

# Tsau //Khaeb National Park (Hyphen SCDI) Project






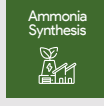




Namibia is one of the top-five locations globally that is blessed with collocated wind and solar resources, near to sea and land export routes. The development of green hydrogen has therefore been identified as an essential industry to drive economic growth and assist Namibia and the world in achieving global decarbonisation goals.

This strategy was adopted in Namibia’s national growth and economic plan, the Harambee Prosperity Plan II, and the Southern Corridor Development Initiative (SCDI) was conceived by Government for Namibia’s first gigawatt scale fully vertically integrated green hydrogen project.

Under a competitive tender process, ~4,000mk2 of land in the Tsau//Khaeb National Park was allocated for the first projects, attracting bids from international and regional developers. The SCDI, comprising of ~26,000mk2, has the potential to produce up to 3 million tons per annum of green hydrogen. Namibia was assisted in the adjudication of bids to develop the first project by NREL, a national laboratory of the U.S. Department of Energy and two experts appointed by the European Union Global Technical Assistance Facility on Sustainable Energy. Following the adjudication process and ratification by the Green Hydrogen Council and Cabinet, Hyphen Hydrogen Energy (Hyphen) was selected as the preferred bidder for the first project in November 2021.

The Hyphen project, with an estimated investment of US\$9.4 billion, which will be entirely financed by Hyphen, will at full scale produce ~300 000 tons of green hydrogen for regional and global markets before the end of the decade, with first production in 2026. This first project will act as a catalyst for the rapid scale up of green hydrogen production in the SCDI by establishing the legal and regulatory framework for the industry and the master plan to realise the SCDI’s production potential, with Hyphen building out the first components of the common use infrastructure to be used by subsequent projects.

Below are some of the Key Project components and phases:

	Renewable Energy	Water Supply & Electrolysis	Ammonia Synthesis	Export & End uses
Value Chain	 Solar   Wind	 Water Desalination   Hydrogen Electrolysis	 Nitrogen DAC   Ammonia Synthesis	 SADC NH3   Export NH3   Industrial Chemicals   Agricultural Chemicals
Process		$2H_2O \rightarrow 2H_2 + O_2$	$N_2 + 3H_2 \rightarrow 2NH_3$	$NH_2 + HNO_3 \rightarrow NH_4NO_3$ $NH_3 + CO_2 + H_2O \rightarrow NH_4HCO_3$ $2NH_3 + CO_2 + H_2O \rightarrow CH_4H_2O$
Phase One	Wind = 1,200MW Solar = 800 MW Transmission = ~80KMs	Water = ~1,4m t/p.a. Electrolysis = 840 MW (120,000 tons H2 p.a.)	Ammonia = 700,000 t/p.a.	Domestic (SADC) = (TBC) International = (TBC)
Phase Two	Wind = 1,800 MW Solar = 1,200 MW (SGW RE cumulative)	Water = ~3,4m t/p.a. Electrolysis = 1,200 MW (300,000 tons H2 p.a. cumulative)	Ammonia = 1,700,000 t/p.a. (cumulative)	Domestic (SADC) = (TBC) International = (TBC)



## Proposed Hyphen Wind and Solar Generation

### Key Proposal Highlights



#### 5GW of renewable capacity by 2030

2GW commissioned by Jan 2027 and balance before end of the decade



#### N\$100,000,000 land rental per year

Annual land rentals to be paid during feasibility study period



#### 30% SMEs and local companies

Commitment by Hyphen to local content with audits of local skills and capabilities ongoing



#### 15,000 full-time construction employees

Number of jobs created during the 4-year construction period



#### 20% of youth participation

Commitment by Hyphen. Skills development and bursary programs already underway



#### 90% Namibian employees

Hyphen commitment for the percentage of local Namibian workforce during construction and operations



#### N\$152,000 CTC average wage

Average CTC for Hyphen workforce to ensure reduced inequality



#### Royalties, Government ownership participation and taxes

Government to be the economic partner in the project receiving these benefits directly or through the sovereign wealth fund



#### N\$330,000,000 land rentals per year

Annual land rentals to be paid during 40-year operations period



#### Feasibility Period 2-years

Duration to complete the feasibility study for the project once Implementation Agreement concluded between Hyphen and Government