

**Title:** Wind Conflicts in the Isthmus of Tehuantepec

**Subtitle:** The Role of Ownership and Decision-Making Models in Indigenous Resistance to Wind Projects in Southern Mexico

**Author:** Sergio Oceransky, Coordinator, World Wind Energy Institute

**Category:** Ownership Models

**Keywords:** Opposition to Wind Power; Ownership Models; Decision-Making Models; Benefit-Sharing; Indigenous Peoples; Privatisation; Collective Rights.

**Abstract:** Wind energy projects in the Pacific coast of the Isthmus of Tehuantepec (Oaxaca, Mexico) are facing an increasing local resistance. This region, primarily inhabited by indigenous peoples whose land rights are recognised collectively in so-called Ejidos, is gifted with one of the best wind resources in the world. Projects to install more than 2,300 MW of wind energy capacity in the region within the next 4 years have already been approved, and more are expected to be approved in the coming years, mainly within the framework of self-supplying contracts in which primarily European (and in particular Spanish) companies act as providers and a number of Mexican and international companies as receivers of wind power. However, a growing number of farmers and communities in the region and of environmental and human rights NGOs oppose these projects. They argue that the wind farm projects were drawn and are being executed without local consultation or involvement, and that the companies have provided incomplete and/or incorrect information to land owners in order to obtain abusive land lease contracts. A hundred and eighty legal demands to nullify the land lease contracts have been presented to court by land owners, as well as a case against the former local authority of the Ejido where the only operating wind farm is installed. The creation of a Law for the Promotion of the Use of Renewable Energy Sources, and of a (non-yet existing) National Wind Energy Plan, provides an opportunity to address the structural reasons underlying this conflict and to establish a framework where local communities can make use of their wind resource. This would foster a conflict-free and community-oriented development of the Mexican wind resource.

## **1. Introduction**

This paper explores the conflicts that are taking place around wind projects in this Isthmus of Tehuantepec, with the objective of explaining the causes that motivate them and of deriving from them possible solutions that allow a positive development of wind energy in Tehuantepec and Mexico.

After explaining the socio-economic, legal and entrepreneurial context in which these projects are taking place, the paper explores the different dimensions of the conflict around them. Subsequently the local organisational processes of resistance against wind energy projects are briefly described, and the known contents of the (not yet approved) Initiative for a Law to Promote the Use of Renewable Energy Sources as well as the project to launch a National Wind Energy Plan, with the aim of exploring

possible solutions to the conflict. The paper ends with a series of conclusions and recommendations referred both to the case of Tehuantepec and to the development of wind energy in general.

This paper is based on research on the ground, especially on interviews undertaken with the following persons:

- Antonio Pérez Rodríguez, Director for Energy and Environment, Secretaría de Energía (equivalent to Ministry of Energy), Mexican Government
- Ramón Carlos Torres Enríquez, Vice-Director for Energy and Environment, Secretaría de Energía, Mexican Government
- Julio Valle Pereña, Director for Promotion of Investments in the Energy Sector, Secretaría de Energía, Mexican Government
- Eduardo Zenteno, President of the Mexican Wind Energy Association (AMDEE)
- Oscar Galindo Ríos, representative of Eoliatec, member of AMDEE in charge of the wind project in Oaxaca
- Alejo Girón Carrasco, [redacted] engineer, Grupo Solidario, La Venta, Oaxaca
- Bettina Cruz Velázquez, Assembly in Defence of the Land and Territory of Juchitán, and Teachers' and Popular Collective 14 of June, Juchitán, Oaxaca
- Carlos Vázquez, landless labourer, Unión Hidalgo, Oaxaca
- Javier Balderas Castillo, Human Rights Centre Tepeyac of the Isthmus of Tehuantepec, Tehuantepec, Oaxaca
- Leonel Gómez, [redacted], Oaxaca
- Moisés Trujillo, President of the Commissariat of Ejido La Ventosa, Oaxaca
- Pedro Matus, agrarian engineer, Unión Hidalgo, Oaxaca
- Perfecto Vázquez, farmer, Unión Hidalgo, Oaxaca
- Vicente Ordaz Ramos, Grupo Solidario, La Venta, Oaxaca

I wish to express my sincere gratitude to all of them for the attention that they gave me, as well as to Mónica Vargas, from the Cátedra UNESCO of the Autonomous University of Barcelona, for putting me in contact with members of the Frente de Pueblos del Istmo por la Defensa de la Tierra (Front of Peoples from the Isthmus in Defence of the Land/Earth).

## **2. Context**

### *2.1 Geographic and socio-economic context*

The Pacific coast of the Isthmus of Tehuantepec, in the Mexican state of Oaxaca, has one of the best wind resources in the world. Ramón Carlos Torres Enríquez, Vice-Director for Energy and Environment in the Secretaría de Energía, declared that according to existing analyses, certain regions in the Isthmus have the same conditions found in off-shore wind farms, enabling the establishment of an off-shore laboratory on firm land.

Antonio Pérez Rodríguez, Director for Energy and Environment, mentioned four different estimations of the total wind energy potential in the area. The most

optimistic one goes up to 40,000 MW, but there is a consensus on the potential being at least 10,000 MW, probably larger.

This region is inhabited mainly by indigenous peoples, especially Zapotecos and Huaves, whose territorial rights are recognised, and in almost all cases collectively organised in so-called ejidos, a Mexican legal figure that combines individual land use with collective property. The collective character of some ejidos has been (or is being) modified through the Plan PROCEDE, which gives more emphasis to private than to common property; however, not all ejidos have applied the Plan PROCEDE.

Pedro Matus, agrarian engineer from Unión Hidalgo, explains that there are two areas (Juchitán and Unión Hidalgo) where ejidos were not established, but according to a Presidential Resolution of 1964, the use of land is communal, even if the plots of land are distributed. This Resolution was never translated in the formation of ejidos. A first attempt to do so in the 1970s was aborted after the political disappearance of the leader in the struggle for collective territorial rights. A second attempt to establish an ejido in Unión Hidalgo was abandoned in 2002 due to the lack of funds and the high cost of the process and the lawyers.

He adds that this is an agricultural region with high-quality land and rich water resources. There is an underground aquifer at a depth of between 6 and 12 meters, but in some places it already emerges at 1,5 meters of depth. It was a sugar-producing region until the government sugar policies changed. Today the main activities are milk production and agriculture. In the Huave area a large proportion of the population works also as artisanal fishers.

Bettina Cruz Velázquez, from the Assembly in Defence of the Land and Territory of Juchitán, declares that farmers produce three harvests per year in irrigated land and two harvests in non-irrigated land. Farmers in the area feel that this agricultural wealth is not properly valued by the authorities in charge of wind energy programmes, which according to them argue that the land in the region has a low productivity and it should therefore be devoted to wind energy generation.

Carlos Vázquez, landless labourer from Unión Hidalgo, reports about the concern amongst sectors of the local population about the change of land use (from agricultural to industrial) required by wind energy projects. This change could have negative consequences in terms of access to irrigation water. The loss of irrigation water would bring serious consequences to the farmers and also to the landless labourers whose work depends on the irrigation.

Most of the population lives in poverty, but there is no hunger due to food production for self-supply. Bettina Cruz Velázquez explains that most of the population obtains income from the small-scale commercialisation of agricultural, husbandry or fishing production. The trade takes place either through intermediaries (for those who have more land), which tend to keep a large share of the profit, or directly in local markets in the whole Isthmus region and beyond, all the way to Guatemala. The direct commercialisation of excess production is often undertaken by women, who play a key social role in the indigenous cultures of this region.

Lack of access to education is a serious problem. Alejo Girón Carrasco, from the Grupo Solidario in La Venta, remarks that in his community, where the first operative wind farm was built, 76% of the population is illiterate. Amongst those who had the chance to receive formal education, most only completed the 3<sup>rd</sup> year of primary school. The situation is similar in all the affected communities. As a consequence, “caciquismo” (authoritarian social structures where the leader commands the community) is still alive: an important part of the population obeys the orders of local leaders, especially in communities where political parties have more influence due to the erosion of traditional practises of collective decision-making. In this sense, it seems no coincidence that the first wind farm came into operation in the community of La Venta, which has lost much of its indigenous inheritance, where the Zapoteco language has been lost, and where political parties have a larger influence.

Huave communities confront specific problems in their fishing activities due to the pollution caused by a nearby refinery, and to persistent organic pollution that come all the way from North America, which affect their mangroves and reduce their income from fishing.

## *2.2 Legal framework and approved projects*

Antonio Pérez Rodríguez, Director for Energy and Environment at the Secretaría de Energía (Energy Ministry), explains that renewable energy sources (RES) have entered Mexican energy policy mainly in pursue of diversification objectives, not due to environmental or social objectives. Hence, there isn't yet a legal framework to promote their use, although this is expected to change with the Initiative for a Law for the Promotion of the Use of RES (see section 5). For the time being there are no specific laws or plans regarding wind energy. Within the next months the Secretaría de Energía will publish a draft National Wind Energy Plan.

In Mexico the Federal Electricity Commission (CFE) has a monopoly over the transmission network and over most power generation, due to Article 27 of the Mexican Constitution, which also mandates CFE to generate electricity at the lowest possible cost. This had important consequences for the development of wind energy, since the power generation cost is higher than with conventional sources.

Julio Valle Pereña, Director for Promotion of Investments in the Energy Sector, explains that the only operative wind farm (La Venta I and La Venta II, now integrated in one single farm) was built under the format of Financed Public Work, a turn-key contract in which a company builds the farm and delivers it against payment to CFE, which then becomes owner and operator of the wind farm. La Venta I, installed in 1994, consists of 5 small Vestas wind turbine generators (WTGs), adding to a bit more than 1,5 MW in total. La Venta II, inaugurated in March 2007, has 98 Gamesa WTGs of 850 kW each, and was built by a consortium built by Iberdrola and Gamesa.

The Law of Public Service of Electric Energy, approved in 1992, defines 5 cases in which the private sector is allowed to participate in electricity generation<sup>1</sup>. This law applies to power and natural gas, which are therefore partially open sectors, albeit within a relatively narrow regulatory framework. The oil sector is still completely in the

---

<sup>1</sup> All the information included in the rest of sub-section 2.2, except for the final concluding paragraph, was facilitated by Mr. Julio Valle Pereña.

hands of the Mexican State, but the Calderón administration is currently trying (like previous administrations) to open it partially to private investment, a highly controversial proposal that has already been rejected in the past by wide sectors of the population and has generated an intense debate. This debate is relevant to the renewable energy sector, since the Initiative for a Law for the Promotion of the Use of RES and the National Wind Energy Plan will not be discussed until the debate on hydrocarbons is resolved, and its outcomes are likely to influence the contents of both the Law and the Plan.

RES is one of the sectors that have been partially liberalised by the Law of Public Service of Electric Energy, and the one on which private investors have expressed most interest. Public administration has taken measures to resolve the existing obstacles to that investment, creating the conditions in which private projects can take place.

The 5 cases in which the private sector is allowed to generate electricity are:

*a) Self-Supply:*

This kind of permit can be obtained by individual companies or by consortia in which some companies produce power and others consume it. The companies can use CFE's network to carry their electricity, and can also "store" the power in the network for one year. This possibility has made wind energy projects very attractive to the private sector, and has generated most of the wind energy projects in Oaxaca.

Under a self-supply contract, if an more energy is produced than consumed it can be sold to CFE, which cannot pay more than the marginal production cost in that node of the network at that moment in time, and this option therefore does not make economic sense, especially given the fact that power can be "stored" for 12 months. In general the electricity is consumed during the peak tariff hours (during the day, when the price charged by CFE to power consumers is highest), and the difference between the self-generating cost and the peak tariff is the basis for the profitability of these projects. Self-supply during peak hours can be combined with regular CFE power consumption outside of peak hours<sup>2</sup>.

The main obstacle faced by these projects is the lack of transmission capacity from the Isthmus of Tehuantepec to the centre and north of the country, where most of the power will be consumed. For this reason, private wind energy projects were integrated through a process called Open Season (Temporada Abierta), which invited investors to declare the capacity that they wished to install in the Isthmus in order to integrate them into a new 145 km long transmission line. Open Season started in early 2006 and ended in the middle of 2006, and according to the existing regulatory framework, was done on the basis that the new infrastructure will be received as a donation to the State from the investors, which will pay according to the capacity installed by each one of them. Once their wind farms start operations, they

---

<sup>2</sup> According to Ramón Carlos Torres Enríquez, Vice-Director for Energy and Environment, the agreement between producers and consumers of electricity is based in avoiding the peak tariff. If there is not sufficient production, the companies buy energy from CFE, which needs to have spare capacity in order to be prepared to cover this extra demand. This implies the need to build additional capacity. They are still working in this sense, for the time being no solution to this problem has been agreed.

will only pay the variable costs of this new line, but not the fixed costs; in addition, they will pay fixed and variable costs for the existing transmission lines used to transport power to its final destination. The contract for the new transmission line is expected to be granted in August 2008, and the line should come into operation by the end of 2009. As soon as the contract is granted, the construction of private wind farms will start<sup>3</sup>.

Twelve private self-supply projects sited in the Isthmus have already been approved with a total installed capacity of nearly 2,000 MW, which will start operating in 2010<sup>4</sup>. The permits granted are available in the webpage of the Energy Regulatory Commission. Some projects that participated in Open Season have not yet been approved, but their approval is expected. Additional permits are required from the Environmental Commission, as well as from local authorities regarding the change of land use, building permits, road building permits, etc.

There is one self-supply project in Baja California which has not been approved yet.

*b) Independent production:*

In this case, there is a service contract between CFE and the investor in which the investor is owner of the infrastructure and delivers energy to CFE in exchange for a fixed payment for the installed capacity and a variable payment for the delivered energy. Almost all contracts of this kind have been granted to natural gas power stations. Recently a call for tender under this legal figure was published for a wind farm, which will only receive the variable payment for the energy delivered.

This wind farm will receive a subsidy of 0,011 USD per kWh during the first five years of operation, funded by the World Bank's Global Environmental Facility (GEF). A new GEF grant is expected to fund 3 or 4 future wind farms or other RES projects.<sup>5</sup>

The first call for tender failed, since all the tenders presented exceeded the available budget, which was not known by the investors. The Secretaría de Energía is considering the re-publication of a call for tender that includes the budget limit per delivered kWh. If this does not succeed, then the limit would be raised and the capacity to be installed (currently set at 101,4 MW) would be reduced.

*c) Small-Scale Production:*

---

<sup>3</sup> Two private wind farms are already being built (one of 300 MW and another one of 100 MW) because they have been allowed to connect to the transmission line used by CFE to evacuate the electricity produced by the wind farm in La Venta, property of CFE. In principle, this existing line was going to be used only for CFE projects, but since the next CFE projects will not be finished until after the installation of the new line that came out of Open Season, these two private projects exchanged the use of the CFE transmission line for the Open Season line. This will enable them to start operation before 2010. According to Eduardo Zenteno, president of the Mexican Wind Energy Association, this arrangement was personally facilitated by the President of the Republic, favouring the two companies.

<sup>4</sup> According to Eduardo Zenteno, several companies have expressed interest in installing 4.000 MW more in Tehuantepec, but this will depend on the viability of interconnection and transmission.

<sup>5</sup> According to Eduardo Zenteno, there is the intention to install a total of 500 MW under this kind of contracts in the Isthmus of Tehuantepec by the year 2012.

In this case the wind farm cannot exceed 30 MW and all the energy is delivered to the CFE, which pays either 90% or 85% (depending on whether the dispatch has been programmed or not) of the marginal cost of power production in that node at that moment in time. CFE is bound to acquire all the power generated without restrictions. This case has been designed for conventional power sources and makes no sense for wind energy, since the payment is insufficient to cover the investment.

A small wind farm of the Institute of Electricity Research (which depends on CFE) will enter into operation in the Isthmus under this kind of contract. The Institute is building a Wind Technology Centre and will use this option to recover part of the costs.

*d) Cogeneration* [this case is not relevant for wind power]

*e) Import and Export:*

Import is only allowed for self-consumption, export has no restrictions. About 5 projects to export to the USA are being studied in Baja California<sup>6</sup>.

In conclusion, the current legal framework for wind energy projects in Mexico is not based on environmental or social objectives, but on economic criteria. Therefore, the protection of the rights and interests of the communities where the wind resource is located is not part of the existing legislation. However, private projects do interact with the public domain, primarily through the transmission infrastructure and because they place on the State the responsibility to install additional capacity to balance the natural fluctuations in wind power generation. This is particularly important for the Mexican transmission network, which is very complex and relatively unstable.

### **3. Conflicts in the Isthmus of Tehuantepec**

This section describes the reasons that have moved members of the communities affected by wind farm projects to establish organisational processes to oppose them, generating a still embryonic but growing movement. Each subsection first reflects the reasons for opposition as they were described by members of these groups, followed by the responses given by the President of the Mexican Wind Energy Association (AMDEE) and by high-ranking public servants from the Secretaría de Energía.

#### *3.1 Conflicts regarding participation and decision-making*

The lack of local and community-based participation is one of the main reasons for the rejection of wind farms. Opposing groups argue that the projects were only discussed between companies and institutions, and the local communities were only seen as providers of land. Since wind is a local resource, and given the great impact that the installation of thousands of megawatt-class turbines will have in their region, they claim that the communities should be the ones deciding how and on which scale

---

<sup>6</sup> According to Eduardo Zenteno, there are projects being studied for an approximate total of 1.500 MW. Some permits have already been released by the Energy Regulatory Commission and have to be finished by 2011.

this resource should be used, and they should participate in equality of conditions with the other players.

Lack of transparency has also generated animosity in the affected communities. Alejo Girón Carrasco, from Grupo Solidario in La Venta, underlines that neither the companies nor the institutions have provided information about the profits expected from the planned investments. All opposing groups claim that land lease contracts have been signed without the farmers having access to their contents or their appendixes, in particular the one detailing the restrictions in the activities that farmers can undertake once the wind farm is in operation.

Alejo Girón Carrasco asserts that the Environmental Impact Assessment for the project La Venta II was never consulted with the community, although according to the law this document has to include a section on the social impact which has to be consulted with the local population, offering a period of time to question it and modify it. In this case, the assessment was not available to the local population until the works were almost finished.

Opposing groups also denounce the use of antidemocratic practices based on caciquismo (see section 2.1) in order to push projects through. Grupo Solidario from La Venta claims that the order to sign land lease contracts came directly from the Governor of Oaxaca, Ulises Ruiz, from the same political party (PRI) that dominated this community at that moment, and was blindly obeyed by a high percentage of the population. They denounce that in this community, as in all others, the caciques receive a commission for each land lease contract signed by local farmers.

Most groups opposed to the current projects would support other wind energy projects, but only if local communities participate in them and in decision-making around them, if they are carried through in a democratic manner, if there is economic justice, and if the negative impacts (in agricultural production, bird life, electromagnetic radiation etc) are minimised.

Eduardo Zenteno, President of AMDEE, claims that most communities are in favour of the projects and bases this claim on the 1,500 land lease contracts that have already been signed. He asserts that each company informs the farmers with which it has contracts, and that there is a dialogue with legitimate land owners. However, when asked whether he has met the local communities, he responds that this is not necessary, since it is enough to meet 10 leaders from the region, and that those who oppose the projects should be careful since Oaxaca is a violent region. This answer does suggest the use of caciquista practices in the wind projects of the region.

None of the three persons interviewed in the Secretaría de Energía denies that the projects were planned without participation from the affected communities. However, they claim that the relationship between companies and land owners is essentially positive, even though there are some voices against the projects.

Antonio Pérez Rodríguez, Director for Energy and Environment, when asked if it would be possible to involve the communities directly in the projects, replies that the problem to involve them beyond leasing the land is that the companies involved are large multinational corporations that do not want to share their profits. He went twice

to talk to the communities, but his main source of information are the persons in charge of wind energy projects in the Government of Oaxaca.

Julio Valle Pereña, Director for Promotion of Investments in the Energy Sector, remarks that the region of Tehuantepec is politically unstable and very poor, which generates lack of confidence in politics amongst the communities. He claims that investors have agreed with the ejido councils and the community councils the payment to lease the land, the amount of land to be used, etc. He asserts that much of the noise is of political nature, and comes from people who are not even from the communities affected or the State of Oaxaca, but are external professional agitators.

### *3.2 Economic conflicts*

Opposing groups denounce that the annual rent offered to land owners is an arbitrary amount and is insufficient to compensate the negative consequences that wind farms have on farmers and communities. According to Grupo Solidario from La Venta, some people signed land lease contracts for La Venta II for 1,500 Mexican pesos (around 150 USD) per hectare and year<sup>7</sup>. Due to the pressure exerted by their group, later contracts paid 3,000 pesos per hectare and year. A new farm being built in La Venta pays 6,000 pesos per hectare and year, and in other areas apparently 12,000 pesos are being paid per hectare and year, an increase of 800% with respect to the first contracts, for areas with a similar wind resource. Apparently some contracts have been signed with offer to the land leasers a payment in relation to the power produced, but the details of these contracts have not been released. This variation in the terms of the contracts has led many people to conclude that the companies offer as little as possible for the land, and that those amounts have no relation with the value of the wind resource that they receive in exchange.

There is the perception that many projects operate through intermediaries (called “coyotes” by the local population) that keep an important part of the profits. Alejo Girón from the Grupo Solidario offers the example of the private project being built in La Venta, which is making payments with cheques made by hand and signed by a physical person rather than a company.

According to Pedro Matus, agrarian engineer from Unión Hidalgo, milk producers earn about 40,000 pesos per hectare and year in irrigated areas, and extra income from selling cows and calfs. Irrigated land costs around 100,000 pesos per hectare, but there is no stability in the prices. Once a land lease contract is signed, the land value is reduced to about 20,000 or 30,000 pesos per hectare. There is also the fear that underground aquifers, which in this coastal region are very close to the surface, will be affected by the foundations of WTGs.

In theory, farming activities can continue once the works have been finalised, but in the case of La Venta II (the only operating wind farm) the roads and the lines of generators have been raised, affecting irrigation channels and the natural water flows to discharge rainwater. Therefore, there are plots with no access to irrigation and others that get flooded when it rains. This kind of planning of the works shows that

---

<sup>7</sup> The amounts mentioned refer to the rents that farmers will receive once the projects are in operation. Before the construction works start, farmers receive a much smaller rent, between 100 and 500 pesos (between 10 and 50 dollars) per hectare and year.

the interests and needs of farmers have been ignored in the framework of the project. In addition, the contracts include an appendix with restrictions on the use of the land by the farmers, banning them from planting anything that grows beyond 2 meters, erecting any kind of building, opening wells, etc. In contrast, the contracts grant “usufructo” (unrestricted use rights) of the land to the companies.

According to an estimation made by Bettina Cruz Velázquez from the Assembly in Defence of the Land and Territory of Juchitán, the first private wind farm which is being built in La Venta is building foundations of approximately 30 x 30 meters, leaving approximately 80 meters between foundations. Therefore, a large percentage of the land sited in the line of generators will be rendered permanently unfit for agriculture. It is still unknown how much distance there will be between the lines of generators, since the company is still building the first line. Initially, the Spanish investors said that the lines would be placed at a distance of 500 meters and that there would be a total of 180 WTGs in the farm, but according to Alejo Girón, discussions between the company and trade unions have revealed that the current plan is to install 300 WTGs in the farm. According to a report by the Mexican weekly *Proceso*, the Spanish family Mouriño plays a key role in this private project in La Venta. The report denounces that this family is making large profits in Mexico, especially in the energy sector, through contracts and procedures that not always follow the existing regulations. Juan Camilo Mouriño, son of the owner of the company GES that builds the private wind farm in La Venta, is Secretario de Gobernación (Federal Government Secretary) in the Calderón administration.

All these reasons have led several environmental and human rights NGOs to express criticism towards the wind energy projects in the Isthmus. Mass media recently published the position of Greenpeace; Cecilia Navarro, communication officer of Greenpeace Mexico, declared: “We do not want corporations to build wind farms that expel communities out of their land. This is not the development that the country needs, we need to develop clean energies together with the communities that own the land, so that they are part of the wind farms, that they make the decisions”<sup>8</sup>.

Eduardo Zenteno, President of AMDEE, asserts that all companies involved are socially responsible, and that the protests are based on ignorance, sensationalism and bad faith. According to him, the protests come from a minority represented by leaders who pursue their own interests, but most of those who have signed land lease contracts are not complaining. He claims that all companies are paying in similar terms, that a fair rent is being paid for the use of the land, and that most companies have social plans for the communities that they are working with. He understands the economic trickle-down process that will be provoked by the projects to be a contribution to the development of the area, since it is providing an extra income to the farmers and improving their quality of life. He also underlines that the companies should not take over the role of the State towards the communities.

He estimates that farmers in the area have an average of 10 hectares and earn less than 10,000 pesos per month (i.e. 12,000 pesos per hectare and year), and that when the wind farms start operating they will receive around 120,000 pesos per year (12,000 per hectare) as an average rent. They will also receive compensations for

---

<sup>8</sup> <http://estadis.eluniversal.com.mx/notas/512513.html>

the construction works (all farmers) and specific compensations to those whose land is affected by roads or lines of generators. He claims that many farmers have been receiving rent since 8 years (a reduced amount to reserve the right of land use), even though the works have not started yet, and that all companies are paying the rents in time.

He also claims that the value of land in the Isthmus is about 30,000 pesos per hectare, although the price depends on whether it is irrigated land. He says that most of the land has no irrigation and are not apt for agriculture due to the strong winds. He adds that members of the ejidos do not have ownership over their land, they only have the right of use, but no property, which belongs to the Mexican State.

Regarding the role of intermediaries, he claims that all companies that are part of AMDEE sign their contracts directly with land owners, and that only Acciona (a Spanish company that is not part of AMDEE) uses intermediaries. He says that the problems due to the elevation of roads and WTG lines in La Venta II are responsibility of CFE, not of the companies represented by AMDEE.

He asserts that Greenpeace knows nothing about what is happening in Oaxaca, that its position is based on rumours and that it creates problems where there aren't any. He does not know what interests it pursues, but thinks that they are illegitimate interests.

Oscar Galindo Ríos, representative of Eoliatec and responsible within AMDEE for wind energy projects in Oaxaca, asserts that the protests come from those who have not signed the contracts, not from those who have signed them. He explains that it is important to consider the conditions in which the projects are being built. They pay a very high price for the transmission infrastructure, a growing price for the WTGs and there is no feed-in tariff to guarantee the economic viability. Only for the new transmission line they pay 145,000 USD per installed MW, in addition to the connection to CFE's substation, which costs an average of around 50,000 USD per installed MW. They depend completely on the power tariff charged by CFE: if there is a policy of reduction of power tariffs, all the self-supply projects would collapse. He claims that the projects are not very profitable, and that the fulfilment of many is still uncertain, since this is an area with high seismic activity, there is little infrastructure, a lack of cranes, and there is also lack of certainty with regards to access to land. All this means that Oaxacan wind farms are amongst the most expensive in the world, and their economic viability rests solely on the great wind resource in the Isthmus.

Antonio Pérez Rodríguez, Director for Energy and Environment in the Secretaría de Energía, claims that currently there are no economic problems with the ejido members who own the land. His colleagues in the Government of Oaxaca told him that this problem came up last year because the companies pay a lower price to reserve the land before the wind farms are built than once they are in operation; for this reason the farmers were complaining for the low rents, but the Oaxaca Government already explained that they will earn more when the projects start and the problem was solved. He adds that the trickle-down effect provoked by the wind farms has to reach the whole community in order to avoid that people migrate out of the area; therefore, there have to be training and employment possibilities for the local population.

Julio Valle Pereña, Director for Promotion of Investments in the Energy Sector, claims that the investors have been very open in terms of giving a fair rent for the land, but there were problems due to people who came to feed strange ideas to the communities and to claim that everyone gets paid and not only those who lease the land. Some people did not sign contracts and now protest for this reason. The Secretaría de Energía does not enter into the issue of land lease, since it is outside of its competence. They are private contracts, governed by commercial laws, since there is no specific regulation in this respect. Land property is governed by a law that defines the property systems, but it does not regulate land lease contracts.

### *3.3 Cultural and territorial conflicts*

Opposing groups claim that, due to the lack of justice towards the communities that own the wind resource, wind farms will contribute to migration processes to other parts of Mexico and other countries (particularly the USA), and to the influx of external professionals from urban centres. The result will be the disappearance of the existing indigenous cultures, a process that they perceive as territorial displacement by private companies (most of which are owned by foreign capital).

Alejo Girón Carrasco, from the Grupo Solidario in La Venta, also asserts that these projects have resulted in increased criminality. This is due to the fact that during the construction period, an unusual amount of money enters the community (due to compensations for the impact of the works, but also due to the employment and trade generated temporarily by them), but when the works are over only the money of the rents remains, which is insufficient to compensate the negative effects brought about by the wind farms. This intervention in the community destabilises the local economy and generates new problems. According to Grupo Solidario, their community used to be totally safe, but now there are increasingly frequent robberies.

According to the Human Rights Centre Tepeyac from Tehuantepec (an organisation created by the basis of the Catholic Church to defend the rights of the local population and in particular of indigenous people) and other opposing groups, the companies have distorted the information given to the indigenous population, in particular to those who do not speak Spanish. Their contracts were signed due to the intervention of translators who did not translate the contracts literally and withdrew or manipulated information on many of their contents. The contracts were not translated into the languages spoken by the communities, even though Mexico has signed Convention 169 from the International Labour Organisation, which establishes that such translations must be provided. Article 7 of the same convention establishes that indigenous peoples have to participate in the formulation, implementation and evaluation of national and regional development plans that might directly affect them.

Bettina Cruz Velázquez, member of the Zapoteca community and of the Assembly in Defence of the Land and Territory of Juchitán, underlines that the concept of development of the indigenous peoples in the region is based on their autonomy and capacity to decide collectively about their future. From her point of view, wind energy projects will erode both aspects, resulting in the loss of indigenous cultural identities that have remained alive in the Isthmus for the last 500 years despite the adverse conditions that they faced. She asserts that such a result is probably not casual but

intentional, since the loss of identity is a necessary condition to undertake other kinds of mega-projects in the Isthmus, a region of great geo-strategic interest.

The fact that land lease contracts are valid for 30 years and automatically renewed for another 30 years is one of the main reasons for concern with regards to the future of this territory. The perception of opposing groups is that after 60 years there will be no local population left to claim back the land.

Eduardo Zenteno, President of AMDEE, asserts that all companies work with translators when there is a need to do so, and that the wind farms will bring a positive contribution to the development of the region.

### *3.4. Juridical conflicts and police interventions*

According to groups opposed to the current projects, there are around 180 legal demands to nullify the land lease contracts that have been presented by land owners against the investors, and it is expected that there will be more. All the demands (presented collectively and with the help of NGOs) have been accepted but not yet processed. The juridical argument behind them is that the companies withdrew and manipulated information and acted in a premeditated manner, using the disadvantaged position of farmers in order to obtain larger profits. Many cases are also based on the claim that companies did not provide the contract in indigenous language, and in the case of illiterate farmers, did not read the complete contract including the restrictions implied.

Another court case has been started against Carlos Antonio Ordaz, who was President of the Ejido Commissariat of La Venta when the negotiations to open the ejido to the project took place with CFE. According to Vicente Ordaz Ramos from Grupo Solidario, Carlos Antonio Ordaz negotiated with CFE without participation from the Ejido council as mandated by the law, and decisions to sign contracts were based on signature forgery. Carlos Antonio Ordaz never declared how much money was offered by CFE for opening the land to the project and changing the land use, but on November 14 2004, CFE's engineer Carlos García Aguilar made publicly known that CFE had signed a cheque for 8,775,000 pesos for public works, and it is not clear whether this was the only payment made. These funds were not incorporated to the bookkeeping of the ejido; Grupo Solidario supposes that they were illegally appropriated by Carlos Antonio Ordaz, who bought two new ranches after signing the contracts. He later sold common land to CFE, without being allowed by the 373 members of the ejido. According to Grupo Solidario, he then received a further 1,050,000 pesos for this land, which also did not flow into the ejido's account. After the elections that replace him as President of the Ejido Commissariat, the new Commissariat audits the accounts and asks him for all documents regarding the deals with CFE. He claims that he has no documents, since they are all at CFE's office in Veracruz. Therefore, the whole issue is taken to court in 2007. The court case is expected to start soon.

When CFE started working on the common land sold illegally by Carlos Antonio Ordaz, Grupo Solidario made a public call to distribute this land amongst children of Ejido members without land and with children. The 1.5 hectares were distributed amongst 75 families in plots of 20 x 22 meters with building permits. When Grupo

Solidario made the public call, CFE filed a court case against them due to obstruction. CFE argued that this land was federal property on the basis of the contract signed illegally by Carlos Antonio Ordaz. Grupo Solidario and the 75 families camped on the land in question for 11 months and 25 days. The federal and state governments issued an arrest order against 5 members of Grupo Solidario. Soon after these orders were issued, the camp was evicted by four different police forces. According to Vicente Ordaz, 500 police officers were mobilised to evict 75 families.

Four additional arrest orders have been issued against the same members of Grupo Solidario. One of them was issued when they blocked a road that the building contractors (a Spanish consortium) opened in the land of one of the accused persons. According to Grupo Solidario, these orders are issued with the aim of generating fear and demoralising the members of the group and the population in general. However, they are ready to go to jail for their cause.

Eduardo Zenteno, President of AMDEE, claims that only 68 demands to nullify contracts have been presented, against one single company (Iberdrola, from Spain), and that these demands are not presented by persons who represent the interest of local people, but by speculators who expect to obtain personal profits due to the renegotiation of contracts.

#### **4. Organisational processes in the affected communities**

There are already groups that reject this kind of wind farm projects in almost all affected communities of the Isthmus of Tehuantepec. These groups have conformed the Frente de Pueblos del Istmo en Defensa de la Tierra (Front of Peoples of the Isthmus in Defence of the Land/Earth).

According to Javier Balderas Castillo, from the Human Rights Centre Tepeyac, the organisational process of the communities is still at an early stage and it is not yet a mass movement, since there is not enough information in the communities about the negative impacts for the communities, and since the companies and the Mexican State have based their efforts in the corrupt leaders of some communities. They have demanded comprehensive information about the wind farm projects since 1995, but they never received the information. With the construction and operation of La Venta II people could see the real impacts, but the movement was not mature enough to confront the situation in an effective manner. It was even more difficult to confront the companies that have been signing land lease contracts since years. They assess that between 25,000 and 35,000 hectares have already been leased in negative conditions for the farmers and their communities.

Bettina Cruz Velázquez explains that the Assembly in Defence of the Land and the Territory of Juchitán was constituted on the basis of rejection to the wind projects planned in the community of Juchitán. Its members do not accept negotiations with the companies. The Assembly is not against wind power, but against the land grabbing by companies and against the impact that it will have on the life, culture and territory, due to the way in which the projects have been drawn. They are concerned about how all aspects of social relations will be transformed; for instance the work of women, who play a central role in the Zapoteca culture. These intangible values will

be lost due to these projects. They demand complete information, followed by a participatory and democratic territorial planning that assures that the impact is minimised and the common benefit as large as possible.

The Assembly has few members, about 100 persons who signed contracts in Juchitán, but even though they are a minority, the members are conscious and daring persons. Many people are not yet organised in the Assembly, since they are still waiting to see how the companies' projects will take shape, and if they see that the projects are similar to the one in La Venta, they will join the Assembly's efforts to stop them. In addition to people who signed contracts, there are people who did not sign, or who decided not to sign due to the work of the Assembly. They already paralysed projects in some areas of Juchitán. For instance, in El Casadero the companies wanted access to 2,000 hectares, but the Ejido assembly decided not to approve the project.

There are other examples of the impact that the mobilisation has made in communities where no contracts have been signed yet. The ejidos of San Francisco del Mar and San Mateo del Mar, in the Huave region, rejected the wind projects in their respective assemblies. However, in San Dionisio del Mar (another Huave community) the project was approved due to tricks in the assembly, according to Leonel Gómez.

In La Venta most families have signed, only 10 families have not. Many people regret having signed, but they are resigned; they do not participate actively in the struggle due to fear of losing time and money in legal demands or mobilisations against farms that are already operational or under construction.

Both in La Venta and La Ventosa, the ejidos where most contracts have been signed and most advanced are the projects, the current Presidents of the Ejido Commissariat are critical towards or opposed to the wind farm projects.

According to Javier Balderas Castillo, the Front of Peoples of the Isthmus in Defence of the Land/Earth has established the following lines of work:

- Making the resistance visible: presenting their situation in Oaxaca City, Mexico City and other places. Looking for national and international allies. Linking this movement to similar movements struggling against large-scale hydropower projects, mining projects, etc.
- Legal work: taking forward the current court cases, and reaching other communities to help them use the legal channels to nullify the land grabbing. This work is limited by the lack of resources needed for lawyers to visit remote communities. They also don't have the resources needed to take farmers to La Venta so that they see the impacts of these projects. However, the work done so far has been effective, and they want to continue with it.
- Involving the communities in an awareness-raising process. Legal demands are documented and taken to the court, and then remain in the court's hands. The Front thinks it is necessary that the affected communities also participate in organisational processes that consist of concrete actions. They are starting the process to take this case to the ILO due to violation of Convention 169, and they expect the communities to participate actively in this, to give shape and contents to the initiative.

## **5. The Initiative for a Law to Promote the Use of Renewable Energy Sources**

There is currently no specific legislation regulating the use of renewable energy sources (RES), nor a wind energy plan to give shape and coherence to the development of the Mexican wind resource. The initiative to create a specific law, presented to the Mexican Congress by the Mexican Green Ecologist Party, and the draft National Wind Energy Plan, to be presented by the Secretaría de Energía, could resolve these problems, but their contents are not yet known and the debate around them has not started yet.

According to Antonio Pérez Rodríguez, Director for Energy and Environment, the Secretaría de Energía hasn't yet considered the possibility of involving local communities in the design of the National Wind Energy Plan. For the time being, they have the objective of reaching a consensus with the private sector, the academic sector and civil society in general (which would include the communities), but he adds that perhaps the communities with wind resources could be added as an actor on its own right, as is done with the investors. He remarks that for the time being there are no laws that guarantee any benefit to the communities other than the land lease contracts (which takes place between individuals and companies), and that the National Wind Energy Plan could establish conditions under which there will be more participation by the community or a larger positive social impact in the area.

Ramón Carlos Torres Enríquez, Vice-Director for Energy and Environment, adds that one of the main contributions of the plan will be a detailed wind map. Due to technological development, regions that in the past were not considered productive from the point of view of wind energy generation, are now seen as regions with a high potential. But the wind resource is not yet well known, and there is therefore the need to undertake studies at national scale.

Asked about the possibility to introduce a feed-in tariff, Antonio Pérez Rodríguez replies that this would be very difficult in Mexico due to the constitutional framework. To make it viable would require the establishment of a special fund with this purpose, which would mean that the Government would pay more for the energy. In contrast, in feed-in countries it is the consumers who pay the extra costs for renewable energy.

The problem of tariffs comes from the fact that the Constitution establishes that CFE has to generate electricity at the lowest possible cost. They are working with the idea of including environmental and social factors in the cost, introducing externalities that are disregarded in a purely monetary calculation. This would make a bigger investment in RES coherent with the constitutional mandate.

Julio Valle, Director for Promotion of Investments in the Energy Sector, explains that in the past there was an attempt to introduce a feed-in tariff but the current legal framework doesn't allow it, since it does not differentiate between electricity generation technologies. An initiative for a law in this sense has been inactive in Congress for two years; this law included the creation of a fund to provide the additional incentive required for the feed-in tariff. Once the discussion about hydrocarbons is over, Congress will discuss new legal initiatives, one for RES and

the other for energy efficiency. He estimates that the discussion about hydrocarbons will take at least until the end of the year, and the new laws will therefore only be discussed next year.

Eduardo Zenteno, President of AMDEE, remarks that his association is commenting the initiative for a law on RES. So far they delivered their comments to the relevant political parties and authorities, but they will soon publish their position, once they present their recommendations to Congress.

In his opinion the draft law has to define more clearly the roles of the different players involved in the use of RES. He adds that the law has to allow the development of these sources with participation of the private industry, not only as a state monopoly, and has to ensure a good market to the wind industry, in order to attract investments in the whole WTG production chain, which would create employment. In his opinion, the most adequate policy to develop wind energy would be to establish a feed-in tariff that takes into account the differences in wind resource and capacity factors in each region, but it will be hard to obtain such a feed-in tariff.

Both Eduardo Zenteno and Oscar Galindo Ríos, representative of Eoliatec, are very critical towards the draft of the law. They assert that they prefer it not to be approved in its current format, since it says that renewable resources are of national interest (which would limit the participation of the private sector) and includes aspects such as the payment to the State of a fee for the right to use the wind and the creation of a consultative committee for each project, with power to veto the project, composed primarily by municipal and community representatives. In their opinion, such committees will only generate more bureaucracy and corruption, since their members can decide on the approval of projects.

As conclusion, Eduardo Zenteno declares that Mexico has entered late in the renewable energy sector, about 10 years later than other countries. There is a good wind resource, but it is necessary to match the will of the Government with the interests of CFE in order for projects to move ahead.

The persons interviewed in communities affected by wind farm projects declared that they were not informed or consulted about the law or the plan.

## **6. Conclusions and Recommendations**

The conflicts around the wind farm projects in the Isthmus of Tehuantepec are a direct consequence of the unequal conditions in which the negotiations are taking place and the land lease contracts are being signed. This inequality of conditions is caused by different factors:

- a) The exclusion of the communities from planning and decision-making processes regarding wind energy projects
- b) The great difference in access to information (in particular about the value of the local wind resource and the profitability of projects) of the two parties to the land lease contracts
- c) The fact that in each community only one company operates, which indicates that the companies have divided the region in areas of influence in order to

avoid competing with each other and therefore have a stronger position than the farmers in the negotiation of land lease contracts

- d) The existence of social and political structures based on caciquismo, maintained by the important deficits in access to education, and their apparent (conscious or unconscious) use by the institutions and companies in order to obtain land lease contracts

Taking into account these factors, the growth of conflicts around these wind energy projects is not surprising. The groups constituted in the affected communities conform the seed of a movement of opposition that could even paralyse part of the approved projects. A more serious consequence of these conflicts could be a negative change in the perception and evaluation of wind energy, both in the communities affected and in society in general, which could delay the necessary transition to renewable energy sources.

It is therefore necessary that the Mexican State takes measures to address the structural reasons underlying this conflict.

There are experiences which prove the viability and importance of local participation in wind energy projects. Denmark combined for many years a feed-in tariff with regulations which only allowed investment in wind turbines by families from the municipalities where they were to be installed, and from the surrounding municipalities, and limited the participation of each family to ensure a fair distribution of benefits. Since the profitability of the projects was guaranteed by the feed-in tariff, banks offered access to credit to all families that wanted to participate, including families without land or resources, since the turbines themselves acted as collateral for the loans. Wind energy grew at exponential rates while this regulatory framework was in place (resulting in technological development and the creation of contemporary Danish wind industry), since all communities wanted wind energy projects to take place in their territory. However, since the wind sector was liberalised, the attitude towards new projects radically changed. Currently new projects face local opposition, and for this reason in the last year virtually no new capacity has been installed. Denmark has lost its leadership in the sector.

Danish participative policies were based on specific social structures and practices and therefore cannot be automatically “exported” to other countries, but they can widen the perspective beyond the property and decision-making models under which the wind energy sector currently operates in Mexico. Experiences from all over the world demonstrate that local acceptance of wind energy depends on an active participation by the local communities, both in project planning and in the distribution of benefits. This is particularly important in regions that still have a high proportion of rural population and an important agricultural activity; evidently, it is not a critical factor for projects installed in inhabited areas. This situation is logical, since wind is essentially a rural resource and its use therefore has to benefit the communities where it occurs, as well as the common good.

The elaboration of a Law to Promote the Use of Renewable Energy Sources and of a National Wind Energy Plan provide a perfect opportunity to establish a framework in which local communities can make use of their wind resource. Since the Secretaría de Energía is considering the inclusion of environmental and social externalities

when calculating the cost of electricity production, the positive social impact of community-based property models could be taken into account, and such models could be favoured with respect to other models that do not benefit local communities in the same manner. In addition, the fact that Municipalities and Ejidos are entities of the State could facilitate their participation in electricity generation, since this would not contradict the essence of the constitutional mandate. This would foster a conflict-free and community-oriented development of the Mexican wind resource.

The interview with Eduardo Zenteno, President of AMDEE, indicates that the private sector does not favour this kind of changes. He expressed concern about the possibility that community-based experiences and policies, since in his opinion even if it is done with good intentions, this will complicate the development of wind energy in Mexico. He underlined that it makes no sense to make comparisons between the policies in Mexico and Europe since the situations are totally different in terms of regulation and in economic terms. He asserted that in Mexico it is not possible for farmers to be co-owners of wind energy projects.

While it is true that the conditions in Mexico are different than in Europe, this does not preclude the possibility of designing domestic policies oriented towards facilitating the participation of local communities in the wind energy sector, along with specific information and training measures to facilitate the participation of communities in the planning and management of wind energy projects. The main recommendation of this paper is that such policies and measures come out of a broad and participatory consultation, in which local communities should play a central role, since they are, together with the State, the legitimate owners of the local wind resource.