



ENERJİ VERİMLİLİĞİ
FORUM ve FUARI

TENTH ENERGY EFFICIENCY FORUM AND EXHIBITION

11 - 12 APRIL 2019

ISTANBUL CONVENTION AND EXHIBITION CENTRE

Ing. Valentino DELL'ARMI

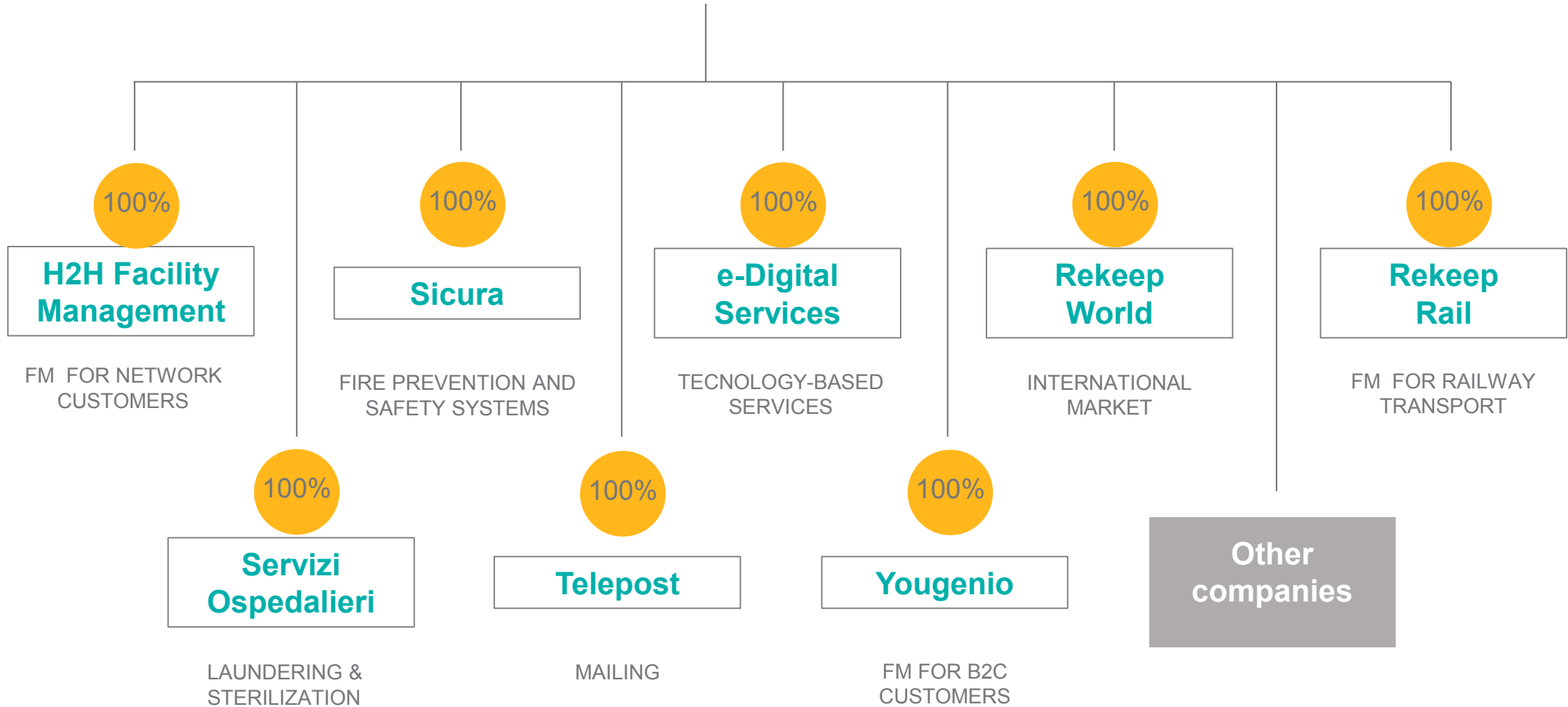
Overview.

Rekeep is the **leading Italian Integrated Facility Management group** and a new player on the international stage.

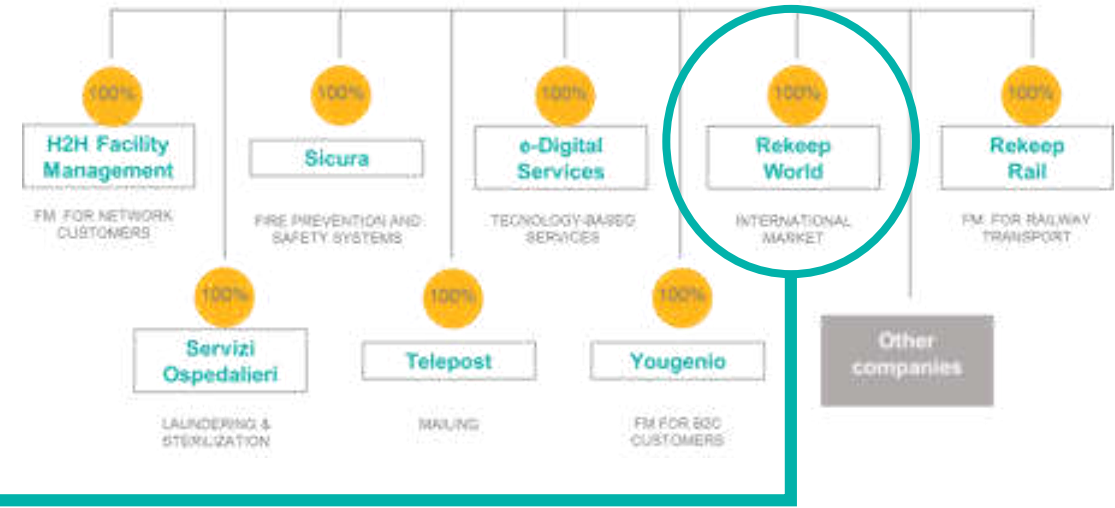


Know-how, customer-oriented flexibility, technological and process innovation: today **Rekeep can single-handedly deliver specialised and integrated services to large public and private organisations**, assuring maximum level of efficiency while fully respecting its founding values.

Our Group



Focus on Rekeep World



France, Qatar and others

Services of Rekeep United

HARD SERVICES



Building
Fabric
Maintenance



Fire
Fighting
Systems



Lifting
Systems



HVAC



MEP



Special
Systems

SOFT SERVICES



Cleaning



Waste
Management



Help Desk



Laundering



Sterilization



Reception

INTEGRATED SERVICES



Portering
Logistic



Landscaping



Pest
Control

ESTATE SERVICES



Move
Management



Property and
Rentals
Management



Space and Planning
Management



Documents
Management

Our Group's figures.*



918
mln/€

Turnover

100
mln/€

Norm. EBITDA

69
mln/€

Norm. EBIT



Leading Italian group
in the Integrated Facility
Management sector



17,000

Employees



90

Offices



1,590

Customers



2,350

Contracts

Our vision.



Integration and innovation. Spanning Smart City services to digital solutions, Rekeep develops ideas, processes and technologies to forestall change, create value and offer solutions in line with the new scenarios.



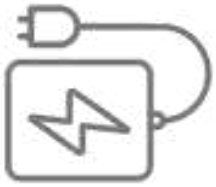
A worldwide vocation. Several ongoing contracts abroad, continued growth in emerging markets, strategic foreign partnerships.



Sustainability. The Rekeep model brings together environmental sustainability and results, social well-being and financial performance. A commitment marked by practical responses: solutions for the city of the future, energy management of renewable sources, energy retrofit and efficiency.



We care. Rekeep puts the individual at centre stage and it highlights talent and work culture, solidarity and the ability to listen. A clear commitment towards customers and stakeholders, the community and employees, dedicated to the creation of added value through human-centric solutions.



Energy Services.

Rekeep provides comprehensive services for the air conditioning of properties **to reduce consumption, costs and CO2 emissions** for businesses and Public Authorities.

The customer is assisted at each step in strategy and operations in order to upgrade plants to the highest level adopting **state-of-the-art solutions and involving a team of dedicated professionals.**

For Public Authorities, Rekeep can also deliver services through the **Public Private Partnership Arrangement** in order to enhance efficiency without freezing public resources, all to the advantage of the community.



191 mln/€
Turnover

64%
HEALTH
CARE

32%
PUBLIC
SECTOR

4%
PRIVATE
SECTOR



170
Contracts



Energy Services.

HIGHLIGHTS OF THE SERVICE.

- **Tailor-made solutions.** Delivering greater environmental comfort and energy performance through solutions shaped on the buildings actual plant operating parameters fostering the use of renewable energy sources.
- **Real-time control and monitoring system.** Measurement of system operating parameters and handling of alert in real time. Web-based platform accessible remotely: prompt detection of anomalies and fast recovery times.
- **Work planning and monitoring.** Audit of budget compliance, proper implementation of activities, in accordance with the timeline of the "Operational Programme of Activities", performance standards and "Degree of customer satisfaction".
- **Integrated IT system.** The technical inventory IT-module coupled with a decision support system (DSS), the activity planning ("Operational Programme of Activities" and GANTT) and a specific system for the control and monitoring of plants' anomalies, ensure optimum effectiveness of maintenance, hence a better performance of the plants.
- **Model Predictive Control.** Integrated with scheduled and breakdown maintenance, it plans the activities updated on the basis of the degree of preservation of the plants and on the experienced comfort indicators.
- **Information campaigns.** Raising property users' awareness of the importance of the proper use of energy resources.

Best Practice.

A CASE OF PROJECT FINANCING.



THE PROJECT BOND AS AN INNOVATIVE FINANCIAL INSTRUMENT FOR ENERGY EFFICIENCY AND DEVELOPMENT OF THE SANT'ORSOLA HOSPITAL IN BOLOGNA.

Project Financing Concession for Energy Efficiency Improvement



POLICLINICO DI
SANT'ORSOLA



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

Sant'Orsola Hospital.

MAIN DATA.

The University Hospital of Bologna, Policlinico Sant'Orsola - Malpighi, covers an area of about 1.8 km in length and 300 m in width, on which 30 pavilions stand.

The Company is organized into 9 Integrated Activities Departments (DAI) which include 87 Operating Units, has 1,510 beds with a workforce of 5,153 employees, 70,000 admissions per year and 3,000,000 external specialist services, we estimate about 20,000 visitors per day (employees, students and university professors, patients, visitors and suppliers, etc.)

Superficie lorda (totale e per tipologia)	m²	383.548,00
Padiglioni	m ²	372.806,00
Altro	m ²	10.742,00

Accessi (totali e per tipologia)	n°	992.218
Pronto Soccorso	n°	141.698
Giornate di degenza	n°	478.706
Parti	n°	3.411
Sale operatorie	n°	35
Interventi chirurgici	n°	33.875

DATI DI ATTIVITA					
Posti Letto (PL)		1.510		203	1.307
PL Chirurgici		493		40	453
PL Medici		735	PL Alta tecnologia (*)	68	PL Media tecnologia (*) 667
PL Terapia intensiva	PL totali	89		89	0
PL Lungodegenza/riabilitazione		97		0	97
PL Materno infantile		96		6	90

Sant'Orsola Hospital.

The value of ideas.

With its 17,000 toe / year (tons of oil equivalent) of energy consumed and over 35,000 tons of CO2 emitted into the atmosphere, the University Hospital of Bologna, Policlinico S. Orsola - Malpighi has energy saving potential, which it can be expressed through a program of coordinated actions, which operates through the intervention of all (personnel, external operators, users, visitors, students, etc.).



Thermal and cooling power	KW	78.950,00
Electric power	kW	9.112,00

CONSUMI ENERGETICI	Quantità	
Electric consumption	KWh	52.780.000
Gas consumption	m³	7.802.000
Water consumption	m³	510.000

Sant'Orsola Hospital.

SUSTAINABILITY OF ENERGY EFFICIENCY.

The value of ideas

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Project Financing

Based on the needs of the University Hospital, a Concession was set up with a Project Financing, based on a Financial Economic Plan that repays the concessionaire's investment through energy savings in the life of the Concession.



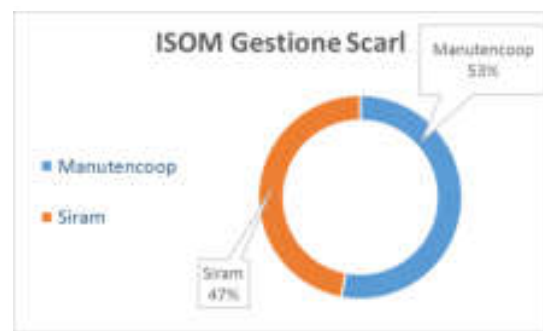
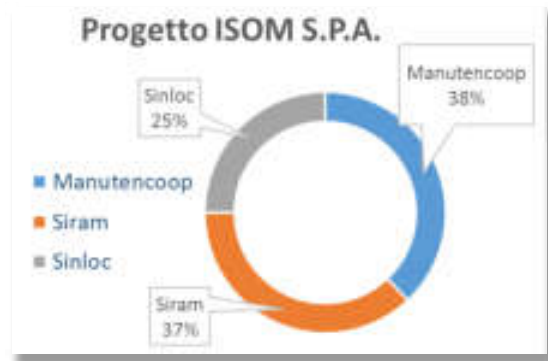
Plant situation

The plant components were at the end of their life, with continuous requests for repairs and very high energy losses

Sant'Orsola Hospital. THE CONCESSIONAIRE

The Concessionaire **Progetto ISOM**, composed Rekeep, Siram and Sinloc members, has provided for the financing of the project through a Project Bond signed with the European Energy Efficiency Fund EEEF

The Concessionaire has established the two consortiums ISOM Gestione (O&M) and ISOM Lavori (EPC) for the development of the industrial design, construction and management activities planned within the Project Financing

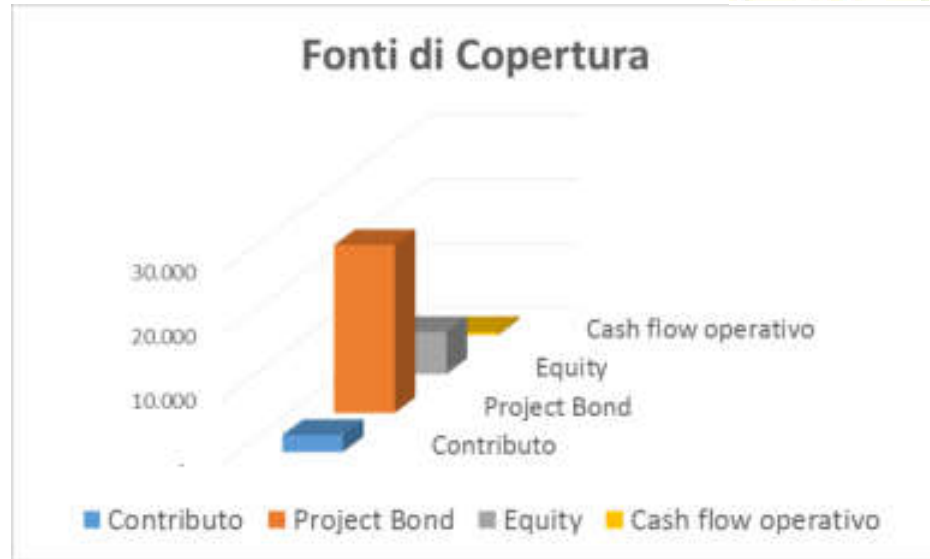
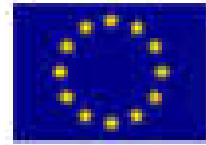


USE	Total Investment	31.217
	Working capital costruction	0
	Financial charges	3.121
	DSRA	1.500
	TOTAL	35.838

SOURCES OF COVERAGE	Contribution	2.673
	Debt (Bond)	26.175
	Equity	6.544
	Operating cash flow	446
	TOTAL	35.838

Sant'Orsola Hospital.

PROJECT FINANCING



IL PROJECT BOND

Total investment ≈ 36 m€
 Costruction value ≈ 30 m€
 Bond value: 26 m€

Bond issuer: Progetto ISOM SpA

Project Sponsor:
 Manutencoop Facility Management SpA
 - Siram SpA - Sinloc

Equity ≈ 6,5 m€

Investor: European Energy Efficiency Fund SA, SICAV-SIF

EEEF Advisor: Deutsche Bank AG Milan Branch

Legal Advisor: NCTM - Studio Legale Associato

Project Bond - The EEEF European Energy Efficiency Fund

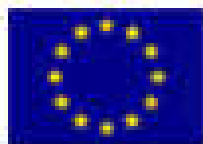
The fund was created at European level to finance energy efficiency projects with a 20% CO2 reduction and 20% primary energy savings compared to the base case. The results are monitored to ensure a real improvement in weather conditions.

Project financing

The operation of planning, construction and management of power plants, technological systems, activities and services of Sant'Orsola Hospital is part of this context, using - for the first time in Italy - a very recent financing method introduction in the Italian legal system: the Project Bonds, financial instruments, issued by the project company holding the construction and management concession (Progetto ISOM S.p.A.), which were fully subscribed, through a private placement, by EEEF. This is the first issue in Italy of "project bonds", which was also carried out at a very short distance from the introduction of new rules (also of a fiscal nature) that aimed to facilitate the financing of Private Public Partnership projects, also involving an audience of investors different from the usual banking class

Sant'Orsola Hospital.

PROJECT FINANCING



University Hospital S. Orsola Malpighi



Key figures	
Country	Italy
Sector	Energy efficiency – upgrade of entire energy system
Type of investment	Senior funds
Total project size (€ m)	41.0
eeef investment size (€ m)	31.8
Financial Close	08 May 2013
Maturity	20 years
Estimated (t) CO ₂ e emission savings (p.a.)	14,136

UK

- €4.2m senior debt to project entity **Cardenden Heat and Power** (EE: boiler replacement and RE: onshore wind)

FRANCE

- €5.1m junior funds to project vehicle to supply heat to **City of Orléans** (EE: CHP/biomass)
- €7.3m junior funds to project vehicle to supply heat to **City of Rennes** (EE: CHP/biomass)
- €30m senior funding to **Bolloré** (Clean Urban Transport: electric cars)
- €5m senior construction facility to project vehicle of **Région Rhône Alpes** (EE: schools retrofit)

SPAIN

- €2.5m forfailing loan to **Universidad Politécnica de Madrid** via **Enertika** (EE: building retrofit)

NETHERLANDS

- €8.5m senior debt to **City of Venlo** (EE: public lighting)

GERMANY

- €0.9m forfailing loan to **Jewish Museum Berlin** via **Johnson Controls' ESCO** (EE: building retrofit)
- €0.6m forfailing loan to **University of Applied Sciences Munich** via **Johnson Controls' ESCO** (EE: building retrofit + CHP)

ITALY

- €32m project and VAT bond facility to project entity upgrading **University Hospital S.Orsola Malpighi in Bologna** (EE: reduction on energy in entire fluid production and distribution system)

ROMANIA

- €25m subdebt to **Banca Transilvania** (Financial Intermediary investment: EE, RE, Clean Urban Transport)



Sant'Orsola Hospital.

ENERGY EFFICIENCY



Malpighi Thermal Plant

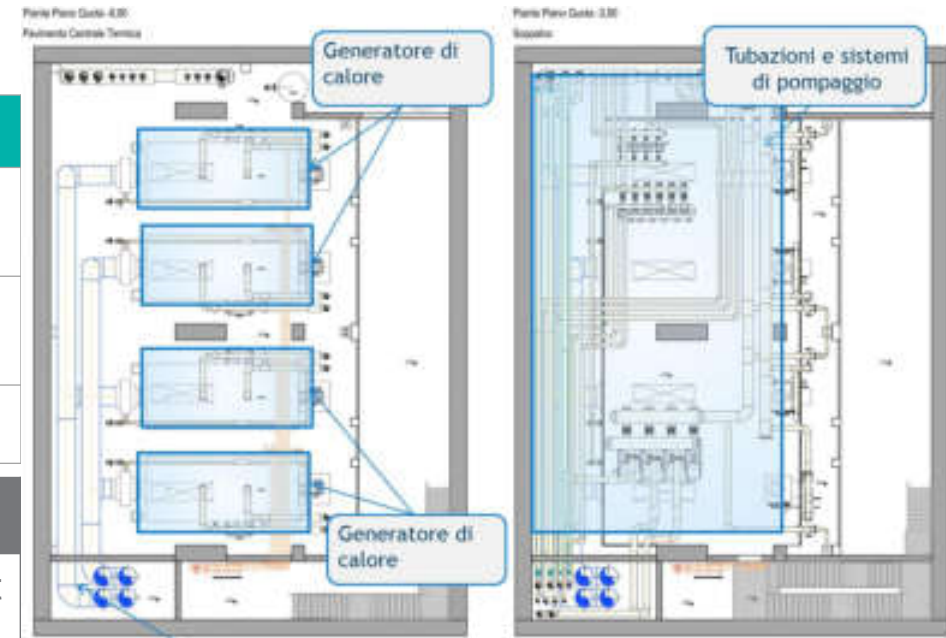
4 steam generator, 18 MW total, with high efficiency technology

Fume side heat recovery units (economizers) for each boiler, with 400 kW recovery

Variable flow pumping units with Inverter

New distribution networks

New pre-isolated fluidic distribution networks, for heat transfer fluids with lower thermal gradient



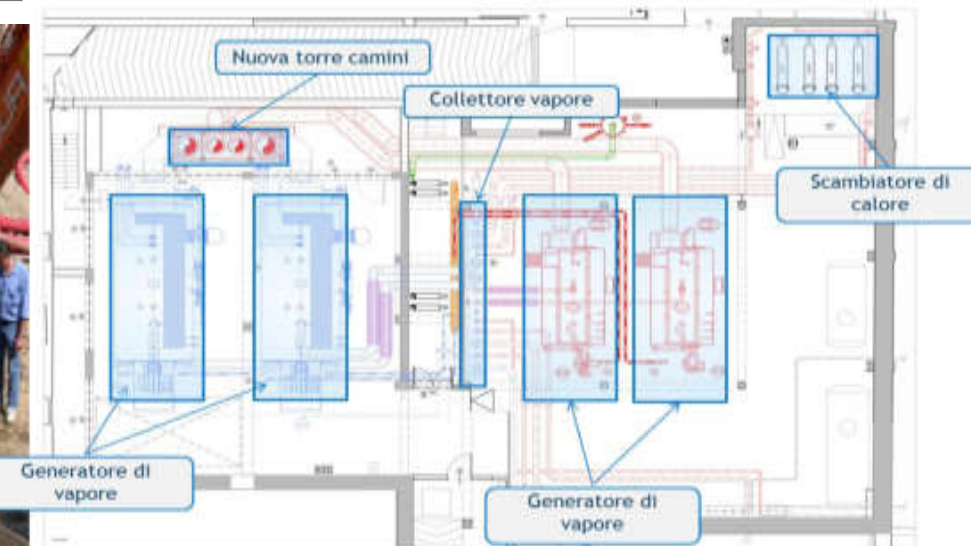
S. Orsola Thermal Plant

4 hot water generators, 12 MW each, with high efficiency technology

Fume side heat recovery units (economizers) for each boiler, with 400 kW recovery

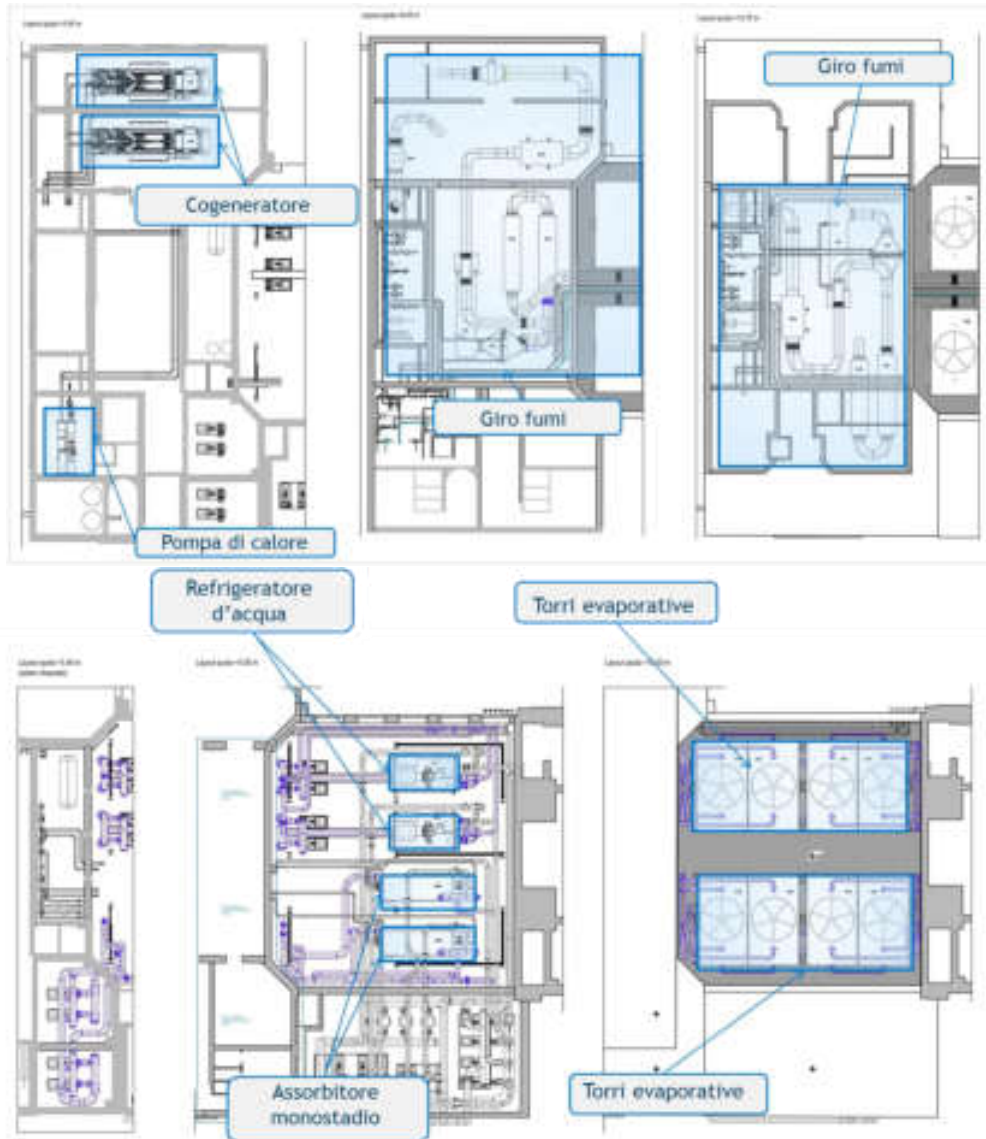
Variable flow pumping units with Inverter

Variable flow ventilation units with Inverter



Sant'Orsola Hospital.

ENERGY EFFICIENCY



Tri-Generation Plant

two cogeneration engines, of 3,352 kW_e and 3,190 kW_t in hot water production at 95 ° C-82 ° C (combined with absorber) with a total efficiency of 86.2%.

Coupling of machines with two 3 KV electric generators connected to 3/15 KV step-up transformers to allow the use of the self-produced energy for the Medium Voltage distribution network

2 single-stage absorption refrigerating units of 2,399 kW each, powered by hot water

2 refrigeration units with centrifugal compressor with 4,131 kW refrigerators each

Energy recovery at every stage of operation

Sant'Orsola Hospital.

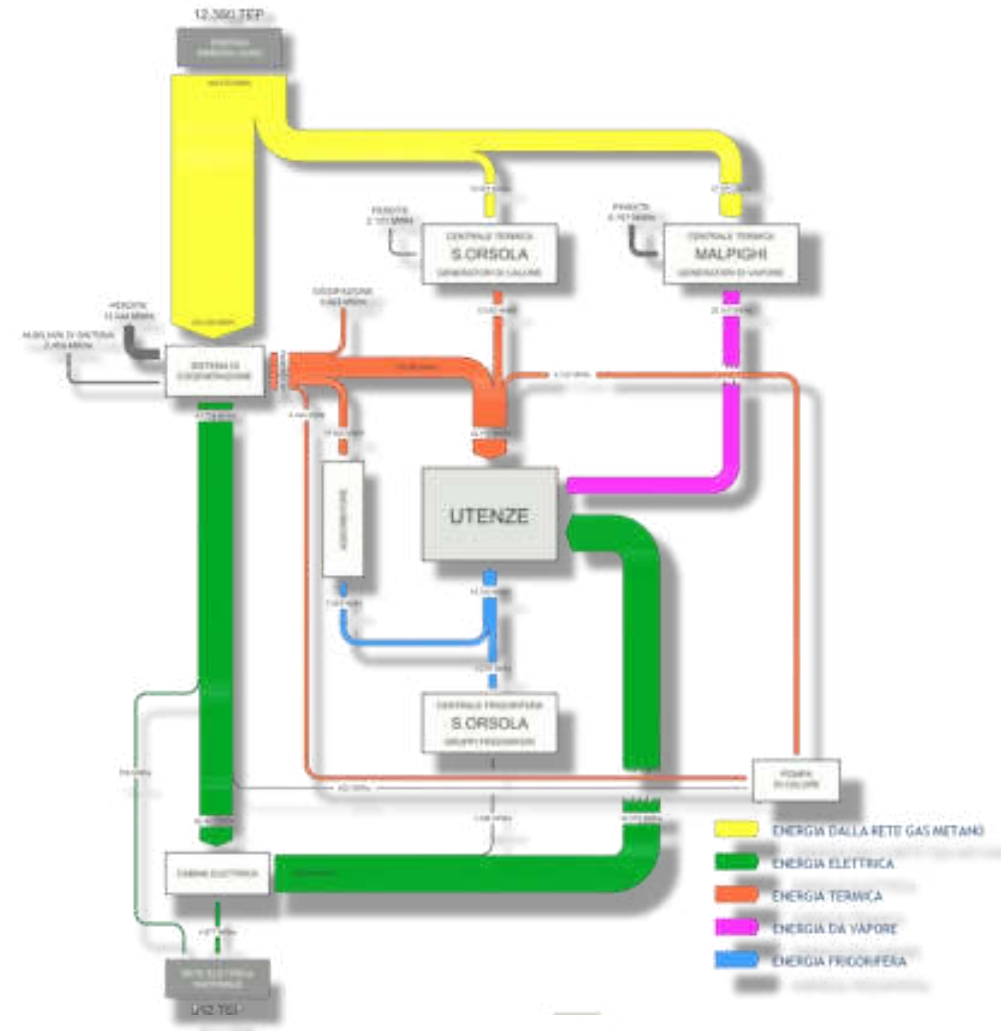
ENERGY EFFICIENCY RESULTS

Energy Efficiency

- Use of high efficiency machines
- energy recovery at each stage of operation
- Monitoring and abatement of atmospheric emissions
- Temperature reduction in distribution networks
- Use of a Tri-Generation plant
- Use of variable flow rate systems

Scenario	Tipologia di energia	TEP/anno	t CO2 eq/anno
Ex ante	Energia primaria richiesta (uso elettrico)	9.779	3.645
	Energia primaria richiesta (uso termico)	8.244	3.519
	TOTALE ENERGIA PRIMARIA RICHIESTA	18.023	7.164
Ex post	Energia primaria richiesta (uso elettrico)	912	340
	Risparmio di energia primaria (uso elettrico) per restituzione alla Rete Nazionale da sistema di cogenerazione	142	53
	Energia primaria richiesta (uso termico)	12.390	5.288
	TOTALE ENERGIA PRIMARIA RICHIESTA	13.160	5.575

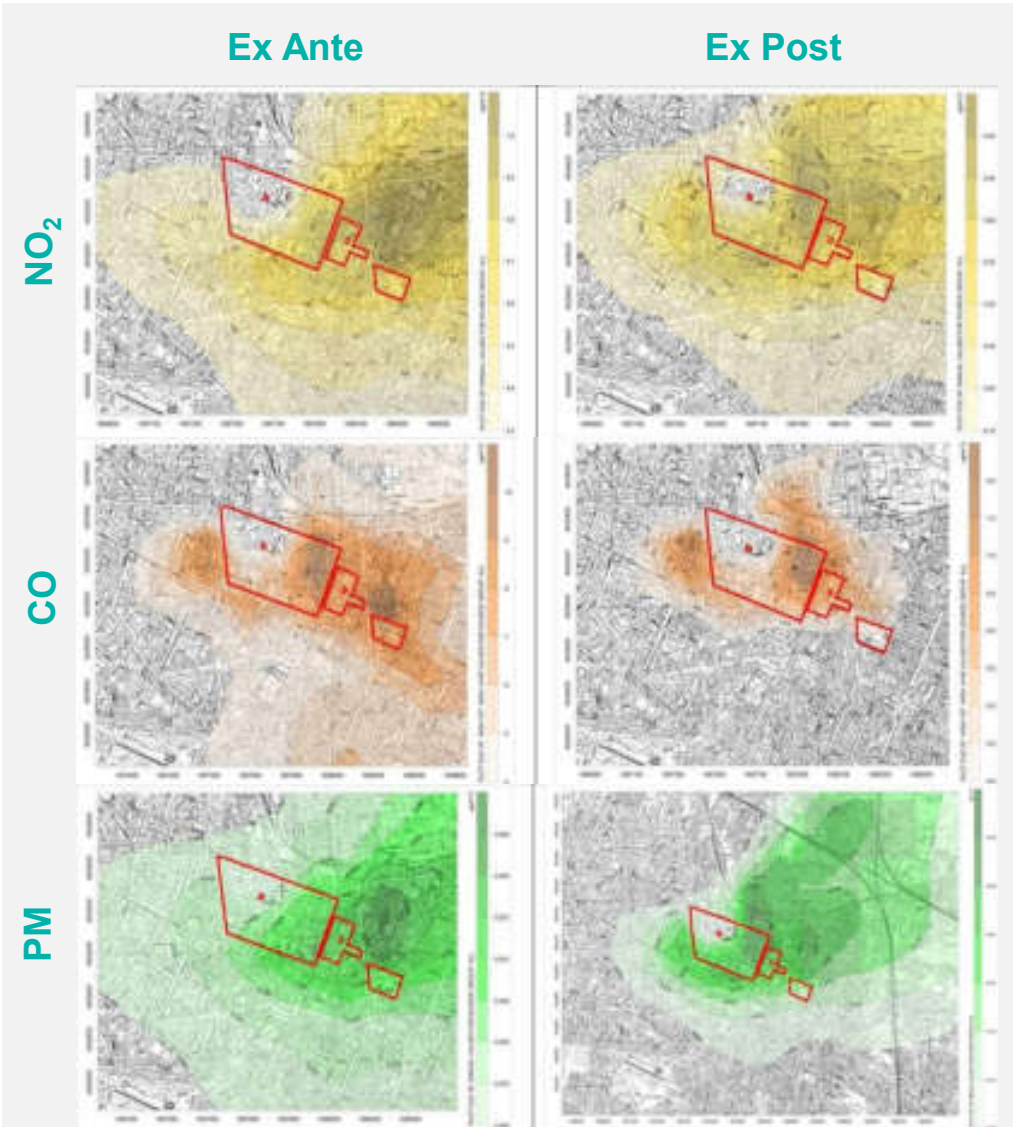
Risparmio complessivo da progetto	
4.863 TEP/anno	1.589 t CO2 eq/anno
27%	22%



The new production and distribution yields, together with the use of energy recovery at each stage of operation, lead to a **27% primary energy saving** and a reduction of **22% climate-changing gas emissions**

Sant'Orsola Hospital.

ENERGY EFFICIENCY



Inquinante	UM	Ex Ante	Ex Post	Riduzione
NO ₂	µg/m ³	1,15	0,6	-52%
CO	µg/m ³	11,46	9,1	-21%
PM10	µg/m ³	0,05	0,0	-40%
CO ₂	Teq	7.164	5.575	-22%

Efficiency improvement - Reduction of emissions into the atmosphere

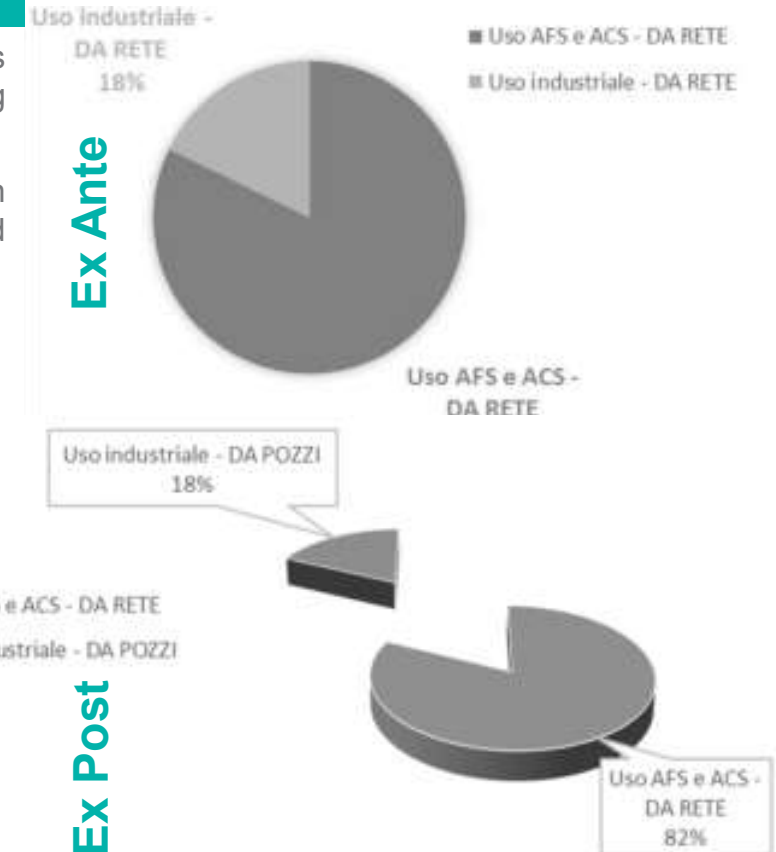
The energy efficiency achieved produces a drastic reduction of climate-changing gas emissions into the atmosphere

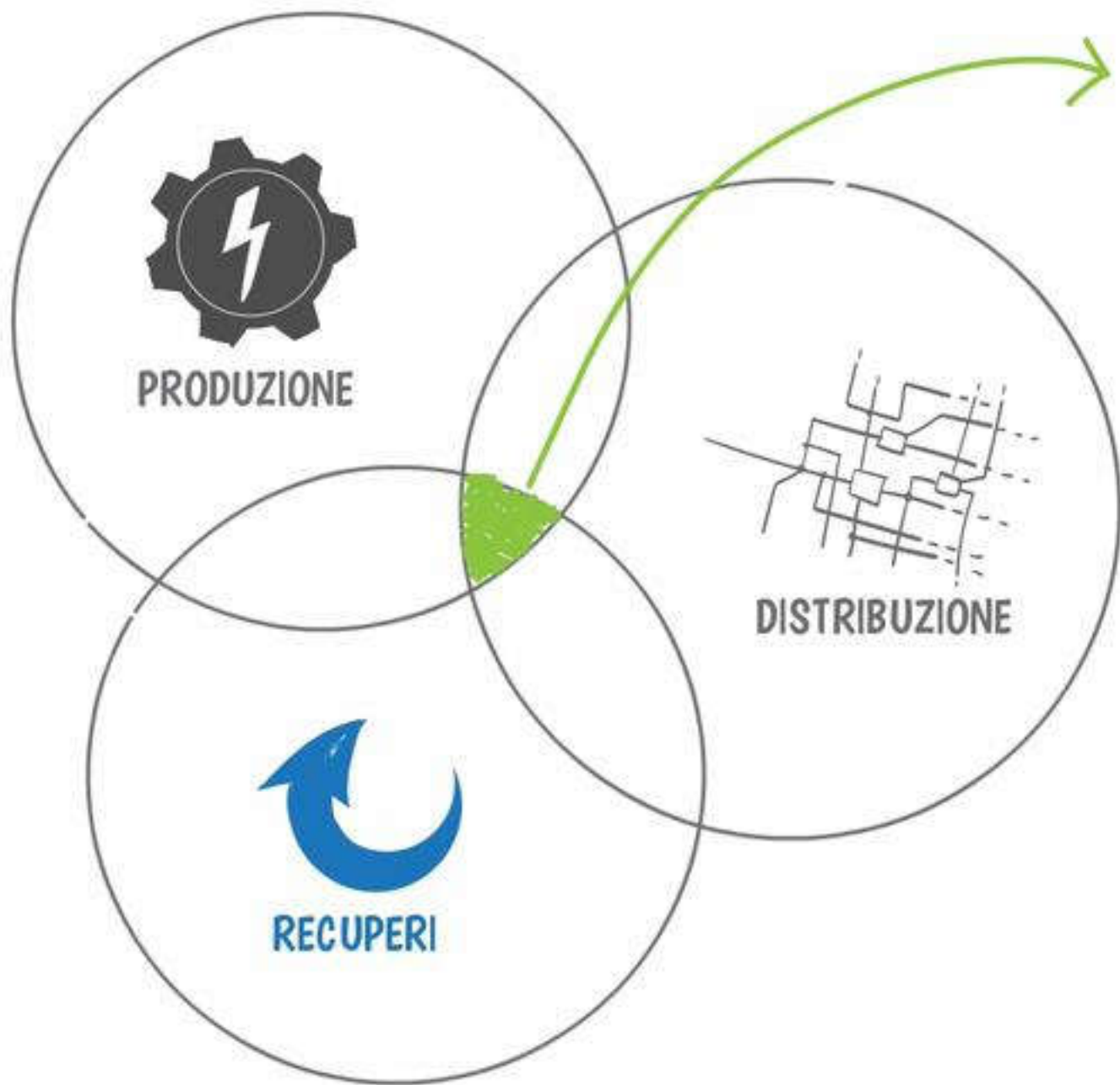
Each plant system is equipped with continuous emission control and abatement systems

Efficiency improvement - Water consumption

In the Ex Ante configuration, the entire water requirement of the Hospital of 562,500 mc/year was satisfied through network withdrawal

The redevelopment work carried out involved the construction of wells for the collection of water for industrial uses





RISPARMIO