

NEUCHATEL

Consistency rewarded



Neuchâtel was the first francophone city in Switzerland to receive the « Cité de l'énergie » Award in 1995. In 2006, it received another important label – the European Energy Award Gold, which certifies, at the European level, its excellence, continued commitment and above all, its success in the implementation of energy saving programmes and development of renewable energies.




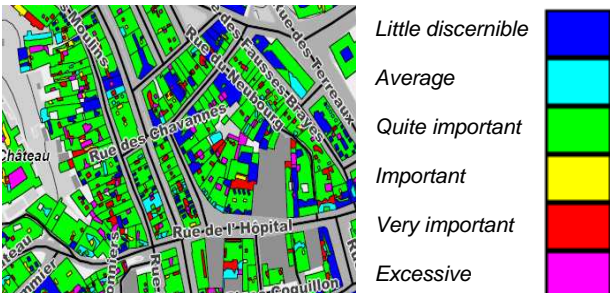


The approach that the City of Neuchâtel has undertaken within the framework of « Cité de l'énergie » scheme began in 1982, when the General Council (legislative authority) agreed to participate in this programme of the Confederation. Today, close to 2010, the results are encouraging: consumption of fossil energy has been reduced by 22% comparing to 1990 (equivalent to 4.4 million liters of fuel oil in this year), while electricity requirements were stabilized at a level of 12,000 MWh per year over the same period. As for the production of renewable energy, it represents a 6% share of the total demand of municipal housing in the area of thermal energy, and 7% in the electricity sector.

The effort to improve the energy efficiency of municipal buildings is based on the complete renovation of these buildings, sanitation, technical infrastructure, and the improvement of the performance through adequate trainings for technical managers.

The City of Neuchâtel is well aware of the necessity to further strengthen its efforts in order to reduce negative human impacts on the environment. For this reason, the city has voluntarily decided to sign the « Covenant of Mayors » in February 2009 in Brussels. The Covenant's idea stands for 20% reduction in the consumption of fossil fuels on a particular territory of a city by 2020 and 20% reduction of its CO₂ emissions. At the same time, the share of renewables must be increased to 20% of total energy needs.

Aerial thermography as an awareness tool – The City of Neuchâtel (Switzerland)

Keywords	Thermography, aerial analysis, energy efficiency, information / education	
Main photos		
Objectives of the action	<p>Infrared photographs taken from the sky are not only spectacular, but they also make for a great communication and awareness tool. They can capture people's attention, which is particularly important in the case of decision makers (owners, authorities, professionals, etc.). They thus facilitate the decision making process in the field of thermal improvements.</p>	
Description of the action	<p>In the mornings of 11 and 12 February 2008, regional temperatures recorded by the thermometer were particularly negative. The weather was perfect to carry out thermography. In two flights of just over an hour each, before the sunrise, the helicopter had flown over the entire territory of Neuchâtel. The 4,000 photographs taken from an altitude of 500 meters, would later serve in the thermal analysis of city's rooftops.</p> <p>TCC Trading Corporation Consulting from Beauvais in France, specializing in multi-spectral analysis, was commissioned to conduct the aerial thermography of Neuchâtel. The overall cost of the operation reached 120,000 euros. A grant of 40,000 euros was provided by the EU, as part of the CONCERTO initiative, which also involves the city of Neuchâtel.</p>	
Results / Achievements	<p>In June 2008, the Environment Directorate of the City organized an exhibition to present results to the public. In three days, over 1,000 people came by to see it. Pictures showed during exhibition turned out to be really spectacular: thermal map presented to the public had a form of a plan depicting rooftop heat losses, helping to determine which buildings were the least well insulated. On such maps, a bright yellow or even lively red, highlight the poor quality of construction elements.</p>  <p>Following the campaign, nearly 250 persons, owners or tenants, have asked for information and advice on energy saving in their building. The vast majority of them have agreed to provide data necessary to make up the Display® energy label of their building (including consumption of oil or gas, water, electricity and the living surface of the building). This label ensures that no serious breach (poorly insulated facade, deregulated furnace, inappropriate behaviour by users) would have escaped to the aerial analysis. The Display® label can also measure the way to go for a building towards a more « energy saving » character and quantify the energy potential to achieve.</p>	
Highlights of the action	<p>Detailed analysis of infrared images has demonstrated that the roof of a private college (Collège Latin) should be isolated, despite the fact that this school had previously a very respectable Display rating (B). This illustrates the complementarity between a tool based</p>	

	on a very comprehensive approach such as Display and a highly specialized tool such as aerial thermography.
Difficulties encountered	Implementation of this action has caused some financial difficulties, mostly because the operation was not planned. Opportunity arose when the City of Neuchâtel was preparing a dossier for a European project within the framework of CONCERTO programme. Acceptance of the project by the European Commission has made it possible to take advantage of 40,000-euro grant for the operation, whose total cost was 12,000 euro.
Advice for replication	As we have already mentioned, the aerial thermography, supplemented by the energy label Display®, makes for a very effective communication and awareness tool. In the case of Neuchâtel, these two highly complementary approaches have largely contributed to decision to carry out improvement works. As for today, these are mostly small owners living in their own building, who decided to join the process. But in the future, the City is going to do a particular effort to involve owners of rental buildings, some of whom have already expressed an interest in this approach.
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