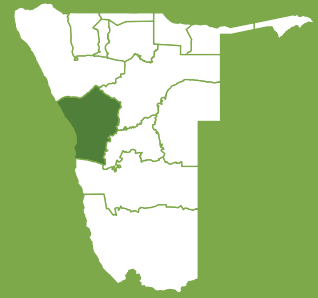


# Project 3

Project Name	Daures Green Village
Location	Erongo Region, Daures Constituency about 20km from Uis and 234km from Swakopmund
Project Size	Pilot phase producing 500kg of Anhydrous Ammonia per day. Subsequent phases with 350,000 tons of ammonia production per year
Project Value	15,1 million EURO (Phase 1)
Project Partners	Enersense Energy Namibia, Windwise, University of Stuttgart, NGHRI (UNAM) and various other providers



## Project Overview

This project intends to develop Africa's first Green Village that profiles Hydrogen use cases and interrogates the feasibility of the village on a semi-industrial scale. The project will be executed in a phased approach as follows:

- Phase 1 and 2:** Focusing proof of concept of production of green hydrogen and Anhydrous Ammonia as an efficient and widely used source of nitrogen fertilizer in agricultural green schemes.
- Phase 3 and 4:** Will focus on providing an industrial level production for local consumption and international export

The project will be based in the Daures Constituency in Uis in the Erongo region, where more than 30,000 hectares of land has been availed. Uis as a settlement provides significant opportunity for green hydrogen and green ammonia use. The presence of the Uis tin mine provides a potential commercial aspect and mining-industry decarbonization use case.

The Daure Green Village will be a first step to a larger Namibian research centre. The consortium commits that this project will ensure skill transfer and the development of a Namibian hydrogen value chain, both locally and internationally. The project consists of a Module 1 and 2 components.

**Module 1** will realize the production of green hydrogen and anhydrous ammonia (NH<sub>3</sub>) with various use cases, particularly focusing on the following:

- Sustainable production of green hydrogen based on renewable energies,
- Establish a green scheme program to be used by the local community making use of ammonia-based fertilizer
- Storage and transport of green hydrogen and green ammonia
- Integrated application technologies for the utilization of green hydrogen in agriculture, ammonia nitrate and cleaning detergents
- 5 no. 2.5 ha Center pivots powered by solar and Fuel Cells
- 15 no. 2 bedroom houses powered by solar and Fuel Cells
- Training center and warehousing powered by solar and Fuel Cells
- Solar and Fuel cell powered boreholes
- Complete off grid green Village
- Other site equipment powered by fuel cells
-

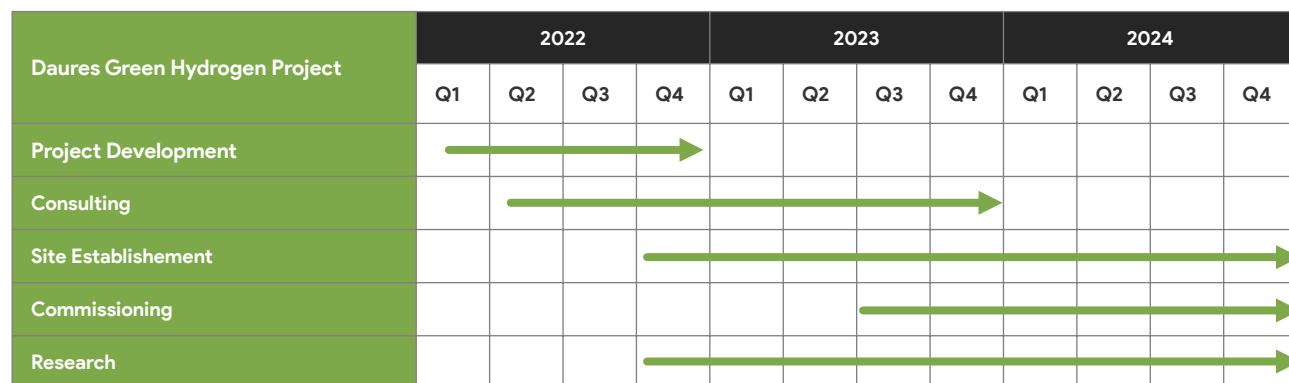
**Module 2** will ensure the following developments, to ensure capacity building through education and research:

1. Research and collaboration on ammonia plant assembly
2. Research into fuel cell technology and multi-use-cases
3. Ammonia transportation with options to export to Zambia or Zimbabwe
4. Pilot use of Anhydrous Ammonia for Green Schemes in Namibia
5. Conversion of 2 no. Agriculture Tractors to Ammonia generator or Fuel cell tractors
6. Conversion of 10 no. 5kva Generators to Ammonia generators

## Current Stage

- Solar energy yield assessment has been completed by Solargis (Direct Normal Irradiation of 2902) Long-term average yearly values calculated from time series (TS) representing 28 complete calendar years (1994-2021):
- wind energy yield assessment commissioned by GeoNet.
- EIA screening report completed with formal EIA to commence in August 2022.

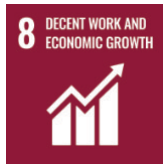
## Development Timeline



## Impact

Estimate no. of jobs	Pilot phase one will provide 20 to 30 jobs
No. of university interns	10 for 2 years
Unique Value	<ul style="list-style-type: none"> <li>• Production of green hydrogen and Anhydrous ammonia (NH3)</li> <li>• Unlocking community-based agriculture with green hydrogen and ammonia</li> <li>• Potential for industrial level of green hydrogen and ammonia production</li> </ul>

## Sustainable Development Goals (SDGs)



## Contact Details

Daures Green Hydrogen Consortium

Mr. Elton Katangolo / Dr. Zivayi Chiguvare

Website: [www.daures.green](http://www.daures.green)

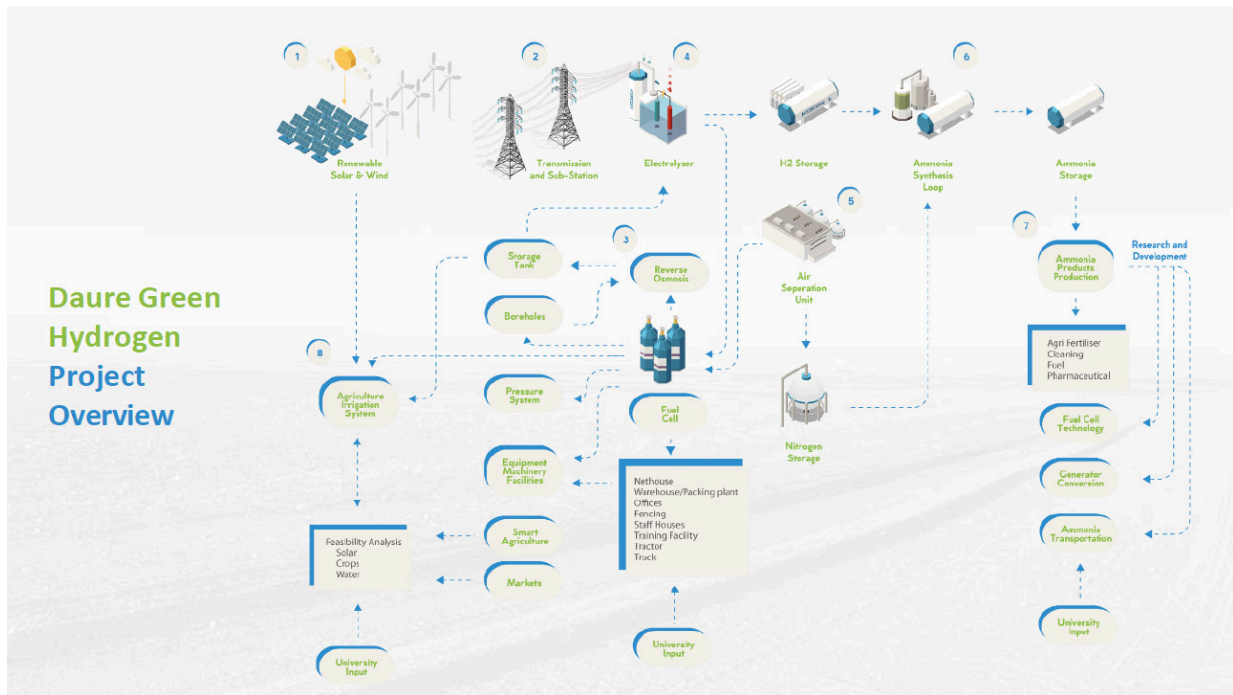
Email: [elton@daures.green](mailto:elton@daures.green) / [info@daures.green](mailto:info@daures.green) / [research@daures.green](mailto:research@daures.green)

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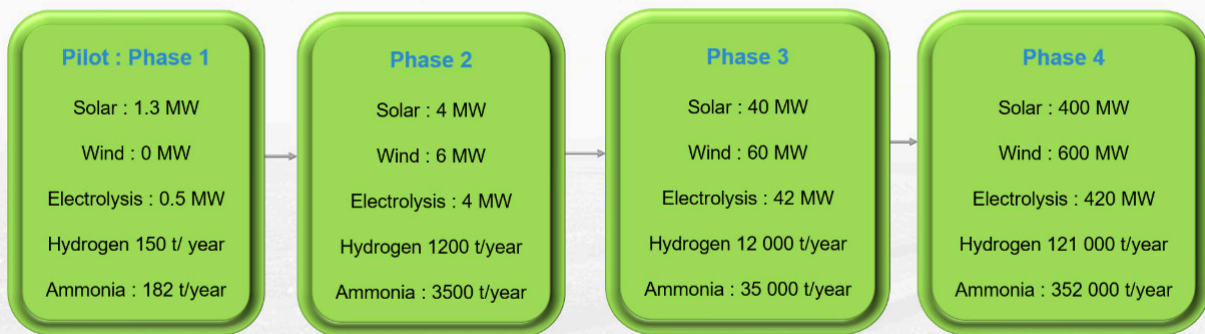
## Project Pictures



## Project Pictures

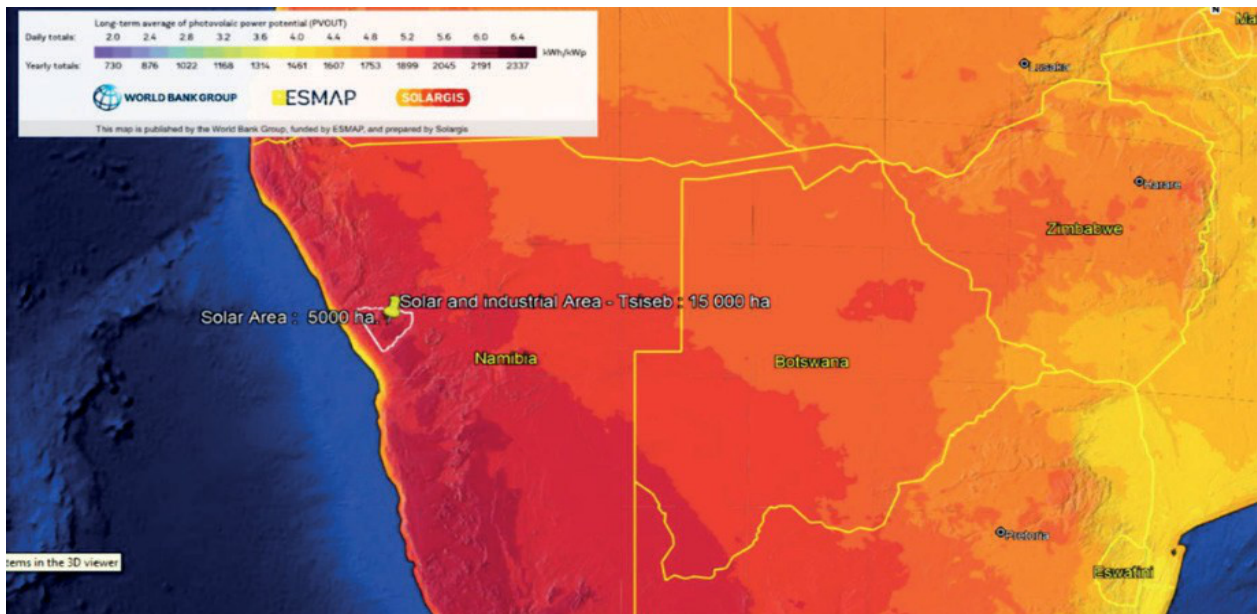
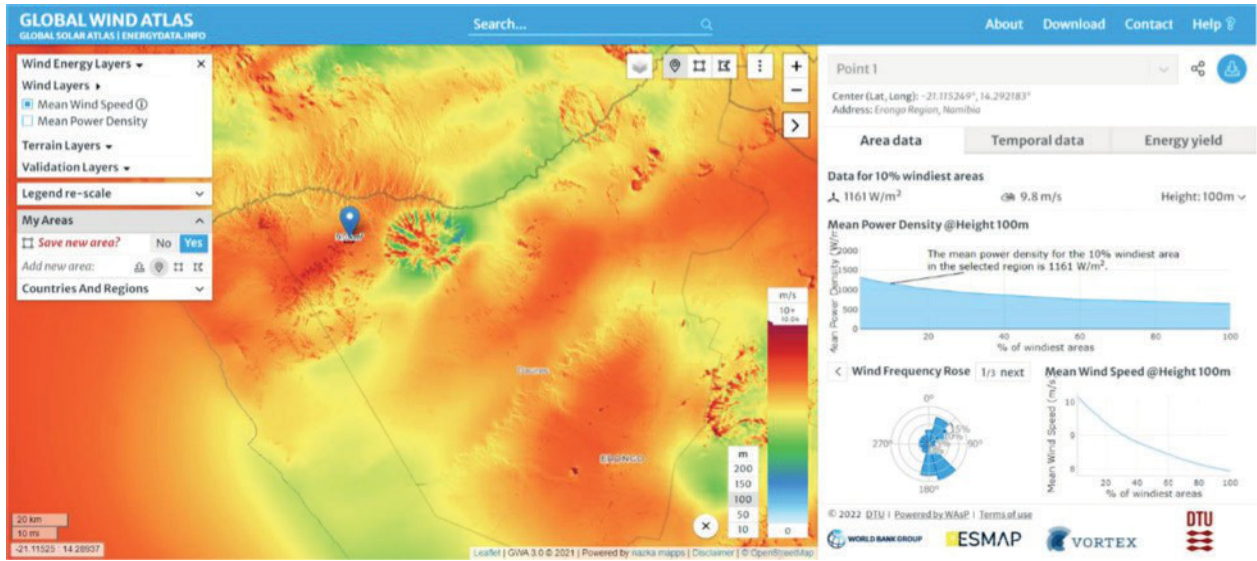


## Daure Green Hydrogen Project Phasing



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# Project Pictures



## Project Pictures

