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GENEVA

En route for 100% renewable energy in municipal buildings

KEY FIGURES

INHABITANTS



201,100

LONG-TERM VISION

100% RENEWABLE ENERGY AND ZERO EMISSIONS BY 2050

FOR PUBLIC BUILDINGS

Geneva is the seat of numerous international organisations and has conducted a recognised and acknowledged energy policy since the first oil crises in the 1970s. The objective of the City of Geneva is to have all its municipally-owned buildings heated with renewable energy by 2050.

THE STARTING POINT

TACKLING ENERGY EFFICIENCY IN MUNICIPAL BUILDINGS

The successive increases in oil prices and their extreme volatility over the 2004-2006 period, as well as the prospective depletion of fossil energy resources, revealed Geneva's strong energy and financial dependence on fossil fuels. Already engaged in a systematic rationalisation of its energy use over the last 30 years, the city council decided to step up its action and to engage in an energy transition.

In 2006, the adoption of the "100% renewable by 2050" municipal strategy applicable to municipal building heating requirements clearly changed the thrust of its energy policy. This still on-going strategy identifies buildings which would benefit most from retrofitting/rehabilitation work from both an environmental and energy point of view. This will significantly increase the energy performance of the city's own stock of buildings, which is composed of about 800 public, administrative and social housing buildings.

The municipality also runs a fleet of 500 vehicles and is responsible for the water used in public buildings and places, large sections of the sewage system and all public lighting within the city limits. It is engaged in a comprehensive approach to reducing its energy and climate footprint, as demonstrated by changes made to its vehicle fleet, the development of soft mobility solutions for its employees and the promotion of rational use of water and electricity savings.

The City of Geneva aims to take an active part in the energy transition of its territory. In 2008, it was awarded the European Energy Award Gold for the comprehensiveness and consistency of its approach, reflected in its energy and climate policy.

The objectives of this policy are carried out in a number of areas: urban planning, mobility and transport, procurement, waste management, information and communications and even economic promotion and tourism. They are also taken into account when defining investment and planning priorities.

THE APPROACH

EXTENDING THE PUBLIC BUILDING OBJECTIVE TO TERRITORIAL ENERGY PLANNING

The first building work to which the “100% renewable” method was applied showed that it was possible to significantly reduce heating requirements whilst preserving the financial integrity of the projects and improving building management cost efficiency. Improving energy efficiency also brought about social benefits by significantly reducing heating costs for tenants and noticeably improving indoor comfort.

However, acting on new and retrofitted buildings alone will not be enough to rapidly achieve the territory’s energy transition objectives and renewable energy penetration remains well below the gradual progress target set by the City of Geneva. The implementation of the strategy also revealed that many unused local energy resources could potentially be harnessed.

Relations were established between energy specialists and the planners in charge of urban planning. This cooperation resulted in the adoption of the Canton energy law and the obligation to set up Territorial Energy Concepts (Concepts Energétiques Territoriaux -CET). These methodological tools identify the energy issues at district level, ensure their integration at an early stage of the project and encourage local and renewable solutions.

Before harnessing the local resource, its presence in the area must be assessed precisely to optimise implementation costs and ensure its competitiveness compared to fossil energy. The rapid, massive deployment of renewable energy solutions also requires pooling local resources and building collective distribution infrastructure in the various districts.

The first example of this ramping-up was CADéco Jonction. The project, carried out in collaboration with the Canton and Geneva Industrial Services (a semi-public partner responsible for distributing grid-bound energy) will heat twenty or so large buildings with water from Lake Geneva by 2019. Upon completion of the project, the City of Geneva will have 14% of its total heating requirements covered by renewable energy and will get back on track with its renewable energy target. The project will also be used to demonstrate the potential of “surface water” as a credible, efficient alternative to fossil energy sources.

THE URBAN-RURAL LINKAGE

CREATING A REGIONAL WOOD BIOMASS SECTOR

The City of Geneva is located at the centre of a cross-border urban area which is home to almost 1 million people and its energy policy is systematically placed in the context of Swiss and European partnerships. Its main relations, however, are with

the Canton of Geneva and its main partners. As regards wood biomass, the municipality has contributed to creating a brand-new local industry which benefits from the city’s own resources through municipal forestry and from a partnership with the Geneva association of private forest owners. This partnership ensures that wood biomass is sold at a fair price whilst guaranteeing private owners sustainable, free of charge management of their forests. It also promotes local jobs and a short supply chain.

INVOLVEMENT OF LOCAL AND REGIONAL STAKEHOLDERS

COLLABORATIONS PROMOTING THE LOCAL ECONOMY AND LOCAL, NON-OUTSOURCEABLE KNOW-HOW

The City of Geneva has only a partial ability to act on its territory due to the way power is shared between the Canton and the main public and semi-public partners (municipalities, Geneva Industrial Services, Geneva Public Transport operator, etc.). It can, however, influence a number of decisions and facilitate the deployment of infrastructure projects within the city’s boundaries. In fact, Geneva ensures that its energy and climate policy and action are reflected in the various collaborations and partnerships involving local stakeholders by adopting the role of a planning authority or through incentives.

The energy and climate policy coordinators also strive to reinforce links with other municipal projects such as the Municipality Masterplan, the Covenant of Mayors and Agenda 21.

The City of Geneva wants to project a dynamic, positive and forward-looking vision of energy and climate issues able to transform a desirable future into a common objective. According to this vision, local partners and citizens will work together and adhere to the objectives set through the collective commitment of civil society and all relevant stakeholders.

The processes and relations between the stakeholders involved in implementing the 2050 vision are new and therefore complex. This is why a successful planning process leading to innovative projects requires identifying the relevant stakeholders and activating them at the right moment, in the right place and with the right function. The CADéco Jonction project showed that the scenario that is needed to promote the local economy and local, non-relocatable know-how is played out at three levels: the density of “clients” who adhere to the project, local industrial partners able to invest, influence and create local expertise, and commercial partners for disseminating the project.

For further information

www.ville-geneve.ch/themes/developpement-durable-energie/energie