry. The Transaction and Investment Unit is mandated to develop a proposed Fiscal Regime and incentives for the green hydrogen industry. In this support role, the Legal unit assesses the proposed fiscal regime and incentives currently being developed.

2.5 Transactions Business Unit

The Transactions unit at the Namibia Green Hydrogen Programme supports the derisking of the commercial and investment environment for the green hydrogen and thus green industrialisation sectors, identified as supportive pillars as per National Development Plans.

Key areas of focus, including updated status, consist of the following:

1. Continue to create a clear and concise investment environment for the green hydrogen and derivatives sector, supporting SMIP's vision for a new industrial hub and, through the establishment of a globally competitive fiscal regime, balanced with the consideration of fiscal contributions to GRN income. This has been largely established in partnership with the Ministry of Finance's Economic Policy Department. Supporting a reduction in capital costs for developers, including the green industrial players conducting mineral beneficiation, SMIP economic enabler 1, through tariff and import VAT exemptions, as well as relaxations to NAD currency accounts.

2. To facilitate the creation of green industrialisation/mineral beneficiation hubs in Namibia, in which a critical success factor would be to achieve value addition for key minerals in addition to providing access to beneficiation hubs for neighbouring countries, various infrastructure is to be upgraded or regionally integrated, including ports, rail, desalination plants, electrical grids and energy sources. Engagements with various capital providers are underway, including development finance institutions, to ensure the best packages are selected. Advanced talks are underway with the European Investment Bank for a EUR500 million facility at 3.5% interest, with a five-year grace period. Earlier this year, the programme, in partnership with the Ministry of Finance, submitted a proposal to the Climate Investment Funds' Industry Decarbonization Program (CIF IDP) – a low-cost

facility averaging 1% in USD – under the Clean Technology Fund for a value between USD50-250 million to support Namibia's green industrialisation agenda. This facility has since been awarded, with the next phase, ongoing, the detailed project pipeline stage for funding of suitable public and private projects. This funding will attract a 3:1 ratio from other development funding institutions, crowding in capital. Moreover, the unit is positioned to support commercial departments at the State-Owned Enterprises in considering the optimal financial structures for complex cross-country infrastructure connectivity, including, for example, rail connecting neighbouring regions to Namibian Ports, border infrastructure upgrading and future industrial hubs. Moreover, facilitating access to low-cost export credit financing is underway, whilst pairing the opportunity with the participation of international developers or offtake agreements to support the expansion of local industrial hubs and local knowledge transfer.

3. The unit for two facilities via the United Nations which will unlock funding for the technical and financial preparation of green industrial hubs in Namibia (25 million EUR Mitigation Action facility) and to support pilot projects within Namibia's green hydrogen and green industrialisation sector to find greater clarity in offtake markets, technical use cases and integrating R&D hubs within local universities and supporting skills development programs. Namibia is progressing to the second phase after being shortlisted in the top twenty-three applications.

4. The unit is supporting the technical unit with funding and commercial input for a National Maritime Action Plan in partnership with the Ministry of Works and Transport and future funders, University College London's Decarbonisation Unit. This is vital for policy certainty amid growing global shipping tariffs and to ensure Namibia remains relevant as a future Southern African maritime hub, unlocking various critical economic enablers.

5. The unit, in collaboration with the National Statistics Agency, is strengthening and further developing a social accounting matrix to consider the new industries of green hydrogen/green industrialisation and how the sectors impact economic activity and household income, with detailed indications of the impact on income groups, trade balances, skill levels and regions. This can inform policy direction to unlock Namibia as an industrialised nation, particularly in the areas of upskilling, to prepare for maximum economic and social impact.

6. Finally, the planned future RFP two for a Southern Corridor green hydrogen offering is currently on hold due to challenges in providing unencumbered land, a critical factor required for the successful implementation of a land lease and for investor certainty. Moreover, RFP three is potentially on the cards for later this year on the back of the outcomes of a CUI best practice study on Namibia, conducted by a consultant alongside the technical team.

7. In conclusion this unit continues to unlock optimal capital sources, minimise capital cost and funding structures to support the growth of a green hydrogen and industrial industry in Namibia, as well as support the funding of critical GRN infrastructure required to position Namibia as an industrial hub within the region, in line with SMIP's vision of a prosperous and industrialized nation. Through this, we aim to support the current derisking phase in which projects transition from pilot to commercial phase.

2.6 Impact, Environmental, Social and Governance (IESG) Business Unit

2.6.1 Contribution to decarbonization goals

Namibia's vulnerability to climate change cannot be overstated. While Namibia is a net carbon sink, the country has the necessary renewable endowments to decarbonise industries beyond its borders and to start new industries with clean sources of energy from the start. Namibia's development of clean technology supply chains and investments in low to net-zero-carbon business models is a unique and innovative approach to decarbonise local, regional and global hard-to-abate sectors.

Not only is Namibia's commitment to biodiversity and environmental protection explicitly stated in the Constitution, but finding a climate change-friendly, long-term, sustainable economic growth trajectory also makes commercial sense. Especially when considering emerging "carbon taxes" on imports into the EU, UK, and other markets. By 2026, the Carbon Border Adjustment Mechanism or CBAM will take effect on imports into the EU, charging tariffs for higher carbon content along the value chain of the goods. The initial product groups covered under CBAM are cement, fertiliser, electricity, hydrogen, iron & steel, and aluminium. Offering green energy and products produced or shipped with such green energy will give Namibia a competitive edge under the CBAM regime. Currently, Namibia is producing green direct reduced iron (Hyiron), will soon produce green fertiliser (Daures Green Hydrogen Village) and green ammonia (Cleanergy Solutions Namibia) with other project developers for green ammonia lined up (Zhero and Hyphen Hydrogen Energy). The UK is set to follow with a similar scheme by 2027. The EU and the UK are significant trading partners for Namibia.

2.6.2 Environmental Derisking for Green Hydrogen Sector Development

The I-ESG Business Unit, in close collaboration with the MEFT, has embarked on a Strategic Environmental and Social Assessment for the Southern Corridor Development Initiative. The SESA will assess how Green Hydrogen production and related green industrialisation, including the production of synthetic fuels, can be sustainably managed given existing and potential future economic activities in the SCDI.

The objective of the SESA is to guide the Government of Namibia towards optimal land use from both an environmental and biodiversity protection perspective and a socio-economic development view. Which economic activities will achieve the optimal outcomes from both these perspectives? Where do the thresholds lie in terms of the value key stakeholders attach to the natural environment and people's livelihoods? These are the key questions for which answers will be sought in the consultative process of the SESA, consulting various stakeholders, experts and existing studies, policies, and plans.

The SESA offers a systematic consultative framework to establish the biodiversity and socio-economic development values in each of the three green industrialisation valleys, and to identify and map sensitivities from a sustainability perspective. This strategic assessment will also look at the cumulative impacts of various activities in an area. For example, the TKNP is a multi-use park where you find active

mining, exploration for minerals, tourism, renewable energy generation, a gas-to-energy pipeline, a Gigawatt Green hydrogen facility and a 300MW wind park in the planning. For these activities, project-level Environmental and Social Impact Assessments (ESIAs) are performed, but the combined impact of these economic activities is equally important for land use planning.

The status of the TKNP as the only arid biodiversity hotspot in the world combined with multiple economic activities already taking place in this national park, the risk of project-on-project (or cumulative) negative environmental impacts, the imperative to create jobs and business opportunities for Namibians where unemployment rates are unsustainably high, provide the backdrop for this strategic assessment process. In the TKNP the opportunity to assess the feasibility of a large scale, fully integrated green ammonia facility was awarded to Hyphen Hydrogen Energy through a competitive tender process. The land parcels availed to Hyphen under the FIA are Dolphins and Springbok. Other green hydrogen and related projects may be tendered South of these parcels.

The SESA for the Central Valley is under procurement. This assessment is important to guide the Government in decision-making on green hydrogen and green industrialization in relation to common user infrastructure, such as hydrogen and/or ammonia and water pipelines, power lines, desalination plants, etc., transversing National Parks and for safeguarding the conservancies vis-à-vis the green hydrogen and green industries projects. In the Central Valley there are no green hydrogen projects on state land.

Important to note is that most international development finance institutions will insist on a SESA having been undertaken and a SESA Mitigation, Management and Monitoring Plan to be in place as part of their financial due diligence for projects located in ecologically sensitive locations. The best potential for green hydrogen projects which ideally require co-existence of strong wind and solar is along the Western coastal zone, with best winds in the TKNP, and it is in this zone where a string of national parks are located, from South to North the TKNP, Namib Naukluft, !Dorob and West Coast National Park (NP), on to the Cape Cross Reserve, and the Skeleton Coast NP. Hence, the SESAs are critical in unlocking concessional finance for the emerging green hydrogen sector where the initial success of most projects hinges on access to blended finance solutions.

For these SESA a Steering Committee chaired by MEFT and with representation from MIME, the Namibian Association for CBNRM Organisations (NACSO) and the Namibia Youth Energy Forum has been established. The SESA SCDI is expected to be completed in Q1-2026 and the SESA for the Central Valley by Q3-2026. Once funding is secured, the procurement of the SESA for the Northern Valley, an area rich in CRM needed for the energy transition, will commence immediately.

2.6.3 Social License for the new green hydrogen Sector

The development of the new green hydrogen sector, which is emerging worldwide with the necessary uncertainty and the relatively high-tech nature of this sector, has evoked scepticism and critical voices from civil society. Key questions are whether taxpayers' money is used to fund the early development of this sector, whether Namibians will benefit from jobs and local content, what environmental impacts are expected especially in the TKNP and other national parks in the coastal zone, will all green ammonia be exported and how will Namibia create more complex industries and add value to its natural resources before exports.

To date donor funding has unlocked the GH2 sector's early development. There is a clear case of additionality for this sector with close to USD125m raised from donors, as per Table 1.

Donor Funding for Green Hydrogen Sector Development since 2022
EUR3million from the Dutch Government through Invest International to finance the operations of NGH2P;
EUR4.6million from the German Federal Ministry of Economic Affairs (BMWK) through GIZ and EUR1.25 million from the EU for specific activities carried out by the NGH2P;
EUR40million and EUR25 million from the Dutch Government and EU to capitalise the development tranche of the SDG Namibia One Fund and USD10 million from USAID to operationalise the Fund;
EUR40million from the German Federal Ministry of Education and Research through SASSCAL for the development of the GH2 and Derivatives Strategy, pilot projects and scholarships;
EUR2.3million from the EU to Namibian CSOs to strengthen their role in the green energy transition;
USD141,400 from the Green Climate Fund (GCF) for feasibility studies and capacity building, and;
Legal advice to NGH2P is financed under a USD6.1million agreement between the African Legal Support Facility (ALSF) and GRN.

Table 1: Donor Funding for Green Hydrogen Sector Development since 2022

Additionality also applies to the EUR12million to be paid by Hyphen Hydrogen Energy for use of the Dolphins and Springbok land parcels in the TKNP during the feasibility phase (2024-2026). These funds will flow to the State Revenue Fund because of the collective efforts of GRN, the Green Hydrogen Council (GHC, the Joint Implementation Committee (JIC comprising the NPC Director General and the Ministers of Finance, Industry, Mines & Energy, Environment & Tourism, and the NGH2P. This EUR12million would not come into play without the green hydrogen sector. The expectation is that these funds will be allocated in full to the NGH2P to execute its mandate to further develop the green hydrogen sector, including the necessary checks and balances. The NGH2P Strategic Implementation Plan and Budget presented and approved by the JIC and shared with the GHC is based on the allocation of the EUR12million.

Benefits for communities from the development of the green hydrogen sector will include access to training, employment and business opportunities, excess water from desalination plants established for green hydrogen projects, excess power from green hydrogen projects potentially at lower unit costs rates to bring or keep down price of grid electricity, improved support infrastructure such as port development, railway upgrades, upgraded and new power transmission lines, and development of urban infrastructure in Lüderitz and Aus, and additional fiscal revenue to undertake social investments in education, health and community development.

Hyphen Hydrogen Energy has committed to a Socio-Economic Development or SED framework with commitments to local employment and procurement. The I-ESG and PPS Units are closely monitoring the studies Hyphen is undertaking to confirm initial commitments under the Feasibility Implementation Agreement (FIA), as executed between GRN and Hyphen Hydrogen Energy, of 90% local employment of which 20% youth employment during construction (est. 15,000 employees) and operational phase (est. 3,000 employees), and a 30% target for local procurement. A control study for GRN to be comfortable with the final numbers for these targets will be commissioned in Q3 of 2025.

The positive impact of ongoing green hydrogen projects on employment and SME businesses to date is highlighted in the presentation by the Technical Business Unit. A green hydrogen tracker combining financial, technical and ESG data collection to assess the impact of the emerging green hydrogen sector is in use. Fact-based information is critical to developing a responsive ecosystem.

2.6.4 ESG Compliance

The I-ESG unit seeks to ensure that the build-out of the green hydrogen sector follows the Environmental Management Act (EMA) and existing safety regulations pertaining to the production of gas and ammonia, as well as international best practice for environmental and social sustainable development. The unit has set out an ESG tracker to gauge progress at the various green hydrogen projects on the implementation of the various steps in the ESIA, licensing ECC and EMP and compliance process. This is closely consulted with the Office of the Environmental Commissioner.

It is of paramount importance to all immediate stakeholders in the green hydrogen sector, Government, including NGH2P, donors and financiers, and the private sector developers including their umbrella organization, the Namibia Green Hydrogen Association (NamGHA), that this new industry has an impeccable ESG track record to protect the "greenness" of the industry. There is little value in producing "green energy" while polluting soil or water sources, competing for scarce water resources, or not following fair labour practices, etc. The newly recruited Senior Environmental Officer at the NGH2P, who is a registered ESIA practitioner, will be visiting the GH2 projects in Q2 of 2025 to establish a good rapport on ESG reporting and compliance. In addition, the unit will be introducing an ESG Policy in quarter two of 2025 to hold the NGH2P and its immediate stakeholders accountable to safeguard sustainable development. The contribution by GRN to the NGH2P, financed from the lease agreement payments by Hyphen under the FIA of EUR12 million, is budgeted to include support for the Office of the Environmental Commissioner for monitoring and evaluation capacity.

To formalise the ESG aspects for sector and Programme oversight, a draft ESG Policy is under review with the aim to finalise by Q3 of 2025. The I-ESG Business Unit, supported by the Legal business unit, further provides oversight on good governance for the programme to ensure proper decision making; financial, procurement, risk and performance management; timely audits; record keeping, etc. The I-ESG Business Unit is closely involved in grant and donor relationship management.

2.7 Programme Management

The PMO tracks project and programme activities and contributes to the performance of the strategic objective of NGH2P. The programme activities of the NGH2P are guided by the action plan of the Namibia Green Hydrogen and Derivatives Strategy and the Green Industrialisation Blueprint, aligned to the National Development Plans, Vision 2030.

2.7.1 Current Project Status

A total of 21 projects are currently being monitored, each at various stages of implementation. Of these, 9 projects have been completed, 10 are ongoing, and 2 are on hold. Table 2 provides an overview of the status of the GH2 projects.

Ref	Activity	Planned	Actual	Variance	Status
1	Develop Office	100	100	0	Completed
2	Monitoring of Implementation of the Green Industrialisation Agenda	20	3	-17	Active
3	Feasibility study by MMM Centre for Zero Carbon Shipping	100	100	0	Completed
4	Government Legislative Review (including Policy)	56	58	-2	Active
5	Education and Research	100	100	0	Completed
6	Education and Research Phase 2	71	40	-31	Active
7	Hyphen	37	13	-24	Active
8	Dâures Green Hydrogen Village	100	99	-1	Active
9	Cleanergy	100	90	-10	Active
10	HDF Energy	80	12	-68	Active
11	Central Valley Feasibility	100	100	0	Completed
12	Market Sounding (RFP 2&3)	100	100	0	Completed
13	Hylron	100	100	0	Completed
14	NAM-RS-005: Capacity Building	65	47	-18	Active
15	NAM-RS-005: Prefeasibility Studies	100	100	0	Completed
16	CUI Global Best Practice Analysis	100	96	4	Active
17	SESA: Strategic Environmental and Social Assessment Southern Valley	72	66	-6	Active
18	Wind Met Mast Campaign	15	13	-2	Active
19	NAM-SA Pipeline Study: Pre-Feasibility	100	100	0	Completed
20	Fiscal Regime Simulation Support	100	100	0	Completed
21	Hyrail				On Hold
22	SESA Central Valley	19	4	-15	Active
23	Tax/fiscal legislation analysis and review	17	75	58	Active
24	Green Industrialisation Fund Prep - (Asset Economics Analysis is first step)	19	22	3	On hold

Table 2: Current Project Status

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Looking Ahead

The year 2025 is proving to be a seminal year in Namibia's broader green industrialisation journey. Key projects such as Hylron and Cleanergy will be looking to take multibillion-dollar final investment decisions this year. The Namibian Government and the Namibian Green Hydrogen Programme will be looking to complement these private sector efforts by mobilising catalytic concessional financing that will help reduce the cost of capital for the whole ecosystem in the country. Concurrently, the Government will start crafting the enabling legislation and amass a portfolio of incentives that should give the industry a real impetus for commercial take-off. In a nutshell, 2025 is the year the industry could lay the real foundation for attaining escape velocity, departing the realms of piloting and entering the era of commercial scale, with local and international customers signing on to buy green products from Namibia.

All this progress will be showcased on many international platforms such as the Tokyo International Conference for African Development, the Global Maritime Forum and the 30th Conference of the Parties. Domestically, the Global African Hydrogen Summit in September, Windhoek, will provide a fantastic platform.

Lastly, the Programme holds the ambition to transition from a donor-funded organisation to one that will become self-sufficient. Through its partnerships with key local and international players, and under the mentorship of the Namibian Government, we aim to form a continental centre of excellence that will focus on sharing the lessons from our Namibian efforts with fellow African nations and, where possible, mobilise capital to champion green industrialisation continent-wide. We plan on embarking on this journey in earnest in 2025.

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The global race to decarbonize industry has begun, and emerging markets are out front. Decarbonizing Industry is about more than emissions - it's about securing long-term prosperity and the jobs of tomorrow.

Tariye Gbadegesin

Chief Executive Officer, Climate Investment Fund

Namibia
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Republic of Namibia

Namibia's Green Hydrogen Mid-Year Review 2025

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