



COMPANY PRESENTATION

International business

General Background

Naldeo is a leading French engineering and consulting firm serving public and private entities from the early project stages all the way through construction. Our services range from feasibility studies, environmental management, and due diligence to construction supervision and operation management.

Naldeo has accrued more than a thousand of references through 50 years of experience in 5 major business sectors: Water & Sanitation, Solid Waste management, Environment, Energy, Urban Development, Industry Decarbonization and Risk management.

Naldeo is ISO 9001, ISO 14001, OHSAS 18001 and ISO 50001 certified.

WATER & SANITATION

- Urban water supply
- Desalination
- Non-Revenue Water
- Wastewater treatment
- Distribution networks & water storage
- Flood modeling and meteorological analysis
- Master planning
- Contract management & legal advisory services
- Financial and technical audits
- Institutional reinforcement

ENERGY

- District heating and cooling
- Biomass and biogas
- Renewable energy
- Energy efficiency
- Smart grids
- Contract management & legal advisory services
- Financial and technical audits
- Institutional reinforcement

ENVIRONMENT

- Environmental & Social Impact Assessments (ESIAs)
- Strategic Environmental Assessments (SEAs)
- Environmental Management Plans (EMPs)
- Biodiversity and conservation
- Water resources management
- Due diligence
- Compliance and permitting
- HR development and institutional strengthening

WASTE

- Waste collection
- Waste transfer & transport optimization
- Sorting & recycling
- Landfills, waste-to-energy, sludge digestion
- Master planning
- Contract management & legal advisory services
- Financial and technical audits
- Institutional reinforcement

Advisory services

NALDEO also deliver advisory services in the above fields, covering transaction advisory for PPPs, contractual audits, due diligences, institutional advisory, financial expertise and modeling, assistance strategic planning and capacity building.

Company History

Since December 2012, **Pöyry France** has changed ownership and has become **Naldeo**. The company is now jointly held by its employees (majority shareholder) and by the French Private Equity Demeter, ensuring its complete independence from any public or private entity.

In September 2020, Naldeo made the acquisition of the Energy division of Bertin Technologies, a renowned engineering company focusing on innovative technologies. This entity, now known as Naldeo Technologies &

Industries, brought to Naldeo group new skills in the fields of Industry decarbonization, Renewable energy and Digital services.

Country Experience

Naldeo has extensive international experience with assignments in about 40 countries in Europe (France, UK, Albania, Moldavia, Romania, Ukraine, Italy, Serbia, Bulgaria, Belarus, Finland, Sweden, Switzerland), Africa (Algeria, Burkina Faso, Cameroon, Cabo Verde, Congo, Djibouti, Ethiopia, Gabon, Kenya, Madagascar, Mali, Mauritania, Morocco, Niger, Nigeria, Rwanda, Senegal, South Africa, Togo, Tunisia, Zimbabwe), Indian and Pacific Oceans (Mayotte, New Caledonia, Samoa Islands), Asia (Laos, Vietnam) and Central Asia (Kazakhstan, Uzbekistan) and in some other countries (Jamaica, Antigua&Barbuda, Belize).

Expertise and Services in the Water & Sanitation Sector

Naldeo's capabilities in the Water & Sanitation sector include:

WATER RESOURCES MANAGEMENT

- Water resource management at the watershed or regional level
- Water quality assessment and aquatic ecology
- River management and ecological networks
- River hydrology and hydraulics: flood risk management, flood and meteorological modeling
- River morphology: sediment transport, geomorphology, ecological continuity, waterways bank restoration
- Groundwater / surface water interactions, groundwater management and artificial recharge
- Water resources information systems

WATER & SANITATION

- Water and wastewater treatment
- Desalination
- Distribution networks & water storage (dams and reservoirs)
- Master planning
- Contract management & legal advisory services
- Assistance for PPPs and transaction advisory
- Financial and technical audits
- Institutional reinforcement

ENVIRONMENTAL STUDIES

- Environmental and Social Impact Assessments (ESIAs)
- Strategic Environmental Assessments (SEAs)
- Environmental Management Plans (EMPs)
- Resettlement Action Plans (RAPs)
- Stakeholder engagement and consultation
- Environmental permitting
- Greenhouse gases (GHG) inventories and mitigation measures



Water distribution network in Oujda, Morocco
Source: Naldeo 2011



Congo- Environmental and Social Impact
Assessment Study for the Zanaga Iron Ore
project
Source: Naldeo 2014

Selected references in the Water & Sanitation Sector

France – Engineering and technical assistance for plants and networks construction works

- Transaction advisor for a performance based affermage contract for the operation of water services of to SEDIF (population 4,5 million, 9000 km network) – PBC Contract amount: 4 billion €

European Environment Agency - Copenhagen

- Implementation of ECRINS method

16 countries including Balkans

- Danube River Program - Sustainable Water Sector Capacity Development Project – 17 countries considered - Training in the field of Utility Management

Morocco – Non Revenue Water

- Audit of the water distribution and network management and operation in Oujda and Fes with main target to reduce Non Revenue Water
- Engineering of several waste water treatment plant for secondary towns

Zimbabwe – Urgent water supply and sanitation project

- Technical assistance (Multi-Donor Trust Fund managed by AfDB)

Kenya – Non Revenue Water

- Assistance for the reduction of Non-Revenue Water in 4 secondary towns : Thika, Embu, Eldoret, Murangaa South (KMT)

Angola - Burundi - Congo Brazzaville - Ghana - Kenya - Rwanda - Togo - Zambia

- Multi-country Water Sector Assessments and Project Identification for the European Investment Bank (EIB)

Cape Verde – Non Revenue Water

- Non-Revenue Water Study – Santiago Island (Funded by the Millenium Challenge Account)

Romania – Water and sanitation master planning

- Technical assistance for the construction of a potable water plant, a 42 km feeder and a waste water treatment plant in Bacau (ISPA)
- Environmental, Infra and Institutional Master Plan of the Trotus River Basin (French Aid)

Lao PDR – Water supply

- Supervision and Control of the Vientiane Drinking Water Network Construction Works

Vietnam – NRW reduction program in Hanoi

- NRW study and DMA design for about ¼ of the city of Hanoi (World Bank)

Togo – Water supply and distribution

- Technical assistance with project management and operations to improve drinking water system for the city of Lomé – Design and supervision of works for the extension of the water network

Benin – Water reform

- Assessment of the operational performance of the National Water Utility SONEB – Assistance to the preparation of a PPP and the creation of an Asset Management Company and a Regulation Authority

Morocco – Audit of ONEE

- Audit of operational processes of ONEE (National Office for Water and Electricity)

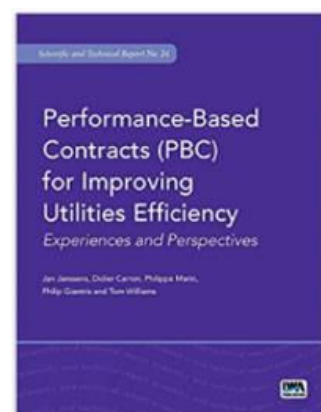
Jamaïca

- Technical and Business advisory for the reduction of NRW through a PPP/PBC contract (DBJ / World Bank)

Involvement with IWA

NALDEO is active with IWA:

- Member of IWA and gold sponsor in 2013-2014
- Didier CARRON Vice- President of the task group on performance based contracts
- Didier CARRON main coordinator and contributor for a book under preparation on Performance-Based Contracts, to be published by IWA in October 2018



Expertise and Services in the Waste Sector

Naldeo's capabilities in the Solid Waste Management (SWM) sector include:

TECHNICAL ASSISTANCE

Feasibility studies, preliminary design, detailed design, economic and financial analysis for:

- Collection: Community Waste Depots
- Transfer: Transfer Loading Stations
- Transport optimization
- Treatment and creation of value from waste: Landfilling, Recycling, Waste-to-Energy, Composting, Landfill Gas (LFG) capture and use

INSTITUTIONAL STRENGTHENING

- Legal advisory services
- Operation & contract management
- Integrated solid waste management plans
- Training on waste and environmental management issues

ENVIRONMENTAL MANAGEMENT

- Environmental and Social Impact Assessments (ESIAs)
- Environmental Management Plans (EMPs)
- Environmental permitting
- Stakeholder engagement and consultation
- GHG inventories and mitigation measures



Douda Landfill in Djibouti
- Source: Naldeo 2015

Solid waste management
Mombasa and Nakuru,
Kenya
Source : Naldeo 2008

Solid waste
management
Loches – France –
Production of Biogas
Source: Naldeo 2015



Selected projects in the waste sector

Djibouti – Technical Assistance for the Implementation of the Solid Waste Management Project in the City of Djibouti, ADDS/AFD (2013-ongoing)

Naldeo is providing technical assistance to Djibouti Social Development Agency (ADDS) and Office de la Voirie Djiboutienne (OVD) in order to modernize waste collection services (installation of waste collection points in Balbala; design and construction supervision of two garages), strengthen the institutional framework and improve landfill operation.

Kenya – Nairobi Metropolitan Improvement Project (NaMSIP), MoLH&UD/WB (2014-2015)

Naldeo is providing consultancy services for landfill site identification, and preparation of feasibility studies, plans, final designs and bidding documents for integrated solid waste management & investment within the Nairobi Metropolitan Region (NMR).

Kenya - KISIP project

Socio-economic Surveys, Infrastructure Upgrading Plans and Engineering Designs in Informal Settlements (EIB)

Nigeria – Feasibility Study for Solid Waste Management Improvement in Lagos, LAWMA/AFD (2014)

Naldeo conducted an evaluation and needs assessment, and developed investment packages to improve SWM in Lagos, including Community Waste Depots (CWD), Transfer Loading Stations (TLS), reclamation and closure of Lagos largest landfill: Olushosun, and development of a new bioreactor landfill and MRF in Epe.

Uzbekistan – Feasibility Study for the Project: “Modernization of the Solid Waste Management System of Samarkand”, AFD (2014)

Naldeo evaluated the current situation, identified needs & gaps, and developed technical, institutional and financial recommendations to modernize Samarkand’s solid waste management system, including the reclamation & closure of the existing open dump, and development of a new bioreactor landfill and material recovery facility (MRF).

Uzbekistan – Feasibility study for the implementation of the “Green Tashkent” project, AFD (2010)

Naldeo conducted a feasibility study to improve the quality and availability of Waste Management services and modernize the entire urban lighting system.

Ethiopia – Feasibility study for integrated solid waste management in the city of Addis Ababa and surrounding towns, Addis Ababa City Administration / AFD (2007 and 2010-2011)

Naldeo was awarded a contract in 2007 for a pre-feasibility study to define a master plan for the city’s integrated SWM system, including the selection of the new dump site and 3 transfer stations. In 2010-2011, Naldeo developed a follow-up study including detailed technical, economic and social feasibility study, recommendations for the optimal institutional framework (including private sector participation) and recommendations for AFD funding.



Landfill in Samarkand, Uzbekistan
Source: Naldeo 2014

Expertise and Services in the Energy and Industry sectors

Naldeo's capabilities in the Energy and Industry sectors include:

RENEWABLE & SMART ENERGY PRODUCTION :

- Diagnosis of renewable energy production potential at plant/site, district or regional level (e.g. using proprietary software ENERSQUID®, see www.enersquid.com for details)
- Design and setup of autonomous and smart energy systems: engineering studies, procurement assistance, permitting, construction follow-up
- Supply and implementation of operational energy management (proprietary EMS software ENERBIRD®)



INDUSTRY DECARBONIZATION:

- New technologies potential studies: Hydrogen, Carbon capture, Bioenergies, Smart grids...
- Carbon footprint analyses and decarbonization strategy definition
- Optimization of water, electricity and utilities energy consumption for industrial sites
- Onsite renewable energy production design and implementation: PV and thermal solar, Biomass, Geothermal energy...
- Multi-flux consumption monitoring and continuous improvement with proprietary software package NALDEO INDUSTRIAL METRICS® and performance contracts
- Financial engineering (subsidies, loans, investors...) and identification of new revenue line items



INDUSTRIAL RISK MANAGEMENT

- Risk review (HAZID, HAZOP) of industrial processes
- Assessment of reliability and availability of critical systems (nuclear plants, military equipment, energy supply to sensitive industries)
- Filing of environmental permits for greenfield plants in various industries (oil&gas, refineries, renewable energies, water treatment plants...)



SKA telescope in South Africa
Source: www.skatelescope.org

Reduction of water use in solar
CSP plants
<https://solwaris.eu>



Selected references in the Energy & Industry Sectors

Romania - Design of a cogeneration unit and a solar PV plant coupled to an industrial site (2018)

Naldeo performed a preliminary study for a cogeneration plant of 100 MWe and 800 t/h of HP steam, for the 2nd biggest gas consumer in Romania. Assessment of solar PV production potential and pre-design of a solar PV plant were also covered.

South Africa – Study of renewable energy supply for a telescope project, funded by FASEP (2019-2020)

Naldeo demonstrated the feasibility of powering the SKA Giant Telescope with renewable and local energy sources. 20 scenarios were investigated, using Naldeo proprietary tool ENERSQUID (www.enersquid.com) dedicated to assessment of energy transition projects.

Antigua and Barbuda – Green Barbuda Solar Hybrid (GBSH) project (2020-2021)

Naldeo was in charge of the engineering, development, procurement and commissioning of a power management system (PMS) and a supervisory control and data acquisition system (SCADA) for the GBSH project. The GBSH project is a solar PV, diesel and battery hybrid power plant being developed with joint funding from the UAE and New Zealand, Antigua and Barbuda and the CARICOM Development Fund, and implemented by Masdar.

Belize – Belize Rural Electrification Project (BREP) project (2020-2021)

Naldeo was in charge of the engineering, development, procurement and commissioning of a power management system (PMS) and a supervisory control and data acquisition system (SCADA) for the BREP project. The BREP project is a solar PV, diesel and battery hybrid power plant supplying energy to Indian Creek village and other surrounding villages in Belize.

Worldwide sites of BOSTIK (ARKEMA Group) – Deployment of a risk analysis methodology (2016-2019)

Naldeo created a methodology for Process Hazard Analysis (PHA), and managed its roll-out on worldwide sites (pilot in the Netherlands, followed by deployment in the Philippines and all other sites).

Vietnam – Feasibility studies for a solar photovoltaic plant (2018)

Feasibility studies for a 200MWp PV plant, for a local company that was a pioneer in solar PV in Vietnam when the feed-in-tariff for solar energy was created in the country. Assistance to the project developer in all aspects of project: technical definition, financing, preparation of future calls for tender.

Turkey and Belgium – Demonstration project for enhancing heat networks with geothermal energy (2019-2023) - www.geosmartproject.eu

GeoSmart (Technologies for Geothermal to enhance competitiveness in smart and flexible operation) is a project funded by the European Commission through Horizon 2020 program. Breakthrough technologies for heat storage will be implemented on two existing geothermal plants (in Balmatt in Belgium and Zorlu in Turkey). Naldeo leads the engineering of these two demonstrators.

Spain – Demonstration project for Concentrated Solar Power (2018-2022) - <https://solwaris.eu>

SOLWARIS (Solving Water Issues for CSP Plants)) is a project funded by the European Commission through Horizon 2020 program. Partners involve DLR (Germany), Cranfield University (UK), CEA and Naldeo (France). It aims at testing technologies to drastically reduce water needs in solar CSP plants. Naldeo is in charge of designing and building the system for cold thermal energy storage, to be implemented and tested on « La Africana » plant in the south of Spain.

Various countries in Middle East & North Africa - Solar resource assessment for solar CSP and CPV projects (concentrated solar power)

Over 10 campaigns conducted in the MENA region using Naldeo's proprietary resource measurement station.





Advisory services

Our vision

Service delivery today requires a comprehensive and sophisticated approach integrating institutional, social, economic, environmental and financial concerns.

A single type of expertise is inadequate for delivering sustainable services in a world increasingly characterized by increasing demands for improved services and value, volatile economies, conflicting interests, climate uncertainty, energy scarcity and new technological developments.

Today's world requires that managers look beyond traditional frontiers, adapt their strategies and approaches to political and economic transformations, and look ahead to the future.

Our approach

We provide our clients with strategic advisory services for utilities and large-scale, high-impact and multi-sector schemes.

We ensure that our clients have access to the latest international best practices to stay at the forefront of their fields.

Our global experience and multi-dimensional expertise means that we are well placed to provide sound and strategic advice that helps our clients move away from piecemeal solutions and towards tailored and sustainable solutions.

Our services

Public-Private Partnerships (PPP)

We have expertise helping our clients to get value for money and help ensure a win-win situation for all parties. We advise on relationship, financial, economics, legal, regulatory and management issues – all crucial to the success of PPPs – and help our clients to design and implement tailored solutions.

Policy

- Enabling environment, regulatory tools, national and local policy development
- Contract design
- Advice on type of PPP, cost-benefit analysis, setting performance targets, drafting contract templates, legal advice, transparency, roles & responsibilities, access and sharing of data/reporting requirements

Monitoring and evaluation

- Impact assessment, audits, M&E capacity building, risk management, improvement plans
- Relationship management
- Negotiation, mediation

Transaction support

- Financial structuring, due diligence, market analysis, contract advice, risk management, performance based-contracts, outsourcing

Recent Experience:

- Advisory services to SEDIF for new PPP contract (population 4.5 million - Paris region - France). Total amount 3 billion € - Innovative introduction of performance based concepts.
- Consulting services to IFC (World Bank Group) to identify opportunities for PPPs in water, energy, and health sectors (Morocco).
- Water PPP Framework – Feasibility Study For The City Of Atyrau Water Project – Kazakhstan
- Advisory services for a new PPP contract for the operation of the Water Utility of Greater Marseille (population 1,5 million)
- Feasibility study for the design and the construction of a new waste water treatment plant in Astana, Kazakhstan under a PPP (concession or BOT) – Asian Development Bank
- Benin: institutional, organizational and technical support to the Government of Benin for the water reform : creation of an asset management company and of a Regulation Authority
- Jamaica: Technical, institutional and contractual expertise for transaction advisory for a PPP/PBC contract

Strategy

Our clients range from public utilities and governments to private investors looking for major strategic and operational advice to transform their business

Growth strategy

- Feasibility studies, benchmarking, business planning, investment advice, project identification and preparation, low-carbon growth

Institutional advice

- Optimizing institutional arrangements, restructuring, repositioning, policy, sustaining change, building innovation culture, supporting governance and anti-corruption

Master planning

- National, city and regional plans, cross-sector linkages

Recent experience:

- Design of carbon sink to offset emissions related to the destruction of forests for multiple hydropower schemes (Cameroon).
- Identification of large-scale investment opportunities and project design in the water and sanitation sectors (8 countries in sub-Saharan Africa).
- Tashkent Green City: Energy efficiency and sustainable solid waste management for the capital city of Tashkent (Uzbekistan)

Performance Improvement

We align strategies with systems and processes to improve operational efficiency and effectiveness of service providers, industry, governments and environmental agencies. We balance short-term performance needs with a long-term vision

Human Resources

- Performance management, incentives, capacity building, leadership skills, benchmarking, management innovations

Asset Management

- IT, capacity building, management systems, financial methods, maintenance systems, asset productivity

Efficiency

- Non-revenue water reduction (NRW), increasing revenue collection, strategic cost reductions, energy efficiency, financial and operational performance improvement programs (FOPIP), energy performance contracts (ECP)

Recent Experience:

- Asset management expertise for Bordeaux Water Utility in the framework of PPP contracts for water and wastewater (France)
- Performance-based contract design for NRW reduction in Hanoi (Vietnam)
- NRW : Audit of the water distribution and network management and operation of Oujda (Morocco)
- NRW : audit of the water distribution and network management and operation in the Isle of Santiago (Capo Verde) and design of a strategy for NRW reduction (MCC financing)
- NRW : assistance for the establishment and the implementation of performance contracts for the reduction of Non-Revenue Water in Kenya : cities of Thika, Eldoret, Muranga and Embu
- Project “Developing a Utility Management Training Program Curricula Framework for the Water Supply and Wastewater Utility Managers in the Danube Region”. Danube River Program - 16 countries concerned – Naldeo in charge of 6 topics –
- Audit of operational processes of the water branch and of the electricity branch – ONEE - Morocco

Financial and Socio-economic Analysis

The financial, social and economic features of a project or a business are often the key to success.

We help our clients to optimize their revenue while balancing social and environmental considerations and plan for sustained growth

Financial planning

- Forecasting, cost-benefit analysis, reviewing capital structure, accounting practices, tariff analysis

Climate economics

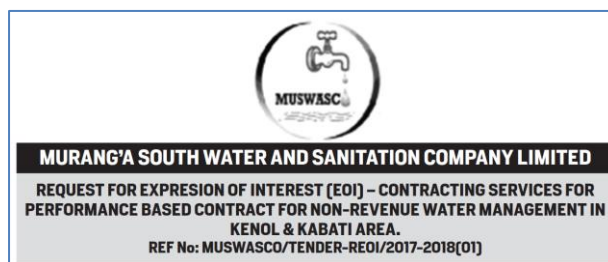
- Reducing environmental footprint, designing clean energy policies, renewable energy feasibility, payment for eco-system services (PES), REDD+

Socio-economics

- Building strategic partnerships and consensus, social impact assessments, baseline studies, participatory approaches to services delivery, communication strategies, policy advocacy

Recent experience:

- Technical and financial feasibility study for a concentrated solar-power desalination plant (Djibouti).
- Socio-economic feasibility of community participation in forestry scheme for clearance related to Lom Pangar Hydropower scheme (Cameroon).
- Preliminary assessment for a subsidy mechanism for the provision of water in Sohar Industrial Port Area (Oman).
- Elaboration of a strategic Business Plan for a Key actor of rural water management – Target countries: Central Africa (confidential).



Transaction advisory for a Non-Revenue Water Performance Based Contract
in Muranga South - Kenya

Our clients

Our clients include international donor agencies, national government ministries and agencies, as well as private sector organizations.

NALDEO has had assignments with the following International & Multilateral Agencies under the name of NALDEO or PÖYRY Environment / PÖYRY SAS or BERTIN Technologies:

- World Bank (WB) / IDA / IBRD
- African Development Bank (AfDB)
- French Agency for Development (AFD)
- European Bank for Reconstruction and Development (EBRD)
- European Commission
- European Environment Agency
- European Investment Bank (EIB)
- Millennium Challenge Account (MCA)
- Danube River Program
- etc

And in Africa with:

- Burkina Faso's National Water and Sanitation Utility (ONEA)
- Djibouti's Social Development Agency (ADDS)
- Kenya's Ministry of Housing
- Morocco's National Water Supply and Electricity Company (ONEE)
- Zimbabwe's Ministry of Finance
- SNV in cooperation with Kenyan Market Trust
- etc

And in Asia with:

- Nam Papa Lao – Lao PDR
- Municipality of Tashkent - Uzbekistan
- Hanoi Water Company – Vietnam
- Asian Development Bank
- etc

Financial Standing and staff

Year	2018	2019	2020
Group turnover	16 809 000 €	16 531 000 €	17 300 000 €
Staff	180	180	240

NALDEO has about 240 employees since September 2020. The company can further count on a large network of specialists and independent consultants, and has established strategic partnerships with companies that provide complementary services.

Further information on Naldeo can be found at: www.naldeo.com