



ENG

stream
energy and environment

BROCHURE CASE HISTORY

— STREAM CONSORTIUM

The Origins.

Through its associate companies, **STREAM** provides a complete range of services related to engineering, in the electrical, mechanical, civil, hydraulic and energy disciplines.

This new dimension integrates different knowledge, experience and complementary managing skills.

The purpose is to find in this union a greater strength, efficiency and know-how, more than what the different parts could separately generate.

— ENERGY & ENVIRONMENT

Stream Today.



We share perspectives and objectives with the 6 companies, more than 70 internal professionals and a wide network of external collaborators, capable of a global assistance in the solar, hydroelectric and green hydrogen fields. **STREAM** offers partial or complete services in Italy and abroad, with projects and permits, supplies, installations, EPC, asset and project management.

— OUR PARTNERS

The Stream Consortium partners.



Our firms are renowned realities with competences that range from solar photovoltaic, CSP (Concentrated Solar Power) to hydroelectric, passing from storage systems to mining resources to water treatment, from electrical mobility up to engineering, legal, financial advisory for complex projects related to the renewable technology world.

— ENERGY & ENGINEERING

Sectors and activities.

The **STREAM Consortium** deals with the production and storage of energy from renewable or traditional sources and not just that: water treatment for steel mills, Oil&Gas and WTE production cycles, treatment of civil white and grey water, up to sustainable mobility for public and private infrastructures.

From preliminary analysis, to design, up to supplies and plant installation, **STREAM** accompanies the client with feasibility studies, permitting development, technical, legal, and administrative due diligence advisory, M&A activities, energy communities, business plan, advanced technical asset management, O&M programs, SEU (Efficient User Systems) and project review, EPC management, owner's engineering, component research, selection and supply.

— STREAM REALIZATIONS

Our case histories.

Here are some **STREAM Consortium** success stories, 10 works commissioned in Italy and abroad by public and private institutions, plants, interventions and infrastructures with diverse environmental, operating issues and needs, all reflect the **STREAM** efficiency and sustainability vision.

— SOLARFARM88

10.2021



—— SOLARFARM88 / CASTELLETTO DI BRANDUZZO - PAVIA (ITALY)

7.84 MW photovoltaic plant.

PROJECT

To realize a photovoltaic plant on industrial plots of property land.

OBJECTIVE

To increase the Group investments in green economy.

ANSWER

To present an engineering multidisciplinary team capable to develop and realize the new plant.

A PROJECT REALIZED WITH THE CONTRIBUTION OF 3 STREAM CONSORTIUM COMPANIES.



Feasibility study, authorization process and job order project management with the coordination of internal resources and third-party professionals in the field.



Preliminary and detailed electrical design, plant implementation and connection procedures to the power grid.



Review of steel structures, engineering and administrative procedures of civil works, metric computation, civil engineering paperwork, review of final layout and respect of urban planning restrictions.

—— SOLARFARM88

Project development.

Technical, economical and environmental feasibility study for the implementation of a photovoltaic plant grounded in an industrial area, already partially destined to the possible realization of a warehouse.

Diverse simulations were conducted with iterative process, which have involved geometrical (layout), plant (PVsyst) and economical (business plan) parameters to determine the optimal installable power on available areas, maximizing the plant manufacturability.

Once identified the optimal solution of 7.84 MW, the engineering team, coordinated by a job project manager, set up for the newly created SPV (Special Purpose Vehicle) SOLARFARM88 Ltd. the required administration for the authorization procedures regarding a plant of this kind.



SOLARFARM88

SOLARFARM88

Timing and results.

TIMING

9 MONTHS



From the feasibility study to the obtainment of authorizations.

RESULTS

. 0 1

Verification of eligibility for VIA (EIA Environmental Impact Assessment - according to the art. 19 of D.Lgs. 152/2006 and art. 6 of Regional Law 2 February 2010, n.5): successful outcome released dated 27/05/2021

. 0 2

A.U. Autorizzazione Unica (Single Authorization art. 12 of D.Lgs. 387/2003 and s.m.i.): successful outcome released dated 28/10/2021



_____ MENAPY ITALIA / ORTONA - CHIETI (ITALY)

8.69 MW photovoltaic plant.

PROJECT

To realize an 8.69 MW photovoltaic plant, part of the investments in Italy by the Belgian fund Menapy.

OBJECTIVE

To review and approve the final electrical design, to coordinate works management and safety.

ANSWER

Owner's Engineering, based on the experience of more than 2.000 photovoltaic plants designed.

A PROJECT REALIZED WITH THE CONTRIBUTION OF 2 STREAM CONSORTIUM COMPANIES



Owner's engineer for the review of the final electrical design, in contradiction with EPC.



Supervision of the professionals in the field for works management and safety in the execution phase.

— MENAPY ITALIA

Project development.

MENAPY is an important Belgian reality and it deals with renewable energy investments. Through its controlled MENAPY Italy, it's developing a pipeline of realizations and acquisitions in the renewable field.

For its consolidation within the Italian market through the Ortona project, MENAPY Italy has chosen **STREAM** as partner.

The commissioned activities also included the supervision of third-party professionals, for the coordination of safety in the executive phase necessary for the construction site opening, located in a sensible area, with particular works which require the placing of structures in the ground to support the modules.



MENAPY ITALIA

— MENAPY ITALIA

Timing and results.

TIMING

2 M O N T H S



Project assessment and start of preparatory activities for the opening of the construction site.

RESULTS

. 0 1

Electrical design validation and resolution of potential concerns related to the construction site opening.



NOY FUND / NORTHERN AND CENTRAL ITALY

Rooftop photovoltaic systems.

PROJECT

Acquisition of a total 76 MW pipeline of rooftop photovoltaic plants.

OBJECTIVE

Technical and administrative review of the investment.

ANSWER

Establishment of an internal technical, legal and administrative team expert in due diligence.

A PROJECT REALIZED WITH THE CONTRIBUTION OF 3 STREAM CONSORTIUM COMPANIES



Commercial and administrative management of the order.



Analysis of the preliminary electrical designs and the connections to the power grid, inspections on sites of installation.



Analysis of the contracts related to building rights and administrative review of correctness of applications for access to incentives, in compliance with the D.M. 04/07/2019 FER1.

— NOY FUND

Project development.

The Israeli investment fund NOY FUND has identified a pipeline of rooftop photovoltaic projects for a total of 76 MW, distributed in Northern and Central Italy, with an average size per installation of 0.5 MW.

Besides inspections for the review of exposures and shading connection to the electrical power grid and observation of critical issues, the rooftops object of installation were observed by drone flight.

The desk analysis has included: projects, authorizations and ratings, contracts signed between who holds the portfolio and the property owners, registration to the GSE announcements 10/2019 and 03/2020 for the promotion of plants and business plan review, with study on manufacturability and capex and opex costs.



NOY
FUND

— NOY FUND

Timing and results.

TIMING

2 M O N T H S



From receipt of the documentation, to on-site inspections, to the final assessment.

RESULTS

. 0 1

Drafting reports of due diligence carried out with favorable opinion for the acquisition of the entire pipeline, with ex-post confirm of recognition of incentives for all analyzed projects.

AZERBAIJAN'S
MINISTRY OF ENERGY

06.2021



Rational use of water resources.

PROJECT

To realize a study on national water reservoirs.

OBJECTIVE

To increase water supply efficiency for irrigation, energy and improvement of the national network.

ANSWER

Establishment of an internal technical team, expert in energy and hydraulic issues.

A PROJECT REALIZED WITH THE CONTRIBUTION OF 2 STREAM CONSORTIUM COMPANIES



Analysis of main water resources, rationalization of application in hydraulic, (generation and pumping) and irrigation fields.



Modernization and optimization of the use of water in the cooling cycles of thermoelectric plants and in the regulation of the power distribution grid frequency.

— AZERBAIJAN'S MINISTRY OF ENERGY

Project development.

STREAM, with the direct involvement of its associated ESE and SMA, has received the assignment from the Ministry of Energy of the Republic of Azerbaijan to execute inspections and analysis aimed to start the optimization of the use of natural national water resources.

On one hand, it was necessary to improve the use of water demand for diverse energy purposes (hydraulic production, cooling of thermoelectric plants), agricultural and industrial of the Country, and on the other it was necessary to maximize the input of the hydroelectric plants in the network frequency.

The **STREAM Consortium** companies could work in the best conditions also thanks to the support and collaboration of AzerEnerji (the main national energy producer).



AZERBAIJAN'S
MINISTRY OF ENERGY

— AZERBAIJAN'S MINISTRY OF ENERGY

Timing and results.

TIMING

3 MONTHS



From the first inspection
to the final
technical report.

RESULTS

. 0 1

Definition of status quo and possible improving directions finalized to the infrastructural and economic growth of Azerbaijan.

— BRIGHTSOURCE

2006/2008



— BRIGHTSOURCE / NEGEV DESERT - ISRAEL

CSP Concentrated Solar Power.

PROJECT

Implementation of a pilot plant CSP (Concentrated Solar Power) in the Negev desert.

OBJECTIVE

Implementation of the 6 MW thermal Direct Steam Receiver component.

ANSWER

Transfer of traditional energy production know-how to solar thermal storage with molten salts.

A PROJECT REALIZED WITH THE CONTRIBUTION OF 1 STREAM CONSORTIUM COMPANY.



Engineering services and supervision for the receiver realization.

— BRIGHTSOURCE

Project development.

All the know-how acquired by ESE in the CSP sector, comes from a long experience in the power field.

For this assignment were commissioned the engineering and supervision for the realization of the receiver, the part of the plant bound to receive concentrated solar energy, to then be exchanged and converted in electric energy.

Besides the receiver design and engineering, BRIGHTSOURCE has assigned to ESE its follow up, and the punctual review of its manufacturing at the factory with following supervision during assembly on work site.



BRIGHTSOURCE

— BRIGHTSOURCE

Timing and results.

TIMING

2 Y E A R S



From the project to the verification of the manufacturing standards in the factory.

RESULTS

. 0 1

Commissioning of the CSP plant.

CLAL
— INDUSTRIES & INVESTMENTS

2008 / 2009 / 02.2014.02 - 03.2014



CLAL INDUSTRIES & INVESTMENTS / TEL AVIV - ISRAEL

Pumping plant in Neshet.

PROJECT

Implementation of a
pumping plant.

OBJECTIVE

Implementation of a 200 MW
pumping station.

ANSWER

Technical feasibility and
economic sustainability review.

A PROJECT REALIZED WITH THE CONTRIBUTION OF 1 STREAM CONSORTIUM COMPANY.



Feasibility study for the whole project, in team
with third-party civil engineering company.

Project development.

The study has been developed by ESE in two precise timing phases:

1. The first concerns the feasibility study for the entire project, with budgeting and offer demands for the main machines and related tabulations, quantity of planned works, final quantification of the costs and technical documentation, up to necessary procedures to be ready for tender bids for the plant implementation.
2. Furthermore, upon request for a 220 MW project upgrade, steps were taken to provide services of: conceptual design, cost estimate for the total work of construction of the hydroelectric pumping station and cost estimate of the hydroelectric pumping plant.



Timing and results.

TIMING

2 Y E A R S



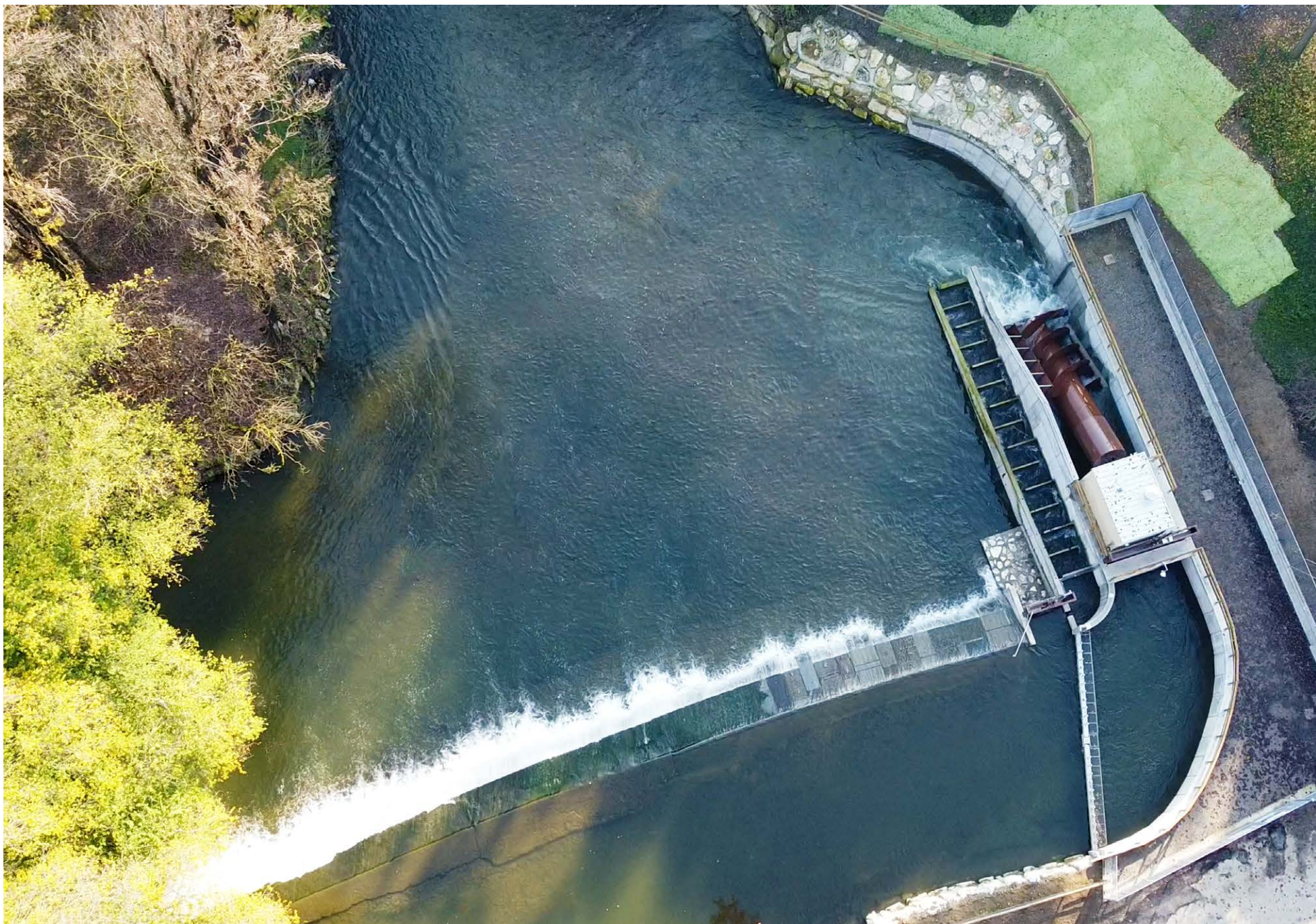
From the analysis of the water potential to the final technical report.

RESULTS

. 0 1

Identification of project technical and economical sustainability minimal constraints, let to the politic assessment of the competent territorial entity for its possible continuation.

— SERI LAMBRO



11.2020

_____ SERI LAMBRO / LAMBRO PARK - MILAN (ITALY)

Mini hydro plant.

PROJECT

Implementation of mini hydro plant for the production of electric energy on the Lambro river.

OBJECTIVE

Establishment of a asset management company with interest in renewable energy.

ANSWER

To propose a technical partnership for the project development, in a broader development program.

A PROJECT REALIZED WITH THE CONTRIBUTION OF 2 STREAM CONSORTIUM COMPANIES



Development of authorization procedures, hydraulic design, selection of the suppliers and site management.



Electrical design and selection of suppliers.

— SERI LAMBRO

Project development.

Implementation of a 90 kW mini hydro power plant with hydraulic screw, located in the Lambro Park, at the heart of the city of Milan on the right bank of the homonymous river, capable to take advantage of the jump offered by the existing weir.

The work also provided for the strengthening of the same weir and the realization of a special fish climbing ladder, able to permit the passage of aquatic fauna between the two river stretches.

The plant has been thought to produce 500.00 kWh/a, and it constitutes the first of a series of production assets which SERI LAMBRO has chosen to develop in cooperation with **STREAM**.



SERI LAMBRO

— SERI LAMBRO

Timing and results.

TIMING

6 M O N T H S



From the start of the works to the commissioning.

RESULTS

. 0 1

The power plant produces energy according to design forecast and it has been regularly enrolled in the GSE register for promotion destined to energy production from hydraulic source.



SCOTTA / CRESCENTINO - VERCELLI (ITALY)

Solar farm.

PROJECT

6.5 and 6.2 MW solar farms.

OBJECTIVE

Implementation of two photovoltaic plants on landfill.

ANSWER

To transfer the previous know-how acquired in landfill design and photovoltaic plant engineering.

A PROJECT REALIZED WITH THE CONTRIBUTION OF 3 STREAM CONSORTIUM COMPANIES



Final and executive electric design.



Final and executive civil design.



Energy Yield analysis of plants with 3D modeling of the layout.

—— SCOTTA

Project development.

For the company Scotta Ltd., primary firm of international level in the hydroelectric EPC sector and with activities in strong development in the photovoltaic one, **STREAM** has taken the assignment to design two solar plants to be implemented on the ground covering layer regularly used in the past for the delivery of slag deriving from steel production.

The project required the study and application of particular structural solutions to support the photovoltaic modules, capable to optimize the layout and the laying works, without compromising the coverage integrity.

STREAM has also provided and coordinated the professionals for the operations related to works management and safety in the execution phase.



SCOTTA

— SCOTTA

Timing and results.

TIMING

7 M O N T H S



From the preliminary
to the final design.

RESULTS

. 0 1

Implementation of a concept for structures to support photovoltaic modules specific for landfills, optimization of plant solutions and of the relation between installable power and producible energy, equivalent to the demand of 5.300 domestic users.

— ARUBA

03.2020



ARUBA / PONTE SAN PIETRO - BERGAMO (ITALY)

Global Data Center.

PROJECT

Repowering the Aruba
Global Data Center.

OBJECTIVE

To reduce the data center
dependence from traditional
energy sources.

ANSWER

Internal multidisciplinary team to
study and design the actions
to be taken.

A PROJECT REALIZED WITH THE CONTRIBUTION OF 3 STREAM CONSORTIUM COMPANIES



Hydraulic design and order project
management.



Final and executive
electric design.



Final and executive
civil design.

— ARUBA

Project development.

According to its sustainable environmental objectives, ARUBA, the European leader in data center and web hosting services, has entrusted the **STREAM** Consortium with the modernization and upgrading of its Global Cloud Center of Ponte San Pietro (BG), the biggest in Italy.

Through the **STREAM** companies in charge for the project, the modernization of the two existing production groups and the insertion of a third one have been studied, along with the revamping of the hydraulic works and hydromechanics and the renovation of the control, regulation and supervision electric and electronic equipment.



ARUBA

ARUBA

Timing and results.

TIMING

1 YEAR



From the feasibility study to the executive project.

RESULTS

. 0 1

At the end of the works, the capacity of derivation was calculated to increase from 18 to 30 m³/s, for an installed power of more than 1.8 MW and an expected manufacturability of about 8.7 GWh/year, with an increase of about 40% on actual data.

— BE CHARGE

2020/2021



BE CHARGE / NORTHERN ITALY

Electric vehicle charging.

PROJECT

Charging national network
for electric vehicles.

OBJECTIVE

Increase of the energy charge
infrastructure extension.

ANSWER

To provide the knowhow acquired
during a similar project realized for
Garda Uno Inc. on the Lake Garda.

A PROJECT REALIZED WITH THE CONTRIBUTION OF 2 STREAM CONSORTIUM COMPANIES



Project management and analysis of
urban planning restrictions.



Final and executive electric design and
coordination with the works management.

— BE CHARGE

Project development.

With an agreement of collaboration signed with Be Charge Ltd., one of the main Italian operators in the sector of sustainable mobility, **STREAM** has provided engineering and authorization services to realize part of one of the major and most extensive infrastructures of public charge for electric vehicles in Italy entirely fuelled by renewable sources.

This important partnership, coherent with the **STREAM** mission in search of sustainable energy solutions, it's also consistent with some of the objectives of the UN 2030 Agenda goals for sustainable development (11. Sustainable Cities and Communities, 13. To Act for Climate www.un.org/sustainabledevelopment).



BE CHARGE

BE CHARGE

Timing and results.

TIMING

1 YEAR



From inspections to adaptations of projects to urban contexts.

RESULTS

. 0 1

Implementation among the others, of more than 80 charge points in the municipalities of Piacenza, S. Cristina Valgardena (BZ), S. Giuliano Milanese (MI), Peschiera Borromeo (MI), Ortisei (BZ), Ravenna e Albignasego (PD).

TOGETHER WITH STREAM

Our clients.

2A ENGINEERING

ALBIOMA

ALSTOM

ANSALDO ENERGIA

ARUBA

ASIA STEEL

BE CHARGE

BRIGHT SOURCE

BUILDING ENERGY

C.A.V.I. DIESEL

CENTRO SPORTIVO SAN FILIPPO

CESI

CONTOUR GLOBAL

CONVECO

DANIELI

DS SMITH

EDISON

ENERGA GROUP

ENERGY OPPORTUNITY

ENGINEERING 2K

ENI POWER

E-ON

ERG POWER GENERATION

GARDA UNO

GN3

GNUTTI TRANSFER

GREENFIELD RENEWABLES

HELIOPOLIS

HOLDING ALPINA

HOMES

IC POWER AC BOILERS

IDROELETTRICA ASTICO

IDROELETTRICA LONGOBARDA

IDROELETTRICA VENETA

IMCOM ENERGIA

INGENERA

INTECO

ISEO IDRO 2

LAGOGEL

LINEA GREEN

LTF

MARCEGAGLIA

MENAPY ITALIA

METECH

NOVARTIPLAST ITALIA

NOVOTEX ITALIANA

NOY FUND

OPERA DI SAN SILVESTRO

PALAMCO

POMINI

PÖYRY

PRIMETALS

QUEIROZ GALVAO

RAMCRO

RD ENERGY

RELIGHT ENERGY SERVICE

S.P.E.A.

SA.MA. AGRI

SCOTTA

SERI LAMBRO

SHIKUN & BINUI

SIEMENS

SMS GROUP

TAVERNOLE IDROELETTRICA

TECHINT

TECNOEST

TENOVA

V.I.P.

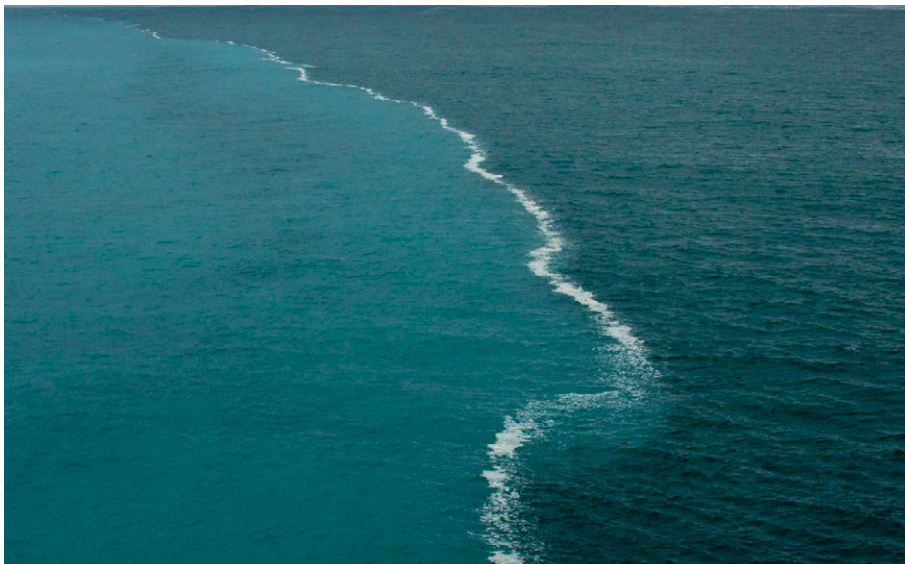
VENTURY

VIP LOGISTICS

VIS4G

VITTORIA ENERGIE

Skagen, Denmark
Contact between North Sea and Baltic Sea.



— CONTACTS

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