

## Rhône-Alpes

### Regional RES-e Map: Electricity from renewable energy sources (RES-e)



<b>The region</b>	Rhône-Alpes
<b>Number of inhabitants</b>	5.65 Mi
<b>Size (in km<sup>2</sup>)</b>	44 000 km <sup>2</sup>
<b>Capital</b>	Lyon

**Short description:** Rhône-Alpes is located in the South-East of France, along the Rhône river, from the snow-covered Alps (Mont-Blanc), to the Mediterranean climate of Montélimar. The region is the second economic area in France, with activities in many fields : tourism, industry, agriculture and food transformation... Rhône-Alpes is also a major energy producing region and accounts for 23% of the electricity produced in France.

**Share of RES-e** (total electricity): 23.3% of electricity production, 64% of electricity consumption

**Target RES-e:** (national or regional): 21% national (today the share is 16.4%)

**The partner organisation:** the regional energy and environment agency Rhônalénergie-Environnement, with 27 years experience, is the partner of local authorities and companies in drawing up, organising and conducting their projects, in the rational use of energy, the promotion of renewable energies and environment.

	Number of plants	Total installed capacity (MW)	Typical installation size	Main present funding mechanism	Short-term perspective (2007)	Mid/long-term perspective (2015)	Main barriers
<b>Wind</b>	5	27.6 MW	3 to 9 MW	feed-in tariff, possible regional investment subsidies	high (80 MW)	legal frame still uncertain	public acceptance, grid connection
<b>Wood biomass</b>	2: 1 wood 1 mixed	8.5 + 13.5 (5% wood)	only 2 plants (60 + 72.5 MW)	investment subsidies, feed-in-tariff	a few targeted industries	low	low feed-in-tariff and subsidies, heat use all year difficult
<b>Biogas</b>	<10	5	only a few plants	feed-in tariff autoconsuming	a few land-fill sites	low	low feed-in-tariff, length of administrative procedures
<b>Other biomass</b>	0	0	-	-	-	-	long term projects with grains only for heat and not for electricity
<b>PV</b>	1044	2	2.5 kW (on grid, individual)	feed-in tariff, investment subsidies	high (on grid), low (off grid)	high (on grid), low (off grid)	high investment costs, administrative slowness for grid connection, shortage of raw

							material
<b>Hydro &lt;10</b>	> 370	400	1 MW	feed-in tariff, investment sub- sidies	low (new), medium (up- grading, DWSS*)	low	relationships with other users, envi- ronmental impacts DWSS* : motivation of water supply companies, risks studies
<b>Geothermal electricity</b>	0	0	-	-	-	-	no site available
<b>Other RESe</b>	-	-	-	-	-	-	-

\*DWSS: Drinking Water Supply Systems

## Wind

**The past:** 4 wind parks have been put into operation in the last 2 years ; size of projects is increasing (the first wind park of Rhône-Alpes was 3 MW).

**The present:** (which typical systems are installed in which sector & operated by whom)

Wind parks from 6 to 10 MW are operated by Sinerg or Eole-RES. 80 MW (45 turbines) have obtained their planning permission and their installation will start in the next months.

**The main barriers & strategies to overcome them:** difficulties of connection to the grid (lack of source stations with a suited size), heaviness of the administrative procedure, the opposition of some associations which stop the procedures by law actions ; there is also a lack of information of local authorities

**Short-term perspectives (until 2007):** Planning permissions for wind parks for a total of 130 MW are currently studied by regional representatives of the State authority. The result is uncertain because of the possible law actions of opposition associations.

**Mid/long-term perspectives (until 2015):** The setting up of the first wind energy plants accelerates acceptance by the general public: in the areas where wind parks have been installed citizens are more favourable and allow a good development of this sector in the South of the region. Nevertheless a new project law is still uncertain and could stop or dramatically brake the development of wind energy in France.



## Wood biomass

**The past:** only 2 plants working today

- 60MW, 8.5 MWe, with waste in wood industry: La Rochette
- 72MW, 13.5MWe, with mixed fuels (coal, wood 5%, animal by-products) : la Poterne

**The present** (which typical systems are installed in which sector & operated by whom):

no feasibility studies currently

**The main barriers & strategies to overcome them:**

With the present feed-in-tariff (4.9 c€/kWh), difficulties to get the economic balance: 10/12 MWe minimum, heat utilization all year, low price fuel. Investment subsidies almost the same with or without CHP. Strategies: as the feed-in tariff is quite recent and won't be changed in the following years, this technology won't be taken now as a priority to develop RES-e production.

**Short-term perspectives (until 2007):** Projects only in a few targeted industries.

**Mid/long-term perspectives (until 2015):** Low perspectives with the present feed-in-tariff



## Biogas

**The past:** 2 biogas installations in landfill sites: SATROD (4.4 MWe) and VIENNE (0.47 MWe), no more running installations for farm biogas. Some installations in sewage plants.

**The present** (which typical systems are installed in which sector & operated by whom): companies managing landfill sites (ONYX, MOS), energy (ELYO), water control and sewage plants.

**The main barriers & strategies to overcome them:**

The biogas plants are submitted to an administrative authorisation from the industry authority. A 2 years study regarding the impact on the environment is mandatory. The feed-in tariff is low (4.5 to 5.72 c€/kWh depending on power), and the draft national law on energy shows no interest for electricity from biogas.

**Short-term perspectives (until 2007):** A 8 MWe plant on a center of waste treatment is under study. The economic interest of methanising lactoserum in cogeneration in dairy industry is under study.

**Mid/long-term perspectives (until 2015):** landfill sites : 15 to 20MWe on existing sites.



## PV

**The past:** Until 1999, most of the installed power in photovoltaic systems was in isolated settings, no grid supply (85%). Since 2000, the share of grid-connected PV has increased up to 2/3 of the whole installations.

**The present** (which typical systems are installed in which sector & operated by whom): Most of PV plants are small 1 to 3 kW plants installed on roofs. The biggest plant reaches 100 kW. The installations are owned by private householders, local authorities or private companies.

**The main barriers & strategies to overcome them:** Prices still high, different requests for subsidies (national and regional). The length of administrative procedures has a bit shortened, but private householders are not aware and still believe that the procedure is as heavy as before. Targeted information towards private owners to update their knowledge would be of interest. Strategy: encourage municipalities to be exemplary.

**Short-term perspectives (until 2007):** low development for the installations with no grid supply, high development for grid-connected installations (if no change in subsidies policies and feed-in-tariff). Possible difficulties due to high prices because of the lack of silicium driven by the high increase of the international market.

**Mid/long-term perspectives (until 2015):** high development for grid-connected installations (if no change in subsidies policies and feed-in-tariff).



## Small hydro (< 10 MW)

### The past:

Around 370 plants are working today, with an installed power of about 400MW, and a production of 1,7 TWh/an. 4 plants are at present producing electricity from drinking water supply systems (DWSS) (2MW).

**The present** (which typical systems are installed in which sector & operated by whom): Some projects of renovation (up-grading of existing plants, setting up in old sites), and on drinking water supply systems. Very few new installations.

### The main barriers & strategies to overcome them:

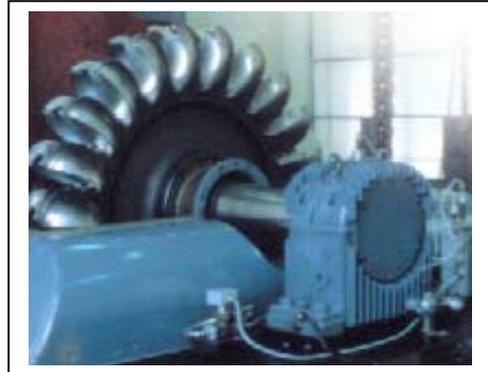
On one hand, the sanitary authority does not allow yet the installations on DWSS because of the risks on the drinkable quality of water. Risks studies have been carried out and an administrative procedure is in progress to give a ruling on this issue.

### Short-term perspectives (until 2007):

On the other hand, a draft new national law will probably facilitate the administrative procedure to install small hydro plants on DWSS with regard to the Environment legislation and will require the administration to do an energy balance so as to assess the consequences from the national targets viewpoints in mitigation of GHG emissions and increase of RES-e production.

### Mid/long-term perspectives (until 2015):

There could be a hypothetic development on old sites (old water mills), but barriers are almost as strong as those for new plants.



## Geothermal electricity

**The past:** no installations

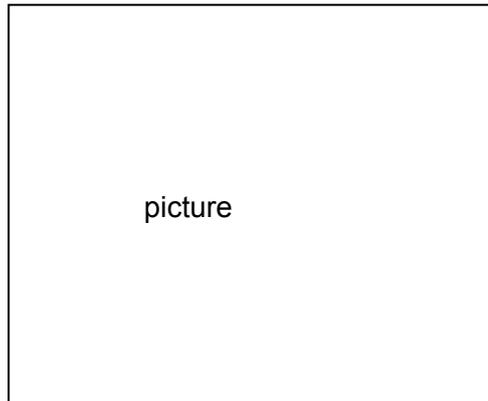
**The present** (which typical systems are installed in which sector & operated by whom):  
no installations

### The main barriers & strategies to overcome them:

### Short-term perspectives (until 2007):

no project study

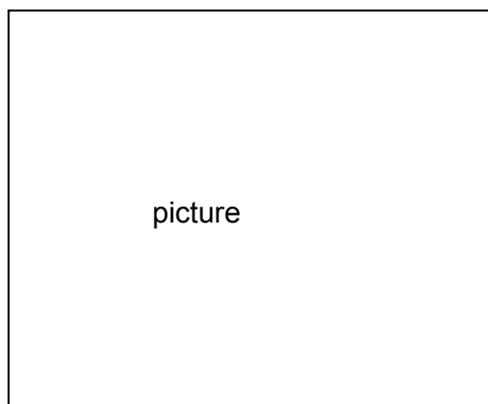
### Mid/long-term perspectives (until 2015):



## OTHER RES-e:

**The past:**

**The present** (which typical systems are installed in which sector & operated by whom):



**The main barriers & strategies to overcome them:**

**Short-term perspectives (until 2007):**

**Mid/long-term perspectives (until 2015):**

## **Main market actors:**

The main market actors are companies active in the field of technology production, planners and consultants.

The Regional Council is currently setting up an economic cluster "renewable energies and rational use of energy" in order to put into network the companies working in this field. The regional cluster aims to improve the offer of products and services, so as to stimulate the economic activity. The cluster will be linked to research and competitiveness.

Besides businesses, NGO's, energy agencies and other institutions play an important role.

### 1) Most important companies:

- Total Energie (set designer of PV plants, planning)
- Photowatt (production of PV modules)
- Transénergie (planning and consulting, PV and hydro power plants)
- Imerys TC (manufacturing of PV roofing tiles)
- historical utility operator EDF (grid access)
- Sunwatt France (planning and installation of PV plants)
- Tecsol (planning, engineering, monitoring of PV plants)
- VA TECH Bouvier Hydro SA (manufacturing of hydraulic turbines and auxiliary equipment)
- EREMA (planning, maintenance and operation of small hydro power plants, training sessions)
- HYDROWATT (planning, engineering and environmental studies, installation, maintenance and operation of small hydro power plants)
- Ecovent (project developer of wind parks)
- Erelis (project developer of wind parks, financing, trading of green certificates)
- Gamesa Energie France (project developer of wind parks)
- VSB Energies Nouvelles (project developer of wind parks)
- Sinerg (operation of wind parks)
- Eole-RES (operation of wind parks)
- GE Wind Energy France (production and marketing of wind turbines)
- ELYO (energy producer)
- ONYX (management of landfill sites)
- MOS (management of landfill sites)
- GEG (local electricity producer, operation of small hydro power plants and 2 PV plants)

### 2) NGO's & other institutions:

- network of promotion associations (Hélianthe, Polenergie, Ceder, Ageden, Hélioise, Hespul, Asder, Energie-Environnement 74)
- local energy agencies (3 in Rhône-Alpes)
- regional representation of Ademe (national agency for environment and energy)
- the Regional Council
- one of the 8 associations for housing information (ADIL 26)
- administrative authorities
- CRE (the electricity authority)
- regional representation of ARD (procedure for grid access)
- INES (national institute for solar energy) in 3 fields: research applied to industry, demonstration and training

- regional representation of CSTB (national scientific and technical institute of building): concerned with the building integration of photovoltaics
- some syndicates of energy (SIEL, Energies SDED)
- local distribution companies (can freely choose their electricity provider, possibly from RES-e producers)
- some municipalities (e.g. Chambéry active in the field of PV)
- EAF Electricité Autonome Française (association of small hydro power producers)
- GPAE Groupement de Producteurs Autonomes d'énergie hydroélectrique (association of small hydro power producers, manufacturers, planners)

## Conclusions:

Because of the high degree of uncertainty regarding the legal frame for wind power plants, no specific activity is scheduled apart from the hotline, so as to provide the potential planners (especially the communities of municipalities) with up-to-date information regarding grid access and administrative procedures.

Nevertheless the result of the representative survey regarding wind energy showed a very positive public opinion on this kind of RES-e. Therefore the guide of RES-e for municipalities will be an opportunity to disseminate this fact regarding public opinion.

Regarding the hydro power plants, new power plants are mainly possible on DWSS. The situation is in stand-by since we are waiting for a decision from the state, following a request from the sanitary authorities regarding the risks on the drinkable quality of water.

The Regional Council has recently launched a regional programme for the development of renewable energies and for rational use of energy. This programme includes funding schemes for PV plants and small hydro power plants until 1 MW.

Regarding PV plants, the Regional Council has set up a specific financing scheme so as to balance a decrease in the funding from national level. Now the state gives a tax credit of 40% on the purchase of RES-e equipments. The Regional Council decided to complete with a bonus to the production (0.6 €/kWh) equivalent to 3600 € pro installed kWp with a maximum of 7200 € pro plant. The Regional Council wants also to facilitate the administrative procedures regarding subsidies. As owners have to ask subsidies from different sources (Region, Department, Ademe, possibly also from municipalities), the idea is to set up a unique contact partner to gather the files for subsidies demands. The Regional Council already started to work with some interested Department Councils.

Aim of the project is therefore to support this regional programme by giving up-to-date information to the potential planners, especially in municipalities.