

Issue 1 - Dr. Maurizio Saggese, Italy

Profile

Name: Maurizio Saggese
Age: 60 years old
Education: Civil Engineer; Turin University
Activity: Freelance Engineer
Lives in Aosta Valley, Italy
Experience in this sector: near 35 years
Geographical working area: mainly Aosta Valley, Italy.

Geothermal sector in Aosta Valley and a geothermal plant case in historic centres protected by Cultural Heritage

Dr Maurizio Saggese's experience in near-surface geothermal energy (NSGE) is recent, particularly with co-generation and photovoltaic installations. In the last few years, he has specialized in the field with projects of NSGE plants. One can say that in Aosta Valley the development of heating systems took place over a period of about 40-50 years: from the time of the first radiators or stoves with very high temperatures (60s) to the first geothermal plants about 10 years ago. A big change occurred due to the awareness that building insulation can actually save you a lot of money. Nowadays, indeed, the values of the transmittance of very small building components are required. In addition, the progress of low-temperature systems has made possible strong savings: for example, low-temperature boilers have a generation efficiency close to 100%, which makes the difference in saving. In Aosta Valley there is progressive building up of experience of renewable energies among industry technicians, including photovoltaic, power station and recent geothermal investments. This thanks to the regional contributions, with funding standards in this area, which at the moment offer a rate of 1%. Yet, a long-term public administration savings policy has not yet been established in Aosta Valley: for example, public buildings are often in poor state at installation level, as there is an old mindset that hopes to save on maintenance. Instead, in the private sector, this mentality is already changing.

Regarding his geothermal experience, an interesting case of NSGE in Aosta Valley, on which the Dr. Saggese recently worked, has been the "Maison Lostan" building, a historic building in the historic heart of the city center of Aosta city. The building had been abandoned for many decades and then it was decided to turn it into the headquarters of the Regional Cultural Heritage Office. The installation is interesting for the challenge of creating the least possible impact of technological equipment in a protected context: as it is the old town of Aosta, where many archaeological remains are well visible. For this reason it was necessary to make the technological part as invisible as possible. The original design proposal was very complex, including about 33-34 deep closed loop probes 150mt, positioned according to archaeological constraints at strategic points. Subsequently, the original design was changed, changing the origin of the source from the closed type into an open type (open circuit consisting of 2 wells). The remission of groundwater takes place in surface waters, in an adjacent urban channel intubated and even though the national legislation permits the reemission of groundwater in the ground table itself for geothermal purposes, the current regional legislation prohibits such an option. In addition to winter heating, summer air conditioning is also planned. As a result of the observed climate change, this possibility is also desirable in Aosta, at least for several days of the summer season. It is a complex and innovative plant also because it is fully monitored from the energy and environmental point of view, one of the many reasons for being chosen as an example of Best Practice within the GRETA project. From the latter, ing. Saggese has many expectations, particularly regarding the map of the geothermal potential of the Aosta Valley (pilot area of the GRETA project), which could be a very effective tool for geothermal development in the area.