



INTERVIEW

Nicole Fontaine, Minister Delegate for Industry

Wind Directions: At the beginning of the year, you have launched a national debate on energy, which has been spreading everywhere in France. Which conclusions can you draw from this debate regarding renewable energies?

The national debate about energy allowed a broad process of consultation throughout the first half of this year. This debate, unanimously recognised to be pluralist, transparent and open, made it possible to draw consensus, bring closer opposite point of views and identify a few strong disagreements concerning the orientations to be given to our energy policy. The Government has summarised the outcomes of the debate and presented its proposals in a White Paper on energy that is open to comments from any one until the end of the year. The future law will be built around 3 key issues: the control of energy demand; the diversification of our energy mix in relation to the development of renewable energies; and the preparation of the long term future (2020).

The development of renewable energies is therefore one of the key axes of our energy policy, with two clear and quantified objectives:

- To increase by 50% from now to 2015 the production of thermal renewable energies, that is to produce 5 more million tons of oil equivalent (Mtoe). This effort will focus mainly on the development of the thermal, solar, and wood based technologies;
- To attain the 21% objective of electricity produced by renewable sources, which implies a significant development of wind energy (approximately 10,000MW by 2010) but also of hydro power or biomass.

These ambitious objectives are credible only if one puts the means to make it happen, as Germany did. Such is indeed the intention of the French government.

In the field of thermal renewable energies, where the support schemes are less detailed than for electricity and must be supplemented, we propose to increase the tax credit for individuals from 15 to 25% in order to facilitate the development of solar pannels. In addition, solar pannels will also profit from the energy saving certificates system. In the event of a new building, we propose a compulsory feasibility study of the various energy options, in particular those using thermal renewable energies. We would also allow local communities to subject new buildings, through urban planning or building licenses, to penetration criteria based on solar energy development.

Lastly, France will continue to support the progressive development of bio fuels via the mechanism of tax incentives already in place. We will lay down precise objectives by decree, after a discussion with the professionals.

WD: You reaffirmed your support to the 2010 objectives of the September 27th 2001 directive regarding E-SER. Will these objectives be achieved, and how?

It is time to put an end to the sterile debate in the electricity sector on the best system or the level of support to be used to develop wind power. It is today necessary to give a true visibility to the professionals so that they develop their activity in France. The Government thus proposes to extend the current system for the next three years. This system is based on a feed-in tariff for small projects (under 12MW), and on a call for tenders system for the largest projects. In this respect, I have just launched a call for tender for biomass and biogas plants for up to 250MW. The calls for tender for offshore and onshore wind farms will follow before the end of this year. Moreover, a green certificates system could be set up within a few years, once we know the results achieved through the current system. We also want to set up a procedure to guarantee the renewable origin of the electricity produced.

WD: In a country historically relying on nuclear energy, how do you envisage the cohabitation of wind technology and nuclear? Do you see a conflict in it?

All energies are complementary; each one has its advantages and its disadvantages. We need all energies, as the heat wave that struck Europe this summer clearly taught us. We work to create a much-needed diversified energy mix, not only to face the challenge of our energy demand while preserving our security of supply, but also to reduce our greenhouse gases emissions and to fulfil our international commitments. In this sense, nuclear energy and renewables, wind power in particular, share a common characteristic that no one can object to: they do not produce greenhouse gases. Speaking more specifically about wind, it is nevertheless essential that the French citizens accept the local development of wind farms. In this respect, I believe that the letter that we addressed to the prefects has already improved the conditions and the speed of delivering building licenses for projects on the ground.

WD: Is there a cultural explanation about the development, or lack of it, for renewables that you can see in France?

Informing, explaining, helping the evolution of public opinion are all challenges that politicians must take up. I am optimistic, because, if we are often wary of what we know little about, the national energy debate made it possible to peacefully tackle what is a real social issue. During meetings and conferences across the country, a much larger space than ever before was devoted to renewable energies. I am convinced that this dialogue encouraged an awakening, a key element for the development of renewable energies in our country. Concretely, I met the request of the professionals who solicited the creation of a national commission, where the different bodies involved could meet. If the Parliament confirms this provision, the Conseil Supérieur de l'Electricité et du Gaz will see its composition widened and its mission extended, to better advise the Government on the measures to be adopted in order to accelerate the development of renewable energies. In this way, I intend to mobilise all the actors concerned, because the definition of our energy future requires a common effort.

by Gérard Menjon, Executive Vice President (Development), EDF

EDF's wind energy objectives

Second producer of renewable energies in Europe thanks to its hydroelectric facilities, EDF considers that an increasing share of renewables in the electricity supply, as well as efforts to reduce energy demands, are essential for environmental and geopolitical reasons. This certainty is forged by the need, on the one hand, to limit the greenhouse gas production and, on the other hand, to reduce the European dependence on oil and gas resources mainly coming from the Middle East.

Wind power is particularly abundant, today it is as cheap as most other energy sources, and this is why EDF has laid down objectives for an ambitious development.

The development of wind energy

To achieve these goals, EDF made a strategic choice of external growth and developed an industrial partnership by taking a participation of 50 % in the capital of the company SIIF-Energies. Renowned in the field of renewable energies, this company is among the main developers in Europe.

The acquisition of EnXco in 2002 (175 MW of wind energy capacity, 32 MW in the United Kingdom) reinforced the presence of SIIF-Energies in the wind energy sector. It operates today a wind power capacity of 264 MW in Europe and in the USA; an additional 140 MW are currently under construction.

Between now and 2006, SIIF-Energies is planning to purchase or install on the whole approximately 1000 MW of wind energy capacity.

The specific case of offshore

The well-known characteristics of offshore wind energy (more important and more regular wind resource, less visual impact on the landscape) make it an important contributor to the development of wind energy. This is why the EDF group studies with the suitable partners several projects off the coasts of Sweden, the United Kingdom and Belgium. We also started to study several sites off the coasts of France to prepare for the call for tenders announced by the French Ministry of Industry.

Long-term prospects

In the long term (2030), wind energy will undoubtedly be able to play a significant part in the electricity mix of group EDF. Being an intermittent source of energy however, it is unlikely that it will be given a dominant role. For this role to be played without heavy consequences on the price of electricity, it is necessary that the cost of wind power decrease substantially.

The EDF Group intends to work for wind energy to become fully competitive as soon as possible. To that end, we will commit our skills as developer of onshore and offshore projects and operator of wind farms, and we will make use of our position of global utility and of Research and Development facility.





by Marc Vergnet,
President, Vergnet SA

Proxwind: from power generation to direct consumption

At the same time that wind farms were being built in French overseas territories, VERGNET, French designer and manufacturer of medium-capacity wind turbines, was developing its PROXWIND® concept in France. This is based on the decentralization of power generation to the places of consumption.

PROXWIND® is essentially intended for the rural population. Today, all property owners can, if they wish, have a wind generator installed on their land. The amount of the investment is approximately 300,000 € and provides a source of income which meets the diversification requirements of most farmers.

The power is generated by 1 or 2 wind turbines with a maximum capacity of 250 kW and optimizes the impact on the location. The wind turbines blend easily into the landscape due to their guyed technology, which requires no access routes or craning areas. Their low capacity also enables them to be easily connected to the HVA grid.

Such projects require a building permit with impact notice. The indispensable wind study enables profitability to be optimized, as well as the productible power guarantee offered by VERGNET.

VERGNET assists the client with the project setup via the PROXWIND® teams, which in France operate on a regional basis, and some of which will also per-

form the maintenance of the wind turbine. The geographic proximity of these facilities also contributes to local development and job creation.

The PROXWIND® approach is currently meeting an increasing demand by the public. Two units were built in 2003 near Paris (Yvelines) and Orleans (Loiret), and many building permit applications are under review. Around 10 projects should be implemented in Metropolitan France in 2004. This is consistent with the government's policy of developing renewable energy generation.

VERGNET is also active in French overseas territories: at this time, over 10 wind farms, with a total capacity of 30 MW, have been installed.

Tilting guyed mast technology works well in such regions due to local logistical (access problems, lack of cranes, etc.) and, above all, climate requirements.

VERGNET, which is present in the Pacific and Indian Oceans, the Caribbean, Canada and Africa, has been developing its export activities in all medium-capacity areas (electrification of isolated villages, wind pumping, desalination, wind/diesel systems, etc.), and is gradually becoming an essential player in sustainable development for this market niche.



Petite Place wind farm at Marie-Galante in Guadeloupe. Operating since October 1997, this wind park hosts 25 Vergnet (GEV 15/60) turbines of 60 kW.

Jean-Marc Armitano, President, Eole-RES

Wind power in France: an Unidentified Legalized Object?

In spite of its excellent wind yield, France is dragging its feet in the wind power domain. The figures for installed working capacities in the main European countries prove how far behind France is.

This tardiness stems from many complex problems. Until recently, wind power was for certain French public administrations a "ULO" (an Unidentified Legalized Object), being unprecedented, with no official legal structure. Across the whole of France, civil services have been receiving a large number of construction permit requests, all extremely disparate in quality. The large number of requests and the disparities of their contents have led administrations to become very wary, sometimes over-wary. This partly explains the obstacles encountered by developers. In addition, different Associations, more often than not unrepresentative of general opinion, have made the most of this deficit of information to allow misleading ideas on wind power to circulate (in particular in term of noise or bird mortality). Finally, the delays and costs of grid connections, which are controlled by EDF, the French national operator, are also a major barrier to the development of wind farms.

On a more positive note, the government's recent stand to push the development of renewable energies, and in particular wind energy, gives us hope that the industry is about to "takeoff". Concrete objectives were laid down by the authorities with the publication of the first decree relating to the Multi-annual Investment Programme (the "PPI" published in the Official Journal of March 18th 2003). This decree confirms the government's determination to increase the percentage of renewable energy in France, particularly wind power, with an ambition to install up to 6,000 MW by the 1st January 2007. In order to be able to attain such figures, the Industry Ministry has just announced calls for tender for 1000 MW on-land and 500 MW offshore.

More recently, following the publication of the MP Jean Besson's report entitled "An energy strategy for France", Nicole Fontaine, the Minister for Industry, announced a 10,000 MW wind power objective for 2010. This objective is coherent with the European directive of September 27th 2001, relating to renewable energy sources, and reiterates France's commitment to increase its share of renewable energy production from 15 to 21%.

At an administrative level, the French Ministries for Ecology, Industry and Transport sent a circular to all the "Prefets" in France in September 2003, aimed at improving and accelerating the notification of construction permits for wind farms.

Wind energy professionals in France are generally very satisfied with this circular, but will only be able to analyze its true efficiency over the next few months, by observing the number of building permits granted. For this reason, the idea of creating a national regulation committee, as recommended in the Besson report, could make it pos-

sible to measure progress in comparison with government objectives and could help alleviate local obstructions.

In order to be able to achieve the 2010 goal, other official measures will be necessary, in particular:

- removing of the 12 MW limit to be able to benefit from a power purchase agreement
- splitting up the 10,000 MW into regional objectives in order to mobilize local authorities for the national effort
- transferring to project developers the organisation of the grid connection construction.



François-Michel Gonnot,
French representative (député),
Oise department

France: the political will is still missing

Wind Directions: Which are today the obstacles for the development of wind energy in France?

FMG: EDF, forced to buy wind energy at a high price, does not really want it. Authorities never really sought to develop wind power on a large scale. Elected officials, on the field, are rather reserved. To change the course of things, one needs a plan, a strategy, means of action: in short, the political will is what is still missing.

WD: France is about to discuss a law on its energy policy for the thirty years to come. Which place could be granted, according to you, to wind energy in the French energy mix by 2015?

FMG: The French energy market is a growing market. Moreover, France has a part to play in exporting even more electricity to the rest of Europe. To guarantee the security of supply in the country, hydro power cannot really develop any more. Therefore it is clear that the future is renewable energies, under conditions that must be discussed and formally agreed upon.

WD: Do you think that this law will give wind energy an opportunity to grow in your country? Why so?

FMG: Yes, this law will be precisely the unique opportunity to lay down a production target by 2020 and to set up a legal and fiscal framework for the development of wind energy.

WD: Taking into account that the French are lagging behind in the development of

wind energy, do you believe that France is still able to keep its European commitments and to reach 21 % of electricity produced from renewable sources in 2010?

FMG: This objective appears reasonable to me. Nuclear power will keep its share, and so will hydro power. Gas should experience a significant development and renewable energies, in particular wind and solar energies, will see their production share rocket. If we can achieve that, France will maintain its security of supply and its export capacity, while meeting its European engagements.

WD: Do you think that a major industrialist in the business is able to come out of the French industry? Does this seem desirable to you?

FMG: That is desirable, but isn't it unfortunately too late? The Government should quickly lay down a true industrial policy in the renewable energy sector, as we did thirty years ago with nuclear power. It is urgent and much is at stake.

WD: The mechanism of financial support for the development of wind is today based on a feed-in tariff for the farms smaller than 12 MW and a procedure of call for tenders for larger farms. Should this limitation of the principle of feed-in tariff, in your opinion, be re-examined? Do some new mechanisms have to be introduced into the coming law? Which ones?

FMG: The system today is not satisfactory. It is necessary to financially support the development of wind energy, but it is not reasonable to have only EDF supporting this effort. One can question for example if it would not be more normal that the use of fossil energies finances renewable energies. The debate is open.

WD: the French public opinion seems rather favourable to the development of wind energy. What about members of Parliament specialized in the energy field?

FMG: They in fact are more divided than their speeches indicate. In their speeches, they all seem to agree. But many are still sceptical or very reserved when they have to answer questions from the local authorities. A public debate hasn't happened yet. It is necessary to have it soon.





INTERVIEW

Jean Verseille, Head of Development Department, RTE

Wind Directions: In a country historically relying on nuclear energy, how do you envisage the cohabitation of wind technology and nuclear? Do you see a conflict in it?

JV: The breakdown between different generating sources is not actually a problem for our electricity transmission grid nowadays. Wind energy is characterized by its “volatility”. We should not forget that wind energy is entirely dependent on the weather, with all the uncertainty that entails. RTE’s responsibility, as the company managing the French transmission grid, is to guarantee the adjustment at all times between generation and consumption, whatever the type of energy being transmitted. To do this, we use all types of generating source, including nuclear, thermal and hydro-electric.

In France, RTE has set up market mechanisms to perform this adjustment function and maintain the certainty of supply in the system; these will enable renewable energy sources to be incorporated under transparent, non-discriminatory and economically efficient conditions. The French electricity exchange POWERNEXT, and the adjustment mechanism are two market responses contributing to the objective of incorporating renewable energy.

This issue of adjustment in real-time is also pan-European. With 44 cross-border transmission lines, the grid in France is interconnected with neighbouring networks. Today, the compensation of rapid fluctuations in generation and demand in Europe is carried out by drawing on reserves pooled by the various grid operators.

In the future, the share of wind energy in Europe will increase considerably to reach the ambitious target of 22% of generating capacity from renewable sources in 2010.

It is essential to plan this increase, so that the interconnected European network can maintain the certainty of supply in the system. That must be done in a coordinated way with the players involved. The association of European Transmission System Operators, ETSO, has already started working along these lines.

WD: Why is it so difficult to connect wind turbines to grids in France and to incorporate the estimated 12-14,000MW of wind-generated electricity?

JV: The difficulties in connecting to the transmission grid were of various kinds, and to a large extent have now been overcome. We should start by considering one essential point: the transmission network was not dimensioned to handle all the additional generation capacity associated with the target of 22% of renewable energy sources. That has technical and financial consequences: the network needs to be upgraded, and it will have to be defined clearly who will pay the cost of that upgrade. It is estimated that 300 million Euro will be necessary if we assume 7000 MW of wind energy in 2010, while 800 million Euro could be needed if that figure were 14000 MW. Nevertheless, this issue was addressed on 1 November 2002 with the implementation of “shallow cost”. Previously, the regulations required any producer to pay all the costs for upgrading the network, and the cost of the connection. Today, shallow cost only involves paying for the work to be carried out at the same voltage level as the connection.

A second point concerns the time taken for connections. In an unspoiled landscape, a connection project requires the construction of a new transmission system. You are undoubtedly aware of the problems connected with acceptability of new high and very high voltage transmission lines. It takes several years of local dialogue with residents, politicians, associations, etc. before a new transmission service is ready for use. That consultation process is essential. And the associated regulation is also a welcome framework to ensure that the consultation process runs properly. However, it still takes a long time. There are large, and sometimes fluctuating, numbers of wind energy projects, with tight construction and production deadlines, which do not necessarily take into account the connection time required.

Greater anticipation between the players in charge of planning wind energy projects, the authorities concerned, grid operating companies and RTE is desirable. The objective is to plan connection requirements better. This process has already been started in some départements of France.

The final point concerns the management of the surge of projects. There are large numbers of them, which led us to set up a queuing system for connection requests, in cooperation with the industry and with the distribution centres. This procedure was implemented from 1 September 2001 onward, and amended in September 2002. It

by Didier Borowski,
Export Sales Manager, Rollix

ROLLIX MANUFACTURING: ready to meet the challenge

aims to achieve smoother processing of connection requests. The result today is far from having met our expectations: there is still a volume of approximately 14 000 MW in the queue, but that is better than the 20 000MW recorded previously. Therefore new developments are being considered, in cooperation with the industry and the Energy Regulation Commission, so that a project only goes onto the waiting list when it has a high probability of going ahead, i.e. once it has received planning permission.

WD: The main issues for proper development of REN in France currently seem to be administration and grids. What are the future plans for electricity grid integration of REN in France?

JV: The quality of production forecasts determines the dimensioning of reserves, the ability to manage interconnections efficiently and in general, the ability to keep the flows across the transmission network under control. Various studies have been initiated to provide the operational response to models, in order to forecast consumption sufficiently far in advance, and plan the availability of generating capacity (particularly wind energy), and therefore the dimensioning of the reserves. RTE is cooperating with a large number of other players: ETSO, ADEME, Météo France, and some European projects.

I also consider that the question of certainty of supply on the grid relating to the intermittent nature of wind energy must be addressed, particularly having learned the lesson from the recent black-outs.

With over 20 years' experience of wind turbines, Rollix-Defontaine, a French designer and manufacturer of slewing rings, has been producing blade bearings for 10 years, covering approximately 50% of the market for pitch regulated wind turbines. Today, 50,000 Rollix Defontaine bearings (special bearings with a diameter of 100 to 4100 mm) orient wind turbine blades throughout the world.

Until a relatively recent date, the lack of a French market had led us to concentrate on exports, from which 86% of our turnover is derived. We are known in many countries: Denmark, Spain, Germany, United States, Italy, Netherlands, China, India, Japan, Australia, New Zealand, etc. We manufacture 40,000 bearings a year for many applications (medical, robotics, public works, transport, aerial baskets, cranes, etc.).

For several years, we have been supporting the development of French manufacturers such as Vergnet, Cita, Travers, etc. We are keen to see wind turbines take hold in France, as it is always problematic to sell French products to overseas customers who themselves have trouble selling their products in our country. The recent installation of our main overseas customers in France is an encouraging sign.

Although the wind electricity-purchasing tariff has been an important step, it will mean little without genuine national and local political commitment. Today, far too many projects never see the light.

It should also be remembered that wind power does not necessarily require large wind farms with dozens of turbines. The Danes have realised for a long time that

it is far easier for people to accept a turbine if it belongs and is profitable to them. From this point of view, farmers should play a decisive role.

Wind power also creates many jobs in all sectors, from builders to university researchers through mechanics, engineering staff and electronic technicians. In 5 years, Rollix Defontaine has created 150 direct jobs thanks to wind power, and we are still hiring new staff.

We intend to remain optimistic. EDF's commitment to develop renewable energies, the efforts of ADEME to promote these energies and the dynamism of professionals will ultimately yield results.

With our experience and cutting-edge R&D (we have the world's only dynamic test bench for blade bearings), we are ready to meet the challenge of integrating renewable energies in the French energy panel.



Ladislav Poniatoski, Senator
(department of Eure)

Renewables are France's chance

Wind Directions: You have visited various wind farms in France and Europe. For which reason did you agree to devote time to this subject? Which remarks can you make?

LP: I am very much involved in the energy sector since I was, for ten years, President of the Study group for energy matters in the French National Assembly, as a state representative (depute). Now member of the Senate, I have the chance to be in charge of passing the law relating to the opening of the gas market. I have immediately embraced the peculiarities of "electricity", "gas", "oil", "renewable energies". Keeping in mind the stakes for our country, I feel very concerned, as a French citizen, by the commitments taken by France and other member states, e.g. to reach 22 % (21 % for France) of the consumption of electricity produced from renewable energies in 2010. In our country, it is not with hydro power that we will reach this goal. Photovoltaic will not be able to play a central part. It is obviously only with the development of wind energy that we will be able to keep our commitments.

WD: Last May you passed an amendment in favour of wind energy which substitutes the 25 metre height threshold above which the construction of a wind farm was to be subjected to public enquiry, beyond a threshold of 2,5 megawatts. This amendment testifies of your will to help with the development of wind energy in your country. Why are you favourable to the development of this energy source in France?

in advance in the field of wind energy. Our regulation was too constraining. By this amendment, we become even with our partners. It is now up to all the actors in the wind energy sector to apply the legislation that the Parliament voted.

WD: What should be the role of the elected officials vis-a-vis the State and its administration in the development of wind energy in France?

LP: We all must be active and not only in the wind sector. In the Senate, I also worked on solar – heat and electricity -. Indeed, I was very anxious about the reduction in the State support to renewable energies which is channelled by ADEME. We must be concerned about the future of industrialists in the renew-



LP: I took part in this debate in two ways: by an amendment and by a question regarding the reduction of the budget of ADEME dedicated to renewable energies, which worried me. For the amendment dealing with wind energy, I wanted us to be able to fulfil our "European" contract. For that, it was necessary to have a body of laws and decrees close to those of our European neighbours, many of whom have a true length

able business, who are very dynamic in French regions involved in renewable energies. Renewable energies are indeed a chance for France.

Jean-François Carrère, mayor of Opoul

Wind farms boost local economy

Wind Directions: Why is a mayor interested in the development of a wind farm on its territory?

JFC: the particular layout of my territory enabled me to install a wind farm. Only was it necessary to take special care of the spot where it would be built. In addition, our region is one of vineyards, with this activity growing in bad posture, and the development of a wind farm would bring us new revenues in tax for our village.

WD: How did the population react to this project? Did you have opponents to it and what were their arguments?

JFC: The study started six years ago and the windfarm only started last January: it took us six years to succeed. As soon as I met the project developer, I organized two public meetings in the town hall and published some information on the subject in the city paper. The population was informed. There was no opposition at that time and we carried on. Urban planning had to be revised, and a new area was authorized for the wind farm. The revision of these documents gave us an opportunity to organize a public enquiry, mandatory in such cases. Each one could come and tell his feeling about the

project. We feared the reactions of the hunters in connection with the birds. However, is it due to the fact that information concerning the project had been well disseminated at first, we did not receive any comment from the hunters. We had associated the state administration, "Bâtiments de France" and the "Direction régionale de l'environnement" (DIREN), which did not say a word. Everything was going well, or so it seemed. It is at the time of asking the state for the building license that difficulties started with the DIREN because the project "denatured the landscape". When filing our request for the building license for the third time, the "préfet" (state representative) granted us the license under conditions. Last spring, four years after the beginning of the project, the DIREN indeed mentioned the question of a couple of golden eagles which could be affected by the wind farm. After intensive talk, we obtained the agreement, under condition of protecting the eagles. If need be, I committed myself to opening the territories so that the eagles can feed. And I passed a convention with the hunters.

WD: How do the inhabitants of your village live today with the presence of the wind farm?

JFC: the inhabitants are very satisfied. I have only favourable reactions. Some people who are not from Opoul may question the wind farm. But nothing obliges them to settle on our premises.

WD: What advice would you give to a mayor who wishes to install a wind farm on its territory?

JFC: My feeling is that one must ask the good questions regarding the environment. It is important to discuss about the environment in the context of its true planetary stake. A wind generator can be dismantled whenever wanted, it does not produce any harmful effect. With our six wind generators, we avoid the production of 24,000 tons of CO₂, as compared to a power station that would have produced an equivalent amount of energy. Thanks to our wind farm, the 800 inhabitants of Opoul will profit from new services and equipment, which they could not have had without it. Alas, in France, a spoilsport can make hood any project.



Michèle Pappalardo, President of ADEME

ADEME's role in wind energy development

Wind Directions: How do you see ADEME's role in future wind energy development in France?

We will continue on the path that we have already taken. The most important thing is to develop acceptance by the population and local politicians. Opinion polls are described as favourable, but we still have problems getting projects approved. We need to devote our efforts to information and communication, to facilitate acceptance by local people and communities, to carry out studies on the potential, geological maps, development plans. At the same time, we have to work with the developers, bringing them closer to the local people. With this in mind, we have started drafting a "charter" for wind energy projects, so as to draw up a list of professionals recognized in the sector, who can be consulted by local communities.

WD: Concretely, what has been ADEME role until now? (Practical examples of achievements and support; projects; funds...)

Before the electricity purchase price was established – which is what makes promotion of wind energy attractive – ADEME also contributed in terms of investment (wind energy park in Dunkirk; Eole 2005 project; calls for proposals; award of projects). Since this purchase price was introduced, wind energy has not had a very substantial role in our budget. However, we are continuing to finance projects with our own funds (FIDEM: a fund set up in 2003 for renewable energy projects), especially for SMEs who want to embark on wind energy projects.

We remain very active in research and development (R&D). We are supporting the wind-energy option for offshore, we have a strong presence in the development of network integration, and in defining the arrangements for installation and acceptance by society.

Two other sectors where we are taking a keen interest are training – whether it is of a target audience, industry professionals or investors – and communication, with the production of specific tools, such as general papers, books, guide for project initiators, guides for local communities, and answers to the fundamental questions that everyone might ask about wind energy.

WD: How do you see the future role of wind power among other energy sources in France?

We have a target of 21% generated from renewable energy sources. In this context, considering the tremendous availability of wind available in France and in view of the economic maturity, it is wind energy that will enable us to take the step forward necessary by 2010 to achieve the target of the European directive. Wind will occupy 1st place in renewable energy, with biomass and hydro-electricity.



France's Second Spring?

Interview with *André Antolini*,
general manager of French
developer SIIF and president of
the French renewables
association SER



Wind energy will actually supplement nuclear power. With nuclear power, it is necessary to use additional fossil fuel power stations in peak periods. Wind energy will enable the use of fossil fuels for electricity generation to be reduced.

WD: Is there any plan to prepare a guide for local politicians meeting promoters of wind technology in order to help them understand and support the development of this energy source?

The brochure "A wind energy project in your area?" was published in May 2003. It is a practical 40-page guide that explains how to deal with a local energy project. It also gives ideas about how to organize a prior consultation process.

It involves explaining the economic issues to local politicians, and the fact that wind energy is a source of energy that can be used locally. It is decentralized energy, which contributes to the economic development of the territory (jobs – 2000 to 3000 people are already working in the industry).

In the Vendée region, for example, residents are very proud to have established an industrial project in a region whose economy has traditionally been dominated by oysters and shellfish. Local authorities are thus able to collect business taxes and develop something different in their region without harming the environment. Wind energy is an industry that has enabled the people of Vendée to maintain their basic economic activities. The latest wind park in France was opened in Bouin in Summer 2003 with eight wind turbines.

April 2002. It is spring in Paris and the wind power sector is meeting in the French capital for the Global Wind Power Conference. Status for the French wind power market is a mere 100 MW. But a new market framework has been adopted and from the podium in the CNIT Conference Centre, former Industry Minister Christian Pierret announces that France aims to install 10,000 MW of wind power by 2010. The sector is optimistic, including André Antolini, president of French developer SIIF and president of the French renewables association SER.

out Europe. In the mid-1990s, when the real estate crisis hit France, the company was sold to American investors, and 30 years in real estate - including presidencies of the French Federation of Real Estate developers and the European Real Estates Federation - ended.

André Antolini became General Manager of SIIF in 1996. French energy giant EDF owns 50% of the company. The other half is owned by private investors. Currently 62% of the company's assets are wind power (300 MW), 21% hydro and 17% cogeneration. The wind power activities began in 1997 with a project in Guadeloupe and now accounts for 90% of the company's activities.

"We did believe that introducing the feed-in tariff would get the market going. In hindsight, we clearly underestimated the planning difficulties"

Eighteen months and 120 MW later, the wind energy sector is still waiting for the French market to take off. André Antolini admits that he too, had high hopes that spring of 2002.

Starting from low numbers is not new to Antolini. With 50,000 Euro in his pocket and a new real estate concept – apartment hotels - in his head he founded a small company. Today, there are 50 of Antolini's Citadines apartment hotels scattered through-

"It was a big change of scale from the billion Euro turnover in the French and European real estate market, but there are many similarities. When you develop energy plants you meet the same problems as when you build skyscrapers: permits, interest rates, licensing, financing. Ironically, with the current situation it is more difficult to obtain a permission to build a wind farm than to get permission to build a skyscraper. The only thing that is easier in renewables is that you do not have to find a customer. It is the utility that finds the final customer," says Antolini. ▶

Much of the success of wind power depends on Electricité de France. What is EDF's position on wind energy?

"EDF is a big boat. It takes time to turn it. In France, EDF is regarded as 'the beloved company of the French citizens', so the EDF public support for wind energy is crucial. It has a subsidiary that is devoted to wind power and quite a lot has happened in the past two years.

But it is also important to understand that France is in a special situation. We get 75% of our electricity from nuclear. We are not likely to abandon the technology. On the other hand, it is clear that the nuclear industry needs a little brother, to avoid being alone. The little brother is wind energy. Being a little brother does not mean being invisible and he must have a visible size. Both the government and many people in this country have understood that nuclear and renewables should not fight but complement each other. The nuclear sector could and should help the wind industry."

Do you see a conflict of interest between nuclear power and wind power in France?

"Not at all. We are not providing the same service. Nuclear power is base load and it is not dispersed. We provide smaller scale dispersed electricity with no waste. Each technology has its own role to play. The first thing wind power replaces is the French thermal power that is used to adjust to demand changes. At higher penetration levels you replace hydropower. This eliminates the problem of intermittency, because hydro in combination with wind power can act as a battery. Hydropower is gold because it regulates both peak load and river flows for agriculture as well as fishery. So wind power saves CO2 or gold, never nuclear power. That is why I do not see any conflict of interest between wind power and nuclear power. "

Is there a cultural explanation for the lack of development in France so far?

"The main determinant is the structure of our electricity production system. Historically, we have had overcapacity based on hydro and nuclear, without thermal production. Apart from waste, French electricity does not pollute or emit CO2. So for the population, producing clean electricity is not a big deal. We are already doing that. That makes France a special case in Europe."

Is France going to meet its Directive target of 21% renewable electricity by 2010?

"If the current trend continues, we need 150 years to reach that target. Renewables are obviously developing too slowly. The main goal is not as much the target itself; it is how the curve develops in the near future. The government is going to launch specific offshore and onshore tenders. That could accelerate the process. In parallel we have the feed-in tariff that I am sure will continue in the future."

And what about the planning and grid issues?

"The grid issue is not a big issue in my opinion. I think it can be solved. The grid operator says we can connect 6,000 to 8,000 MW wind power before having to change the system dramatically. A map of the grid will be constructed and we will see increased transparency. The grid is not the bottleneck at the moment, although it does create problems locally.

The planning issue is a little more difficult, but also here things are progressing. After two and a half years fight, we have succeeded in getting three ministers to sign a decree to the "Prefects" (local administrators, ed.) on September 10, 2003. It very clearly explains how planning for wind energy should be conducted. This, together with legislation on planning that was passed in January 2003, has created a more stable planning situation. We now have a legal framework that will make it more difficult for opponents to obstruct the development through the courts. If the Prefects accept the guidelines, the grid and planning issues will be solved."

France initiated a general energy debate that has been going on for the past year. Has the debate been good for wind power in France?

"Yes. Many new players at the political level have taken part in the debate, and the main outcome of the consultation is that renewables are unavoidable. The Besson report that was sent to Minister Nicole Fontaine recently does not provide answers to all questions but it asks all the right questions and makes favourable recommendations for wind power. Little by little, steps are made and we should see some changes in the coming months. This being said though, I must tell you that the house doesn't give credit anymore: we will wait until we see a real improvement before we claim that renewables and wind power has a bright future in France. A comforting sign from the public authorities would be for instance to see more building licenses granted than rejected!"

18 months after optimism last peaked in Paris, André Antolini's belief in the French market is increasing again.

"I am confident. Nothing is iron cast, but I think we will get the economics right, get the planning eased and address the grid issue. The difficult task is to predict the precise timeframe. The first couple of hundreds megawatts are always the most difficult."

