

# Agenda

1. Introduction

2. Skills development

3. Proposition

4. Conclusion and recommendation

## Introduction - Meet the YPP Team



**Roos Verouden**  
SUSTAINABILITY REPORTING  
STRATEGIST AT NN GROUP



**Kaitlin Giuglianotti**  
PROGRAM MANAGER  
AT THAKI



**Mabel Dortmans**  
SUSTAINABILITY CONSULTANT  
AT KPMG NEDERLAND



**Nicolai Lindbüchl**  
JUNIOR MANAGER IN  
DECARBONISATION AT DELOITTE



**Josien Beijer**  
JUNIOR MANAGER ESG & INTERNAL  
CONTROL AT DELOITTE



**Rani Krisnamurthi**  
GLOBAL PRODUCT MARKETING  
MANAGER AT ASPEN API



**Christina van Hapert**  
SUSTAINABILITY COORDINATOR  
AT RICHEMONT



**Willem Lijnders**  
ASSOCIATE, RESOURCE  
MOBILIZATION AT FMO



**Poorvi Shukla**  
CREDIT MODEL CONSULTANT  
AT RABOBANK



**Jan van den Herik**  
EXECUTIVE TEAM COACH AND  
PROGRAM DIRECTOR

# Introduction - Our approach

The YYP worked in 3 phases and wrote a report based on desk research and interviews with experts within the Hydrogen field

## Phase 1

### Understanding the hydrogen transition

In phase 1, we conducted desk research and interviews to answer the following sub-questions:

- What trends and developments are visible in the global green hydrogen transition?
- What does the green hydrogen value chain look like and what are the key target groups in this value chain?
- What is the current basis of knowledge in South Africa, Namibia and Morocco?
- How can we safeguard a fair and just transition in line with the SDGs?

## Phase 2

### Skills development for Hydrogen

In phase 2, we conducted (group) interviews on national and international skills development, to answer:

- What knowledge gaps and obstacles exist in the value chain in Namibia, South Africa, and Morocco to build out the green hydrogen economy?
- What skills programs are currently available in other EU countries? To what extent is the Dutch offer in line with this?
- In what ways can The Netherlands draw attention to its offering?

## Phase 3

### 'Make Hydrogen Work' offering

In phase 3, we conducted workshops (with sounding board and knowledge institutions), to answer:

- How can we make the Dutch offering attractive and accessible?
- How can communication be best organized for this? What is the role of the 'Make Hydrogen Work'?
- How do you ensure an effective and efficient organization within the 'Make Hydrogen Work'?

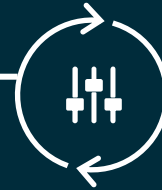


## 2. SKILLS DEVELOPMENT

# The green hydrogen skills gap in Namibia, South Africa, and Morocco

The transition to clean energy can create job opportunities and support economic activity while advancing the global decarbonization agenda.

## NAMIBIA, SOUTH AFRICA AND MOROCCO



## CONCLUSION

- 1 Namibia:** Skills development is key to equip Namibians with the necessary knowledge, expertise, and skills to participate in the green hydrogen and PtX industry, ultimately enhancing employability
- 2 South- Africa:** Most of these new jobs related to the energy transition are expected to be categorised as skilled, requiring either university education or vocational training. Future demand for hydrogen needs will require:
  - Engineers (e.g. chemical, environmental, automation, welding, software, electrical)
  - Technicians and tradespeople (e.g. chemical processes, plant operator, electrician, welder)
  - Specialists (e.g. geologist, geophysicist, water management expert lawyer, economist)
  - Managerial occupations (e.g. plant manager, maintenance planner, project manager)
  - Elementary-level occupations (e.g. guard, cleaner, caretaker, assembling labourer)
- 3 Morocco:** Morocco needs more technical and vocational education and training (TVET) programs in regions with high solar and wind potential, and the promotion of apprenticeships is necessary

- It is evident that each country has unique challenges and opportunities in transitioning to a low-carbon economy.
- **Namibia has a relatively small population** and workforce, which presents a challenge in terms of training workers for the emerging hydrogen sector.
- **South Africa**, on the other hand, has a more extensive workforce, but the traditional energy sector remains dominant, making it challenging to **attract investments and develop a skilled workforce** for the new hydrogen industry.
- Morocco has already made significant strides in developing a renewable energy sector and has implemented various strategies to address the skills gap in hydrogen, such as offering training programs.

A large, ancient tree trunk with thick, gnarled roots in a misty forest. The tree is the central focus, with its roots spreading out across the forest floor. The background is filled with other trees, their trunks and branches creating a dense, vertical pattern. The lighting is soft and diffused, creating a hazy, ethereal atmosphere. The overall color palette is dominated by various shades of green and brown, with a touch of white from the text.

# 3. PROPOSITION

# What is the role of MHW and how can we organize it effectively?

To ensure an effective and efficient organization for Make Hydrogen Work, we propose to act on two levels which operate in parallel: 1. Focus on strategic actions with long term focus; and 2. Focus on operational actions with short term focus.

## STRATEGIC ACTIONS

01 <b>Partnerships</b>	<ul style="list-style-type: none"> <li>• <i>Develop strategic partnerships with other European stakeholders in the field.</i></li> <li>• <i>Joining and aligning other ongoing initiatives at European level</i></li> </ul>
02 <b>Proposition per country</b>	<ul style="list-style-type: none"> <li>• <i>Align the Make Hydrogen Work proposition with existing roadmaps and strategies in both partner and target countries.</i></li> </ul>
03 <b>Public-private partnerships</b>	<ul style="list-style-type: none"> <li>• <i>Enable sufficient funding to finance.</i></li> <li>• <i>Form/join a consortium of key stakeholders in Dutch green hydrogen landscape</i></li> <li>•</li> </ul>
04 <b>Collaborate with RVO</b>	<ul style="list-style-type: none"> <li>• <i>MHW to contribute via the RVO Combi Approach (combined trade, investment, developing support with challenges like climate change)</i></li> </ul>
05 <b>Training</b>	<ul style="list-style-type: none"> <li>• <i>The Dutch Government, in collaboration with the Dutch private sector, should jointly identify knowledge gaps and define training and capacity-building priorities</i></li> </ul>

## OPERATIONAL ACTIONS

01 <b>knowledge institution</b>	<ul style="list-style-type: none"> <li>• <i>Identify relevant knowledge institutions in Namibia, South Africa, and/or Morocco for potential collaboration and invite them to become part of the Make Hydrogen Work network.</i></li> </ul>
02 <b>Skills training program</b>	<ul style="list-style-type: none"> <li>• <i>Set up a skills training program and/or knowledge exchange program with a knowledge institution close to a hydrogen development area.</i></li> </ul>
03 <b>Fair and just transition</b>	<ul style="list-style-type: none"> <li>• <i>Develop a course on creating fair and just transition for hydrogen in Namibia, South Africa and/or Morocco for local communities</i></li> </ul>
04 <b>Trade mission</b>	<ul style="list-style-type: none"> <li>• <i>Ensure there is a role for Make Hydrogen Work in the upcoming Dutch trade mission to Namibia (September 2024).</i></li> </ul>
05 <b>Local context</b>	<ul style="list-style-type: none"> <li>• <i>Consider local context and cross-cultural aspects.. The context in South Africa can be significantly different compared to Netherlands or even neighbouring Namibia.</i></li> </ul>

# Why a Dutch hydrogen offering?

The Netherlands can employ various strategies to highlight its strengths and contributions to the global hydrogen economy. Currently, the Netherlands features five unique selling points:

1

## Established Networks

several dutch organisations are significantly established to foster local **network collaboration**, share knowledge, and ensure the successful implementation of hydrogen technologies.

2

## Dutch Governmental Involvement

The Dutch government actively participates in hydrogen development through initiatives such as signing **Letters of Intent** and **funding** projects, demonstrating a **commitment** to driving the transition towards a hydrogen economy.

3

## Systems Thinking Approach

Systems thinking requires a **holistic approach**: from production (such as electrolysis) and storage to distribution (via pipelines or transport vehicles) and end-use (in industry or transport).

4

## Just and Fair Transition

Focusing on holistic, fair, and just hydrogen infrastructure development means going beyond **technical expertise**. This comprehensive approach ensures that the hydrogen transition benefits **all stakeholders**, supports sustainable development, and fosters a more equitable and inclusive society.

5

## Addressing Trade-Offs

The Dutch approach acknowledges the **complexities and trade-offs** involved in setting up hydrogen systems in target countries, enabling informed decision-making and balanced solutions..





## 4. CONCLUSION AND RECOMMENDATIONS

# Conclusion and recommendations

For Make Hydrogen Work (MHW) International

## CLEAR OPPORTUNITY

“The Netherlands is a frontrunner on hydrogen development and knowledge on the green hydrogen transition”

## UNIQUE SELLING POINTS

“For example: established networks of several Dutch organisations, involvement of the Dutch government, expertise on infrastructure development.”

## OPERATIONAL AND STRATEGIC LEVEL

“To effectively organise Make Hydrogen Work, act on both operational and strategic level .”

## EXPAND INTERNATIONALLY

“By adding new knowledge institutions to the MHW network on a local basis. By identifying interesting areas per country (for example Lüderitz in Namibia) and reaching out to local knowledge institutions to set up a collaboration.”

## SUFFICIENT FUNDING AVAILABLE

“By setting up large-scale public-private partnerships, the chances of more capital flowing in will be increased; otherwise, the scale will remain small. .”