OUHDEL CONSEIL
Trusted Partners

SYNTHÈSE

HYDROGÈNE VERT CÔTE D'IVOIRE

STRUCTURER LE CORRIDOR ÉNERGÉTIQUE AFRIQUE–EUROPE

2025

CONFIDENTIAL

EXECUTIVE SUMMARY

OUHDEL Conseil is proposing to act as a catalyst for a project of strategic importance for France and for West Africa: the deployment of the first green hydrogen power plant in Côte d'Ivoire, anchored in the Sud-Comoé region, with a clear objective: to structure the fourth hydrogen hub on the African continent.

In a global context of accelerated energy transition, marked by the need to secure supplies of clean energy and diversify strategic sources away from traditional channels, this project simultaneously meets European (Green Deal, REPowerEU) and African (green industrialisation, energy autonomy) priorities. Côte d'Ivoire, with its renewable energy mix, political stability, modern port infrastructure and proximity to Europe, is an ideal base from which to develop competitive green hydrogen production for export.

The project is based on an optimised natural site in the Sud-Comoé region, combining energy accessibility, export logistics and land security. It is part of a robust institutional and industrial ecosystem, backed by the main Ivorian authorities (Ministry of Energy, CI-ENERGIES, CEPICI) and in close partnership with major industrial players (SIR, SIFCA, Bolloré, Arise). With the prospect of exports via the existing infrastructure in Abidjan, and eventually via the development of a dedicated terminal at the Port of Lekki (Nigeria), the project has a strong regional base and is naturally in line with Europe's ambitions to import renewable hydrogen.

Led by OUHDEL Conseil, this project combines institutional rigour, energy expertise and a sustainable local vision. It represents an opportunity for France to strengthen its economic and diplomatic ties with Africa and India, position its companies in fast-growing markets, and contribute to the creation of a secure energy route between West Africa and Europe.

OUHDEL Conseil is thus positioning itself as an industry architect, capable of orchestrating all the public, private and multilateral players around an exemplary energy infrastructure that will generate sustainable growth, industrial innovation and international influence.

THE PROJECT IN BRIEF:

Strategic location

- Region: Sud-Comoé, Côte d'Ivoire
- Proximity : Port of Abidjan (logistics logistics hub network CI-Energies
- Sites identified: Aboisso, Adiaké and Tiapoum industrial zones, supported by CEPICI

Capacity & production

- Pilot phase (2025): 20,000 tonnes of green hydrogen
- Full capacity (2030): 185,000 tonnes/year
- Green ammonia export: 60,000 tonnes/year from 2030

Investment & return

- Total estimated investment: €350 to €400 million
- Break-even point: 2029
- Estimated ROI: €42 million cumulative by 2040

Opportunities & uses

- Electricity generated: 1,718 GWh/year (50% of the H_2 used) Industrial heat: 2,082,906 GJ/year (10% of the H_2 used)
- Green mobility: 8,678 tonnes H_2 (1,092 buses and 4,133 cars powered)

Export & logistics

- Ports mobilisable : Abidjan, Pointe-Noire, Lekki (Nigeria)
- Priority corridor: Abidjan→ Marseille / Antwerp / Rotterdam
- Target buyers: Yara, Trafigura, Fertiglobe, H2Global, Mitsubishi

TOWARDS A CLEAN, INTEGRATED ENERGY CORRIDOR BETWEEN WEST AFRICA AND EUROPE

The Sud-Comoé project, led by OUHDEL Conseil, aims to set up a benchmark green hydrogen industry in Côte d'Ivoire, based around a modular power plant with local industrial outlets and strategic export capacity. The project is designed to meet three key challenges: supporting the energy transition in West Africa, providing a clean supply solution for Europe, and strengthening France's economic foothold in the region.

The project, which is designed to deliver local, diplomatic and industrial co-benefits, is built on a solid operational foundation: identification of sites with high land and energy potential in the Sud-Comoé region, mobilisation of Ivorian institutions (Regional Council, CI-ENERGIES, CEPICI), structuring of glocal governance, and alignment with European financing standards (H2Global, Global Gateway, AFD, Proparco, FASEP).

With a target ramp-up to 2030 and a production target of
185,000 tonnes of green hydrogen per year, the project is designed as a lever for structuring an Africa-Europe corridor, via the ports of Abidjan, Pointe-Noire and Lekki, with links to the European hubs of Marseille, Antwerp and Rotterdam.

OUHDEL Conseil acts as an institutional, industrial and diplomatic catalyst for the project, bringing together technical partners, funders and local players. This document presents a complete strategic summary of the project, aimed at public decision-makers, industrial partners and impact funders.

A GLOBAL CONTEXT AND STRATEGIC OPPORTUNITY FOR FRANCE

OUHDEL Conseil's green hydrogen power plant project in Côte d'Ivoire is taking place at a decisive geopolitical and industrial moment. At a time when Europe is accelerating its post-fossil fuel transition against a backdrop of energy disruption, and West Africa is emerging as a new pole of stability and growth, this project creates a rare link between energy sovereignty, global partnerships and French industrial deployment.

It responds to a dual dynamic: that of the REPowerEU plan, which forecasts 10 million tonnes of imported renewable hydrogen by 2030, and that of France 2030, which is mobilising €9 billion to develop a sector of excellence. Africa has been identified as a strategic partner in this transition: according to the European Investment Bank, the continent represents a potential of more than €1,000 billion in green hydrogen by 2050.

But this firepower will not be enough without clear, structured and politically viable projects. That's what OUHDEL Conseil is proposing with Sud-Comoé: a project that can be industrialised, duplicated, and diplomatically strategic. It mobilises French expertise across the entire chain (electrolysis, certification, logistics, financing) while establishing a balanced relationship with the region's public and private players.

What is more, this project is initiating a regional coordination dynamic aimed at bringing about the emergence of an African 4e hydrogen hub, centred around structuring logistics corridors (Abidjan, Pointe-Noire, Lekki) and aligned players (Togo, Benin, Ghana, Senegal). By bringing these initiatives together under a Franco-West African banner, OUHDEL offers a framework for shared energy sovereignty in the face of the dominant bilateral approaches (China, Emirates, Turkey).

This strategy gives France the role of architect: not only in structuring the conditions for a certified and reliable supply, but also in projecting its technological standards, its economic diplomacy and its industries of the future in an area undergoing radical change. In this respect, the Sud-Comoé project goes beyond the framework of a simple energy infrastructure: it is an operational demonstration of a glocal industrial diplomacy, aligned with the European Green Deal, the Global Gateway strategy and the new imperatives of sovereignty in the 21st century.

THE STRATEGY BEHIND THE SOUTH COMOE PROJECT: BETWEEN ENERGY DIPLOMACY AND INDUSTRIAL LEADERSHIP

In a world redefined by energy, climate and geopolitical crises, OUHDEL Conseil's project aims to position France as the strategic hub of a new energy architecture between Africa, Europe and India. Through the creation of a green hydrogen power plant in Côte d'Ivoire and the structuring of a regional export corridor, the aim is not just to produce clean energy: it is to build a new generation of diplomatic, economic and industrial leverage.

First and foremost, the project meets a European imperative: to secure access to competitive volumes of green hydrogen, in line with the objectives of the REPowerEU plan. West Africa offers exceptional potential, both in terms of its favourable natural conditions and its relative institutional stability. In this context, Côte d'Ivoire is emerging as a credible player. By structuring production that can be exported - including in the form of ammonia - OUHDEL is proposing a project that is easy to understand, can be industrialised and duplicated, offering concrete outlets for French manufacturers (Air Liquide, Technip, Engie, Vinci, etc.) and for certification, traceability and green logistics solutions.

But the project goes beyond bilateral logic. It is part of an innovative tripartite strategy, combining the interests of Africa, France and India. The involvement of the ARISE group - a major Indian player with a local presence - will act as a catalyst for a glocal economic corridor, based on co-investment and technological complementarity. This convergence is an extension of the IMEC (India-Middle East-Europe) corridor launched at the G20 2023, and opens up a new West Africa-India-Europe axis structured around green hydrogen.

With this in mind, OUHDEL Conseil's strategy is to bring together several production projects in West Africa (Togo, Ghana, Senegal, Benin, etc.) to justify joint investment in export infrastructure at the port of Lekki (Nigeria). This approach consolidates the logic of a controlled regional hub, offering France a unique position as energy corridor coordinator, while strengthening its influence in international bodies (Global Gateway, H_2Global, PIDA...).

Finally, this project is a technological showcase with high added value for French industries. It provides a controlled, rapid and adaptable testing ground for electrolysis, storage, cryogenics and certification technologies. It enables innovations that are still maturing to be tested on a real scale, and accelerates their upmarket development within a stable institutional framework. The result is a dual leverage effect: international industrial deployment for French companies, and the construction of a diplomatic narrative based on just transition, energy sovereignty and South-South-North interconnection.

POTENTIAL IVOIRIEN AND LEVIERS ARTICULATION

Côte d'Ivoire currently stands out as one of the most promising areas for the development of a green hydrogen industry in West Africa. With an installed capacity of 3,119 MW by 2024, 66% of which will be thermal, 33% hydraulic and 1% solar, the country has embarked on an ambitious energy transition aimed at achieving a 45% share of renewable energies by 2030. This strong political will, backed by international climate commitments, provides a strategic framework conducive to the emergence of a pilot project with high added value.

The Sud-Comoé region offers particularly attractive potential: it combines optimal sunshine, proximity to the national electricity grid, an abundance of agricultural biomass (oil palm, cocoa, cashew nuts), and easy access to export logistics infrastructures. Estimates suggest that nationwide recovery of agricultural waste could generate up to 1.3 million tonnes of green hydrogen per year, positioning the region as a potential pillar of the future Africa-Europe energy corridor.

But this potential cannot be realised without a strategic articulation of the available levers. The OUHDEL project is mobilising a robust ecosystem comprising :

- Key Ivorian institutions, such as the Ministry of Energy, CI-ENERGIES and CEPICI, which provide regulatory stability and strategic support.
- Major industrial partners, such as SIR, SIFCA, Bolloré and Arise, who will ensure that the project is part of an integrated development approach and creates local value.
- Recognised French technology partners (HDF, McPhy, EDF-CI), able to provide the equipment, engineering and expertise needed to develop production in line with European standards.
- Diversified financing levers, both public (AFD, Proparco, FASEP) and private (impact funds, partners such as Arise), which will enable the initial investment phases, estimated at between €350m and €400m, to be initiated, while ensuring flexibility in the structuring of the capital.

Lastly, this architecture is part of a regional vision: the Sud-Comoé project is designed to be the trigger for a process of aggregating projects on a West African scale, which could lead to the structuring of a regional hydrogen hub with an export interface from the Port of Lekki in Nigeria. This multi-polar positioning, rooted in reality and strengthened by solid institutional, industrial and diplomatic partnerships, positions OUHDEL Conseil as a credible orchestrator of a forward-looking energy value chain.

OUTLETS, EXPORTS AND ECONOMIC MODEL: A STRUCTURED, PROFITABLE PROJECT

OUHDEL Conseil's project stands out for the solidity of its commercial outlets, its credible logistics base and its rigorous economic structure. Three complementary markets have been identified: the developing Côte d'Ivoire market, West African regional outlets, and above all European markets, which are keen on green hydrogen and its derivatives. Côte d'Ivoire is positioned as a future production and export platform, at the heart of high-potential Africa-Europe corridors. The preferred medium-term option is to export green ammonia, a stable, easily transportable molecule that meets European certification requirements (RFNBO).

The port of Abidjan is the first logistical option in the short term. Modern, connected and with an operational infrastructure, it would enable an initial flow of exports to Marseille, Rotterdam or Antwerp. By 2028-2030, a dedicated hydrogen export terminal could be built at the port of Lekki in Nigeria. This prospect, conditional on the creation of a critical mass of production under the regional management of OUHDEL Conseil, would reinforce the emergence of a fourth African hydrogen hub, strategically positioned between Africa, India and Europe. The anticipated scenario is based on bringing together a number of producers (Côte d'Ivoire, Ghana, Benin, Senegal) and implementing a strategy of pooled investment in the downstream infrastructure of the port of Lekki (storage, conversion, certification), which is the long-term aim of our project - but is not currently included in the financing package.

The initial investment requirement for the Sud-Comoé project is estimated at between €350 and €400 million, including production and conversion infrastructure (ammonia) and initial logistics capacity. The average cost of hydrogen production is estimated at between €3.8 and €5/kg, while processing and logistics costs are estimated at between €1.5 and €2/kg for exports. These figures are consistent with international standards. The return on investment is modelled at between 8 and 12 years, depending on the ramp-up scenarios.

Three production scenarios are proposed in the deliverable:

Scenario A: recovery of palm and cassava residues.

- Scenario B: cocoa and rice residues.
- Scenario C: cashew nuts and mixed crops.

In each case, the project is progressively profitable, based on available resources, sustained European demand (the EU's target is to import 10 Mt per year by 2030) and clear Franco-Ivorian governance. This hybrid, adaptive model makes it possible to anticipate financing requirements at each stage, and to secure energy flows while placing the project within a shared diplomatic, economic and industrial framework.

RISKS, RESILIENCE AND RECOMMENDATIONS STRATEGIC

In any large-scale energy infrastructure, managing technical, economic and institutional risks is a fundamental pillar of credibility. The Sud-Comoé green hydrogen power plant project is no exception, and the study identified several potential vulnerabilities to which methodical responses are already planned.

On a technical level, the challenges relate in particular to the large-scale storage of hydrogen, the reliability of the logistics for supplying agricultural residues (raw materials), and the safe transformation into ammonia for export. These risks are real but manageable. The project proposes to back the installations with tried and tested international standards, while relying on high-level engineering support (in partnership with French leaders in the sector). Particular attention will be paid to optimising the logistics chain, via a coordinated system for collecting, pre-treating and storing agricultural residues, by integrating local players and existing channels.

In economic terms, the project is based on an initial investment estimated at €350-400m, which will be divided into several functional phases. This financing will be secured by a bilateral structure combining public instruments (FASEP, Proparco, AFD, FMO, etc.) and international private co-financing (such as the ARISE group). The diversification of partners helps to dilute risks, while increasing the leverage effect of sovereign financing. Flexible but robust governance is proposed through the creation of a Franco-Ivorian consortium, led by OUHDEL Conseil, to ensure strategic coherence, compliance with European standards and overall diplomatic alignment.

Finally, the operational recommendations emphasise the need for appropriate, targeted communication to secure the support of local and international stakeholders. A capacity-building strategy, supported by Ivorian operators and skilled diasporas, will increase employability, reduce technical asymmetries, and promote genuine territorial ownership. The creation of a specific regulatory framework, agreed with the Ivorian authorities and inspired by European best practice, will consolidate the attractiveness of investment.

This clear-sighted anticipation of the technical and institutional obstacles, combined with concrete, fundable recommendations, confirms that the Sud-Comoé project is not a technocratic utopia, but a mature infrastructure, rigorously prepared and capable of catalysing a new energy model for the region.

SHORT-TERM STEPS

The operational launch of the Sud-Comoé green hydrogen project is based on a structured sequence, steered by OUHDEL Conseil, combining technical planning, institutional engineering and financial structuring. The aim is twofold: to secure a robust implementation framework and to set in motion a public-private partnership dynamic consistent with the region's industrial ambitions.

The first phase consists of mobilising a FASEP grant to cover the costs of the technical and economic feasibility study (impact studies, solar and water analyses, connection studies, electrolyser sizing, etc.), the production of a green ammonia demonstrator, and the preparatory work for exportability (RFNBO certification, RED II standards, logistics engineering). This critical stage is strongly supported by the French Treasury and offers an immediate leverage effect on the project's image with French and European donors.

At the same time, OUHDEL Conseil will lead the creation of a dedicated Franco-Ivorian consortium, bringing together ministerial authorities (Industry, Energy, CEPICI), French agencies (Treasury, AFD, Proparco), partner companies (builders, energy companies, design offices) and strategic investors such as ARISE. This consortium will act as the executive arm of the seed phase.

In terms of capital, the creation of a joint venture company is planned for this phase. This will bring together OUHDEL Conseil (via its holding company), industrial partners (EDF CI, Total CI), investors (ARISE) and Ivorian public institutions. This entity, which will be responsible for operational governance, will oversee the initial contracts, the legal arrangements, the establishment of a land base (in part supported by land contributions from ARISE), and the optimisation of financial flows (subsidies, concessional debt, strategic equity).

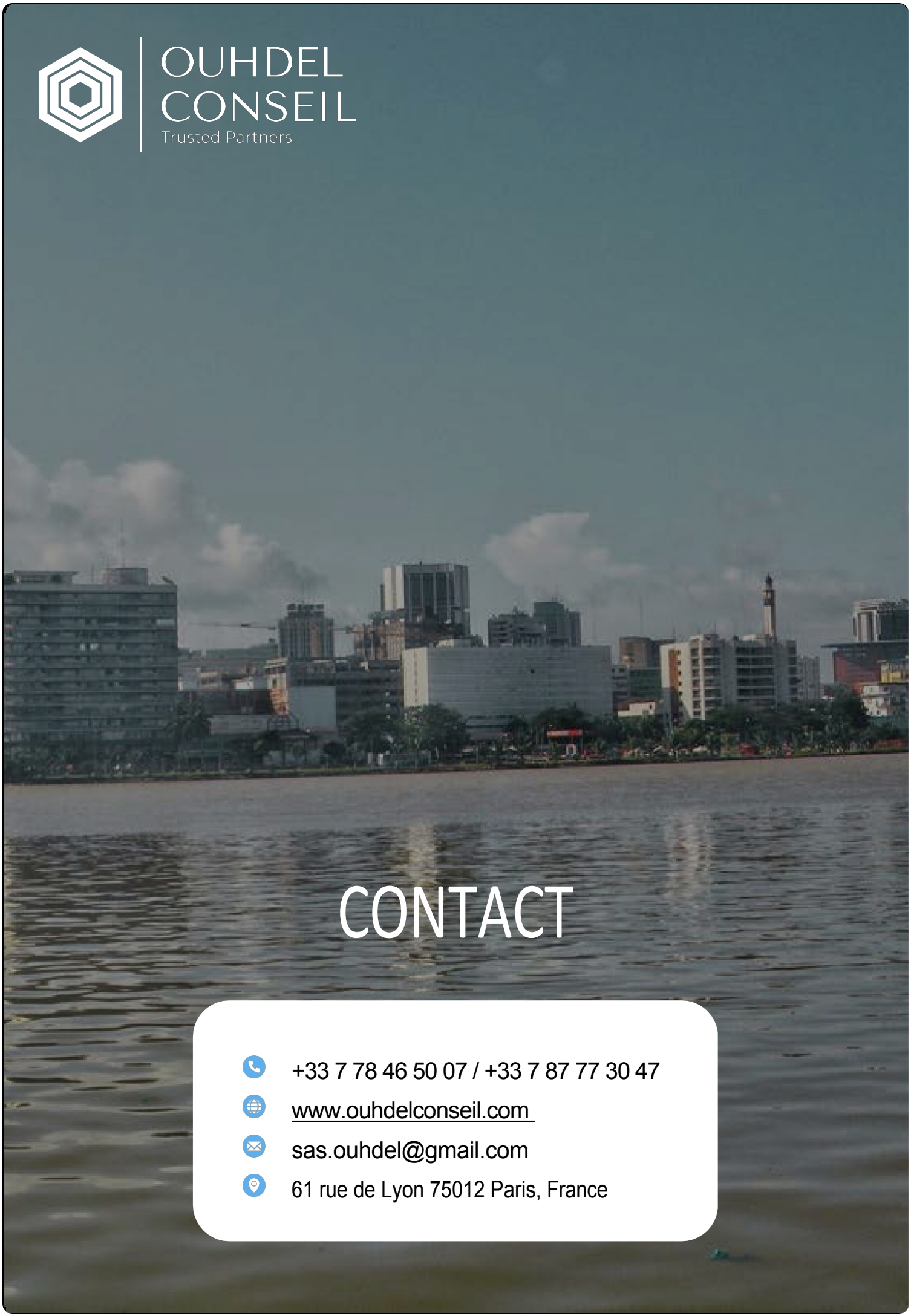
Finally, a three-pronged operational planning process has been launched:

(1) setting up the project coordination office in the Sud-Comoé region ;

(2) submission of the FASEP and launch of technical tenders;

(3) prefiguration of the export strategy (corridor modelling, logistics consultations, pre-agreements with green ammonia buyers).

These stages are designed to give the project legitimacy on the French, European and West African stages. They reflect OUHDEL's desire to develop a model of strategic cooperation at the crossroads of industrial, diplomatic and ecological ambitions.



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