



# Environment and Climate Resilience

2026



PUBLIC



INTERNAL



RESTRICTED



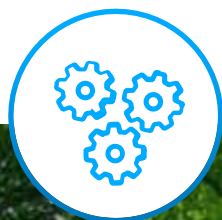
CONFIDENTIAL

# Make Tractebel your trusted Environment partner

Tractebel has 220 Environment and Climate Resilience experts

**Our environmental services encompass a wide range of activities**

Wind, solar, T&D, gas, hydro, nuclear, urban...



**We combine engineering and environmental expertise in the same project**

Limits interfaces and risks, saves time and money



**In-depth understanding of industrial assets and risks to provide tailored solutions**

Context-aware, industrially implementable solutions



# Tractebel has 6 main E&S products

## Product Overview

E&S Assessment & Permitting

E&S Management & Due Diligence

E&S Field Supervision & Monitoring

Environmental Modelling & Climate Change

Brownfield Redevelopment

Geomatics

**WITH TRACTEBEL**

**Owner**

  
**Engineering + Environment**  
Tractebel

# E&S Assessment & Permitting

Undertaking environmental and social assessments of business operations is key to **optimise the decision-making process** and maximise the project positive impacts.

- **Scoping & Screening studies**
- **E&S Impact Assessment Studies & Permitting**
- **Resettlement Action Plans**  
*Livelihood Restoration Frameworks & Plans*
- **Biodiversity Action Plans**
- **Emergency Preparedness & Response Management Plan**

# E&S Management & Due Diligence

Nowadays businesses are driven to act on their **environmental & social responsibility**. We conduct strategic analyses and studies to enable **orientated decision-making** for the management of E&S aspects.

- **Environmental and Social Management Systems**

*Structuration of governance and means for an improved management of E&S aspects*

- **Due Diligence**

*Productive risk management and guidance for decision making*

- **Regulatory Audit/Analysis**

*Productive compliance with applicable legislations and improvement*

- **Stakeholder Management**

*Creation of added value in the concept, design and implementation of an asset*



# E&S Field Supervision & Monitoring

Responsible development requires field supervision, environmental monitoring, and remediation measures for the development of sustainable projects.

- **Ecosystem-wide investigation projects**
- **Management of environmental protection actions**
- **Ecosystem restoration programs**
- **Mitigation of negative impacts from human activities**

# Environmental Modelling & Climate Change

Environmental modelling is a key tool to **anticipate possible environmental and socioeconomic impacts** caused by changes in the ecosystems.

Those changes can be driven by human activities/assets, as well as effects of climate change.

- **Climate change vulnerability assessments & adaptation plans**  
*Climate Risk Screening & cost assessment*
- **System modelling** *(hydrology, hydraulics, and reservoir)*
- **Flood risk management and urban resilience**
- **Groundwater contamination**  
*due to pesticides and fertilizers*
- **Watershed management**  
*incl. mitigation of erosion & changes in hydrologic regimes*



# Brownfield Redevelopment

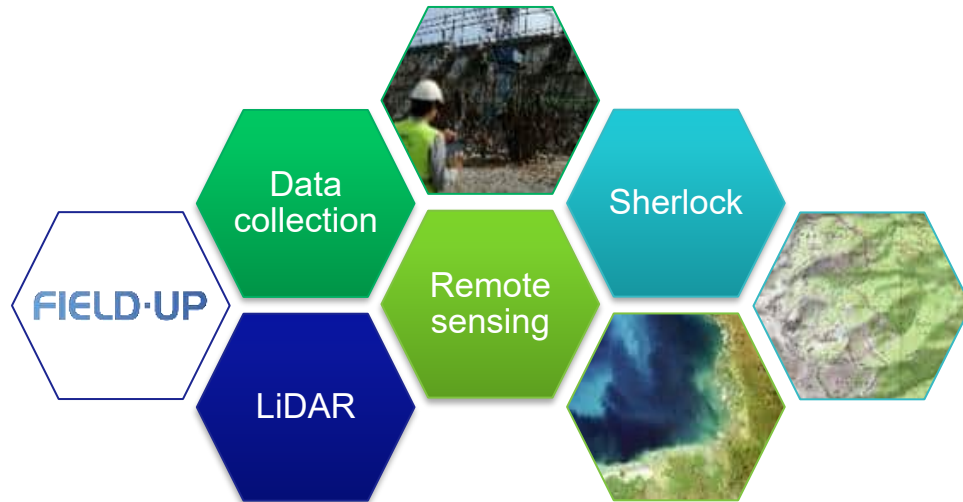
Before industrial sites or contaminated land can be reused, evaluation is needed to gauge the potential for decontamination and/or demolition and consider whether actions are required to manage, mitigate or compensate for impacts

- **Redevelopment of contaminated or industrial lands**
- **Decommissioning and demolition**
- **Dam De-characterization**
- **Underground tank leaks**
- **Waste Management**
- **Soil erosion**



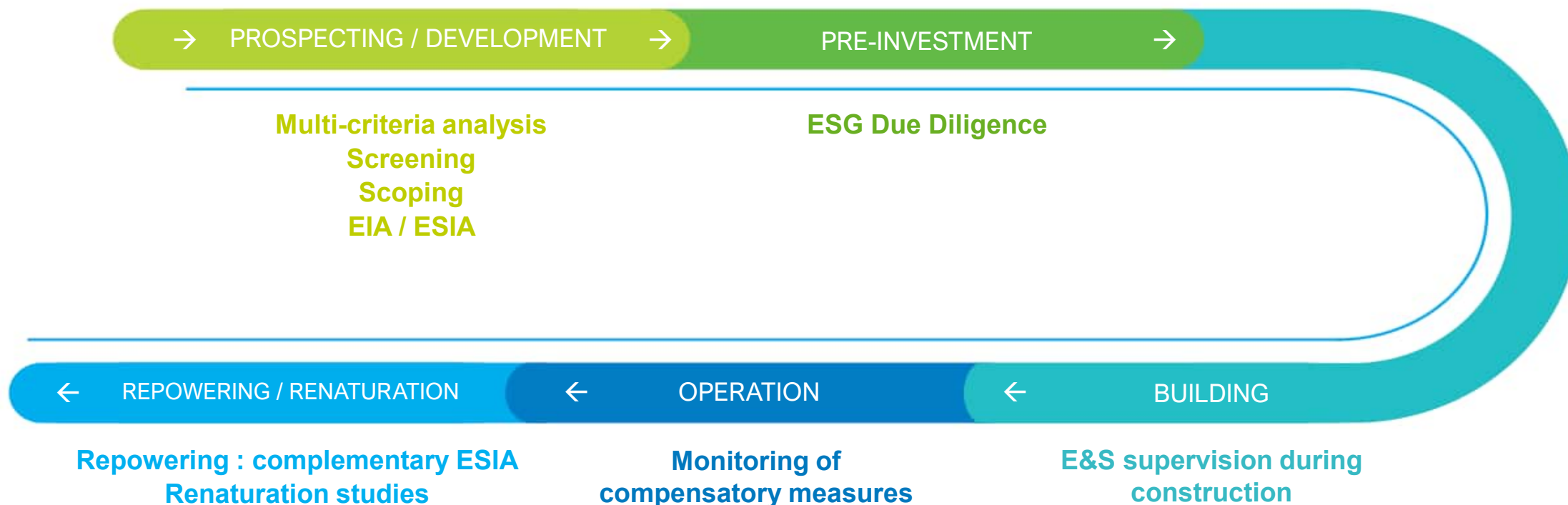
# Geomatics

Geomatics, the synergy of geography and informatics, allows us to capture, analyze, and integrate spatial data into meaningful insights. As an integral part of our engineering team, Geomatics enables us to **visualize the context of our projects, predict impacts and foster sustainable solutions.** Revolutionizing engineering with a spatial perspective, Geomatics makes us leaders in sustainable innovation.



# We reduce risks

At every stage of your project





# Ivory Coast – Liberia Interconnection Project

Creation of a 225 Kv line over 650 km to strengthen electricity production/distribution in the region, and creation of 4 substations.

CLIENT

**West African Power Pool (WAPP)**

LOCATION

**IVORY COAST - LIBERIA**

PERIOD

**2023 – Ongoing**

SERVICES  
PROVIDED

- **Environmental and Social Impact Assessment (ESIA)**
- **Resettlement Action Plan (RAP)**
- **Stakeholder Engagement Plan (SEP)**
- **Multicriteria analysis (MCA)**
- **Detailed Mapping, implementation of tools and data survey (GIS)**

ADDED VALUE

**Provision of adequate transmission capacity for the exchange of electricity between ECOWAS Member States. T&D corridor with the minimal environmental and social impact. Stakeholder engagement throughout the project.**

# Thiès wind and solar farm project, Senegal

The project consists of the construction and operation of a power plant including: a wind farm with a capacity of 150MW; a 100MWp photovoltaic solar farm; an energy storage battery system (BESS) with a capacity of 100MW/400MWh.

CLIENT

**CME AFRICA SA**

LOCATION

**SENEGAL**

PERIOD

**2023 – Ongoing**

SERVICES  
PROVIDED

- **Environmental and Social Impact Assessment (ESIA)**
- **Environmental and Social Management Plan (ESMP)**
- **Resettlement Action Plan (RAP)**
- **Stakeholder Engagement Plan (SEP)**
- **Detailed Mapping (GIS)**
- **Multicriteria analysis (MCA)**

ADDED  
VALUE

**Eco-design (pre-feasibility stage) with technical teams to avoid impacts on biodiversity and populations.**

# IFC Wind, Ivory Coast

The goal is to identify up to five sites suitable for the development of wind power projects in Côte d'Ivoire. This selection will be based on technical, social, and environmental criteria, while also taking into account economic considerations, with a view to conducting in-depth visits.

CLIENT **CI-ENERGIES, funding by IFC (WB)**

LOCATION **IVORY COAST**

PERIOD **2023-2024**

SERVICES

- **Multi-Criteria Analysis (MCA)**
- **GIS Mapping**
- **Stakeholder Analysis**
- **Review of Regulatory Requirements**
- **Site Screening Based on Environmental and Social Issues**

ADDED VALUE

**Definition of a shortlist of sites offering the highest technical potential while minimizing environmental and social risks.**



# E&S Services for Seven Forks, Kenya

Development of a new solar plant close to the Kamburu dam with hybridization on the cascade of hydropower plants present on the Tana river. Integrated management system of the solar and hydro electricity generation.

CLIENT **KenGen (financed by AFD)**

LOCATION **KENYA**

PERIOD **2021 – 2023**

SERVICES PROVIDED

- Feasibility study
- Environmental and Social Impact Assessment (ESIA)
- Livelihood Restoration Framework
- Livelihood Restoration Plan (LRP)
- Biodiversity Compensation Plan

ADDED VALUE

**Integrated management system considering the strong social issues linked to the presence of ethnic clans. Identification of a compensation site in consultation with stakeholders.**



# Coastal Vision

**Strategic Adaptive Planning  
to keep protecting Belgium's coast in view of climate change**

CLIENT	<b>Flemish Government</b>
LOCATION	<b>Belgium</b>
PERIOD	<b>2021-2025</b>
TIME HORIZON	<b>2100; &gt;3m sea level rise</b>
SERVICES PROVIDED	<b>Climate Risk Assessment, Adaptation Pathways, Nature-Based Solutions, Adaptive planning &amp; Management</b> <b>Scientific sound studies to compare future alternatives: technical design, environmental impacts &amp; opportunities, economic interests (tourism, ports)</b> <b>Calculation of risks &amp; benefits, advanced numerical modelling, addressing uncertainty (data, models, predictions)</b> <b>Decision framework to balance the different ambitions → supported policy choices for advanced risk management</b> <b>Intense cocreation process &amp; involvement &gt; 100 professional stakeholders</b>



# Climate vulnerability assessment for hydropower assets

Macro approach co-construction for vulnerability assessment, data analysis & visualization, economic analysis of adaptation measures

CLIENT	Engie
LOCATION	World
PERIOD	2021-2025
CAPACITY	17.8 GW
SERVICES PROVIDED	<b>Climate Change studies</b> <b>Hydrological studies</b> <b>GIS – Mapping</b> <b>Cost assessment</b> <b>Adaptation measures</b>



# Climate Change vulnerability assessment of hydropower sector, Ivory Coast

The proposed hydropower system of the Bandama and Sassandra watersheds provide a combined installed capacity of 1 202 MW. Projected increases in precipitation over the next decades offer an opportunity to further develop the system's capacity and better integrate clean energy into the overall energy plan.

CLIENT **SUEZ (financed by AFD)**

LOCATION **Ivory Coast**

PERIOD **2020 - 2022**

SERVICES PROVIDED

- **Climate risk management plan**
- **Real-time water management tool**

ADDED VALUE

**A long-term strategic direction for the energy sector in the Ivory Coast.**

**The real-time water management tool encourages improved water management in the system as well as better integration across energy sub-sectors in allocating annual targets.**

# ESG Due Diligence

ESG Due Diligence for sell of stakes in 3 gas-fired power plants in Africa.

CLIENT **Confidential**

LOCATION **IVORY COAST, TOGO**

PERIOD **2024**

SERVICES PROVIDED **ESG Due Diligence**

ADDED VALUE **Development of evaluation grid and methodology to perform ESG DD based on IFC Standards.  
Valorization of knowledge from the World Bank E&S framework.**

## Reception and maintenance infrastructure for the new generation aircraft carrier (PANG)

As part of the construction of a new dry dock, two quays, and an industrial zone designed to accommodate and maintain the successor to the Charles de Gaulle, which is due to take up residence at the naval base from 2035, Tractebel is responsible for the design studies for reception facilities.

CLIENT **ESID / DGA**

LOCATION **FRANCE**

PERIOD **2026 – 2037**

SERVICES **Design studies for PANG reception facilities (preliminary design and detailed design)**

ADDED VALUE **Multi-disciplinary with aspects covering maritime, civil engineering, geotechnics, nuclear, equipment, roads and utilities, electricity, safety, dredging, and the environment**

# Why choose us ?

## Environment

- Strong environmental skills backed by decades of multidisciplinary experience, including climate resilience and stakeholder engagement
- Deep understanding of infrastructure and energy assets E&S processes & regulations
- Strong track record on high impact, complex projects
- Advanced digital tools, modelling capabilities & flexible delivery models

## Engineering

We propose

- Expertise independent from technology providers and contractors
- Lean organization and experienced team
- Services covering the full value chain

With a

- Capacity to turn a concept into solid contracts with contractors, limiting risks for Clients
- Experience from complex and small to large CAPEX projects
- Integrated quality management system
- State-of-the-art engineering tools and methods



# Tractebel provides integrated engineering and environmental services grounded in decades of experience



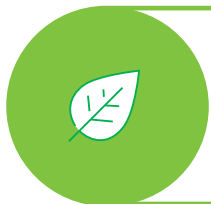
## Integrated model for customized offers

Tractebel offers customized delivery models by setting up integrated engineering and environment project teams, reducing interfaces, costs and risks.



## Strong track record

Tractebel has relevant track records in energy and infrastructure projects. The experience of our environment and engineering experts allow them to understand the technical heart of each asset.



## Advanced modelling for sustainable design

Tractebel's numerical modelling expertise is a clear added value, especially regarding climate change adaptation, eco-design and carbon footprint reduction.

# CONTACT



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