


## Ecobuildings in La Viscose area in Echirolles (FR)

<b>Keywords</b>	<b>Sustainable communities, international networking, modernisation of the heating system</b>											
<b>Photos</b>												
<b>Objectives of the action</b>	The objectives were to substitute the unaffordable electric heating in favour of biomass district heating. The project also aimed to develop cost cutting approaches and standardized technical and contractual solution from similar RES conversions in other social housing areas. Carbon emissions will be reduced across the Viscose area by using of biomass for the district heating system (older buildings) and solar heating (newer building); the two networks are being connected. Among the new dwellings, 59 will attempt to meet the voluntary HQE standard (Haute Qualité Environnementale or high environmental quality).											
<b>Description of the action</b>	<p>Echirolles is an industrial suburb of Grenoble, located to the south of the city. Viscose is a disadvantaged area that once housed workers at a local textile factory where artificial silk was made. The housing stock at Viscose dates from two periods, with 58 low-rise buildings completed in 1927 and a further six blocks of flats in 1992/93. There are in total 362 dwellings, all of them social housing. The flats were heated individually and damp, peeling paint was evidence of unaffordable heating, poor insulation and inadequate ventilation. The local authority took over the area in 1982. A comprehensive refurbishment programme began in 1982 and was completed in stages at the end of the 1990s. Further improvements are ongoing.</p> <p>Within the framework of the most recent renovation activities, the roofs were refurbished and external insulation provided, together with double glazing and new doors. The insulation comprises an external 10cm layer of glass wool or polystyrene. All the old buildings except two have external insulation; these two, which have been refurbished after years standing empty, are insulated internally. <b>As part of CONCERTO/ SESAC programme, French consultants visited the city of Växjö in Sweden – called the greenest city in Europe – to study its district heating system.</b> Three different options were then explored for La Viscose. A solution was adopted from the Swedish model, using prefabricated substations in each building, offering improvements on the traditional French model and saving time and money.</p>											
<b>Results / achievements</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="background-color: #f2f2f2;"><b>Energy saved</b></td> <td>5 000 KWh/year</td> </tr> <tr> <td style="background-color: #f2f2f2;"><b>CO2 emissions avoided</b></td> <td>264 t/year</td> </tr> <tr> <td style="background-color: #f2f2f2;"><b>Level of financial support</b></td> <td>952 K€</td> </tr> <tr> <td style="background-color: #f2f2f2;"><b>Means of financing</b></td> <td><b>Equity</b> OPAC38 (952 k€), <b>subsidies from</b> : Palulos 364 K€ / Europe (Concerto) 575 K€ / Region 150 K€ / district heating+ Ademe 1 059 K€ / CGI 613 K€ / METRO 728 K€ <b>Loans</b> : Palulos 1 292 K€</td> </tr> <tr> <td style="background-color: #f2f2f2;"><b>Ecological benefits</b></td> <td>Costs reduction of energy production, Conversion to biomass energy, reduction of CO2 production...</td> </tr> </table>		<b>Energy saved</b>	5 000 KWh/year	<b>CO2 emissions avoided</b>	264 t/year	<b>Level of financial support</b>	952 K€	<b>Means of financing</b>	<b>Equity</b> OPAC38 (952 k€), <b>subsidies from</b> : Palulos 364 K€ / Europe (Concerto) 575 K€ / Region 150 K€ / district heating+ Ademe 1 059 K€ / CGI 613 K€ / METRO 728 K€ <b>Loans</b> : Palulos 1 292 K€	<b>Ecological benefits</b>	Costs reduction of energy production, Conversion to biomass energy, reduction of CO2 production...
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<b>Friendly advice for replication</b>	EU projects like CONCERTO/ SESAC enable pan-European collaboration, in this case to implement a Swedish model of district heating in France. The refurbished dwellings and new build, the use of biomass and solar power, a centre for the disabled and many environmental improvements have together created an attractive estate and a good standard of accommodation.											
<b>Online information</b>	<a href="http://www.concerto-sesac.eu">www.concerto-sesac.eu</a> <a href="http://www.opac38.fr">www.opac38.fr</a>											
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