

**REFERENCES DISTRICT HEATING SYSTEM
(SOA Kat. OG11 – OG9)**

* **OOO "OTEL" SHELKOWO MOSCOW OBLAST (RUSSIA)**

Realization of a new trigeneration plant in Shelkovo (Russia), which will provide electricity, heating and cooling.

The main components are: 2 methane gas turbines 3,5 MWe, 2 recovery boilers, an additional Methane gas boiler with 6,8 MWt and 2 electric boiler with 1 MWt for warm water production and 2 absorber with 2,45 MWt. The electrical system was realized from Siemens.

Gasturbine:	Turbomach / Solar
Absorber:	Century
Gas Boiler:	Viessmann
Recovery boiler:	Garioni Naval
Electrical capacity:	2 * 3.500 kWe
Thermal output:	max. 22.000 kWt
Cooling capacity:	2 * 2.450 kW
Location of execution:	Shyolkovo
Year of execution:	2012 – 2014
Project:	Atzwanger SpA

* **DISTRICT HEATING SYSTEM SARENTINO**

Expansion of the district heating system at Sarentino.

Thermo hydraulic integration of 4 turbines and a 100 m³ storage tank including delivery and installation of the power control system.

Wood gas turbines:	FlexEnergy MT250
Electric capacity:	4 * 250 kWe
Thermal output:	4 * 400 kWt
Location of execution:	Sarentino (BZ)
Year of execution:	2012 - ongoing
Project:	Studio Dr. Eng. Hannes von Hepperger

* **NORDPOWER GMBH**

Realisation of the thermo hydraulic system of a new Wood Gasification cogeneration System from Burghardt, pipes, distribution, operation station and connection to ORC – system (50kW).

BHKW: Burkhardt GmbH
ORC: Zuccato Energia ZE50ULH50LT
Electric capacity: 2 * 180 kWe plus 50 kWe ORC
Thermal capacity: 2 * 200 kWt
Location of execution: Sinigo / Merano (BZ)
Year of execution: 2012 - 2013
Project: Energytech - Dr. Eng. Norbert Klammsteiner

* ***AZIENDA PUBBLISERVIZI BRUNICO***

Expansion of the district heating system San Giorgio - Brunico. Delivery, installation and implementation of two Methane gas cogenerators from GE-Jenbacher with 1,5 MWe and 1,6 MWt and those thermo hydraulic bonding in the existing district heating plant.

Cogenerators: GE-Jenbacher
Electric capacity: 2 * 1,5 MWe
Thermal capacity: 2 * 1,6 MWt
Location of execution: Brunico (BZ)
Year of execution: 2012 – 2013
Project: EUT Bressanone – Dr. Eng. Roberto Carminati

* ***AZIENDA ENERGETICA SpA***

Construction of a new district heating plant at Maia Bassa/Merano with 2 Methane Gas Boilers (10MWt) and connection to the 4 storage tanks (20m³ each). Thermo hydraulic system, regulation and fire protection system.

Boiler: Bosch - Loos
Thermal capacity: 2 * 10 MWt
Location of execution: Merano (BZ)
Year of execution: 2011 – 2013
Project: EUT Bressanone – Dr. Eng. Roberto Carminati

* ***STADTWERKE BRUNICO***

Expansion of the district heating center Luns. Thermo hydraulic bonding with a new kettle

biomass and the ORC system

Location of execution: Luns / Brunico (BZ)

Year of execution: 2012 – 2013

Project: EUT Bressanone – Dr. Eng. Roberto Carminati

* **WARMWOOD Srl**

Construction and realization of the biomass System with ORC cycle.

Biomass boiler: Polytechnik

ORC: Turboden

Flue gas treatment: Polytechnik

Thermal output: 1 MWe

Location of execution: Vidiciatico (BO)

Year of execution: 2011 – 2012

* **IREN ENERGIA SpA**

Construction of the pipe's section pre-insulated district heating network for the city of Turin, North-East Area.

Supply and laying of pipes DN 600/800 and all ancillary works for a total of about 100 ml. pipe near the underpass at the intersection of power and C.so C.so Mortara, including excavation, restoration and embankments.

Tube type: ZPUM

Warning system: Brandes

Location of execution: Torino (TO)

Year of execution: 2011

Project: Iren Energia SpA

* **ECOTERMICA PRIMIERO SpA**

Turnkey construction of a district heating plant fuelled by wood biomass with cogeneration by ORC and oil boiler, near the town of Transacqua serving the district heating network in the municipalities of: Fiera di Primiero, Imer, Mezzano, Siror, and Tonadico and Transacqua including plant start-up and technical management and maintenance of the same. Total investment of € 36 million.

Work including all associated plant of central biomass boiler, oil boiler, pumping and heating

system, heat storage, pumping station network, water treatment plant, cogeneration plant and control system and measurement of heat.

Realization of the district heating network. Opera inclusive of the excavation operations and constructions under the ground level. Total length of the network corresponding to approximately 35,000.00 ml of pre-insulated pipes from DN 25 to DN 250.

Supply, installation and commissioning of all the district heating transfer stations, including civil works, drilling, penetrations, restorations, accessories and commissioning of individual substations with a total of nr. 950 substations.

Biomass boiler:	VAS Energy Systems GesmbH (5,5MWt+8 MWt)
Flue gas condensation:	VAS Energy Systems GesmbH
Oil boiler:	Bosch – Loos (7,3 MWt)
ORC:	Turboden
Electric capacity:	21,8 MWe
Transfer stations:	15 to 1.000 kWt
Alarm system:	Nordic
Pipe System:	Power Solution - ZPUM
Location of execution:	Transacqua (TN)
Year of execution:	2010 – 2012
Project:	EUT Bressanone – Dr. Eng. Roberto Carminati

*** *DOLOMITI ENERGIA SpA ex Trentino Servizi SpA***

Supply, installation, testing, commissioning "turnkey" of the new trigeneration plant of Trento in the service of the district heating network in hot water and chilled water. Superheated water produced by combustion engine and gas recovery boiler, complete plant also has two boilers integration and reserve. Chilled water produced by the cooling units with air-cooled absorption chiller. System for control and regulation.

BHKW:	GE Jenbacher
Chiller:	Climaveneta
Electric capacity:	1,8 MWe
Thermal capacity:	14,3 MWt
Refrigerating capacity:	7,2 MWt
Location of execution:	Trento (TN)

Year of execution: 2010 - 2011
Project: Atzwanger SpA