



Waste to energy, earth to life.

SELECTION & RECYCLING / BIOGAS & BIOMETHANE / LOW-EMISSION POWER PLANTS / WATER TREATMENT



WT ENERGY SMEA

There is new life even where it seemed impossible.



It is a matter of vision.

We can continue to see waste only as a cost, a problem with no real solution. Or we can look beyond. Make sure that it becomes something new. Turn it into an opportunity.

Wt Energy Smea helps your Territory to convert waste into energy, with tailored solutions using the most advanced technologies. Always putting human beings and the environment at centre stage.

A different view, which creates value for the community. Where others see waste, we see a resource.

92% of people live in areas where air quality exceeds WHO* limits. Our values go beyond simple waste treatment.

Thanks to highly specialized know-how and continuous investment in research and development acquired in the field, Wt Energy Smea is able to design systems offering comprehensive solutions which go beyond the technical design concept.

We are “project oriented”: each project is based on concrete goals able to generate the best ratio between investment and energy production, creating value and growth for the local economy.

We have achieved the important goal of emissions below 95% compared to European standards.

WTES ACTIVITIES

- PROJECT DEVELOPMENT
- MARKETING AND SALES NETWORK
- RESEARCH
- PROJECT FINANCING
- FEASIBILITY STUDIES
- DESIGN
- SUPERVISION
- TRAINING
- SUPPLIES
- PLANT COMMISSIONING



The right equation between waste, energy and the environment

THE NEW WTES OneConcept: A COMPLETE ALL IN ONE SOLUTION

Wt Energy Smea is an engineering and procurement company offering innovative technology **for energy recovery from unsorted and pre-sorted municipal solid waste, industrial waste, medical and hospital waste and biomasses.** In over 30 years of activity in the energy recovery field, WTES has developed **OneConcept** that offers an integrated solution to the problem of municipal solid

waste, enhancing characteristics in terms of composition, quantity and market absorption capacity, with the goal of **maximizing revenues by disposing of waste in the most environmental-friendly way possible.**

technologies include a **system of selection and pre-treatment, an anaerobic digestion system, and an ULE thermal power plant** (ultra-low emission).

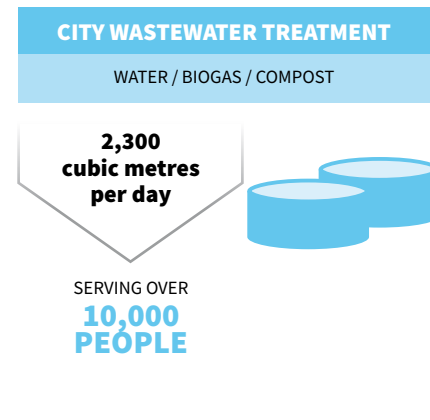
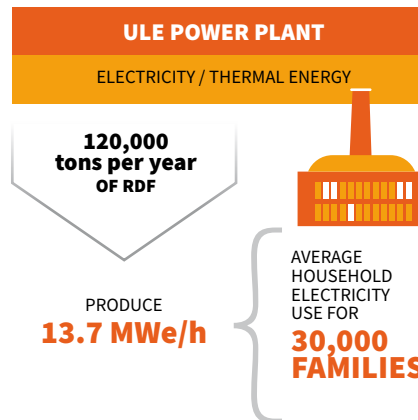
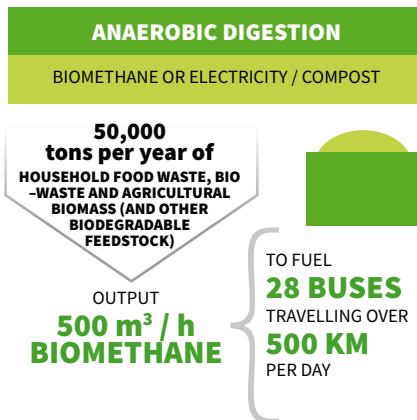
Our experts have developed dedicated software, calibrated to


a carefully thought-out process to maximize the production of energy from **anaerobic digestion.** Our industrial process ensures optimal performance as regards the transformation of biowaste from MSW (municipal solid waste) or from agricultural biomass into renewable energy.

The ULE (ultra-low emission) **Power Plant** is able to convert many types of waste (MSW Urban Solid Waste, refuse-derived fuel RDF, medical and hospital waste, biomass and industrial waste) into electricity and thermal

energy, reaching the ambitious target of reducing emissions into the environment by 95%, with respect to the thresholds set by the EU and the EPA.

Our team of engineers has acquired experience in designing **water treatment plants**, with special reference to energy recovery from sludge; giving a further demonstration of the knowledge gained through years of activity in the energy recovery from waste process as a whole.





Access to drinking water makes a difference in people's lives: we make a difference by giving new life to water and value to waste.

The WTES OneConcept:
modular solutions, multiple benefits.

- The **Wastewater** from domestic and industrial usage cycles is treated and returned pristine to the environment.
- **Unsorted waste** is recovered as valuable materials.
- **Non-recyclable** waste generates electricity or heat.
- **Agricultural waste and biowaste** are transformed into valuable biomethane which can be used both for energy and heating purposes.

RECYCLABLE MATERIALS,
COMBUSTIBLE MATERIALS,
EXPLOITABLE ORGANIC
MATERIALS



SELECTION

UNSORTED
WASTE

BIOMETHANE,
BIOGAS, COMPOST,
FERTIGATION



ANAEROBIC
DIGESTION

BIOMASSES

AGRICULTURAL BIOMASS
AND BIOWASTE OF
MUNICIPAL SOLID WASTE



NON-RECYCLABLE
RDF, HOSPITAL MEDICAL,
INDUSTRIAL WASTE

INDUSTRIAL
AND DOMESTICS
WASTEWATERS

ULE POWER PLANT
ULTRA LOW EMISSION

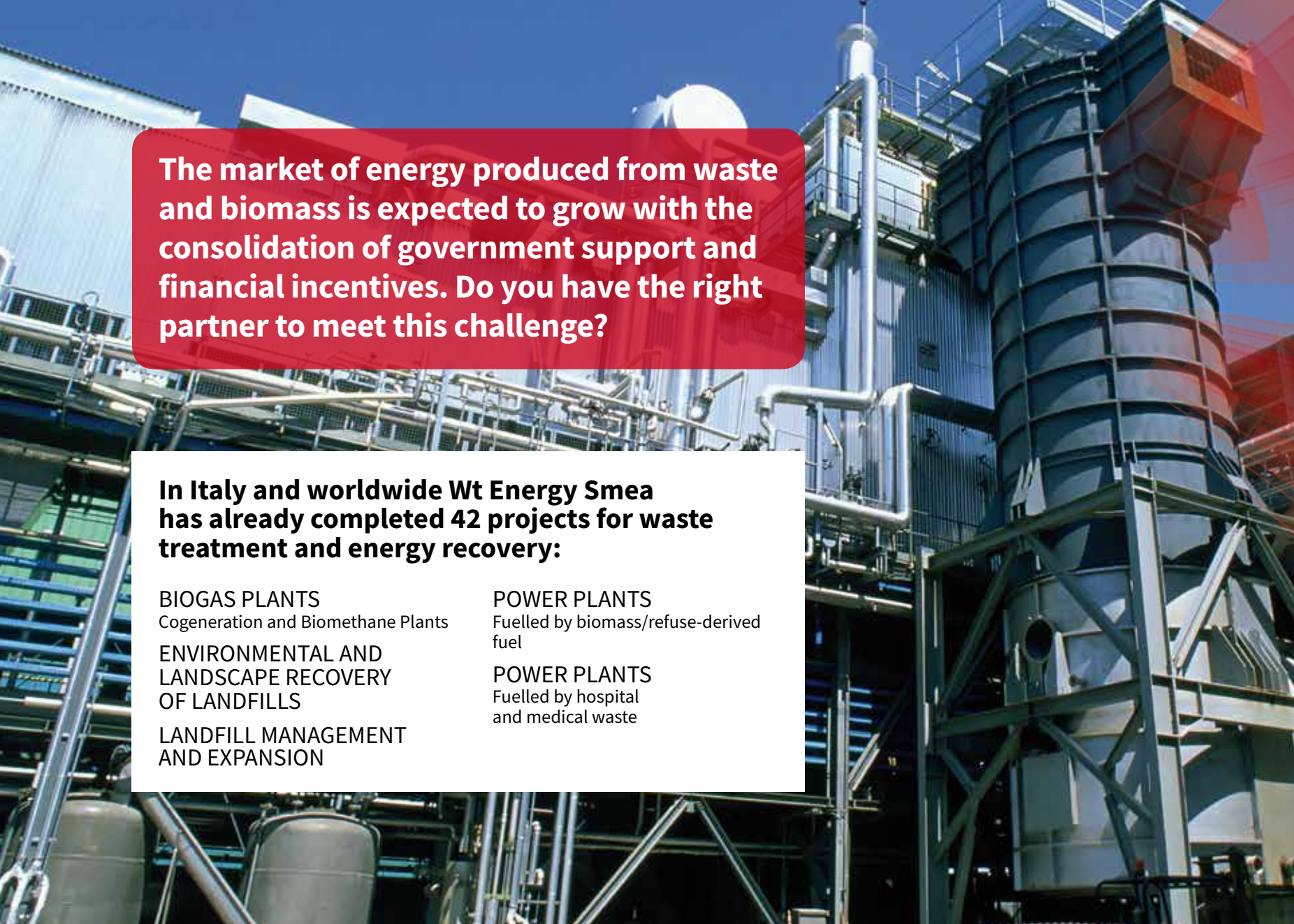
RIVERS, SEAS
AND IRRIGATION



WATER
TREATMENT

ELECTRICITY
AND HEAT





The market of energy produced from waste and biomass is expected to grow with the consolidation of government support and financial incentives. Do you have the right partner to meet this challenge?

In Italy and worldwide Wt Energy Smea has already completed 42 projects for waste treatment and energy recovery:

BIOGAS PLANTS

Cogeneration and Biomethane Plants

**ENVIRONMENTAL AND
LANDSCAPE RECOVERY
OF LANDFILLS**

**LANDFILL MANAGEMENT
AND EXPANSION**

POWER PLANTS

Fuelled by biomass/refuse-derived fuel

POWER PLANTS

Fuelled by hospital and medical waste

The values of our plants

ANAEROBIC DIGESTION



3 X 6,000 m³ DIGESTORS

FUELLED BY
OFMSW AND BY-PRODUCTS
as per tab. 1A M.D. 06/07/12

OUTPUT

BIOGAS

900
Nm³ / h

BIOMETHANE

500
Nm³ / h

COMPOST

28 t/day
10,000
tons/year

THE ENERGY PRODUCED IS ABLE TO FUEL **ONE CAR RUNNING 9 TIMES AROUND THE PLANET.**
THE COMPOST OBTAINED IS EQUIVALENT TO **9 FOOTBALL FIELDS PER DAY.**

ULE POWER PLANT



FUELLED BY
BIOMASS AND RDF
120,000 tons per year

OUTPUT

STEAM FLOW

55 t/h AT **51** barG 480C°

MAX ELECTRIC POWER

13,7 Mwe

AVERAGE ANNUAL HOUSEHOLD ELECTRICITY USE FOR **40,000 INHABITANTS**

ULE POWER PLANT



FUELLED BY
HOSPITAL MEDICAL WASTE
32,000 tons per year

OUTPUT

STEAM FLOW

15 t/h AT **50** barG 400C°

MAX ELECTRIC POWER

2,8 Mwe

ENERGY PRODUCTION BY PROCESSING HOSPITAL AND MEDICAL WASTE OF AN URBAN AREA OF **30.000.000 PEOPLES**

WASTEWATER TREATMENT PLANT + ANAEROBIC DIGESTORS



3 X 6,000 m³ DIGESTORS

FED BY
WASTEWATER AND SEWAGE SLUDGE

PROCESSES

WASTEWATER TREATMENT

2,400 m³/d of biological oxidation plant and sludge dehydration

SERVING AT LEAST **10,000 PEOPLE**

Consumption of natural gas worldwide is projected to increase 70% by 2040.*

Latest Biogas plant project

We have been appointed to develop a project for the treatment of:

50,000 TONS/YEAR
OF ORGANIC FRACTION OF
MUNICIPAL SOLID WASTE

7,500 TONS/YEAR
OF DOMESTIC
SLUDGE

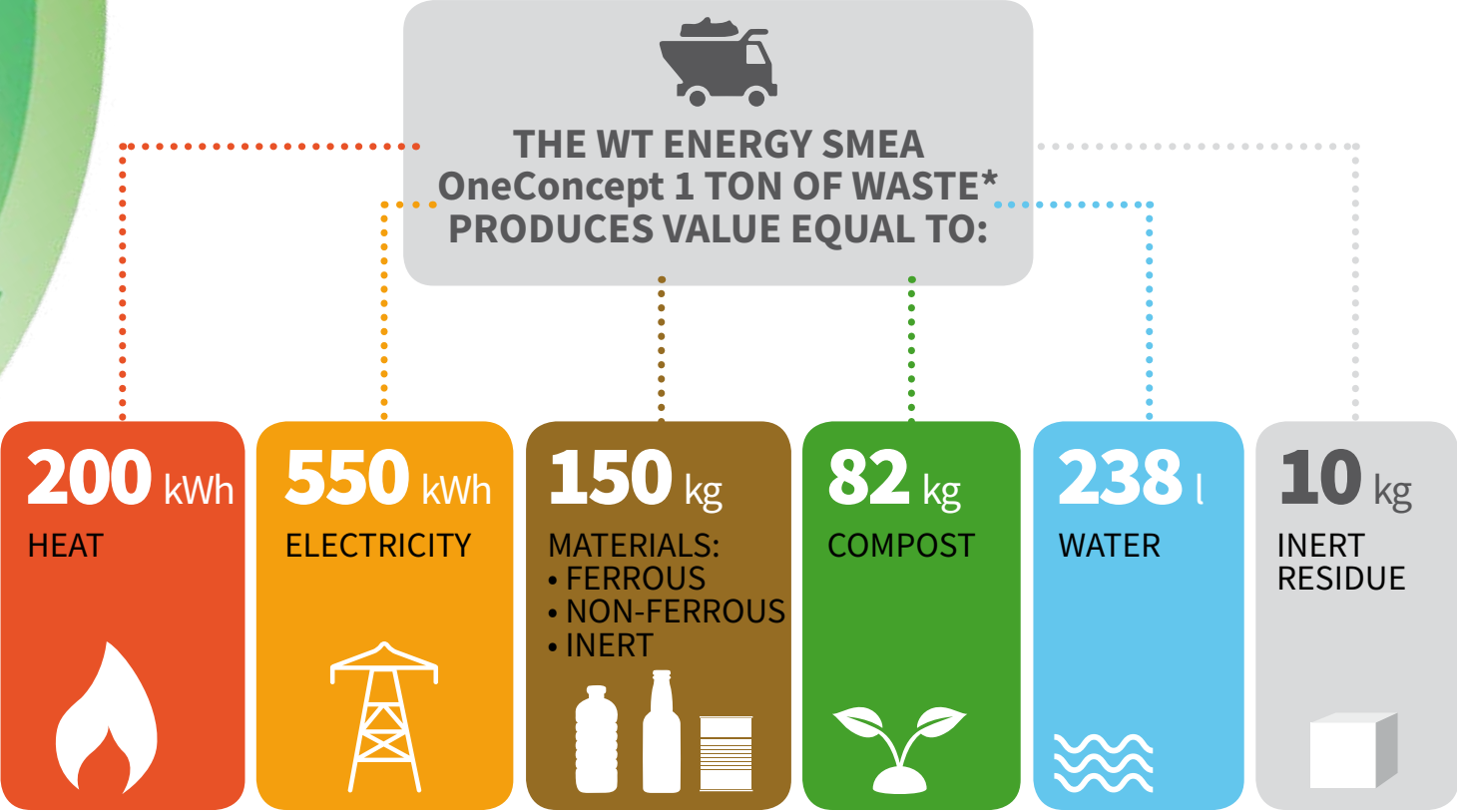
9,000 TONS/YEAR
OF URBAN GREENERY FROM
CUTTING AND PRUNING

The biogas will be converted into biomethane (3.7 million Nm³/year) through the upgrading unit and injected into the national gas grid. The digestate from anaerobic digestion will be composted along with the urban greenery waste for the production of 8,000 tons/year of high quality compost. A wastewater treatment plant is included in the project to clean water before final discharge.

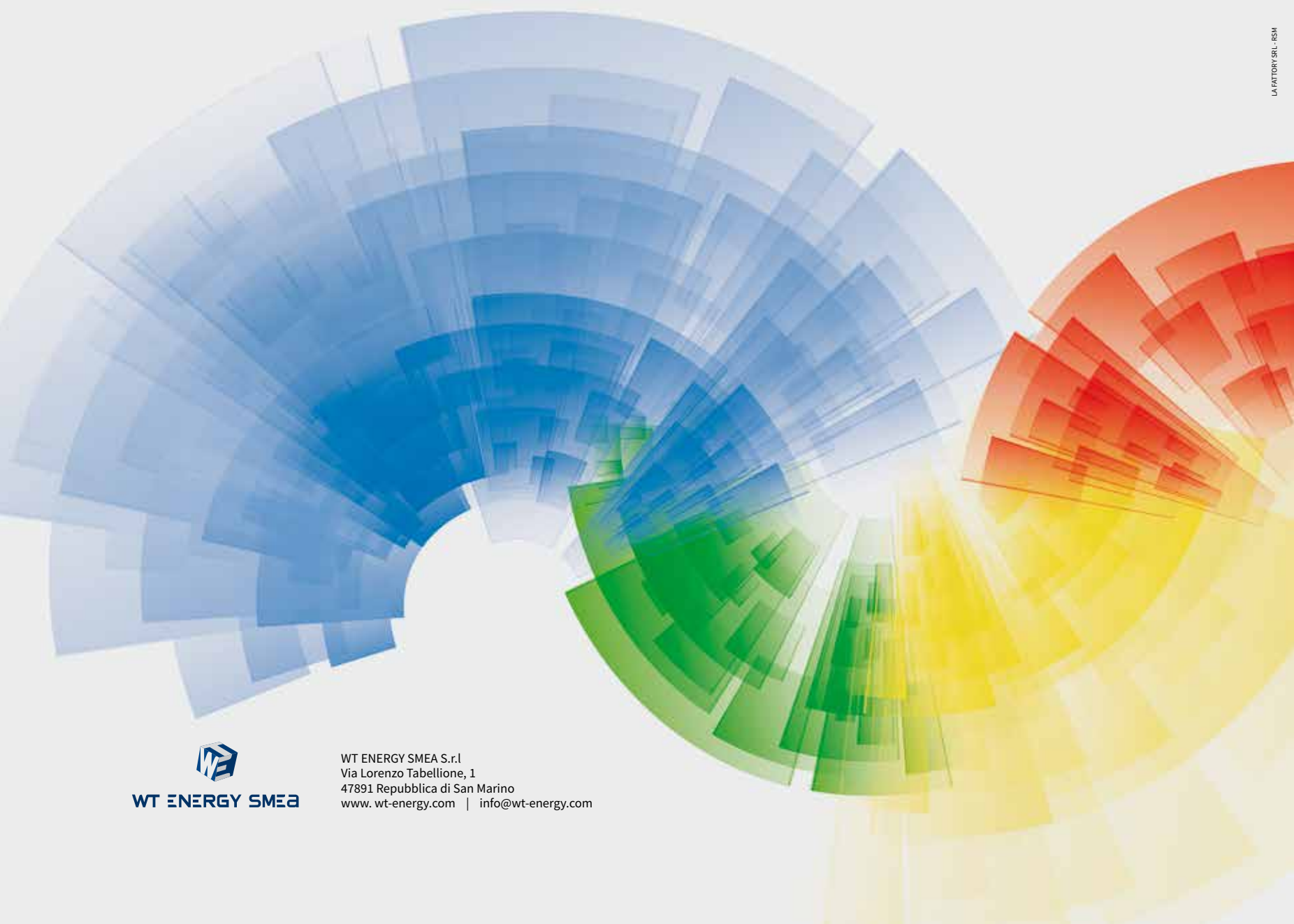
EXPECTED FINANCIAL RESULTS

TOTAL INVESTMENT	10,4 M€
FIXED CAPITAL	3,1 M€
FINANCING	7,3 M€
AVERAGE ANNUAL CASH FLOW (EBITDA)	5,0 M€
IRR INVESTMENT (EBITDA/CASH)	43%
RECOVERY OF INVESTMENT	2 YEARS
IRR FOR INVESTORS (EBITDA/EQUITY)	141%
LIFE OF THE INSTALLATION	30 YEARS

Waste is a resource, we give back to Earth what we have taken.



*WASTE COMPOSITION: 45% RDF, 40% BIOWASTE, 15% RECYCLABLE



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