

# Artelia, a multidisciplinary and independent international group

Engineering - Project management  
Consultancy - Audits  
EPC - Turnkey



- Building construction
- Multi-site programmes
- Industry
- Water
- Maritime
- Environment
- Energy
- Transport
- Urban development

# Energy

Speeding up the energy transition



[www.arteliagroup.com](http://www.arteliagroup.com)

Certifications du Groupe Artelia\* : ISO 9001-2015 | ISO 14001 | OHSAS 18001

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# Energy

Speeding up the energy transition

By developing renewable energy solutions and improving energy efficiency, Artelia is contributing to the transition towards green growth.

The **energy transition for green growth** has the ambitious objective of building a more sober society that is less reliant on fossil fuels and nuclear power.

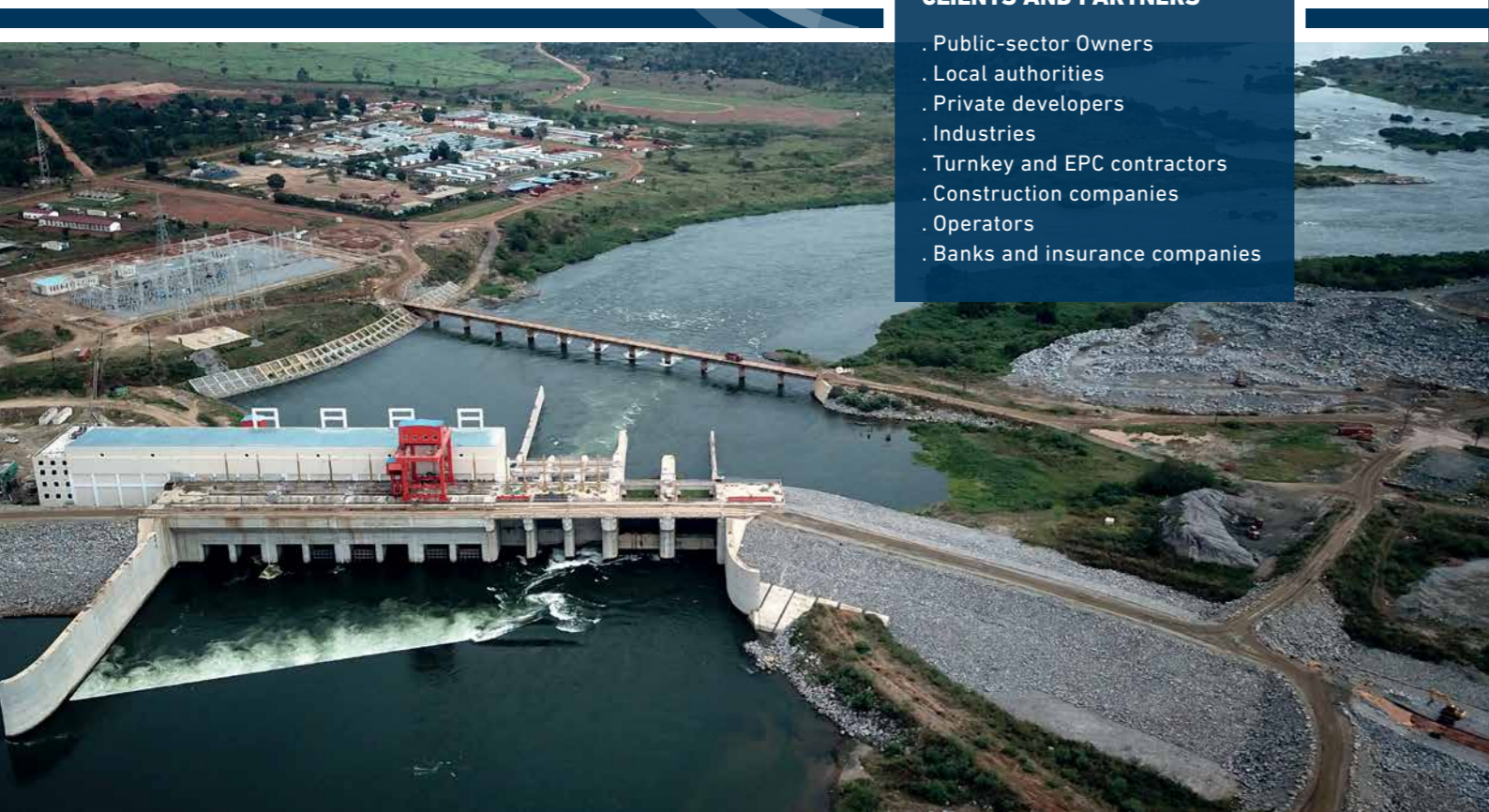
With projects involving hydropower, solar energy, wind energy, geothermal energy and marine energy, Artelia is taking up this challenge by helping its clients to design and implement decentralised energy production and distribution solutions that generate **local and renewable energy**. Notably, the Group is one of the world's top 20 engineering firms with regard to hydropower dams.

The rapid increase in the share of intermittent energy sources in electricity production represents a challenge for grid operators. Artelia's teams are particularly involved in this topic and are working, for example, on innovative **energy storage** and **hybrid** energy system solutions.

Artelia also proposes digital solutions to increase the **energy efficiency of buildings and facilities**, such as connected objects, artificial intelligence and smart grids. Digital technologies are opening up a wide range of possibilities and the potential outcomes are promising.

## CLIENTS AND PARTNERS

- . Public-sector Owners
- . Local authorities
- . Private developers
- . Industries
- . Turnkey and EPC contractors
- . Construction companies
- . Operators
- . Banks and insurance companies



## MASTER PLANS AND SECTOR STUDIES

- . Demand forecasting
- . Master plans for electrification and interconnected networks
- . Audits, due diligence
- . Economic and financial analyses
- . Tariff and institutional studies
- . Energy supply for urban and industrial projects

## HYDROPOWER

- . Evaluation of water resources
- . Inventories of hydropower sites
- . Evaluation of production capacity
- . Hydropower plants (low, medium and high heads)
- . Pumped-storage schemes
- . All types of dams
- . Tunnels and underground structures

## MARINE ENERGY

- . Offshore wind farms
- . Marine energy (tide, currents, waves)
- . Wave and marine thermal energy
- . Design and study of submarine cables and landfall structures

## OTHER RENEWABLE ENERGY SOURCES

- . Photovoltaic solar (connected to the grid or stand-alone)
- . Thermal and thermodynamic solar (CSP)
- . Onshore wind farms
- . Biogas, biomass
- . Geothermal energy
- . Micro hydropower plants
- . Multi-energy solutions

## ENERGY STRATEGY

- . Impacts of climate change and adaptation strategies
- . Emission assessments and carbon strategies
- . Deployment of renewable energy and energy efficiency solutions
- . Sustainable construction and renovation strategies

## ENERGY EFFICIENCY

- . Demand-side management (DSM)
- . Energy audits for buildings and industrial processes
- . Thermal and electrical modelling and simulation
- . Energy operation and maintenance engineering
- . Energy performance management and monitoring
- . Renovation strategies
- . Building certifications (green buildings, LEED, BREEAM, etc.)
- . Eco-design for different climatic situations

## POWER NETWORKS - INTERCONNECTIONS

- . Line routing and layout studies
- . Electrical studies for networks
- . HV and MV transmission lines and substations
- . Telecommunication media
- . Distribution networks and substations
- . Remote control and surveillance systems
- . Smart grids
- . Rural electrification

## HYBRID ENERGY SYSTEMS AND ENERGY STORAGE

- . Decentralised electrification
- . Autonomous power plants based on renewable energy or hybrid systems
- . Modelling of energy storage solutions and system services