

CHAMBERY, France

BACKGROUND INFORMATION	
PROJECT TITLE	Integrated Urban Programme – Chambéry Metropolitan Area: private mixed heating system in the Croix Rouge neighbourhood. <i>Programme Urbain Intégré (PUI) Chambéry métropole: Chaufferie privée mixte sur le quartier Croix Rouge.</i>
Beneficiary	The beneficiary is the <i>Société Chambérienne de Distribution de Chaleur</i> (SCDC) a private company, a local branch of the national heating company Cofely, which is a subsidiary of a large energy group (Gaz de France-Suez). This company produces and distributes heating and hot water through a 30-year (1987–2017) service contract (called <i>delegation de service public</i>) signed with the city of Chambéry. It provides heat to the urban area under specific terms of reference which define it as a 'service of public interest'. According to this contractual arrangement – which allows for depreciation and possible compensation upon the contract's termination, if it is not renewed – the ownership of the equipment passes to the city. Under these specific conditions, the city of Chambéry (and its dwellers) can be defined as an indirect beneficiary.
Duration of project	The project was selected at the Regional Programming Committee meeting held on 17 December 2009 and the decision was notified on 14 January 2010. Construction started on 24 September 2010. The equipment was delivered in June 2011. It became fully operational, following controls and tests, in October 2011, at the start of the 'heating season'. According to an internal document from ADEME (the regional environment agency), the project has been 'completed, paid for, fully funded and archived'.
Member State	France, Rhône-Alpes Region, metropolitan area and city of Chambéry, suburb of 'Les Hauts de Chambéry' – an area developed in the early 70s – where the project is located on a site called Croix Rouge.
Geographic size	Les Hauts de Chambéry has a population of 14 000, the majority of whom are tenants of the 3 500 social housing units. This plant delivers its services within a larger area. Although the city's four heating plants are not all connected, the boiler funded by the project is part of the city heating system which serves 60 000 inhabitants within a metropolitan area of 24 municipalities with 125 000 inhabitants.
Funding	Total cost: €3 900 000 ERDF support: €2 150 000
Operational Programme	CCI nr : 2007FR162PO022 The 2007-2013 Regional Operational Programme (ROP) for the Rhône-Alpes Region has defined 3 priorities or strategic orientations under 5 axes. Under the second priority 'promoting sustainable development' (axis 2), actions on environmental development and risks prevention are listed. Action 12 refers to 'eco responsible behaviours, more efficient energy development, development of renewable energies and promotion of biomass production'. The project has been selected under a specific sub-measure (12-9) aimed at 'promoting the development of renewable heating' (and not under the integrated urban development programme, as mentioned in the PRESAGE fiche).
Managing Authority	General Secretariat for Regional Affairs of the Rhône-Alpes Region Prefecture. <i>(Secrétariat Général des Affaires Régionales, (SGAR), Préfecture de Région.)</i> Decentralised government services operating at regional level.

Cohesion Policy Objective:	Competitiveness and employment
Main reason for Highlighting this case	<p>The project refers to the three pillars of sustainable urban development:</p> <ul style="list-style-type: none"> • It promotes renewable energy by substituting fossil based (gas) energy by biomass (wood) while reducing carbon emissions; • It has a socio-economic dimension by reducing and stabilising the heating costs of low-income social housing tenants and for other customers such as public building owners and private businesses; • It fulfils an additional economic role by fostering the regional production of wood energy products and generates 'green jobs' in this field.
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1. PROJECT DESCRIPTION

Overall objective / goals	<p>The overall objective is to replace a highly polluting and costly fossil-based district heating production unit (boiler), located in a distressed urban area subject to an Integrated urban development programme, by renewable energy (biomass)-based equipment with lower emissions and more stable production costs.</p> <p>Joint objectives are:</p> <ul style="list-style-type: none"> - to supply heating at a more sustainable cost for low-income social housing tenants and other customers, including public building owners, but also private businesses; - to foster the development of the wood industry in the region, in terms of quantity and quality produced, job creation and organisation of a 'market' with growing and more articulated demand and supply. <p>As part of a large urban heating system, this plant – in addition to a previously installed waste incineration plant – reaches the level of more than 50% of the heating production by renewable energy, which allows a lower VAT rate and reduces penalties for high CO₂ emission.</p>
Description of activities	<p>The project installed a huge boiler with a power of 7 Megawatts; it consumes 14 000 tons of woodchips (<i>plaquettes forestières</i>) per year. Annually It produces an average of 32 000 Megawatts per hour, at a lower selling cost, while reducing greenhouse gas emissions by 30% (as compared to the former gas boiler).</p> <p>This new unit is part of the city heating system, set up in the early 1950s, which comprises 6 boilers with a total power capacity of 200 MW, producing 180 000 MWh in 2010 at 3 different sites. With 58 km of pipes and 500 delivery sub-stations (<i>sous-stations de livraison</i>), its capacity is 25 000 'equivalent dwellings'. It is the 5th largest of the 420 city heating systems in France, for a city which is ranked close to 100th in terms of population.</p> <p>Dwellings are the main consumers, using 54% of the heat produced, of which 49% is for heating and hot water (29% private and 20% social housing) and 5% for hot water only. 37% of supply goes to public buildings</p>

	such as hospitals, schools, convention centres and swimming pools, and 13% to businesses (steam used in production processes).
Recipients	<p>Final recipients belong to different categories:</p> <ul style="list-style-type: none"> • customers of the district heating system, such as social housing or private housing dwellers, owners and managers of public buildings, shops, shopping malls and factories, whose costs are reduced; • residents of the area and inhabitants of the city benefiting from lower pollution; • businesses and workers in the wood industry boosted by this demand which is raising income and job opportunities.
Mainstreaming of gender equality and non-discrimination	These issues are not mentioned
Intended outputs and results	<p>According to the application, the boiler produces super-heated water (16 bars/180°); its yearly production is 4 000 'equivalent dwellings' or 2 800 TOE (ton oil equivalents). It consumes 14 000 T of wood/year, reducing greenhouse effects by 8 000 T (in 2012) to 11 000 T (later) of CO₂/year, with a 5% decrease in the selling price of heating (not only due to the lower production costs, but mostly because of the compensation mechanism for the additional costs for renewable energy and of lower VAT on renewable energy).</p> <p>In terms of longer-term impacts, additional gains are expected on selling prices, owing to foreseen increases in fossil energy prices of 6 to 8% per year (as compared to 3% per year for wood), expected VAT reduction and improvement of air quality and health conditions.</p>
2. POLITICAL AND STRATEGIC CONTEXT	
National and regional framework for implementing ERDF funded urban development projects	<p>The project is directly in line with the climate and energy policy objectives to achieve a 20% reduction in greenhouse gas emissions by 2020 and reach a 20% share of renewable energy, which have been defined (in addition to a 20% reduction of energy consumption) at EU level and endorsed at national, regional and local (metropolitan and city) levels.</p> <p>In addition to the EU objective and the ROP mentioned above, the project also responds to the following complementary strategic context:</p> <p>At the national level, in 2008, environmental laws, called Grenelle 1 and 2, endorsed the 3 x 20 objectives and decided to foster biomass energy. They set the ambitious objective of reaching 5.2 M TOE production (as compared to 1.2 M TOE in 2007). A national fund for renewable heating (<i>Fonds chaleur renouvelable</i>) was set up with a budget of €1.2 billion over 5 years and the objective of producing 5.5 TOE of heat by 2020 (ADEME website).</p> <p>At the regional level, the Rhône-Alpes Regional Council adopted a Climate, Air and Energy scheme 2005-2020 (<i>Schéma Régional Climat, Air et Energie</i>), which defines several objectives including a 10% increase in the production of wood as a heating source, especially for city heating.</p> <p>At the metropolitan area level (Chambéry Métropole), a Council of 24 municipalities has designed a strategic plan (<i>contrat d'agglomération</i>) for the years 2005-2020 whose 1st axis focuses on 'improving environmental and urban quality, increasing energy efficiency and building with high environmental quality'.</p> <p>In 2006, Chambéry Métropole prepared an Agenda 21, recently revised, whose axis 2 is a local climate action plan – recently made mandatory for urban areas of more than 60 000 inhabitants in France. Its main objective is to 'reduce the greenhouse effect by 20% and prepare the area and population to address climate change issues'. The plan was based on a diagnosis of local emissions and defines the objectives of reducing</p>

	emissions by 20% before 2020.
The planning context	<p>At the city level of Chambéry, the project cuts across two different policy frameworks and planning processes: the first is trade sector-oriented (<i>filière chaleur</i>) and refers to the city heating (<i>Réseau de Chaleur</i>) strategic plan; the second is area-based, related to the Integrated urban renewal development plan of the Hauts de Chambéry neighbourhood.</p> <p>1. The 2020 city strategic plan for city heating development (<i>Schema Directeur Horizon 2020 du Réseau de Chaleur</i>) is jointly designed, approved and implemented by the City council and by the SCDC company, in close consultation with the regional authorities and main customers. Until 2008, 100% of the heat and hot water was produced by fossil energy (diesel oil and gas). This strategy was first defined as a diversification of various energy sources. It is now defined as a substitution or a transition from fossil-based to a renewable-based energy heating system for the city. It is worth mentioning that urban heating systems became subject to the national plan of allocation of emission quotas and related costs.</p> <p>According to this strategic plan, by 2020, 65% of the heat will be produced by renewable resources with a significant reduction in CO₂ emissions. This plan has several stages. The two first stages have been implemented:</p> <ul style="list-style-type: none"> • in 2008, a waste incineration unit was built, (co-funded by the National Fund for Renewable Heating and by the company), producing, now and up to 2020, 25% of the heating supplied; • in 2011 the ERDF and the company co-funded a project for a biomass energy boiler – under review – which will produce 13% in 2012 and up to around 15% in 2020 of total urban heating. <p>According to the third stage, a planned 14 MW biomass boiler to be built in 2013 on another site will produce an additional 25% of the energy.</p> <p>2. In the framework of an urban social cohesion contract (<i>Contrat urbain de Cohesion sociale</i>) with the national government and within its National Programme for Urban Renewal (<i>Programme National de Rénovation Urbaine</i>) 2007-2012, an integrated urban development plan (<i>Programme urbain intégré de rénovation urbaine</i>) targets the distressed area (<i>Zone urbaine sensible</i>) where the project is located and provides heating and hot water to most of the inhabitants and public buildings in Hauts de Chambéry. The main operations deal with demolition and reconstruction of social housing blocks and dwellings, rehousing tenants displaced by these operations, new urban planning, a new public transport network, rearrangement of car parking areas and public and green spaces, an increase in the capacity of schools and other public services, etc. So, even if one axis is devoted to the production of biomass energy, the project under review appears as a minor and consensual operation when compared to the more costly and controversial operations mentioned above.</p>
3. IMPLEMENTATION	
3.1. PROJECT DESIGN AND PLANNING	<p>Project idea</p> <p>The project was designed, and an application was made by the SCDC in close cooperation with the City Council – which discussed and unanimously approved it by a vote (17/11/2008) prior to the application – and its technical service in this field. The application is also based on a feasibility study commissioned by SCDC. The operation is mentioned in an annex in the 30-year contract (<i>de délégation de service public</i>) between the City Council and SCDC.</p> <p>For all ERDF-funded projects dealing with environmental issues, the Regional Branch of the National Environment and Energy Agency (<i>Agence pour l'environnement et la Maîtrise de l'Energie, or ADEME</i>) is asked by the Managing Authority to provide an assessment (<i>instruction</i>) and to carry</p>

out monitoring. The regional branch of ADEME made such a technical assessment of the project and gave a positive appraisal.

Additional technical viewpoints were expressed by the regional branches of the Ministry for Agriculture and Forestry and the Ministry of Industry. Both raised the issue of the capacity of wood producers to fulfil the project's demand but approved the project.

On this basis, a positive decision was taken by the Programming Committee.

The idea of substituting fossil energy by renewable energy started in 2005, as part of the policy and strategy of the City and Metropolitan Councils of Chambéry, mentioned in the terms of reference of the contract with SCDC and shared by this company.

Following a first stage of producing heat by burning urban waste, (a project co-funded by the company and the National Fund for Renewable Heating), came the idea of producing heating with biomass energy in a mountainous region with high and underused wood resources.

Needs assessment or analysis

In addition to the *ex ante* SCDC feasibility study mentioned above, the project is based on the detailed measurement of emissions produced at the metropolitan level in preparation for writing the Local Climate Plan. This diagnosis shows that in 2009, the metropolitan area produced 780 000 Teq (Tons equivalent CO₂), 40% of which came from housing and service industry – of which 9% was generated by the fossil energy-based urban heating production units. The report concludes that a change in energy sources used by these plants is 'the most effective lever' for achieving a targeted reduction of 20% of CO₂ emission by 2020, which corresponds to a decrease of 155 000 Teq CO₂.

The urban biomass heating boiler is expected to reduce these CO₂ emissions by 14 000 T/year, (= 4 600 Teq CO₂ per year), thus, over 10 years, it contributes 36% of the total reduction objective.

Selection by the Managing Authority

In addition to the assessment provided by ADEME Agency and public services (Industry, Agriculture and Forestry), the project was selected by the Managing Authorities on the basis of the four **selection criteria** mentioned in the ROP and in the Implementation document (DOMO), i.e.: quality of governance, economic and social implications and environment impact efficiency.

Indicators mentioned in the assessment phase included:

- **quantitative** such as power of the boiler (7MW), expected reduction of CO₂ emissions (4 600 Teq/year and jobs created (1 direct and up to 13 indirect),
- **qualitative** such as a good assessment of impacts in the vicinity (the project being located in a densely-populated area) and ICT based. However the project was not mentioned as 'innovative'.

The project was selected by the Managing Authority for its direct contribution to renewable energy development, for its strong impact on the reduction of CO₂ emissions and for its capacity to promote wood production (*filière bois*). The lower selling price of heating is not mentioned as a selection criterion.

Risk assessment

The only uncertainty – and potential risk – about the project, which was raised by the Agriculture and Forestry Services, relates to the regional capacity to produce 14 000 Tons per year of biomass, of which 50% of woodchips, because of the weakness of the wood production sector in the area (defined as less than 100 km from the site). According to the project

application, 3 100 T of woodchips were easily available on the regional market and a new productive unit of 5 800 T per year was under creation by a local producer. The Managing Authorities required that the productive capacity of this new unit be checked during the first year by ADEME.

As a response to such a potential bottleneck, the beneficiary decided to set up a working group of regional wood producers, in order to gather these producers, make a joint diagnosis of the supply potential and define common terms of reference with providers. A selling platform was set up in order to consolidate and articulate supply and demand and secure the quality of the raw material provided, especially in terms of the standardised size and humidity of woodchips required by the new equipment. After a few months of operation – according to the Operations Manager – the wood quantity problem has been solved, but issues of quality, mostly in terms of too high humidity rates and sawdust which can damage conveyor belts, still remain.

Envisaged sustainability, results exploitation and transferability

Sustainability and exploitation of results were mentioned in the feasibility study prior to the application. Transferability is not mentioned, but according to the strategic plan of SCDC, the next stage of the transition towards renewable energy sources will be to invest in the same equipment with higher power, in another local site in 2013 (*see graph above*).

The project (with acknowledgement of the ERDF) was publicised in the region and the plant is receiving many visitors. Several identical projects have been designed and implemented in response to similar problems and choices made by other urban heating systems.

Role of EU support and added value

The project would not have been funded without ERDF support as the total investment would have been too high for the SCDC, the additional cost of producing renewable energy could not have been compensated, and the financial compensation to be paid by the city at the end of the contract would have been far too high.

In addition, alternative public subsidies from the National Renewable Heating Fund were not available, since the company had already benefited from them in the cofunding of the previous waste incineration plant.

Involvement of other EU funds

The project has only been funded by the ERDF.

3.2. MANAGEMENT, MONITORING AND EVALUATION SYSTEM

Project management system, management process and task distribution

The project was managed and implemented by a Steering Committee (*Comité de Pilotage*) composed of both key partners (the company and the city council) with the support of their respective expert advisers (*Aide à la maîtrise d'ouvrage*), operating within the contractual relationships (*delegation de service public*).

The committee made the key decisions, such as selecting the building company, deciding about the equipment, etc. It had a monitoring function, discussing all issues submitted by the project manager.

The project leader was the SCDC Operations Manager – adding this function to his usual daily tasks. He was in charge of the formal request (building permits, operation and exploitation permit, etc.) and of the monitoring of all the stages of the project development.

The management structure was internal to SCDC, including a technician, now in charge of the operation of the unit, who was involved in the installation of the equipment by the manufacturer (turnkey installation – *installation clé en main*).

No quantified data are available on people/months used in managing the project.

Steering process

Six people, in average, were involved in the Steering Group; meetings took place on request, mostly as site visits, during the different stages of implementation (construction, boiler installation, operational tests, control, etc.). No precise number can be provided.

Monitoring and evaluation

In addition to the internal monitoring by the company, the Steering Committee fulfilled specific technical monitoring functions (control, test, etc.) through the partner's advisers. The control function by ADEME at the setting-up stage and during a few months of operation may be seen as part as this monitoring.

ADEME was requested to make specific assessments, defined as 'quality management control' (*contrôle qualité gestion*). This was done when the equipment was installed (in July 2011) and after three months in operation (*exploitation*). The first report checks if the project implementation is consistent with ERDF and national regulations. The beneficiary is asked to provide yearly executive reports to ADEME on project achievement; the first is expected to be prepared after one year in operation.

Unforeseen problems and how they have been overcome

According to the project manager and to the city representative, no major unexpected obstacles appeared. During the public enquiry prior to implementation, the question of noise and nuisance generated by the lorries delivering wood resources (three times a day during winter) was raised by residents in the vicinity. A solution was found in building a special unloading shed for trucks and a one-way road to the site. Many technical problems related to the treatment of smoke and ashes occurred but have been resolved.

3.3 GOVERNANCE: PARTNERSHIP, PARTICIPATION AND EMPOWERMENT

The project governance is quite simple: it is a partnership between the company and the local authority. But the project is also part of two different and complementary governance contexts and partnerships (See section 1).

Composition of the partnership

1. Within the **city strategic plan for urban heating 2020** (*Schéma directeur Horizon 2020 du réseau de chaleur*) a Steering Group of twelve members was established: two directors from SCDC, two city representatives (a deputy mayor and an engineer from the city's technical services) one each from the regional, the *département* and the metropolitan councils and five representatives from customers, such as social housing agencies (OPAC and Chambéry Alpes Habitat), the hospital, a private real estate operator, etc. The group has produced a strategic plan, including a shared diagnosis of the heating system, performance indicators, definition of integration of renewable energies, investment to be made, operating and selling costs as well as an action plan. It has a monitoring role in the implementation of this plan.
2. At the **neighbourhood level of Les Hauts de Chambéry**, the urban renewal programme is managed by a partnership including stakeholders such as representatives of regional and local authorities, of public housing agencies, and of residents. Thirteen local associations are involved in a 'consultation process' with the city and the social housing agency to discuss operations of urban planning such as demolition, reconstruction, alterations to public spaces, public facilities, etc. The project was presented to them, discussed, and visits

to the new plant were organised.

Roles of the partners

The co-funder, final recipient and beneficiary (SCDC) is a key partner in charge of the project implementation and operation. The City, as legal partner and indirect beneficiary, is also actively involved in all stages of the project. This project requires a high density of technical expertise provided by technicians, members of the company staff, the technical services of the city and additional expert advisers (*aide à la maîtrise d'ouvrage*).

Involvement of the wider public

Residents and users are not directly involved in the project planning and implementation, but they are actively informed and sometimes consulted about the project and related issues:

- In the development stage (2008 to 2010) and at the metropolitan level, when the Agenda 21 and the **local climate plan** were discussed and approved, the whole population was invited to attend fora (with 2 000 participants each), debates, working groups and site visits to innovative practices, including a modest biomass heating plant then existing in a nearby city.
- Within the **urban renewal programme** of the Hauts de Chambéry suburb, residents are invited to public meetings, to fill in survey forms and to consult office information. They receive newsletters on current operations, etc. Because it is located in the area and provides a public service of heating to the population, the project is part of this regeneration process. But this project is not much discussed; it is appreciated and subject to a broad consensus but ranks low in the population's list of concerns, as compared to issues such as rehousing and rent levels. Tenants' associations complain of the lack of transparency of the bills they receive from the Public Housing Agency for 'heating costs', of the lack of investment in saving energy and of rising or stable costs, when they were expecting costs to decline because of the lower VAT rate.
- The public enquiry prior to the setting up of the project did not raise many problems except the noise related to the daily delivery of wood by heavy lorry (see above), which was solved.

Role of the city administration

As already mentioned, the City is an active project partner and indirect beneficiary. The project was discussed and approved by unanimous vote at the City Council prior to the application, and benefits from strong political support as a key instrument in the move of the city heating system towards zero carbon. Both deputy mayor and technical services are actively involved in the design, implementation and monitoring of the project and in the urban heating strategic steering committee. The city – at central and Haut de Chambéry suburb level (*mairie de quartier*) – is also an active partner of the urban renewal programme of which the heating project is a part.

Steering

The leadership is provided by both the municipality – and more especially by the Deputy Major in charge of sustainable development, a specialist in these issues – and the Operations Director of the private company running the city heating system.

4. INNOVATIVE ELEMENTS AND NOVEL APPROACHES

4.1 INNOVATION

The project did not innovate much in terms of design and implementation or in new approaches to communication and dissemination of results, even though the project receives many visitors, mostly from the region. No real new approach was initiated in comparison to previous and common

	<p>practices applied in the region.</p> <p>The following elements of innovation can be mentioned:</p> <ul style="list-style-type: none"> • Debates and bottom-up participatory process during the preparation of the local climate plan within which information (on emissions and pollution) was gathered and the project was suggested; • <i>ex ante</i> feasibility study before application which confirmed the strong local contribution and impact of the project on renewable energy resources and reduction of CO₂ emissions; • integration of the project within a joint synergy between city urban housing policy and company strategic plan; • project's achievements are directly related to fulfilment of local policy objectives, in terms of development of renewable energy sources, reduction of CO₂ emissions, and in the longer run, to lower energy prices for customers; • side or joint impact of an urban project on the economic development of countryside (forest) areas of the region in stimulating wood production.
<p>4.2. KEY IMPLEMENTATION CHALLENGES AND PROBLEM-SOLVING PRACTICES</p>	<p>According to the project leader, the challenges or obstacles the project faced during its implementation were not major, and they have been easily solved. The following points have been mentioned:</p> <ul style="list-style-type: none"> • Noise in the vicinity related to heavy lorry traffic for wood delivery has required the construction of a special storage shed and additional work on the access road, with some extra cost being apparently supported by SCDC; • The problem foreseen relating to the shortage of woodchips has been solved, by setting up a supply plan, mobilising networks of regional producers, asking producers for a letter of 'commitment to supply' and creating a selling platform; • A related and unforeseen problem of the quality of these woodchips is still pending; its solution requires more precise terms of reference for providers, commitment from producers and strict quality control of each delivery. <p>Technical problems related to the treatment of ashes, with risks of fire, have been solved.</p>
<p>4.3. THEMATIC FOCUS</p>	<p><i>Theme 1b: Europe 2020 sustainable growth</i></p> <p>Sustainable growth means a shift towards a resource efficient, low-carbon economy and a decoupling from resource and energy. In the EU, building and housing account for around 40% of energy consumption and 36% of greenhouse gas emissions, the reduction of which are a component of any sustainable growth policy.</p> <p>As already mentioned, the project is in line with this policy orientation and provides a direct local response in promoting :</p> <ul style="list-style-type: none"> • the development of renewable (biomass, wood) energy in consuming 14 000 T/year, an important supply for regional producers; • the reduction of CO₂ emission, estimated to be 14 000 T/year, (= 4 600 Teq CO₂ per year), which over 10 years may contribute to one-third of the local reduction objective.
<p>5. FUNDING</p>	
	<p>The total cost of the project is €5 020 000. However some expenses (the value of the former boiler and 5 years of operating profit) are not eligible. Eligible expenses are €3 877 845.</p> <p>According to the ADEME report the EU support framework for renewable energy 2009-2013 (European Commission notification on 17/06/2009) and</p>

	<p>the competitive cost of renewable energy as compared to non-renewable (conventional) energy, means public support cannot go higher than 60% of eligible expenses.</p> <p>The ERDF contribution to this project is €2 150 000, representing 55% of eligible expenses, with the Regional Council contributing 5% (respectively 42% and 4% of the total cost). The total contribution of the private company is €2 670 000 (54 %).</p> <p>The ADEME report on 'control of the quality of project management' (04/07/2011 when the equipment was delivered) also mentions that such support allows a reduction of the production cost overrun of biomass energy, as compared to fossil energy costs.</p> <p>According to the funding plan, mentioned in the PRESAGE project fiche:</p> <ul style="list-style-type: none"> 5% advance payment was provided; 80% was paid on the basis of purchase invoices; The balance was paid at the end of the operation.
6. PROJECT ASSESSMENT	
	<p>Continuity after the current programming period</p> <p>As a plant, the project became operational after the end of the ERDF funding and has reached its productive capacity, based on predefined characteristics (power, heat produced, input energy resources, level of emissions, etc.) with an expected life of 15 years. It did not require any exit strategy.</p>
6.1. FINANCIAL SUSTAINABILITY	<p>Continuity from previous funding periods</p> <p>The project did not start in a previous funding phase.</p>
6.2. TRANSFERABILITY	<p>Mainstreaming</p> <p>The project did not start as a pilot action or an action plan.</p> <p>The approach has not been transferred yet. But the new stage of the city and company strategy of 'transition towards renewable energy sources for producing heat at district and city levels' requires an identical but more powerful plant (boiler of 16 MW) which will be installed at another local site and is planned to be built in 2013 (if funding is secured).</p> <p>The project is seen at regional level as a good practice applicable to urban areas. It is publicised and possibly transferred or it is inspiring for similar policy orientation in the field.</p> <p>As equipment, the whole project could be easily transferred elsewhere and especially to regions where substitution of fossil energy by renewable energy is not very advanced. The main prerequisite for such transferability is to secure funding and of course availability of local biomass (wood) resources.</p>
6.3 ISSUES AND PROBLEMS	See 4.2
6.4 PROJECT OUTPUTS & RESULTS	The project came into operation in November 2011. Results have been recorded over a short period of time, producing around 4 000 MWH(th) monthly. According to the Operations Director, these first achievements are in line with the average yearly forecasts mentioned in the application (see <i>Intended results</i> above).
7. CONCLUSIONS: KEY SUCCESS FACTORS AND LESSONS LEARNED	
	<p>Five success factors:</p> <ul style="list-style-type: none"> • Clear and shared policy orientations on the development of renewable energy have been defined with objectives (3 x 20) endorsed at national, regional and local levels.

	<ul style="list-style-type: none"> • Local mobilisation and commitment of all stakeholders and residents (climate plan) have been combined with background analysis (measurement of the local level of CO₂ emissions) as a prerequisite for defining reachable targets to be turned into action. • The project is defined as an action listed in a plan, drawn from a local strategy (for urban heating development) and shared by the local authority (city and metropolitan council) and the private operator (SDCD). • A feasibility study was prepared prior to the ERDF application. • The project is implemented by a concise partnership with high content of expertise.
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8. FURTHER INFORMATION

	<p>Websites of project's main partners.</p> <p>Database of EU-funded projects: www.europe-urbain.org and www.europe-en-france.gouv.fr/focus-des-projets-exemplaires</p> <p>Managing authorities (at regional level): http://www.rhone.gouv.fr/web/127-le-secretariat-general-pour-les-affaires-regionales.php</p> <p>Regional Council: http://www.rhonealpes.fr</p> <p>Schéma Climat Air Energie Rhône-Alpes: www.srae.rhonealpes.fr</p> <p>ADEME (regional agency): http://rhone-alpes.ademe.fr/</p> <p>Réseaux de chaleur en Rhône-Alpes: http://www.reseauxdechaleurrhonealpes.org/actualites_rdc</p> <p>SCDC (Société Chambérienne de Distribution de Chaleur): http://www.cofely-gdfsuez.fr/</p> <p>Chambéry Métropole: http://www.chambery-metropole.fr</p> <p>City of Chambéry: www.chambery.fr</p> <p>Suburb of Haut de Chambéry: http://www.chambery.fr/127-les-hauts-de-chambery.htm</p> <p>Bibliography:</p> <p>Operational programme: FEDER 2007-2013 Rhône-Alpes et Document (DOMO) http://feader.rhone-alpes.agriculture.gouv.fr/IMG/pdf/001_2007_10_19_DOcument_Mise_en_Oeuvre_cle83cf71-1.pdf</p> <p>Documentation files on the project (including technical reports, ERDF and national regulations, Programming Committee decisions, ADEME monitoring documents, copies of letters from key partners, etc.), consulted at ADEME Office.</p> <p>Fiche PRESAGE Projet No. 5017, PUI Chambéry Métropole; chaufferie privée mixte sur le quartier Croix Rouge. 19/01/2012.</p> <p>Ville de Chambéry: Conseil municipal. Séance du 17/11/2008. Diversification des approvisionnements énergétiques du réseau chaleur de Chambéry, Rapport d'Henri Dupassieux (adopté à l'unanimité). http://www.chambery.fr/uploads/Oxyad/29189.pdf</p> <p>Chambéry Métropole: Contrat d'agglomération et plan climat. http://www.chambery-metropole.fr/435-projet-d-agglomeration-qualite-environnementale-et-urbaine.htm</p> <p>Chambery Métropole: Plan climat et rapport final du Bilan territorial des émissions des gaz à effets de serre, Mars 2010. http://www.chambery-metropole.fr/3406-plan-climat.htm</p> <p>ADEME Rhône-Alpes: Bilan 2011 – Perspectives 2011, http://rhone-alpes.ademe.fr/sites/default/files/files/ademe_en_RA/Rapport/Bilan%202011.pdf</p>
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	<p>0%20-%20Perspectives%202011%20-%202018%20mars%202011.pdf</p> <p>SCDC: Réseau de chaleur de Chambéry: Schéma directeur "Horizon 2020" du réseau Chaleur, 21/11/2012, Internal report</p> <p>SCDC Brochure: Réseau de Chaleur de Chambéry (presentation of the district heating system), Chambéry 2011.</p> <p>SCDC Réseau de Chaleur: Faisabilité de la mise en œuvre d'une chaufferie biomasse sur le site de Croix-Rouge, avril 2009. Internal report</p> <p>Powerpoint: presentation of the district heating strategy of the city and of the SCDC (beneficiary), including a detailed presentation of the project. (15/2/2012), paper copy.</p> <p>AMORCE: Les collectivités locales délégantes du service public de chaleur; Dossier RC11, oct. 2002.</p> <p>http://www.ofme.org/bois-energie/documents/Projet/Amorce_guide_delegation.pdf</p> <p>Projet de rénovation urbaine des Hauts de Chambéry: http://www.chambery-metropole.fr/461-hauts-de-chambery.htm</p> <p>Chauffage urbain: une vraie usine à gaz ! Revue Que Choisir (Consumer association) No. 469, Février 2011, pp. 60-61</p>
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