

Projet

NexTerra

Morocco,
future hub for green hydrogen

01-02 October 2025

World Power-to-X Summit
Palais des Congrès, Marrakech



Morocco's ambitious, substantial **Royal Renewable Energy Strategy** confirms the **Kingdom's** avant-garde approach to address climate change

Excerpts from the message sent by **His Majesty King Mohammed VI, may God assist him**, at the World Forum on Energy Efficiency following the awarding to the Sovereign, on Monday, May 8, 2017, in Washington, of the prestigious **Energy Efficiency Visionary Award**.

" (...) This award, which once again confirms the positioning of the Kingdom of Morocco among the countries that have been able to enhance their renewable energy potential by developing solar power plants, wind farms, hydroelectric power plants and introduce energy efficiency measures in all key sectors of the Moroccan economy."

" (...) The pressing challenge facing our world today is not so much a lack of energy resources, but rather the need to mobilise the necessary investments in this area. It is, therefore, necessary to build the necessary energy infrastructures and to develop alternative technologies."



HIS MAJESTY KING MOHAMMED VI

Table of Contents

- **Introduction & Background**

General Context

Presentation of the project

E-SAF Research & Development Project

Core Team



Introduction & Background

Driving the Global Transition to Green Hydrogen

H₂



Renewable Energy Leadership

Proven expertise in developing and managing large-scale renewable energy projects, from utility-scale solar parks to offshore and onshore wind farms.



Technology & Innovation

Advanced capabilities in integrating renewable power with desalination plants and green hydrogen production, ensuring sustainable water and energy solutions.



Operational Excellence

Strong track record in project execution, from feasibility studies to commissioning and long-term operations – delivering efficiency, reliability, and scalability.



Integrated Energy Solutions

Unique ability to combine solar, wind, desalination, and hydrogen technologies into holistic systems – powering industries, communities, and mobility with clean resources.



Sustainability Vision

Dedicated to accelerating the global energy transition by providing future-oriented solutions that reduce carbon emissions, secure freshwater supply, and build resilient energy infrastructures.

Over **15 years of renewable project** experience and more than **€1 billion realized systems worldwide.**



ADVANTAGES OF Group Möhring Energie

- Deep EPC and **Project Development** experience
- **In-depth financing** and structuring experience
- Leading and modern **technical project setup**
- With **top** equipment
- At **competitive** prices
- Leading to
 - a) Competitive **project cost** (and bidding price) and
 - a) A robust **project setup**

Track Record of Successful Projects

>1 B€
BUILT
ASSETS

**15
YEARS**
OF ENERGY
PROJECT
EXPERIENCE

**>5
YEARS**
PROJECT TRACK
RECORD IN
NORTHERN AFRICA

16 GW
WIND/PV CAPACITY
UNDER DEVELOP-
MENT IN GER

25 GW
PROJECT PIPELINE
OF WIND/PV
CAPACITY
IN EU

>50 MW
AVG. PROJECT SIZE
OF WIND/PV
PLANTS

MÖHRING
ENERGIE

Global Business Footprint

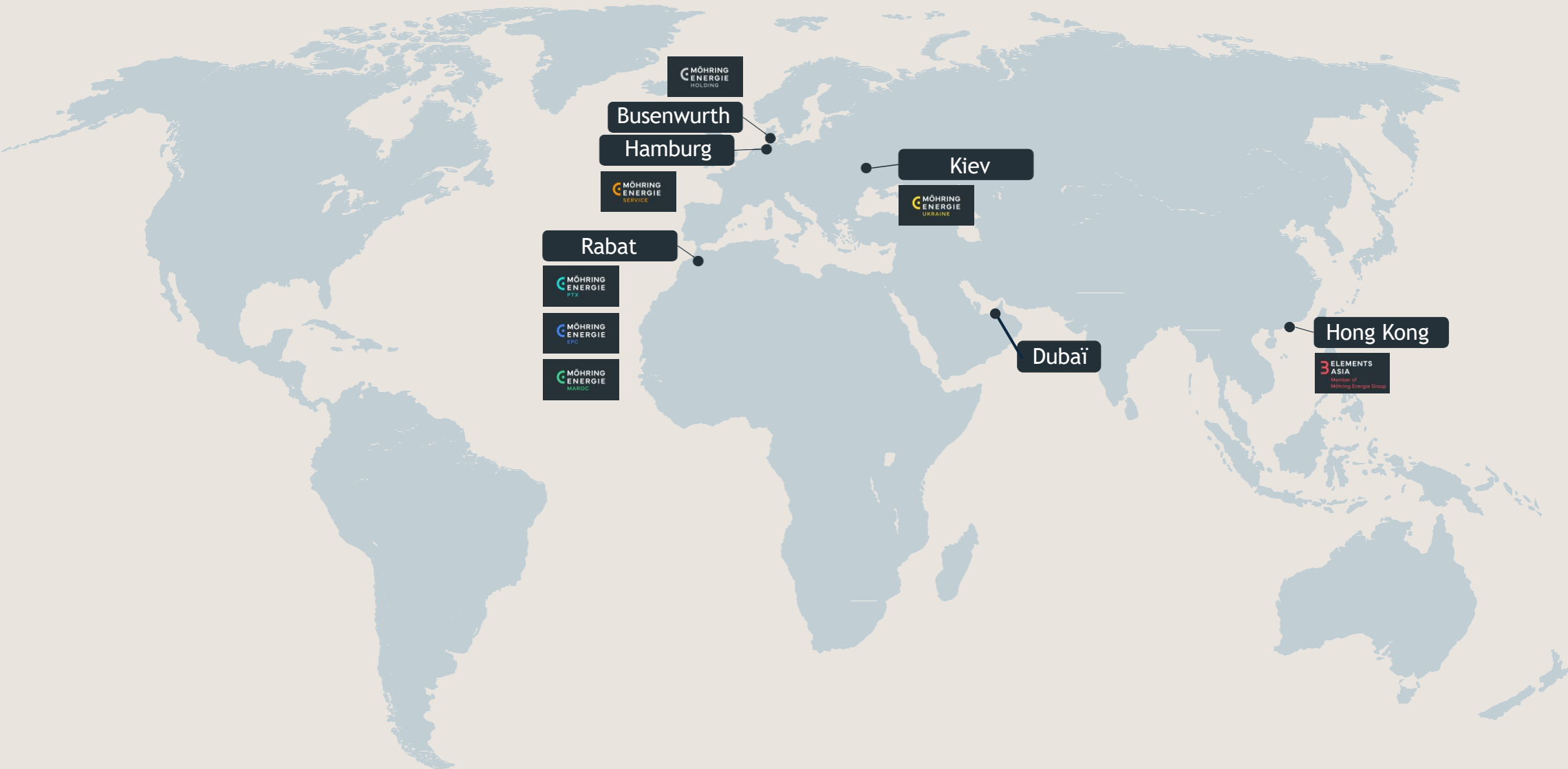


Table of Contents

Introduction & Background

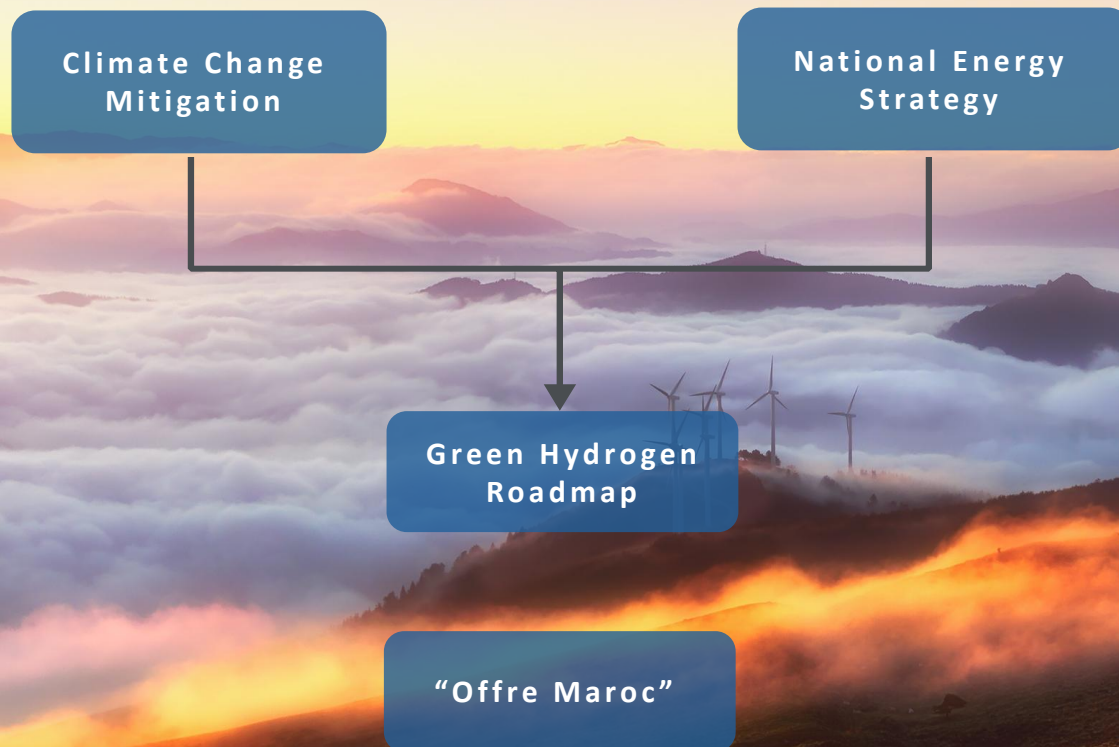
- **General Context**

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- Morocco is **strongly committed** to combating climate change and is aligning its policies with the **Paris Agreement**. The country is aiming for a global energy transition towards a **low-carbon economy**.
- The national energy strategy aims to generate **more than 52%** of electricity from renewable sources by **2030 through solar**, wind, and hydroelectric power. This will require significant **investment and continued infrastructure development**.
- **The Morocco Offer** aims to establish the country as a **global green hydrogen** leader by mobilizing renewable energy, boosting energy sovereignty, **enabling large-scale hydrogen** and derivatives production, and reinforcing its role as a logistics hub for green hydrogen.

Table of Contents

Introduction & Background

General Context

• **Presentation of the project**

E-SAF Research & Development Project

Core Team

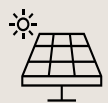




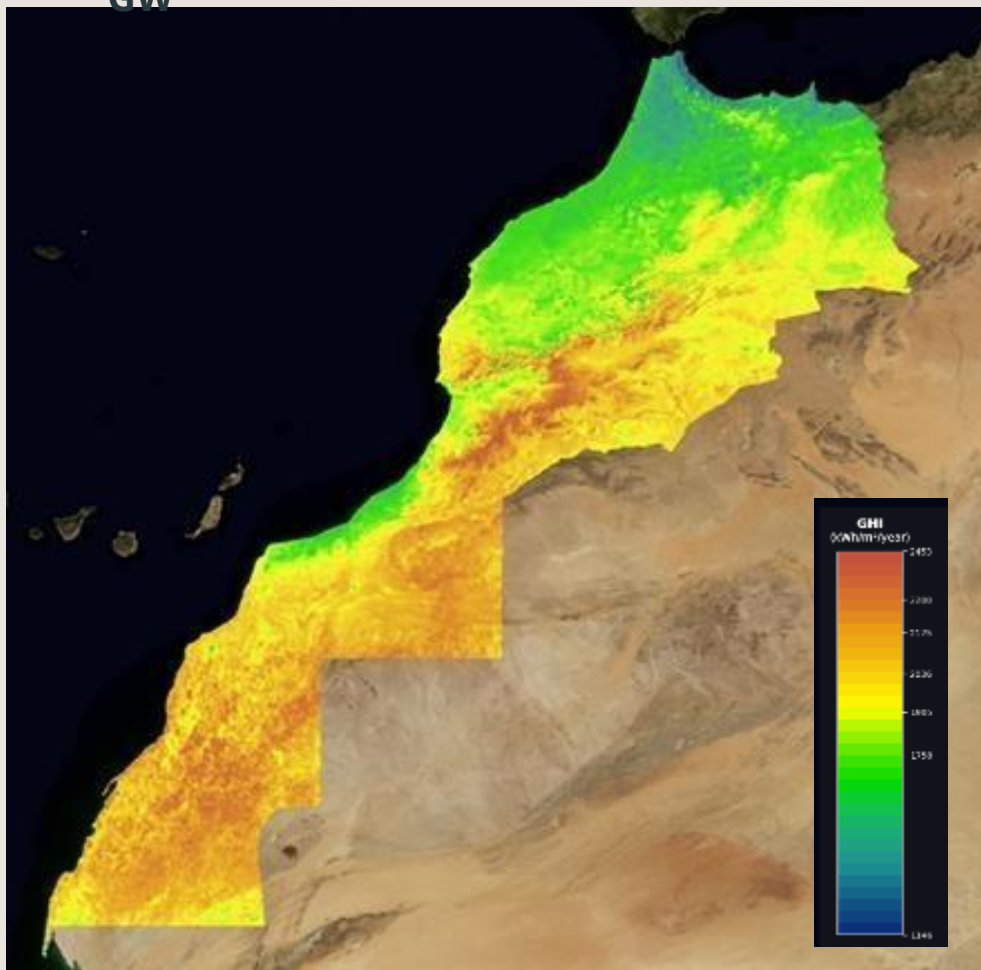
Green Hydrogen Market: Europe, Germany, and Morocco

Element	Europe (UE)	Germany	Morocco
Key horizon	2030 → 2050	2030	2030
Demand / expected production	Strong growth in demand; up to 50% imported from MENA by 2050	95–130 TWh of demand in 2030	13.9–30.1 TWh of potential generation in 2030
Imported/exported share	~50 % of the demand (MENA import)	50–70 % imported (≈ 45–90 TWh)	~75 % exported (≈ 10–23 TWh)
Estimated production cost H₂	4–6 \$/kg (depending on the cost of renewable energy sources, land, and electrolysis)	4–6 \$/kg , Limited by RE availability	1,5–2,5 \$/kg with competitive solar/wind power
Planned investments	335 Mds € (REPowerEU plan by 2030)	Massive subsidies (IPCEI, climate fund, H2Global) — tens of billions of €	319 Mds MAD (~32 Mds €) announced for H ₂ hubs in the South
Global Market Share	Hub de consommation principal en 2030–2050	~5–6 % of global imported demand	≈ 4 % of global demand for en 2030
Planned infrastructure	Hydrogen Backbone Europe (11 corridors by 2040), NH ₃ terminals	Terminals import NH ₃ , projets de pipelines intra-UE	Maghreb–Europe gas pipeline (H ₂ conversion planned), NH ₃ terminals for export
Funding & Support	European Hydrogen Bank (3 Mds €) , quotas UE, ETS	H2Global Subsidized contracts, climate funds, and Important Projects of Common European Interest (IPCEI)	Strategic partnerships with the EU, Germany, and the Netherlands aimed at securing export channels.
ESG Jobs & benefits	>100k jobs expected in the hydrogen sector in Europe	Significant impacts in steelmaking, chemical industry, and heavy transport	15 000 Projected direct and indirect employment by 2030

MÖHRING ENERGIE Paving the Way to Green Hydrogen Dominance: Harnessing the Abundance of Solar and Wind Energy Resources for Sustainable Hydrogen Production



Technical potential of **49,000 TWh/year +20,000 GW**



Up to 6,000 hours of full load per year thanks to an optimal combination of wind and solar energy

Consistent coastal wind conditions ensure high base load power generation.

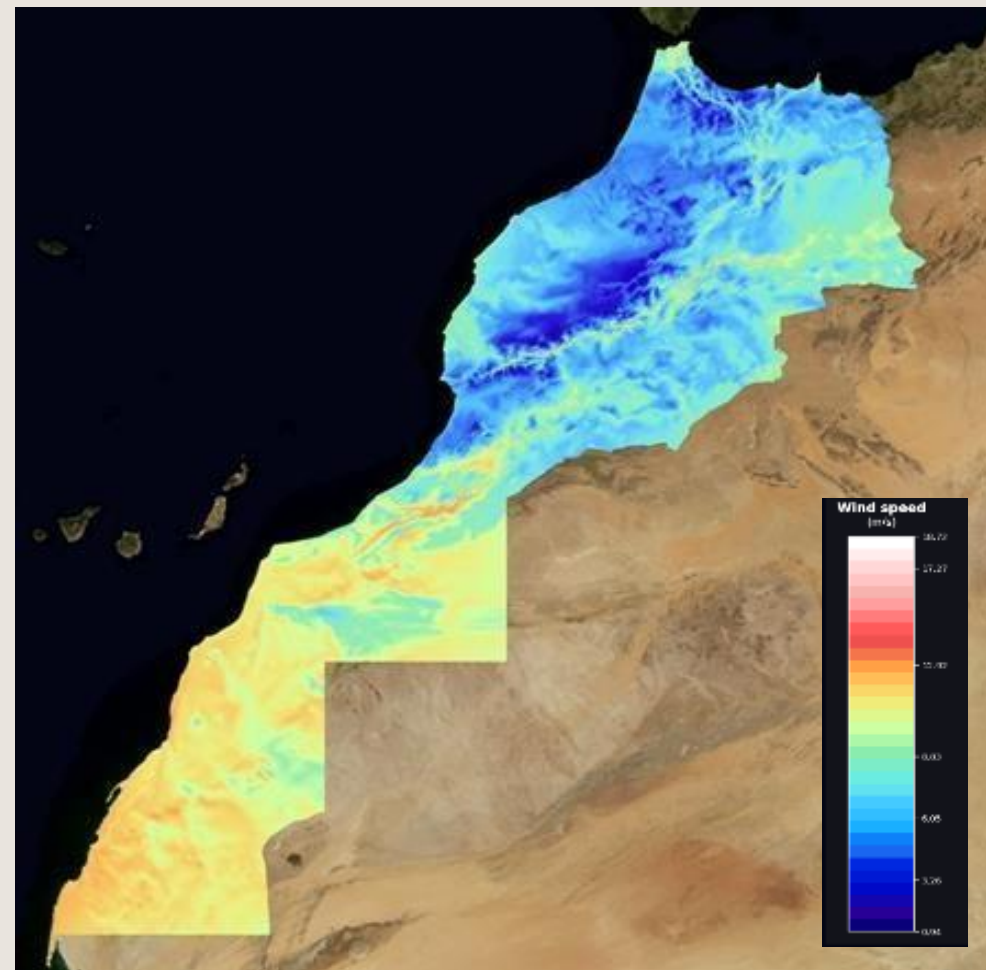
Exceptional solar radiation ($>2,800 \text{ kWh/m}^2/\text{year}$) – the perfect complement to nighttime wind

Low seasonality and high predictability enable stable operation of the electrolyzer.

International benchmark region for low renewable LCOEs



Technical potential of **11,500 TWh/year +6,000 GW**



MÖHRING ENERGIE Nexterra Project-Tarfaya – Catalyzing Morocco's Renewable Energy Sector, Boosting Economic Growth, and Consolidating Its Position as a Leading Pioneer In Green Energy

The partners

Joint venture

Moroccan subsidiary
Möhring Energie Maroc with a local shareholder



Moroccan partner and shareholder



Expertise

Backed by Möhring Energie Holding's 15+ years of global experience in renewable energy

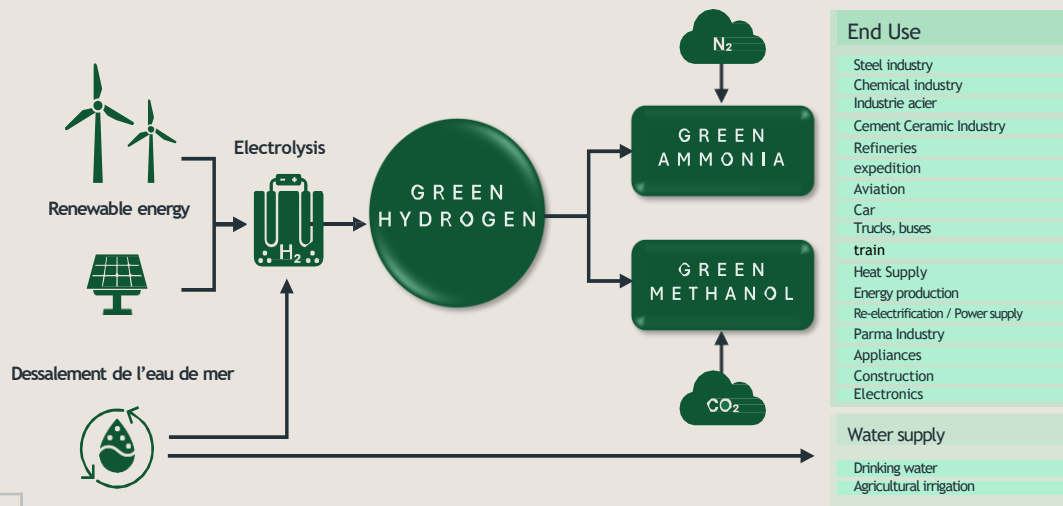
15 years of experience in the field of energy projects	> 1 B€ billion built assets	> 50 MW average size of renewable energy projects in Germany/EU
16 GW RE capacity in lower TBS development	25 GW RE capacity in the EU under development	~50 M€ average transaction size by M&A activity

MASEN

PtX application process under "Offer Maroc" Green Hydrogen



The project



Evolving vision

Modular deployment in five phases, with flexible production capacity at scale.

Strategic acceleration

Iconic National Renewable Energy Project – Phase 1 Ready, Secured Offtake Financing.

Durable and effective

Seawater desalination powered by 100% renewable energy, with a low environmental impact and positive local spin-offs.

Focus on the EU market

Aimed to meet the energy security and decarbonisation needs of the European Union.

The advantages

Global leadership



Position Morocco as a global leader in renewable energy through best practices and international collaboration

Massif investment



US\$27.5 billion in direct investment with international financing, which will stimulate economic growth

Job creation



Creates 3,500+ direct jobs and 10,000 sustainable indirect jobs, empowering communities and strengthening value chains.

Export growth



Develops maritime logistics and port infrastructure to increase global export potential

Durability










Promotes environmental sustainability through 100% renewable energy sources

Economic empowerment

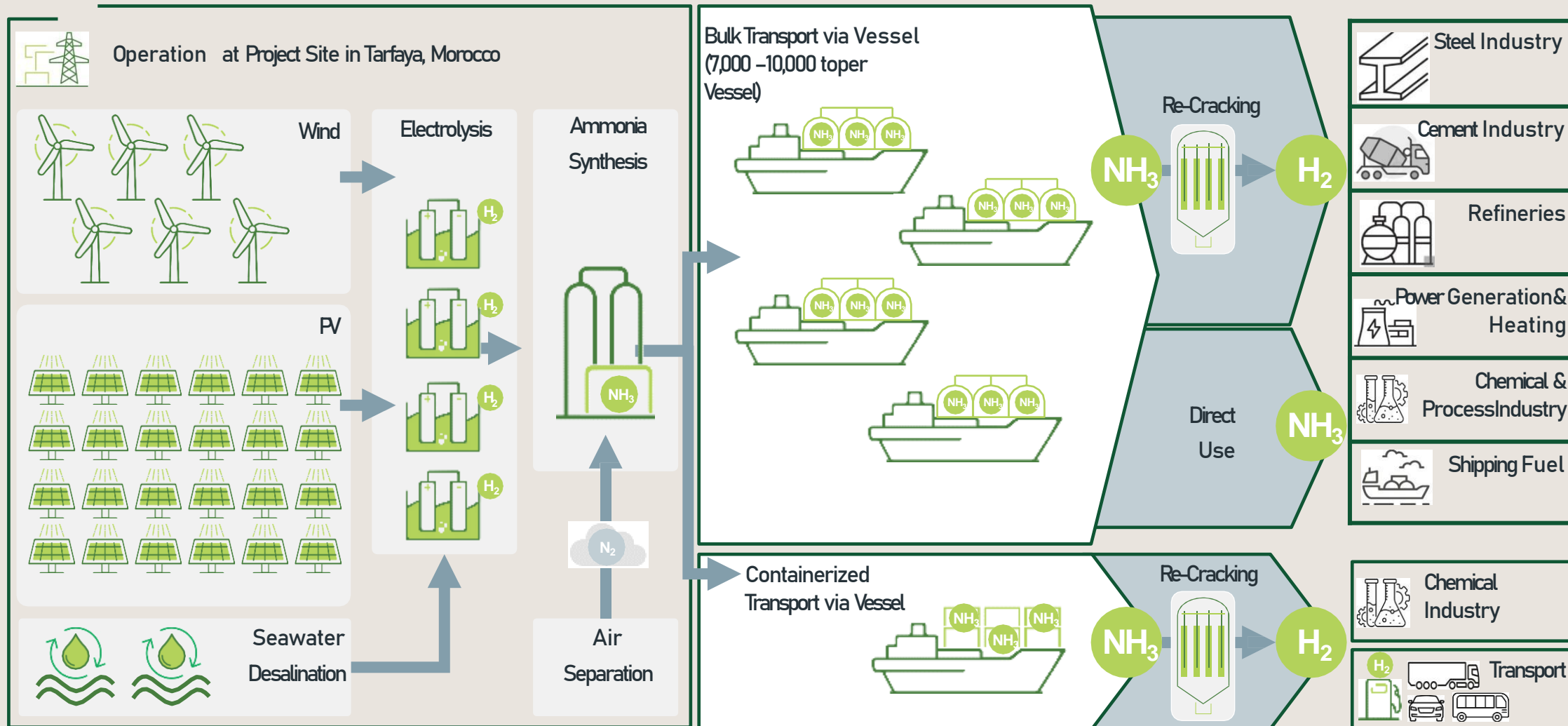


Strengthens local economies and value chains, benefiting Morocco's provinces

MÖHRING ENERGIE Incremental Growth for Global Impact – Ammonia/Methanol Production Is the Driver of Industrial Decarbonization

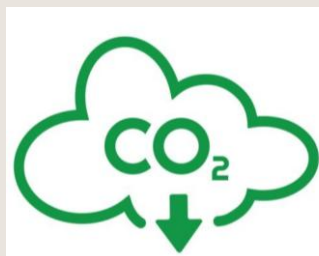
		2027 – 2028	2028 – 2030	2030 – 2032	2032 – 2034	>2034
		Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Wind Capacity		43 MW	344 MW	1,032 MW	2,580 MW	Σ ~14.3 GW
PV Capacity		10 MWp	80 MWp	240 MWp	600 MWp	Σ ~3.3 GWp
Electrolyzer Capacity		30 MW	240 MW	720 MW	1,800 MW	Σ 10 GW
Green Hydrogen		3,900 tpa	29,500 tpa	90,000 tpa	230,000 tpa	Σ 1.4 Mtpa
Green Ammonia		21,400 tpa	165,000 tpa	255,000 tpa	650,000 tpa	Σ ~4.0 Mtpa
Green Methanol eSAF		20,000 tpa	150,000 tpa	~240,000 tpa	~610,000 tpa	Σ ~3.7 Mtpa
Direct Labour		81	114	~600	~1,000	Σ ~3,500
Indirect Labour		100	600	~1,800	~3,000	Σ ~10,000

Our Value Chain: optimization of logistics costs by using NH3 as transport vector for supply of Green Hydrogen



NexTerras's Green Ammonia GHG Saving Achievements

EU Reference	94 g CO ₂ e /MJ
Carbon Footprint of our green Ammonia	3 g CO ₂ e /MJ
Total Savings	96.76 %

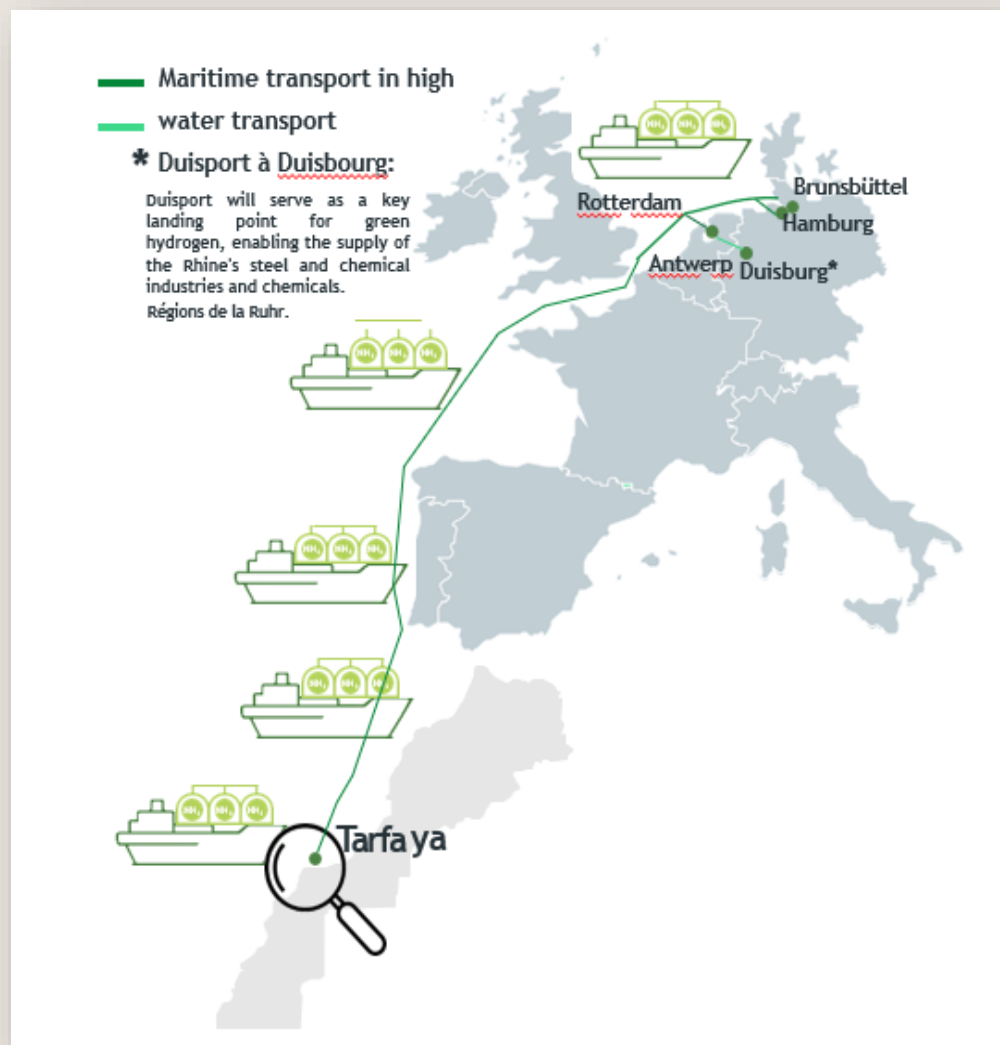


Basis of calculation

- All calculation based on RED II/III and **Delegated Regulation EU 2023/1184 + 1185 methodology** for RFNBOs
- **100 % renewable energies** for all production processes
- **Source Maritime Transport:** F.Laeisz GmbH / StormGeo average data for **2024 for a 2700 TEU vessel**
- **Source Craning & Land Transport:** Truck Diesel GHG values according **DIN EN ISO 14083:2024-06**
- Emissions after delivery **are excluded**



Expansion of the Port of Tarfaya: A Critical Step for Logistics

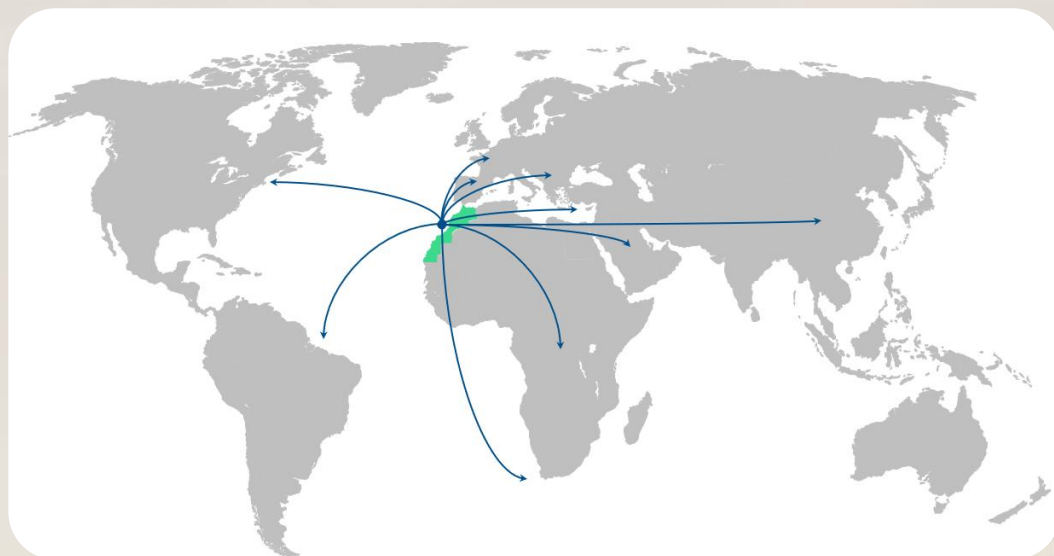


The expansion of the **Port of Tarfaya** ensures direct and rapid access to **European markets**, reducing transit times and securing **full end-to-end logistics control**. This modern infrastructure will enable the direct **shipment of green hydrogen** and ammonia to **Germany and Europe**, strengthening both **reliability and competitiveness**.

With advanced discussions **already underway with key European ports** such as **Rotterdam, Hamburg, and Brunsbüttel**, we are integrating the **entire value chain** – from local production to final delivery – **positioning Tarfaya** as a cornerstone of **Europe's energy transition**.



Morocco: Energy Hub for Europe and Africa & Logistics hub for Green Hydrogen



Strategic geographical positioning



Proximity and partnership with Europe

Morocco, thanks to its proximity to Europe and its energy infrastructure, is a strategic partner. Several European countries, notably Germany, want to strengthen their energy partnership with it.



Existing energy infrastructure

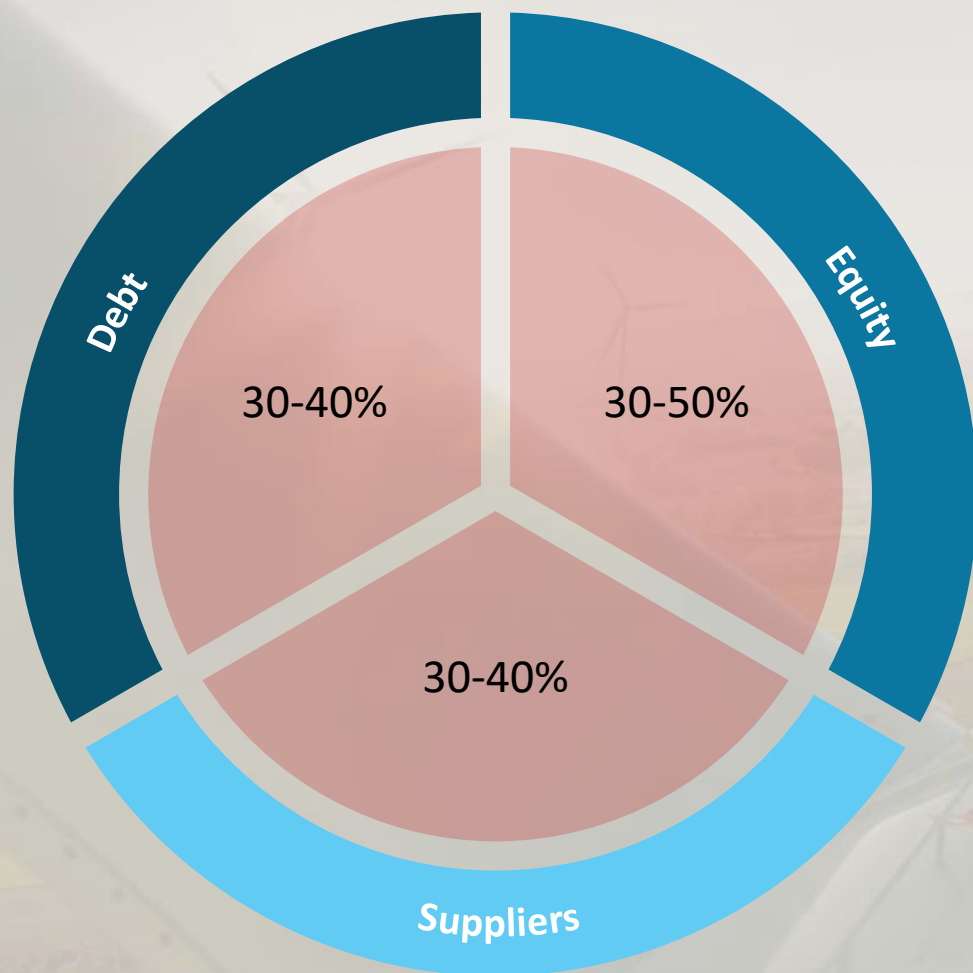
Morocco can exploit its gas and port infrastructure, connected to the Atlantic and the Mediterranean, to create a logistics platform for the export of green hydrogen to Europe.



Exporting green hydrogen

According to the World Energy Council (Power-to-X study), Morocco is one of the 6 countries with a high potential for the production and export of hydrogen and its derivatives.

Most of NexTerra Project's Phase 1 has already been funded, while shareholders are committed to provide the majority of funding. Partners may join until COD.



- 30-40% will be debt financing
- Still needs to be secured
- If no debt funding is in place at FID, outstanding sum can be bridged by shareholders



- 30-50% will be equity funding by the shareholders of the Phase 1 project
- Principal commitments are given by the shareholders



- 30-40% will be supplier financing
- Discussions already held
- Agreements are in preparation



Together Harnessing **renewable resources** to secure clean energy, water, and sustainable **industry & agriculture for the future.**

Projects Under Development

In Morocco, West Africa and around the world, large-scale projects are being developed by Möhring Energie to harness the full potential of renewable energy and green technologies. These initiatives bring together **solar, wind, desalination, hydrogen, and green fuels** to create sustainable ecosystems for energy, water, and industry.

Solar Power Plants

Utility-scale photovoltaic plants delivering clean and affordable energy for local use and export opportunities.

Seawater Desalination with PV & Agriculture

Desalination plants powered by solar energy, providing fresh water for municipal, industrial, and agricultural use. This integration supports sustainable farming and boosts food security.

Hybrid Complexes: PV, Wind & Desalination with Hydrogen and Ammonia Production

Large-scale complexes combining solar and wind power with seawater desalination. These hubs will also produce green hydrogen and green ammonia, targeting both local industries and international markets.

Sustainable Aviation Fuel (SAF) – Nexterra R&D

And within the Nexterra project, we are also engaged in R&D for Sustainable Aviation Fuel (SAF), with production planned for the future.

Table of Contents

Introduction & Background

General Context

Presentation of the project

• **E-SAF Research & Development Project**

Core Team



Aviation and the Net-Zero Challenge:

Aviation accounts for **2–3%** of global CO₂ emissions, and with passenger demand set to reach **10 billion by 2050**, emissions are projected to rise sharply if no action is taken. **Sustainable Aviation Fuel (SAF)** is seen as the key solution, with the potential to deliver up to **65%** of the sector's required emission reductions to **reach net zero**.

E-SAF: Pioneering Green Hydrogen Technologies

With its **exceptional solar** and wind resources, Morocco is emerging as a key player in the global energy transition. **Möhring Energie**, with scientific partners, is conducting research and development on **e-SAF**, focusing on advancing technologies for green hydrogen production and storage.

Driving Aviation Sustainability

Sustainable Aviation Fuels (SAF) are set to transform aviation, supported by global policies like the EU's ReFuelEU Aviation. Innovative technologies, including SAF from direct air capture of CO₂, are overcoming technical and economic challenges. Together, innovation, policy, and collaboration are paving the way for a sustainable future in aviation.

In this Framework Moehring Energie has signed an MoU with IRESEN during last World PtX summit of 2024

Table of Contents

Introduction & Background

General Context

Presentation of the project

E-SAF Research & Development Project

• **Core Team**



Meet our Team

Möhring Energie Group & Joint Venture Management



Sascha Möhring

Founder, President Möhring Energie Group

- +25 Years Proven Track Record in Renewable Energy
- Expert in Large-Scale Project Development
- Specialist in Project Finance, M&A & Investment Structuring
- Leader in PtX, Solar, Wind & Bioenergy Implementation



Sidi Mohamed Nourcharaf Baddouh

Co-President & Managing Director of Möhring Energie Maroc

- High Level Strategic Partner with Strong National & international Network
- Expert in Market Access, Stakeholder Engagement & Infrastructure Development
- Key Contributor to Policy & Regulatory Alignment Morocco/Africa/MENA
- Deep Industry & Gov. Relations



Jan-Christoph Block

CEO Möhring Energie Group

- Global Leadership & Growth Management Expertise
- Expert in Sales, Business Development & Market Expansion
- Strong Track Record in Scaling Organizations & International Operations



Rolf Schrenick

CFO Möhring Energie Group

- Extensive Experience in RE Finance & M&A
- Project Financing Expert for Large-Scale Energy Assets
- Specialist in Investor Relations, Debt & Equity Structuring
- €2B+ in Financing & ~2 GW in Energy Projects



Nouredine Moujahid

DGA Möhring Energie Maroc

- Expertise in Strategic/operational management
- Large-Scale Project Management
- Leadership et strategic vision
- Regulatory and Policy
- Leadership & corporate governance



Said Mouhaddir

Director Procurement & Sales Möhring Energie Maroc

- Expert in Business Development & International Trade
- Strong Network & Partnership Development in RE
- Specialist in Supply Chain Optimization
- Cultural Bridge Between Europe & North Africa

Senior Expert & Advisory Team



Dr. Roland Arlt

Partner White & Case – Senior Legal & Finance Advisor

- Senior Legal & Financial Advisor for PTX Projects
- Energy Law & Finance Expert
- Extensive Experience in Structuring Large-Scale Infrastructure Investments
- Strategic Counsel on Regulatory & Compliance Matters



Prof. Dr. Martin Wietschel

Head of Dept. of Energy Technology and Energy Systems

- Leading Expert in Energy Systems & Hydrogen Research
- Senior Advisor on PTX & Sustainability Strategies
- Extensive Experience in Energy Market & Policy Analysis
- Renowned Scientist & Advisor for Industry & Government



Holger Lichtschläger

Managing Director geec – Senior Energy Market Advisor

- Expert in Energy Market Analysis & Price Forecasting
- Strategic Consulting & Investment Planning Specialist
- Extensive Experience in Energy Trading & Portfolio Optimization
- Business Reorganization & Utility Strategy Development



Holm Keller

CEO & Chairman kENUP Africa Foundation

- Senior Advisor for Political Relations & Public Affairs
- Expert in Government & Stakeholder Engagement
- Extensive Experience in Policy Strategy & Funding Acquisition
- Bridge Builder Between Industry, Politics & Innovation

WHITE & CASE

Fraunhofer

uni per e-on geec

kENUP AFRICA foundation

Meet our Team



**Tim
Huesmann**

Head of Sales & Financial Management

- Strong Market Access in Steel & Chemicals for PTX Sales
- Expert in Supply Chain & Process Optimization
- Strategic Consulting & Post-Merger Integration
- Financial Performance & Cost Management



**Maroua
Slaimi**

Sales & Application Engineer

- Sales & Business Development Specialist
- Expert in Market Analysis & Customer Engagement
- Strong Network in Hydrogen Industry & Global Stakeholders
- Technical & Scientific Expertise with Business Acumen



**Nour
Douma**

Business and Strategic Relations Manager

- Analytical & Project Management Competencies
- Relationship & Networking Competencies
- Strategic & Business Competencies
- Communication & Leadership Competencies



**Fatima
El Hassouni**

Quality Manager

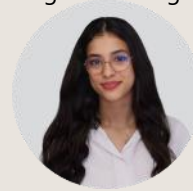
- Quality & Compliance Expert (ISO 9001, BRC, risk)
- Stakeholder Management
- Process Optimization & KPI Monitoring
- Regulatory & Risk Management Specialist
- Experience in Energy, Food & Biotech Sectors



**Amke
Block**

Head of ESIA & Political Relations

- Expert in Regulatory Strategy & Compliance
- Strategic Alliance & Stakeholder Engagement Specialist
- Innovation & Business Development Leader
- Communication & Knowledge Mgmt. for Large-Scale Projects



**Ikram
Hojr**

Project Engineer Renewables & PtX

- Expertise in PtX & Green Fuels
- Specialist in Green Hydrogen, Ammonia & e-SAF
- CO₂ Capture & Techno-Economic Analysis
- Strong Research & Simulation Background in Energy Systems



**Aicha
Haddou**

Strategic and financial Relations Manager

- Expert in Regulatory Strategy & Compliance
- Strategic Alliance & Stakeholder Engagement Specialist
- Innovation & Business Development Leader
- Communication & Knowledge Mgmt. for Large-Scale Projects



**Farid
Allali**

Project Engineer Renewables & PtX

- Renewable Energy Engineer with Expertise in Solar, Wind & PtX
- Experience in Green Hydrogen & Ammonia Production
- Skilled in Techno-Economic Analysis & Project Simulation
- Hands-on Experience in Energy Storage & System Optimization



**Duc Dung
Hoang**

Process Engineer

- Expert in Hydrogen Technologies & System Integration
- Process Optimization & Simulation Specialist
- Hands-on Experience in H2 Infrastructure Development
- Project Management & Engineering Expertise



**Regragui
Zaroual**

Project Development Assistant

- Operations & Project Development Specialist – Renewable Energy & Agriculture
- Import/Export & Logistics Coordinator
- Infrastructure & Maintenance Expert

Meet our Team



**Nicole
Kück**

**CEO Assistant
Möhring Energie Group**

- Expert in Strategic Planning & Organizational Management
- Financial & Budget Management Specialist
- Experienced in Project Management & Governance
- Strong Communication & Stakeholder Coordination Skills



**Imane
Akerramou**

Management Assistant

- Business knowledge
- Managing relations with suppliers and service providers.
- Accounting assistance
- Organizational knowledge
- Purchasing, sourcing and negotiations.
- Finance / Financial skills



**Nina
Engler**

**Strategic and financial Relations
Manager**

- Expert in Regulatory Strategy & Compliance
- Strategic Alliance & Stakeholder Engagement Specialist
- Innovation & Business Development Leader
- Communication & Knowledge Mgmt. for Large-Scale Projects



**Aya
Taoufyq**

General Management Assistant

- Assisting staff with their research
- Assisting the Director in implementing and monitoring projects
- Time management
- Using management software



**Daine
Ric-Hansen**

**Lead Software
Engineer**

- Cloud, IoT & Embedded Systems
- Specialist Developing Scalable Energy & Infrastructure Software
- Strong Background in Process Optimization & Data-Driven Solutions
- Experienced in Green Energy Software Management





Access our website.



MÖHRING ENERGIE HOLDING

Norder Reihe 7
25719 Busenwuth – Germany

Tel: +49 485 784 240
E-Mail: info@moehring-energie.de
www.moehring-energie.com

MÖHRING ENERGIE MAROC

Villa Moehring
117, Avenue Mehdi Ben Barka
Sector 5, Hay Riad, Rabat, Morocco

Tel: +212 537 575 606
www.moehring-energie.com