

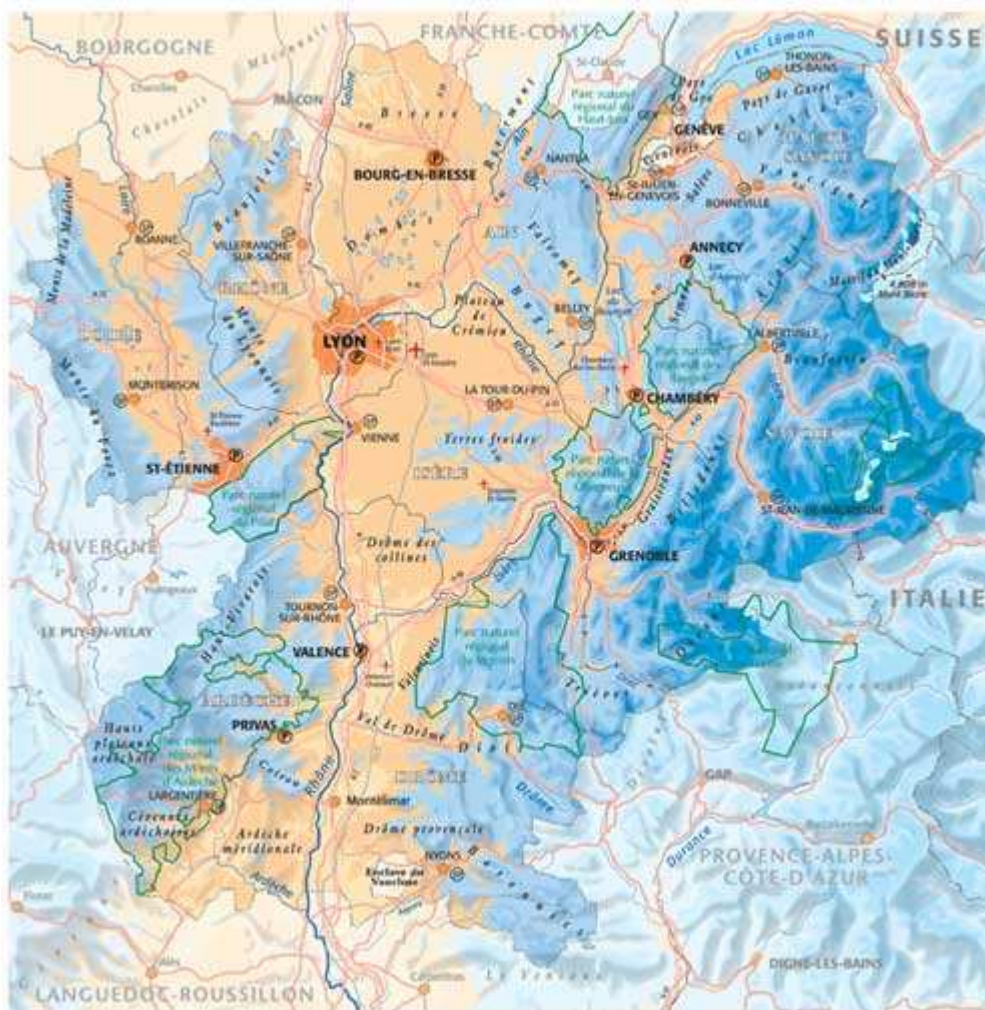


Bioenergy related description and
Presentation of the urban territory defined for
BIOPROM
in the Rhône Alpes region



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Programme

3.1.1 General information on the region



Rhône-Alpes, the second largest French region, has the status of a major European region (it is ranked 8th).

It includes 8 “départements” (or counties) , 2,879 “communes” (or municipalities), 7,000 km of water courses and 400 km² of glaciers. There are 24 different climates ranging from Mediterranean influences to mountain climates.

It has a population of 5.9 million.

With 133 habitants per km², its density is slightly above the French national average.

Rhône-Alpes has a very dense urban network. Besides the Saint-Étienne – Lyon – Grenoble triangle, other large towns with populations in excess of 100,000 (Valence, Chambéry and Annecy) and some twenty or so medium-sized towns complete this urban fabric

As the second leading French region in terms of surface area and population, it is often considered to represent one tenth of France.

The Rhône-Alpes region produces one quarter of the nation’s electricity but is a very strong consumer of energy (35% more than the national average), reflecting its industrial status. The Region does not produce gas or oil but is linked to gas and oil pipelines.

It produces 40% of French hydroelectricity and 24% of national nuclear power.

As far as solar energy is concerned, it is home to the leading photovoltaic cell company, the largest photovoltaic assembly company and the leading manufacturer of direct solar panelling.

A few major heating companies operate heating networks like Compagnie Générale de Chauffage de Grenoble, Dalkia, Elyo.

This region does not have a strong tradition of heating networks outside large towns. The most frequent form of heating is individual electric, gas, fuel and wood.

The gross domestic product of the Rhône-Alpes region is just below 10 % of French GDP and its industry is just over 10 % of national potential.

The industrial sector is highly diversified and also covers:

- traditional sectors that adapt to technical progress (chemicals, textiles, mechanics,...).
- state-of-the-art emerging activities (electronics, IT, biotechnology,...).

Supported by this industrial power, services make up the leading sector in Rhône-Alpes offering 68 % of salaried employment.

Economic and tourist development in Rhône-Alpes is favoured by the tremendous diversity of its natural features (Massif Central to the west, Rhône Valley in the centre and Alps to the East).

Agriculture, benefiting from these varied territories, has taken advantage of its resources and modernised its production. Agricultural production in Rhône-Alpes is characterised by several regional specialities and Appellations d'origine contrôlée (guaranteed origin certificates), enhanced by a dynamic food-processing industry.

Cereals:

Cereal production in Rhône-Alpes mainly revolves around soft wheat and corn. The grain processing industry is very important in Rhône-Alpes and the region is also highly appreciated for the quality of its cereal and fodder seeds.

Wine production:

With 10 % (i.e. 38 wines) of French AOC production, Rhône-Alpes is ranked fourth in French wine production.

It is the leading region for the production of fruit with stones:

- 51 % of national apricot production comes from the départements of Drôme and Ardèche.
- Cherries and peaches represent almost 30 % of national production.
- Other regional specialities are present: the Grenoble walnut (43 % of national production) Ardèche chestnuts (80 % of national production) and raspberries.

Poultry farming:

Rhône-Alpes has become the fourth ranking poultry-producing region in France... Farming trends in Rhône-Alpes.

The Rhône-Alpes region is the second leading forestry region in France with a surface area of **1.5 million hectares** i.e. a 33% afforestation rate. Woodland is constantly growing, in line with rural desertification (4, 500 ha/year), and annual tree felling is lower than annual growth.

Biological forestry production is 8.5 million m³ per year and the annual harvest, including home consumption, is around 4 million m³.

Bioenergy policy in Rhône-Alpes:

The Rhône-Alpes region has an active renewable energy policy, implemented for over 20 years. It financially supports associations to conduct preliminary surveys, promote awareness and provide advice to contractors. It funds 70% of bioenergy feasibility studies and subsidises investments at a rate of up to 30%.

On the regional level, ADEME (a national organisation) co-funds investments in bioenergy projects at a rate of 30%.

Certain general councils also support bioenergy by subsidising investments and studies and supporting local renewable energy associations.

France has fixed a 10% target for renewable energy by 2010. No objectives have been set in Rhône-Alpes and for bioenergy in particular.

The Bioprom territory in Rhône Alpes:

We have chosen to focus activity of the Bioprom dossier on communautés d'agglomération (town districts), the communauté urbaine (urban district) of Lyon as well as a few communautés de communes (intercommunal districts) around city centres.

The communauté d'agglomération or town district is a group of several communes (or municipalities) forming, on the date of its establishment, a single entity with more than 50,000 inhabitants around one or several communes with a population of over 15,000. These communes join forces to draw up and steer through a joint urban development plan for their territory.

The communauté urbaine or urban community groups together several communes to draw up and steer through a joint urban development plan for their territory. Urban communities created since the Act dated 12th July 1999 need to form a single entity without divisions with a population of over 500,000.

List of entities chosen for Bioprom:

Communauté d'Agglomération of Bourg en Bresse Communauté d'Agglomération Grenoble Alpes Métropole, Syndicat d'Agglomération of pays Voironnais, Communauté d' Agglomération Saint-Etienne Métropole, Communauté d'Agglomération Le Grand Roanne, Communauté d'agglomération Loire Forez, CHAMBERY METROPOLE, Communauté d'Agglomération of Annecy, Communauté Urbaine of Lyon, the towns of Valence and Montelimar, communauté de commune of Privas.

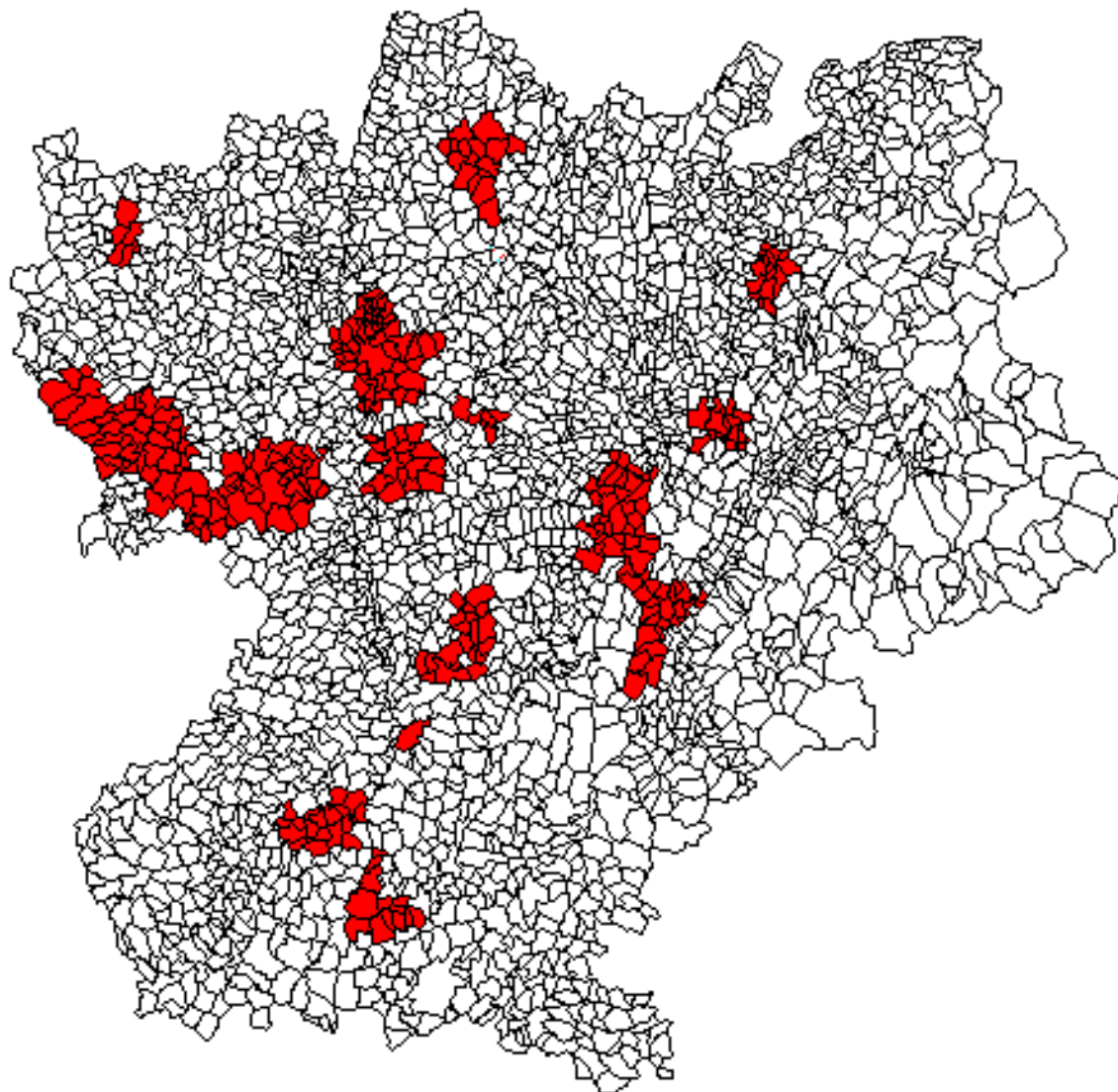
i.e.

- 329 communes
- a population of 2,832,000
- 4233 Km²
- 51 wood burners

The Rhône-Alpes territory selected for the Bioprom programme involves the largest urban territories in the region.

The Bioprom territory in Rhône Alpes groups together areas with an average population density of 669 inhabitants km², well above the regional average of 133 inhabitants/km². We are going to focus our action on this territory.

Map of territories selected for the BioProm programme in the Rhône Alpes region:



 communes selected for the BioProm programme

Recap of the characteristics of the selected territories:

Dep. (or county)	Name	Type	Number of communes	EPCI classification per number of communes	Population	EPCI classification per population	Surface area in Km ²	Surface area classification	Population density inhab./km ²	Year of creation
1	Bourg en Bresse	C.A	15	9	70000	9	285	6	250	2001
7	Privas Rhône et Vallées	CC	18	7	25000	15	233	9	106	2003
26	Valence	Town	1	14	66000	11	37	15	1783	
26	Pays de Romans	CC	20	6	48000	12	268	8	180	1997
26	Montélimar	CC	14	10	44000	13	217	10	202	1992
38	Grenoble Alpes Métropole	C.A	26	5	396000	2	307	5	1300	2001
38	Pays Viennois	C.A	18	7	68000	10	275	7	239	2002
38	Pays Voironnais	C.A	34	4	85000	6	385	4	227	2000
38	Isle d'Abeau	C.A	5	14	42000	14	66	14	624	1984*
42	Saint Etienne Métropole	C.A	43	3	390000	3	571	2	683	2001
42	Grand Roanne	C.A	6	12	73000	8	97	13	760	1999
42	Loire Forez	C.A	45	2	75000	7	737	1	101	2003
69	Grand Lyon	C.U	55	1	1200000	1	491	3	2448	1966
73	Chambéry Métropole	C.A	16	8	116000	5	140	11	828	2000
74	Annecy	C.A	13	11	134000	4	125	12	1072	2001
	Region		329		2832000		4233		669	

3.1.2. Stakeholders and existing networks in the bioenergy sector in the region

People targeted for the questionnaire are:

- Social housing lessors: users or potential bioenergy users in Rhône-Alpes
- Players in renewable energy associations: bioenergy development players in Rhône-Alpes
- Certain renewable energy engineering firms: professionals in the sector
- Operators, builders: professionals in the sector
- Urban authorities: potential political support and project promotion
- Town planning departments: players in urban development that could have an influence on the future of bioenergy in urban territories
- Members of Rhônalénergie-Environnement: concerned by bioenergy
- Rhône-Alpes energy associations: possible players in the development of bioenergy in Rhône-Alpes, replacing local authorities

Individual or potential users of bioenergy, i.e. the general public, were not questioned. Some answered in a private capacity.

250 questionnaires were sent out, 65 replies were received.

Existing networks:

In wood energy:

The two wood energy regional groups:

- Working with individual wood chip heaters
- Working on wood energy in general in contact with local authorities

A network including bioenergy financial backers: ADEME, Rhône-Alpes region and departmental associations funded by these two players, as well as Rhônalénergie-Environnement. Players in supply are sometimes invited. Network set up 8 years ago. 3 to 4 meetings a year. Its objectives are to follow up the administrative aspect of subsidy applications, raise technical issues and monitor political trends.

Departmental wood plan:

In each département, a departmental wood plan has been set up with a wood supply subgroup. Networks set up 4 to 5 years ago, grouping together the players mentioned above as well as departmental players (general council, associations...). Their aim is to discuss wood energy issues in the territory.

Since July 2005, the Fédération des Interprofessions du Bois de Rhône-Alpes (Regional Wood Trade Federation) has set up a focus group involving wood professionals and certain wood energy players such as Rhônalénergie-Environnement. Its aim is to better position wood players as suppliers to wood burners, define the profession, improve the know-hows and the product.

Other energies:

No biogas group.

A pure vegetal oil group in the Vercors, a rural territory not covered by Bioprom.

Other networks:

Group of social housing lessors to control costs, driven by the Association Régionale des Bailleurs Sociaux (the regional association of social housing lessors). A subgroup created within the framework of Bioprom will discuss the wood energy issue.

Possible improvements:

Creation of a biogas network

Creation of a workgroup on social housing

Creation of a network for urbanism and bioenergy

Creation of a network for pure vegetal oil group (in green spaces of urban local authorities)

3.1.3 Bioenergy facilities in the region List of bioenergies identified in the central zone selected for BIOPROM:

see annexe 1

Wood energy: 51 wood burners

These 51 wood burners, excluding industrial burners, have a total power in excess of 35 MW i.e. 30% of power installed in Rhône-Alpes. They consume 43,000 tonnes of wood per year, i.e. almost 32% of the region's total wood burners: 1,200 tonnes of forest pellets (13% of annual regional non-industrial wood burners' consumption of forest pellets)

1,300 tonnes mill wood pellets (15%)

3000 tonnes of bark (26%)

37000 tonnes of waste wood (41%)

500 tonnes of granules (29% of annual regional non-industrial wood burners' consumption of granules)

The 51 wood burners are broken down into three types:

Public collective burners:

3 wood burners built in 1985, 1986 & 1991 in two communes - Romans sur Isère and Roanne – with a total power of 3600 kW

17 public collective burners built between 1995 & 2004, in fourteen communes, with a total power of over 31.5MW;

Private burners:

13 private collective burners built between 2001 & 2004, in eleven communes, with a total individual power of 3 MW

19 individual burners built between 1999 & 2004, in seventeen communes, with a total power of 0.5MW

Table of wood burners identified in the communes selected by Bioprom

	type	dep	maitre d'ouvrage	lieux	date mise en service	puissance kW	plaq. Forest en t	plaq scierie en t	sciure en t	bois rebut en t	ecorces en t	granules en t	fournisseur
C.A de Bourg en bresse	collectif prive	1	M CHAMBAUD	Peronnas	2002	80							
C.A de Bourg en bresse	collectif prive	1	M CHANEL	Peronnas	2003	80	50						
C.A de Bourg en bresse	individuelles	1	FAVIER	Saint-Andre-sur-Vieux-Jonc	2004	25	13						
C.A de Bourg en bresse	collectif public	1	commune	vandeins	2002	140	55						
C.C du pays de Romans	collectif public	26	commune	montmiral	1998	100	50	0	0	0	0	0	COTTE
C.C du pays de Romans	collectif public	26	commune	montmiral	2004	80	19	0	0	0	0	0	COTTE
C.C du pays de Romans	individuelles	26	M. Garaix	montmiral	2004	20	7	0	0	0	0	0	0
C.C du pays de Romans	individuelles	26	M. Tardy	montrigaud	2003	25	11	0	0	0	0	0	0
C.C du pays de Romans	avant PBEDL	26	region	romans	1991	1400	0	900	0	0	0	0	0 SOFODA
C.C de Montélimar	collectif public	26	cci	chateauneuf-du-rhone	2001	220	70	0	0	0	0	0	0 AUTOPROD
C.C de Montélimar	collectif public	26	commune	montboucher-sur-jabron	1999	100	40	0	0	0	0	0	0 SYSTEBOIS
C.C de Montélimar	collectif prive	26	Darnaud	montelimar	2001	55							
C.A Grenoble Alpes Métropole	collectif public	38	cie de chauffage	grenoble	1995	7000				10 000			LELY
C.A Grenoble Alpes Métropole	collectif public	38	cie de chauffage	grenoble	1998	5000				7 000			LELY
C.A Grenoble Alpes Métropole	individuelles	38	DELAY	saint-Paul-de-Varces	2003	15							Savoie-Pan
C.A Grenoble Alpes Métropole	collectif prive	38	DAVID	Varces	2001	100	90						AUTOPROD
C.A Grenoble Alpes Métropole	collectif prive	38	Scierie NIER SARL	Varces	2003	105	58						scierie
C.A Grenoble Alpes Métropole	individuelles	38	EUVRARD	Vif	2003	25	14						Savoie-Pan
C.A du pays Viennois	collectif prive	38	AURELY	Estrablin	2001	100							Romanet
C.A du pays Voironnais	individuelles	38	FUGIER	Charavines	2004	30	6					12	Auto-prod + CUMA
C.A du pays Voironnais	individuelles	38	GUILLAUD MAGNIN	Chirens	2003	40	16					7	Auto-prod + CUMA
C.A du pays Voironnais	individuelles	38	MILLON	La Batie-Divisin	2001	30						36	Auto-prod + CUMA
C.A du pays Voironnais	collectif public	38	Commune	Reaumont	2004	100	45						COTTE
C.A du pays Voironnais	individuelles	38	BERTHOLET	saint-Etienne-de-Crossey	2002	25	10						Million
C.A du pays Voironnais	individuelles	38	FERRET	saint-Etienne-de-Crossey	2004	15						8	Savoie-Pan
C.A du pays Voironnais	individuelles	38	KERN	saint-Etienne-de-Crossey	2003	15							Savoie-Pan
C.A du pays Voironnais	collectif public	38	OPAC 38	tullins	2001	550							SOFODA
C.A du pays Voironnais	individuelles	38	CHOLLAT NAMY	Velanne	2003	30							Auto-prod + CUMA
C.A du pays Voironnais	collectif prive	38	BOUFFAR ROUPE	Voiron	2001	45	23						AUTOPROD
C.A St Etienne Métropole	individuelles	42	chataignon	la terrasse-sur-dorlay	2000	55	15						AUTOCONS
C.A St Etienne Métropole	collectif public	42	SIEL	La Valla-en-Gier	2003	100	50						GENTHIAL
C.A St Etienne Métropole	collectif prive	42	Margerit	sainte-Croix-en-Jarez	2003	55	19						AUTOCONS
C.A St Etienne Métropole	individuelles	42	Lyonnet	saint-Genest-Lerpt	2002	50	25						AUTOCONS
C.A St Etienne Métropole	individuelles	42	morel	saint-heand	1999	30		12					AUTOCONS
C.A du grand Roanne	avant PBEDL	42	region	roanne	1985	1100					1 600		SEIGNOL
C.A du grand Roanne	avant PBEDL	42	region	roanne	1986	1100					1 000		SEIGNOL
C.A Loire Forez	collectif prive	42	Earl de la dame	Boisset-les-Montrond	2004	1500		350			350		SFIB
C.A Loire Forez	collectif prive	42	Rondy Forestier	Montbrison		700							
C.A Loire Forez	collectif prive	42	Arthaud	Verriere-en-Forez	2004	50	27						AUTOCONS
C.A Loire Forez	collectif public	42	Commune	Verriere-en-Forez	2004	60	32						ABIESSANCE
C.U du Grand Lyon	collectif public	69	Commune	La Tour-de-Salvagny	2002		400						
C.U du Grand Lyon	collectif public	69	Commune	Venissieux	2004	12000							
C.A Chambéry Métropole	individuelles	73	Luquet	Barberaz		15						6	
C.A Chambéry Métropole	individuelles	73	Lariviere	Challes-les-Eaux	2004	30	7						
C.A Chambéry Métropole	collectif prive	73	SCI porte toit	Chambery	2001	80		25					Heritier
C.A Chambéry Métropole	collectif public	73	commune	Chambery	2004	55		25					Cuma
C.A Chambéry Métropole	collectif public	73	OPAC Chambery	Chambery	2004	550						410	Savoie-Pan
C.A Chambéry Métropole	individuelles	73	Lamour	Chambery	2004	15						5	Savoie-Pan
C.A Chambéry Métropole	collectif public	73	commune	saint-Jean-d'Arvey	2004	500				220			Savoie-Pan
C.A Chambéry Métropole	individuelles	73	Perrier	saint-Jean-d'Arvey	2003	25						6	Savoie-Pan
C.A Annecy Métropole	collectif prive	74	Bersinger	Seynod	2003	45	50						

Biogas:

Some landfill sites process the biogas produced: Satrod next to Saint Etienne (electricity production), the Vienne site (production of heat and electricity) and Rilleux la Pape site (heat production).

Other landfills could be equipped to process biogas.

Sewage treatment plants process biogas or burn it on flare stacks: Aix les Bains, Annecy, Annemasse, Ambérieu en Bugey, Bourg en Bresse, Chambéry and Montélimar.

Grain energy:

Farmers process their production. Surveys have been set up to create a real branch to produce energy for local authorities.

Pure vegetal oils:

The French context does not allow the development of the use of pure vegetal oils although certain micro-branches exist in rural sectors. Discussions are under way with the city of Lyon for using in green department.

3.1.4 Raw materials /biomass resources for bioenergy application in the region

See annexe 2

List of wood supply organisations in the territory selected for BIOPROM:

Gaec du Thicaud: production of forest pellets (130 tonnes); commune of Noyarey (C.A Grenoble Alpes Métropole).

SORODIF: production of waste wood pellets (6000MAP); commune of Roche la Molière (C.A Saint Etienne Métropole).

UNAL: production of waste wood pellets (9600MAP); commune of Saint Jean Bonnefonds (C.A Saint Etienne Métropole).

Scierie Jullien: production of mill pellets (600MAP); commune of Doizieux (C.A Saint Etienne Métropole).

Recybois: production of forest pellets (1000MAP); commune of Saint Just Saint Rambert (C.A Saint Loire Forez).

BERA: production of waste and lopped wood pellets (34000tonnes); commune of Décines Charpieu (C.U Grand Lyon).

Tumbach: production of waste wood pellets (2000MAP); commune of Annecy (C.A Annecy Métropole).

Structures reconditioning of wooden pallets on the territory selected for BIOPROM:

SAVPAL: reconditioning of wooden pallets; commune of Vizille (C.A Grenoble Alpes Métropole).

SMB Loire Palettes: Production and reconditioning of wooden pallets; commune of Montbrison (C.A St Etienne Métropole).

SFPS: reconditioning of wooden pallets; commune of St Just St Rambert (C.A St Etienne Métropole).

SORODIF: reconditioning of wooden pallets; commune of Roche la Molière (C.A St Etienne Métropole).

UNAL: reconditioning of wooden pallets; commune of St Jean Bonnefonds (C.A Loire Forez).

RHONALPAL: reconditioning of wooden pallets; commune of St Priest (C.U Grand Lyon).

EURO Palettes: reconditioning of wooden pallets; commune of Meyzieu (C.U Grand Lyon).

Peinetti emballages S.A: reconditioning of wooden pallets; commune of Meyzieu (C.U Grand Lyon).

PLM: reconditioning of wooden pallets; commune of Rillieux la Pape (C.U Grand Lyon).

Annecy récupération: reconditioning of wooden pallets; commune of Cran Gevrier (C.A Annecy Métropole).

Bonzi Emballages: reconditioning of wooden pallets; commune of Argonnay (C.A Annecy Métropole).

Annex 1: Overview on Bioenergy facilities in the Rhône-Alpes region

Plant type	Name of facility	Overall concept with special reference to urban situation (e.g. ecological, economic, social aspects)	Plant details				Biomass details			Further comments, problems / positive effects with special reference to urban situation
			Start of operation (year)	Type	Size, heat and power output	Further details	Type	Source	Supplier / logistics	
Pellet/wood-chip heating on a household level)	a) M. Jeanjean	Granule stove	2003		6kW		pellets		Fontaine des Auges	In a town centre apartment
	b)	Building in Grenoble town centre currently being rehabilitated	project		90 kW		pellets		Savoipan	In a very dense urban zone. First project of this type
Heating plants (communal level)	a) Vénissieux	Vénissieux: supply to 8900 housing units, 9 primary schools, 3 secondary schools, a retirement home, 4 shopping centres, 1 crèche, two social centres http://www.chaufferie-venissieux.net/interface.html	2004		12 MW	30,000 t of wood consumed	Old wood, sawmill waste	Sawmill, old wood	BERA	Good communication with residents, use of a communications agency during the public inquiry. No opposition to the project, stable prices for urban heating, Educational website, In-depth truck-delivered supplies survey to limit disturbance
	b)									
CHP plants	a)	No existing								
	b)									
									
Biogas plants and gas processing	a)	Landfill Rillieux-la-Pape	2001	heat	250 m ³ /h of biogas, mixed with, natural gas 2,000 MWh/year of natural gas replaced	700 m of heating pipes: 170 social housing units for OPAC de l'Ain	biogas	landfill		Good acceptance. A few technical problems at first.

	b)									
									
Biofuel facilities (oil press, oil conversion)	a)	No existing								
	b)									
									
Others	Garin energy	No data								

Annex 2: Biomass resources available for energetic purposes in the Rhône-Alpes region (to be added)

Type of biomass	More detailed biomass specification	Quantity (Potential/year) * t/year	Current used quantity (per year) * t/year	Price (please indicate year and unit) * EUR/MWh	Comments	Reference/ Literature
	Please clearly indicate your unit used!					
Biomass from wood	Forest wood	200,000 t (estimation)	10000 t	18-25		
	Wood pellets	25000 t in development	4000 t	32 -39		
	Wood from landscape management	100000 t	3000 t (estimate)	15-22	35 kg/inhab/year 2 800000 inhab	
	(By-)products and residues from wood processing industry	750,000 t total	30000 t	5-15		
	Used wood / contaminated wood	10,000000 t national level 1000,000 t regional level potential: ?	70000 t non contaminated	-		
	Others					
Biomass from agriculture and garden (except wood and manure)	Grass and leaves	480000 t potential: ?	0		172 kg/inhab/year 2 800000 inhab	
	Straw	Total: 230000 ha 860000 t potential: ?	0		1,5 t/ha	AGRESTE Stat 2003
	Whole crop					
	Grain or seed	Total: 345000 ha 1 725000t potential: ?	1000 t (estimate home consumption))	34	Yield 50 quintals ha (100 kg)	AGRESTE Stat 2003
	Others					
Biomass products and residues from industry	(By-)products and residues from food industry	43000000 t in France 4-5000000 t in RA	Not available			Study wastes by ADEME
	(By-)products and residues from other industries					Study wastes by ADEME

Biogas / Others / Mixtures	Manure and residues from animal husbandry	13 300000 t	0, some projects			Study wastes by ADEME
	Biowaste from households	800000 t	0		125 kg/inhab.	Study Senat
	Others	87000 t de MS	Not available			Study wastes by ADEME

- estimation is allowed if no data available
- please indicate clearly the unit you are using .

