

# enticed by the wind

A Case Study in the Social and Historical  
Context of Wind Energy Development in  
Southern Mexico



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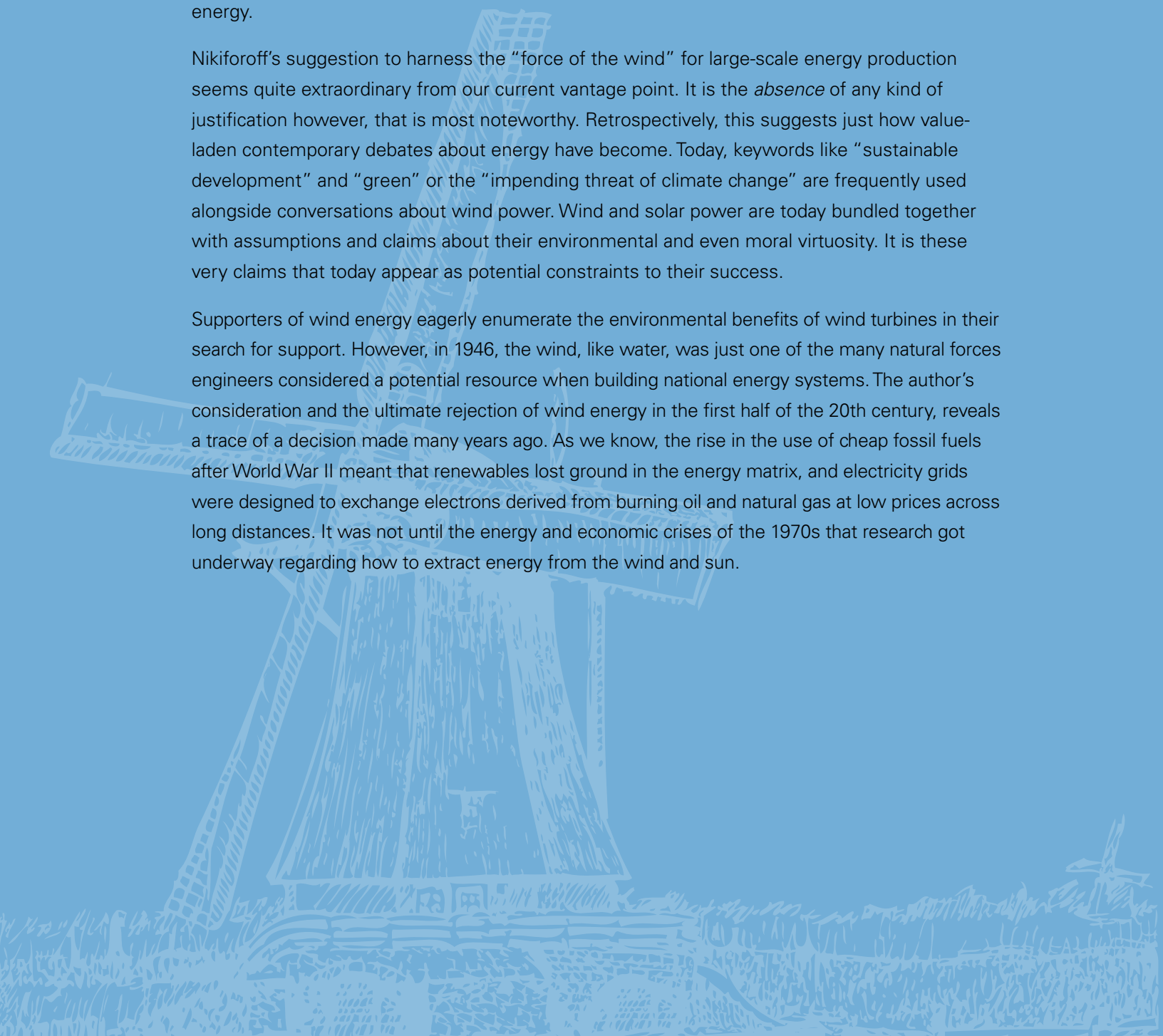
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# The Winds of History

In 1946, Basil Nikiforoff et al. published a series of articles in the prestigious *Journal of Electrical Engineering* concerning Mexico's Electrification Program.<sup>1</sup> The paper provides information on the current status of energy production, consumption, and distribution across the nation followed by proposals for the future. The most popular forms of producing electrical power in the mid-century, hydropower and thermoelectricity, were at the top of the list. However, the authors then make what at first glance is a surprising suggestion. Nikiforoff et al. argue, Mexico should take advantage of the abundant "force of the wind" to meet the country's growing demand for energy.

Nikiforoff's suggestion to harness the "force of the wind" for large-scale energy production seems quite extraordinary from our current vantage point. It is the *absence* of any kind of justification however, that is most noteworthy. Retrospectively, this suggests just how value-laden contemporary debates about energy have become. Today, keywords like "sustainable development" and "green" or the "impending threat of climate change" are frequently used alongside conversations about wind power. Wind and solar power are today bundled together with assumptions and claims about their environmental and even moral virtuosity. It is these very claims that today appear as potential constraints to their success.

Supporters of wind energy eagerly enumerate the environmental benefits of wind turbines in their search for support. However, in 1946, the wind, like water, was just one of the many natural forces engineers considered a potential resource when building national energy systems. The author's consideration and the ultimate rejection of wind energy in the first half of the 20th century, reveals a trace of a decision made many years ago. As we know, the rise in the use of cheap fossil fuels after World War II meant that renewables lost ground in the energy matrix, and electricity grids were designed to exchange electrons derived from burning oil and natural gas at low prices across long distances. It was not until the energy and economic crises of the 1970s that research got underway regarding how to extract energy from the wind and sun.



# Greener Future



Wind energy is closely related to a myriad number of pressing social, political, and economic concerns. “Mexico has already set ambitious targets for renewable energy, stipulating that green power must make up 35 percent of the country’s generation by 2026;” reported *The Financial Times* in late 2014.<sup>2</sup> However, it was only in 2009 that the industry itself began to pick up speed. As one report explained that year, “After years of spinning wheels, renewables in Mexico are ready to forge ahead.”<sup>3</sup> Former President Felipe Calderón, two years into his six-year term, positioned his own political legacy firmly alongside the future of renewable energy. While prior to 2006, the renewable energy industry was at a standstill “aside from large hydropower construction,” it was with the backing of Calderón that the industry really picked up steam.<sup>4</sup> Impediments to growth included the “federal power utility” the *Comisión Federal de Electricidad* which translates as the Federal Electricity Commission (hereafter will be referenced by its Spanish acronym CFE) which “seemed less than interested in competition from independent power producers, such as wind farms,” as well as a “renewable energy law” that “lingered in the national assembly for more than three years...leaving the country without a comprehensive legal framework to encourage renewables investment.”<sup>5</sup>

Wind energy in Mexico developed under a legal framework named *autobastamiento*, translated in English to the self-supply model, that was created with Electricity Public Service law of 1992. The self-supply model opened space for private investment in the country’s energy sector that has been legally owned by the Mexican government since 1961. It was not until Calderón’s presidency, however, that the rules and regulations were put into place and that investors began moving forward with their projects. The self-supply model allows private power producers to partner with industrial users, or off-takers, who invest in the project in order to benefit from a long-term fixed price on their electricity. Within this framework, the CFE remains the only energy provider for “public service”.

The self-supply framework has allowed some of the largest manufacturing companies in Mexico to invest in green energy, helping to encourage private investment without dismantling the state-owned *Comisión Federal de Electricidad* (CFE), Mexico’s Federal Electricity Commission. More recently, President Peña Nieto, elected in 2012, passed structural reforms to the energy sector.

# The Isthmus Wind Corridor

During the mid-2000s, then president Calderón, promoted the Isthmus Wind Corridor Project. Although comprised of many different wind farms, each with its own management, investors, and/or owners, it was seen as a megaproject with incentivized investment.<sup>6</sup> Calderón imagined the Isthmus of Tehuantepec as the center of Mexico's shift to sustainable development. Not only would wind energy lower carbon emissions, but Calderón also promised that wind energy would encourage economic development for this region he considered economically marginalized.<sup>7</sup> "This is one of the finest wind areas in the world, and they are being very ambitious about developing it. They're trying to do in five years what California took 35 years to do," explained Martin Pasqualetti, a professor at Arizona State University, in 2009.<sup>8</sup>

While at first glance Mexico's wind boom appears win-win for the environment and economics, over time the Isthmus Wind Corridor project has become a source of controversy and conflict. On the Isthmus of Tehuantepec, the project has received a varied response that remains in flux today. Some see the project as much needed economic investment, a source of jobs, and a means of finally catching up with modernity. However, those who contest the Isthmus Wind Corridor Project critique the use of "green" discourse to cloud what they see as a different reality – these wind farms are disposing farmers of their land and sending all their profits to foreign countries. It is the scale and style of the project, writ large, that is the issue, not the wind turbines themselves. Despite these varied opinions, the majority of *istmeños* (the residents of the isthmus) have one collective complaint – the cost of electricity. The concerns are summed up in the question: "why does our electricity bill keep going up when there is so much electricity being generated right in our backyard?"

With the majority of energy generated from the Isthmus Wind Corridor Project going to industrial off-takers, whose manufacturing facilities are located in distant cities, residents of the Isthmus have not directly benefited from the product that they are seeing produced. Despite 21 wind farms now in operation, with more on the way, the majority of residents living on the Isthmus of Tehuantepec have seen only temporary economic benefits, with just a handful of locals hired for the long-term well-paying jobs. Why has the Isthmus Wind Corridor Project sparked such emotionally-charged and bifurcated opinions as to their advantages on the one hand, and their negative effects on the other?



# Growing Public Concern

2009-2012, when thousands of wind turbines were installed. The projects bring some benefits including temporary contracts during the construction phase, rent payments to landowners who lease their terrain, as well as long-term jobs for a limited few. These benefits, however, have been unevenly distributed among the population. Rather, powerful stakeholders and local power brokers are those who are profiting the most, far more than the general population. This has led to what many describe as an ever-growing wealth disparity within the population of the region.

The primary criticisms of the industry to date include:

- 1. The temporary nature of employment.** The demands of developers are heaviest during the period of construction, which can last between 9-18 months. Local unions are contracted for the heavy work of clearing terrains and building roads, but the number of employees directly benefiting from contracts drops dramatically almost immediately after the park begins operation. Wind farms require few highly skilled full-time employees for the 30 years that the projects are in operation.
- 2. While wind energy is designed to reduce CO2 emissions,** this only is possible if and when this “green” energy is used to replace fossil fuels. In the case of wind energy in Mexico, it appears that industrial consumers are not replacing their energy consumption, but rather, either using the energy to save money to add to their profit margins, or scaling up production, as a result of their lowered energy bills.
- 3. The circumstances necessary to distribute the benefits** of industrial development at the scale it is currently on the Isthmus, will only be possible if and when corporate social responsibility funds are distributed transparently and local authorities can be trusted. The projects built by companies today are, in general, not part of a holistic approach to development. Wind farm developers have not been able to collaborate with local authorities because of a lack of financial transparency from all involved.
- 4. The failure to provide actionable information** in a timely and coherent fashion has, not surprisingly, resulted in mistrust between residents and companies and suspicion of corruption and dishonesty. If so much money is being invested in the region, many ask, then why are so few *istmeños* actually seeing it?

The rest of this paper will offer a history of the wind energy industry in order to better understand the criticisms listed above. The points expressed come from official

documents, news articles, wind energy industry advocates and industry employees, as well as some *istmeños* opposed to or ambivalent about the wind energy industry. By considering the opinions of various stakeholders alongside one another, this paper offers a holistic perspective so as to highlight both successes and failures of all interested parties with the hopes that in the future, the renewable energy industry, the government, and affected communities may benefit from the lessons learned on the Isthmus of Tehuantepec to construct a more equitable and sustainable future.

## REGULATIONS AND INSTITUTIONS:

The Mexican constitution, until 2013, gave primary responsibility for the generation, transmission, and distribution, etc. of electricity to the federal government. However, reforms to the constitution passed in 1992 opened some areas to the private sector while keeping the CFE in charge of all residential energy supply. Supporters of these reforms see private investment as necessary to maintain, support, and expand the transmission grid and grow production capacity. CFE’s vertically integrated model, while essential to the construction of the nation’s grid system, seems out of date to some.

The regulations and laws governing renewable energy production and distribution in Mexico to date include:

### Laws Regulating Energy Production and Distribution<sup>4,5</sup> (Focus on Renewables):

Title or Law:	Details:
Law of the Public Service of Electric Energy or Ley del Servicio Público de Energía Eléctrica (LSPEE)	This law and its regulations establish the framework by which the state, through CFE, provides electricity as a public service to residential consumers. The LSPEE was amended in 1992 to allow private investors to participate in the generation of electricity by means of self-generation, co-generation, build-lease-transfer (BLT) projects and independent power production (IPP). Power surpluses produced under the two first schemes have to be sold to the CFE or exported, while IPP’s sell their supply to the CFE under long-term contracts that transfer the risks of projects to the public sector and which translate into contingent liability for government.
Law of the Energy Regulatory Commission (CRE)	Regulates CFE and private generators. Responsible for issuing necessary permits, but not those associated with environmental impacts, which is the responsibility of SEMARNAT. The CRE does not regulate tariffs for the CFE, which are set by the Ministry of Finance.

<p>Law for the Use of Renewable Energy and Financing of the Energy Transition. (LAERFTE)</p>	<p>Passed in November 2008, this law contains the principles for the transition to renewable energy. The law mandated SENER to produce a <i>National Strategy for Energy Transition and Sustainable Energy Use</i> as well as a Special Program for Renewable Energy. These contain targets for renewable energy production with regards to particular technologies and resources like wind, solar and geothermal power.</p> <p>LAERFTE lays out financing instruments that will allow Mexico to scale-up electricity generation based on renewable resources. The CRE is responsible for developing rules and norms regarding implementation, including provisions for promotion, production, purchase and exchange of electricity from renewable sources. CRE, in coordination with the Secretary of Finance (SCHP) and SENER, will determine the price that suppliers will pay to the renewable energy generators. Payments will be based on technology and geographic location. In addition, CRE will set rules for contracting between energy generators and suppliers, requiring CRE to establish long-term contracts for the purchase of energy from renewable sources.</p>
<p>Law for the Sustainable Use of Energy</p>	<p>This law and its regulations regulate the efficient use of energy, in particular in relation to appliances. The objective of this law is to provide incentives for the sustainable use of energy in processes and activities related to its exploitation, production, transformation, distribution and consumption.</p>
<p>Climate Change Law.</p>	<p>Published in 2013, this law contains the main principles to mitigate climate change.<sup>9</sup></p>

Constitutional reforms passed in 1992 opened the electricity sector to private participation for the first time since the industry was nationalized in 1961, and created the following models of participation:



Modality:	Explanation:
Self-supply	A private party can generate electricity to satisfy its own needs.
Self-Supply Power Projects (SSPPs)	A company can generate electricity and deliver it to its shareholders or partners.
Independent Power Producer (IPP)	A private party can generate electricity and sell it only to the CFE for the CFE to distribute and commercialize
Export	A party can generate power for export.

The self-supply model has served wind energy developers under the framework of Self-Supply Power Projects (SSPPs).<sup>10</sup> CFE offers access to the energy grid and transmission capacity in addition to energy reserves for the occasion when the wind is not blowing. Despite high upfront costs for developers, the self-supply model has removed some of the financial risks associated with investing in the wind energy industry in Mexico by allowing the long-term power purchase agreements. In addition, tax breaks, favorable interest rates on loans, and access to global climate change funds and carbon credits together made and continue to make the wind energy industry on the Isthmus of Tehuantepec an appealing business venture.<sup>11</sup>

One wind energy developer and early industry pioneer currently working on the Isthmus of Tehuantepec said it took more than ten years of negotiation between various stakeholders to figure out how “the off-takers and developers” would “pay the CFE” for making their services. If and when the wind was not blowing, off-takers needed to have



a ready supply available for their use. They also needed to figure out a way to increase transmission capacity, and build up the grid on the Isthmus of Tehuantepec in order to support the growing scale of production.<sup>12</sup> The Energy Regulatory Commission (CRE)<sup>13</sup> began the first of a series of *temporadas abiertas*, which in English means open seasons, in Oaxaca in 2006. Companies competed for space on the transmission grid, essential to transport the energy produced at the wind farms to off-takers. The first open season on the Isthmus of Tehuantepec was quite a success. Designed to modify and amplify the electrical grid and supporting infrastructure, 2,600 MW of space was reserved for wind energy production alone. Of this energy, 2,000 MW was reserved for private off-takers while the 600 remaining MW of space would be used to distribute energy to residential consumers from the CFE's own wind farms.<sup>14</sup>

In the mid-2000s, there were other forces colluding that supported the rapid scale up of wind energy on the Isthmus of Tehuantepec. In particular, the support of then president Felipe Calderón. Calderón became one Latin America's biggest advocates for the "win-win" narrative of sustainable development. Calderón found the perfect stage for this message when the United Nations (UN) climate change meetings were held in Mexico's tourist hub, Cancún, in 2010. With the public inauguration of a 1.5 MW wind turbine manufactured by the Spanish company Acciona at the UN Summit, Calderón publicly threw his support behind wind energy, notably supporting Spain's wind technology manufacturers.

Calderón's public support for Acciona not only boosted the Spanish wind industry, who have supplied much of the hardware for the industry in Mexico, but also the industry writ large who needed government assistance to ensure that they received necessary permits in a timely fashion. Calderón's *sexenio* (six year term) advanced a powerful discourse of sustainable development, pushing "towards a green economy," with urgency. As Calderón explained, we need "to make it happen now, as soon as possible..."<sup>15</sup> Factors that were included: the diminishing price and increased efficiency of turbine technology, the institutionalization of the open season program run by the CRE; and the United Nations Framework Convention on Climate Change (UNFCCC)'s Clean Development Mechanism which provided financial subsidies to investors. Together, these factors offered security for investors and the banks providing loans. The World Bank and the Inter-American Development Bank approved loans to a number of the wind energy projects on the Isthmus of Tehuantepec during this period.<sup>16</sup>

# International Support

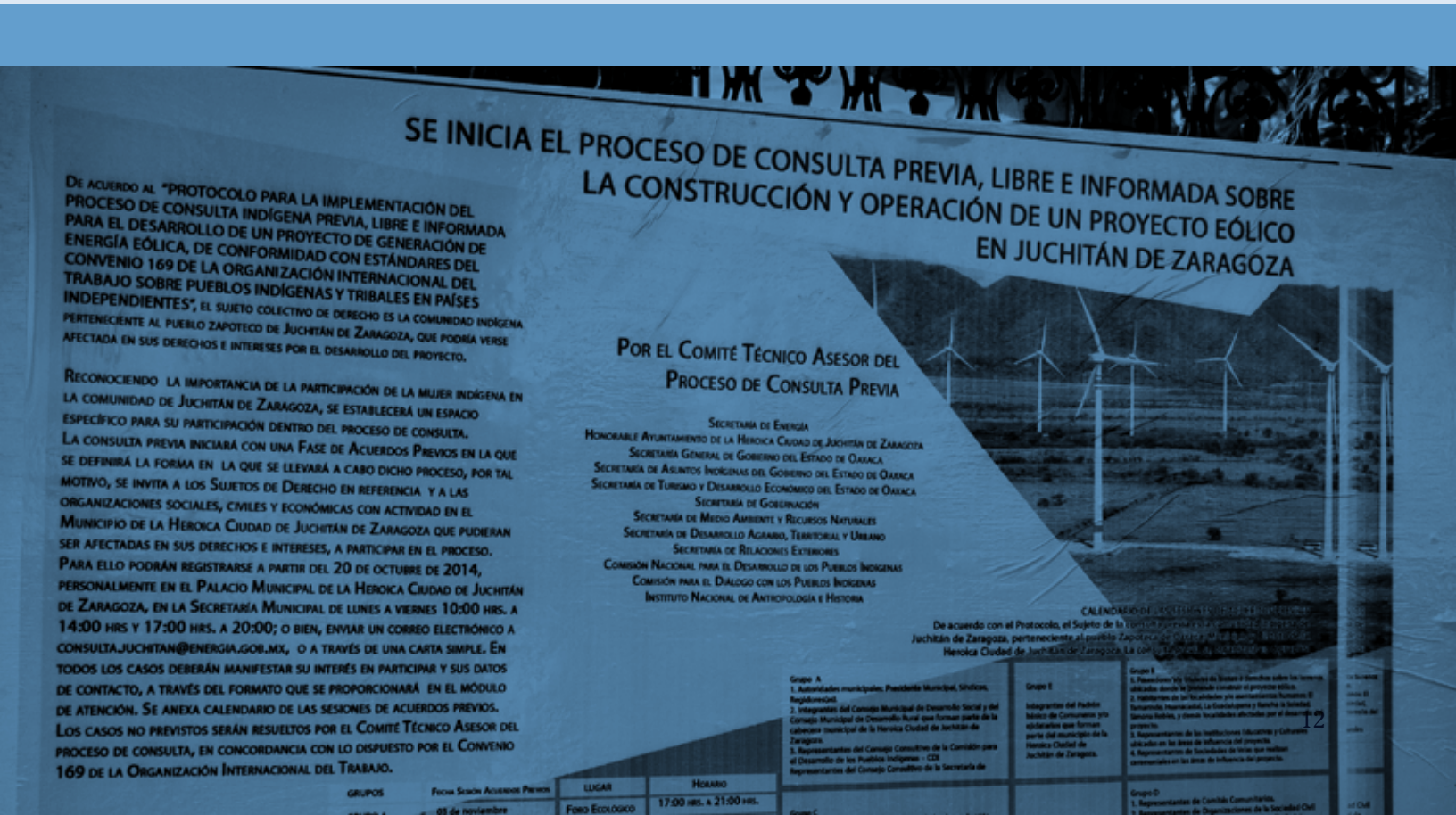
The United Nations Framework Convention on Climate Change (UNFCCC) facilitated Mexico's wind energy industry. In the Kyoto Protocol, the Clean Development Mechanism (CDM) was designed as a way to incentivize the reduction of carbon dioxide emissions (CO<sub>2</sub>). The authors of the Kyoto protocol established economic incentives to "developing" countries to make "good" or "green" choices when building new energy production facilities. Wind energy developers who sought to build on the Isthmus of Tehuantepec employed the CDM mechanism of the Kyoto Protocol in order to make parks economically viable. Developers could sell the un-emitted CO<sub>2</sub> that was considered saved by the turbines they installed. This meant that developers were able to pay back their bank loans relatively quickly and move towards profitability in a short time frame. While in the late 2000s renewable energy projects were viewed as somewhat risky investments, especially projects in the so-called developing world, the UNFCCC program and the CDM mechanism made the financial landscape so alluring as to quell doubts by offsetting perceived financial risks.<sup>17</sup>

On the Isthmus of Tehuantepec, the wind projects known as La Venta II, Eurus, Bii Nee Stipa (I & II), Parques Ecológicos de México, and Piedra Larga used the CDM mechanism.<sup>18</sup> The wind farms at La Mata and La Ventosa received financial support from the Clean Technology Fund at the World Bank.<sup>19</sup> The Acciona/CEMEX partnership at the Eurus wind farm was able to issue carbon credits through the CDM mechanism, creating an estimated income of up to 6 million euros per year in addition to the savings CEMEX garnered in operations because of lower energy bills. Luis Farías, Vice President of Energy at CEMEX said that, in 2009, the Eurus wind farm lowered their energy bill by at least 30 percent.<sup>20</sup>

While there are companies operating and/or developing projects on the Isthmus of Tehuantepec, which include Iberdrola, Acciona, Eléctrica De Francia (EDF), Renovalia, Eyra, Grupo Mexico, Macquarie (formerly Preneal), Enel, Next Energy de México, Geomex, Sempra Energy, and Gamesa, there are also many others providing equipment and support services. A network of service providers with offices in Mexico City as well as on the Isthmus of Tehuantepec have surfaced. These include the global energy services giant, GES, as well as smaller companies such as Climatik and Sowitec, one of the leading wind power developers in Latin America and Russia.<sup>21</sup> Much of the labor, including transportation, material providers, and environmental consultants are subcontracted to companies based on the Isthmus of Tehuantepec.<sup>22</sup>

# Authority Interrupted

Corporations developing wind parks in Mexico rely on the municipal, state, and federal government and their institutions during many phases of project development, from financing to operations. The Mexican Environment Ministry, SEMARNAT, must approve the environmental impact statement and the CFE partner with developers to transmit energy during operation to off-takers. While these bureaucratic steps are relatively clear cut at this point, it is negotiations with local agrarian and municipal authorities that are often quite challenging. On the Isthmus of Tehuantepec, developers and municipal authorities have become increasingly tense in recent months. Depending on the land regime of a wind project, developers must negotiate payments and permits with the local agrarian authority.<sup>23</sup> It is the Isthmus-based authority that grants the permit which legally changes the categorization of the land – from agricultural to industrial use – critical to begin construction. The “Cambio de Uso de Suelo” or “Change of Land Use” Permits are a source of income that are seen by wind energy developers as part of the benefits they bring with them. Unfortunately, this exchange of money between companies and authorities has often lacked transparency. As a result, suspicions have swelled among *istmeños*. A common perception is that if they are not seeing any tangible benefits as a result of wind energy investment in their communities, then local authorities are pocketing this money and using it to support their own political efforts.



## SE INICIA EL PROCESO DE CONSULTA PREVIA, LIBRE E INFORMADA SOBRE LA CONSTRUCCIÓN Y OPERACIÓN DE UN PROYECTO EÓLICO EN JUCHITÁN DE ZARAGOZA

DE ACUERDO AL "PROTOCOLO PARA LA IMPLEMENTACIÓN DEL PROCESO DE CONSULTA INDÍGENA PREVIA, LIBRE E INFORMADA PARA EL DESARROLLO DE UN PROYECTO DE GENERACIÓN DE ENERGÍA EÓLICA, DE CONFORMIDAD CON ESTÁNDARES DEL CONVENIO 169 DE LA ORGANIZACIÓN INTERNACIONAL DEL TRABAJO SOBRE PUEBLOS INDÍGENAS Y TRIBALES EN PAÍSES INDEPENDIENTES", EL SUJETO COLECTIVO DE DERECHO ES LA COMUNIDAD INDÍGENA PERTENECIENTE AL PUEBLO ZAPOTECO DE JUCHITÁN DE ZARAGOZA, QUE PODRÍA VERSE AFECTADA EN SUS DERECHOS E INTERESES POR EL DESARROLLO DEL PROYECTO.

RECONOCIENDO LA IMPORTANCIA DE LA PARTICIPACIÓN DE LA MUJER INDÍGENA EN LA COMUNIDAD DE JUCHITÁN DE ZARAGOZA, SE ESTABLECERÁ UN ESPACIO ESPECÍFICO PARA SU PARTICIPACIÓN DENTRO DEL PROCESO DE CONSULTA. LA CONSULTA PREVIA INICIARÁ CON UNA FASE DE ACUERDOS PREVIOS EN LA QUE SE DEFINIRÁ LA FORMA EN LA QUE SE LLEVARÁ A CABO DICHO PROCESO, POR TAL MOTIVO, SE INVITA A LOS SUJETOS DE DERECHO EN REFERENCIA Y A LAS ORGANIZACIONES SOCIALES, CIVILES Y ECONÓMICAS CON ACTIVIDAD EN EL MUNICIPIO DE LA HEROICA CIUDAD DE JUCHITÁN DE ZARAGOZA QUE PUEDIERAN SER AFECTADAS EN SUS DERECHOS E INTERESES, A PARTICIPAR EN EL PROCESO. PARA ELLO PODRÁN REGISTRARSE A PARTIR DEL 20 DE OCTUBRE DE 2014, PERSONALMENTE EN EL PALACIO MUNICIPAL DE LA HEROICA CIUDAD DE JUCHITÁN DE ZARAGOZA, EN LA SECRETARÍA MUNICIPAL DE LUNES A VIERNES 10:00 HRS. A 14:00 HRS Y 17:00 HRS. A 20:00; O BIEN, ENVIAR UN CORREO ELECTRÓNICO A CONSULTAJUCHITAN@ENERGIA.GOB.MX, O A TRAVÉS DE UNA CARTA SIMPLE. EN TODOS LOS CASOS DEBERÁN MANIFESTAR SU INTERÉS EN PARTICIPAR Y SUS DATOS DE CONTACTO, A TRAVÉS DEL FORMATO QUE SE PROPORCIONARÁ EN EL MÓDULO DE ATENCIÓN. SE ANEXA CALENDARIO DE LAS SESIONES DE ACUERDOS PREVIOS. LOS CASOS NO PREVISTOS SERÁN RESUELTOS POR EL COMITÉ TÉCNICO ASESOR DEL PROCESO DE CONSULTA, EN CONCORDANCIA CON LO DISPUESTO POR EL CONVENIO 169 DE LA ORGANIZACIÓN INTERNACIONAL DEL TRABAJO.

### POR EL COMITÉ TÉCNICO ASESOR DEL PROCESO DE CONSULTA PREVIA

- SECRETARÍA DE ENERGÍA
- HONORABLE AYUNTAMIENTO DE LA HEROICA CIUDAD DE JUCHITÁN DE ZARAGOZA
- SECRETARÍA GENERAL DE GOBIERNO DEL ESTADO DE OAXACA
- SECRETARÍA DE ASUNTOS INDÍGENAS DEL GOBIERNO DEL ESTADO DE OAXACA
- SECRETARÍA DE TURISMO Y DESARROLLO ECONÓMICO DEL ESTADO DE OAXACA
- SECRETARÍA DE GOBERNACIÓN
- SECRETARÍA DE MEDIO AMBIENTE Y RECURSOS NATURALES
- SECRETARÍA DE DESARROLLO AGRARIO, TERRITORIAL Y URBANO
- SECRETARÍA DE RELACIONES EXTERIORES
- COMISIÓN NACIONAL PARA EL DESARROLLO DE LOS PUEBLOS INDÍGENAS
- COMISIÓN PARA EL DIALOGO CON LOS PUEBLOS INDÍGENAS
- INSTITUTO NACIONAL DE ANTROPOLOGÍA E HISTORIA



#### CALENDARIO DE SESIONES DE ACUERDOS PREVIOS

De acuerdo con el Protocolo, el Sujeto de la Consulta Previa es el Pueblo Zapoteco de Juchitán de Zaragoza, perteneciente al pueblo Zapoteco de Juchitán de Zaragoza, Heroica Ciudad de Juchitán de Zaragoza, LA COM. de Zaragoza, Oaxaca, México.

- Grupo A
1. Autoridades municipales: Presidencia Municipal, Síndico, Regidore(s).
  2. Integrantes del Consejo Municipal de Desarrollo Social y del Consejo Municipal de Desarrollo Rural que forman parte de la cabecera municipal de la Heroica Ciudad de Juchitán de Zaragoza.
  3. Representantes del Consejo Consultivo de la Comisión para el Desarrollo de los Pueblos Indígenas - CDI
  4. Representantes del Consejo Comunitario de la Secretaría de

- Grupo B
- Integrantes del Pueblo Indígena de Comuneros y/o agricultores que forman parte del municipio de la Heroica Ciudad de Juchitán de Zaragoza.

- Grupo C
1. Representantes de las Instituciones Educativas y Culturales ubicadas en las áreas de influencia del proyecto.
  2. Representantes de Organizaciones de la Sociedad Civil

- Grupo D
1. Representantes de Comités Comunitarios.
  2. Representantes de Organizaciones de la Sociedad Civil

GRUPOS	FECHA SESIÓN ACUERDOS PREVIOS	LUGAR	HORARIO
	03 de noviembre	FORO ECOLÓGICO	17:00 HRS. A 21:00 HRS.



Accusations of corruption and covert alliances run rampant on the Isthmus of Tehuantepec. While claims often go unsubstantiated, their veracity may be beyond the point. What they suggest is a profound mistrust and suspicion of political leaders that has implications on the wind energy industry. The mistrust of government, political parties, institutions, and company representatives who have worked with these very people, suggests to many residents that the companies too are corrupt. Despite claims by developers that their work is not political, they are implicated in choices made by the local leaders with whom they work. The impunity of corrupt officials, supported by the government, has been one of the primary reasons why the wind industry today faces resistance from residents. Those who develop projects either on the Isthmus of Tehuantepec or anywhere else in Mexico must find ways to create transparency in their encounters with government officials. Developers must counter the perception of corruption. If the wind industry seeks improved relations with communities, they must establish policies that make public their financial dealings with the government. In addition, these companies would benefit from careful consideration of the political and civil society organizations with whom they partner, as local alliances and criminal networks can remain hidden from view of recently arrived corporate employees, while being widely known among residents.

# The Beginnings of an Industry

Developers, investors, and government officials must learn from the experiences of their predecessors in order to improve not only the technical and economic outcome of their projects, but also the ways of relating to the communities living near sites of production. While some problems have emerged because of technical or infrastructural failure, many have emerged due to a lack of consideration of the social and political context of the region. These elements are just as integral to a project's success as the correct technology or sufficient financing. In order to begin a careful consideration of the historic, political, and social cultural context of wind energy in Mexico today, the rest of this paper will complicate the current situation so often depicted as a clear division between those who are in favor and those against wind energy. Rather than using black and white terms, this paper hopes to reveal the wide range of opinions existing in between so as to particularize current tensions.

The *nortes* or north winds been well documented. Wayward traveler, philosopher, and writer Kamar Al-Shimas observed their strength in his 1917 chronicle of his expedition to the Isthmus of Tehuantepec. The *nortes* emerged through a "depression in the hills to the north," he explains. The wind comes "rushing" out in a "concentrated fury." Without a moment, he continues, "The air is full of blinding sand. The windows are battened down, and no one ventures on the streets without automobile goggles."<sup>24</sup> While the power of the winds on the Isthmus was well known throughout the world, it was not until 1986

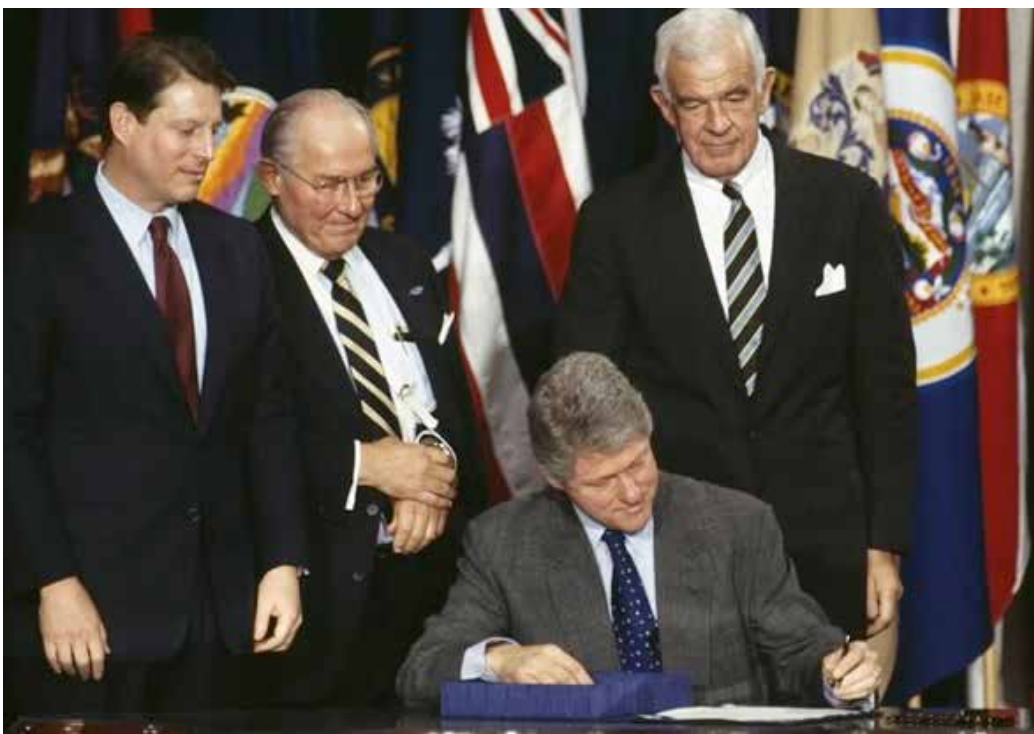


that experts sought to measure their potential to produce electricity. The Mexican Energy Commission (CFE) with support and funding from the U.S. Agency for International Development (USAID) and the United States' National Renewable Energy Laboratory (NREL) gathered data to determine if these winds could be made productive.

1994 was a tumultuous and memorable year in Mexican history. Not only was it the year the North American Free Trade Agreement (NAFTA) was signed into law, nor the beginning of the Zapatistas rebellion in the state of Chiapas, but it was also the year that the first wind turbines were installed on the Isthmus of Tehuantepec. The CFE installed seven Vestas wind turbines just outside the town of La Venta.. These first seven turbines showed the vast potential and lured private interest.<sup>25</sup>

During the first years of operation, wind speeds at La Venta fluctuated between 20 and 25 meters per second. The resource was not only viable for commercial production, but one of the best in the world. In 1998, the CFE expanded their initial investment and the first utility scale wind farm La Venta II came online. Government support was required to open La Venta II because there was no regulatory protocol in place at this time. Mexican law requires CFE to purchase energy at the lowest cost available and wind energy was more costly than energy from other sources. SENER issued a "policy directive" that created a fixed price on the energy produced at La Venta II that made the project economically feasible. The \$113,865,000 loan from the United Nation's Clean Development Mechanism (CDM) and a loan from The World Bank provided La Venta II with necessary financing. This financial support, however, hinged on the stipulation that CFE negotiate fairly with local landowners and provide a service that creates social value to the neighboring communities.<sup>26</sup>

It comes as no surprise that after the CFE showed the potential, the wind energy



# Contextualizing Social Opposition to Wind Energy—The Land:

industry sought to invest on the Isthmus of Tehuantepec. The cost of technology was decreasing and new projects promised profit. The real “boom” for the industry, mentioned earlier, gathered speed in 2008 and, since 2010 alone, installed capacity has doubled. The wind industry’s rapid growth however, has revealed a troubling paradox. While the wind is “renewable,” its energetic potential limitless, wind turbines require terrain which of course is a limited resource and the subject of socio-political struggle in Mexico. The question of land, which sparked a political upheaval in the 1970s and 1980s in the municipality of Juchitán de Zaragoza with the election of the first non-PRI government, has once again become the source of social conflict.

The question of land – a historical flashpoint for conflict between local residents and between the region and the Mexican nation-state – is central to current debates over wind energy development on the Isthmus of Tehuantepec today. While land tenure everywhere in Mexico is a complicated story – full of nostalgia for the promises made in the wake of the Mexican revolution, the inconsistencies and unresolved legal questions near the city of Juchitán de Zaragoza continue to spark furious debate. One wind energy executive working on the Isthmus describes a visit by foreign developers to the region in the early 1990s. Seeing the geography and the wind conditions, these businessmen were excited by the region’s potential. They asked, “So how much would it cost us to buy up all this land?” In his re-telling of this story, he chuckled at their naiveté. He explained, “No, I am sorry sir, but this is Mexico and this land is not for sale.”<sup>27</sup>

There are various forms of land tenure on the Isthmus of Tehuantepec. The authority in charge of deciding to rent and/or sell land on the Isthmus of Tehuantepec can belong to an individual or a local agrarian collective, known as either the *ejido* or the *bienes comunales*, each of which elect a president. The least common land tenure system on the Isthmus is called “Pequeños Propietarios” or small landowners. These individuals can negotiate directly with developers, though in recent years they themselves have organized into committees in order to negotiate their terms with developers. On the other hand, the majority of land is held under either the frameworks of *bienes comunales* or *ejidos*.<sup>28</sup>





*Bienes comunales* or communal land is terrain that was repatriated to indigenous communities after the Mexican Revolution and operates under an elected president. Due to a primordial relationship to place, in existence long before land titles or the Spanish colonists, land today considered *bienes comunales* is owned collectively by the entire indigenous community, with plots designated to individuals who use and care for it.<sup>29</sup> Ejidal land, on the other hand, maintains a similarly collective character but does not have the characteristic “primordial” relationship to the community. Rather, *ejido* land is terrain that was redistributed in the wake of the Mexican revolution. Large-land holdings were divided up and returned to the general population and farmers were charged with parcels from which they managed and used the terrain, but did not own it outright.

*Ejidos* and *bienes comunales* themselves are divided into several classifications. *Ejidos* are classified as:

1. Parceled arable land held and worked by recognized members
2. Common land, generally consisting of forest, mountain, grazing land or waste land, which is monitored and managed by the *comisariado* or the elected leader of the *Ejido*; and
3. Land where families and individuals build their homes.

*Bienes Comunales* are classified as either:

1. Common land, which may be forest, mountain, grazing land, wasteland or arable land. *Bienes Comunales* can internally recognize members’ individual rights to parcels (and often do so for arable land), but legally all members are considered to have the right to equal shares of the commonly held land, as recognized the articles 101 and 102 of Mexico’s current Agrarian Law<sup>30</sup>

## 2. Land for human settlement.

Individual ownership, in Mexico called *Pequeños Propietarios* (small land owners), has become a more common ownership model in recent years, though it remains relatively rare on the Isthmus of Tehuantepec.<sup>31</sup> Land redistribution policies in the wake of the revolution, which peaked in the mid-20th century, were seen as crucial in fostering economic growth and social stability for the nation.

However, in the wake of the market crash of 1982, the “Washington consensus” that dictated policy in much of Latin America during the 1980s and 1990s encouraged structural adjustment policies that would reform various aspects of Mexican life.

On November 7, 1991, President Carlos Salinas de Gortari presented reforms to Article 27 of the constitution to his legislature. Article 27 had guaranteed land for landless rural communities and prohibited ownership of rural land by corporations.<sup>32</sup> Under Salinas’ proposal, *ejidatarios* (members of *ejidos*) would be able to mortgage, rent, or sell their individual plots. The legislation was overwhelmingly approved, ending the redistribution of land to *ejidos* and paving the way for the transfer of rural lands to multinational corporations.<sup>33</sup> International organizations such as the IMF applauded Mexico’s “modernization” reforms. The logic was that individual ownership was necessary to improve productivity and provide individual farmers access to credit and bank loans, finally entering the “modern” system of debt and credit.<sup>34</sup>



# Negotiating Contracts

When wind developers first arrived on the Isthmus, few farmers could imagine what the future would hold. Few had ever seen a wind turbine, let alone a commercial scale wind farm. It is only now, after almost 20 years since the first turbines were installed, that the majority of *istmeños* recognize the scale and scope of the projects that have emerged in their midst. The first contracts were the easiest to sign, commented one wind energy executive. Much of the land lay fallow or was used, as pasture and residents were eager for any cash that might come their way. Wind energy developers arrived with contracts in the late 1990s just as the last of the state supported agricultural programs were disappearing and few farmers were able to continue cultivation without help.<sup>35</sup>

Over time, residents have come to realize the economic value of their terrain. Comments like, “We used to find the wind a bother here, but now we know that we are blessed with this gold” are not uncommon. Local political actors have sought to act as interlocutors between residents and companies, often times tainting negotiations. In other cases, property owners and communal farmers have organized in order to demand more favorable contracts. For example, a group of small property owners near Juchitán de Zaragoza, the site of a proposed 132 MW wind farm, has formed an elected committee comprised of property owners to negotiate on their behalf with the company Eólica del Sur. The president of the property owners committee said that they spent more than six months negotiating the terms of their contracts.<sup>36</sup>

Lack of information and experience among residents on the Isthmus with regards to negotiating with companies, however, has resulted in tensions. National and international non-profit organizations have stepped in to help landowners and agrarian associations to bring legal claims against what some claim are abusive practices. In San Dionisio del Mar, the site of the proposed Mareña Renovables project which has since been canceled, residents accused the president of the agrarian association of receiving money from the company in exchange for signing over San Dionisio’s communal land.<sup>37</sup> This money was not shared equitably and resulted in widespread conflicts.

In another example, legal claims have been made against wind developers. In Unión Hidalgo, nearly 200 individual contracts were nullified when communal landowners alleged the leases were illegal because the land was not individually titled, but rather was owned communally.<sup>38</sup> In 1999, a group of *ejidatarios* from La Venta, the site of the first wind farm on the Isthmus, protested against the low rent payments for their



land and the failure of the CFE to deliver the infrastructure projects they had promised when they first arrived.<sup>39</sup> Jiménez-Maya (2011) recounts how *ejidatarios* were being paid something between 50 and 100 pesos per hectare per year. Instead of negotiating with residents, however, the government responded by arresting protesters. This aggressive posture had the effect of inflating local mistrust and raised further suspicion that the government was more interested in protecting the wind energy industry than its own citizens. “We do not trust the CFE because they harmed us,” explained one resident of La Venta. “They offered to pave the roads and supplement the electricity used in the portable water system in exchange for allowing *ejido* lands to be used for the installation of seven wind turbines. They never did this. They said they have been operating without profit. So, in 2001, we demanded to see their accounts, but instead, the CFE just imprisoned our colleagues, including my brother.” Another resident chimed in, “There are many doubts. We are not against wind energy, but rather, the form of payments.... We do not want peanuts; we want to be part of the project and further development.”<sup>40</sup>

Residents who do not own land heard that the wind farms would bring jobs, development and progress. However, in one particular season of heavy rain, other effects were felt. In the *ejido* of La Venta, more than 800 HA of the fertile land has been covered in cement to fix the turbines. In the effort to flatten the naturally uneven terrain, they have in fact created further unevenness, and during the period of rain in 2011, the cultivated terrain flooded along with much of the small town.<sup>41</sup>

Over time the positive and negative impacts of wind energy projects are better known and more individuals and organizations voice their opinions, based on experiences and/or political alliances. Have they benefitted directly from the project or know someone who has? Does their friend or neighbor work at a wind farm? Or do they live near a wind farm where the sounds of turbines keep them up at night? From the point of view of many residents, local political leaders are the ones who have most benefited from the wind energy industry. This has not only fed the already existing mistrust of the government, but has rubbed off on the industry in the region writ large. Despite demands for transparency, neither developers nor the government has given proof of payments and/or where the money has been used. For many suspicious residents, this lack of transparency only adds fuel to the fire as they see their electricity bills continue to go up. The demand for lower energy tariffs has now become a demand as residents ask a logical question, why are we paying so much for electricity when these companies are producing so-much electricity right in our midst?<sup>42</sup>

# Opposition to Trans-national Capital

Though the majority of isthmus residents remain semi-ambivalent about wind energy, everyone has an opinion. That being said, ardent opposition by indigenous activists emerged around 2006-2007. Fishermen, farmers, activists, landowners and students are just some of the sectors represented in the social movement that emerged to oppose the wind energy industry. This has sparked various forms of non-violent resistance, legal claims, and subsequent political negotiations. Today, the most uncompromising opponents to wind energy are not fighting any one company or project. Rather, these activists are participating in a much broader debate occurring across Mexico and much of the global south. Transnational energy companies are using their land for profit but leaving little of value in its wake. These kinds of critiques are hard to counter as they merge with concerns over food sovereignty, indigenous identity, and the privatization of communal lands. Activists against the wind energy megaproject now question the legitimacy of a so-called “renewable energy transition” writ large. Their opposition to large-scale wind energy projects has joined a broader debate occurring in Mexico right now regarding the logic of privatization and the willingness of the government to support and protect corporations over communities. While opponents make their voices heard through traditional means like marches and interviews with journalists, they also have taken to the airwaves and connected to national and international non-profit networks. Anti-wind energy activists have also used their physical environment to express their opposition. While one might think that only social activists opposed to wind farms would employ tactics like graffiti and protest marches, more recently those in favor of the wind energy industry have copied the tactics previously used by social movements in the region.<sup>43</sup>



Within the last two years, new actors have entered the debate over wind energy on the Isthmus. Powerful labor unions have taken to the streets to voice their demand to work. Articulating a different set of demands than landowners or social activists, a Fall 2014 protest in Juchitán de Zaragoza drew a few hundred individuals. On a warm and sunny Saturday in October, the leader of a construction workers union stood on top of a large truck with a tight hold on the microphone. His voice boomed through the sound system reaching the crowd that had gathered in front of city hall: "Of course we are not against the projects that will be installed in Juchitán. But if they do come, they should come giving work to all of you, my friends. They should be giving benefits that correspond to what they are receiving. Today, we call on all three levels of government to demand that before an agreement is signed, that residents of Juchitán also be given a preferential electricity tariff."<sup>44</sup> This march was just one of many moments of late where workers unions have started to articulate their demands, as well as the terms and conditions under which they are willing to work with. Although not opposition in the sense of indigenous social activists, the labor unions highlight an important population whose voice must be considered when developers enter the region.



# Claims and Counter Claims

A notable intensification of the challenges to wind energy development on the Isthmus of Tehuantepec occurred in 2011. While activist organizations had been involved prior to this, when the Mareña Renovables project began moving forward with their 132-turbine project on the *Barra Santa Theresa*, conflict between and within the communities living along the Laguna Superior in the Gulf of Tehuantepec intensified. The proposed wind farm was to be built on a thin strip of land known as the *Barra Santa Theresa*.<sup>45</sup> In 2004, the company Preneal contracted the land from local agrarian authorities. Recollecting on this moment, the indigenous Ikojts or Huave community of San Dionisio del Mar couldn't recall much discussion about the contract. However, it was only years later when employees like surveyors and engineers began arriving on the *Barra* that rumors of their intentions began to circulate.<sup>46</sup>

The lagoon is blocked off from the heavy waves of the Pacific, and is a natural siphon for shrimp and fish. Also known as the *Mar Muerto*, the water and its resources are central to the cultural and economic lives of those living alongside it. Many residents refer to the lagoon as their "bank" or the "social security office," highlighting the importance the lagoon plays in supporting their diets and economic needs. All adult men learn to fish in the lagoon but only some try and make a living wholly off this. Rather, for many, the lagoon supplements other forms of labor, for example, someone might go to work in agriculture elsewhere during part of the year, and then return home to fish the other part of the year. Even if men do not work on the lagoon, everyone consumes its products.

On the other hand, the Barra Santa Theresa is the site of important ritual events for residents of San Mateo del Mar. While the actual ceremonies are shrouded in secrecy, the rituals that take place annually on the *Barra* are said to maintain the balance and productivity of the lagoon and the wellbeing of families.<sup>47</sup> Fisherman claimed that they are seeing less product in recent years. While there may be many reasons this is happening, the principle wrongdoer is Mareña Renovables and other wind developers working too close to the lagoon (for example, the company Fuerza y Energía Biío Hioxo owned by the company Gas Natural Fenosa).<sup>48</sup> Fisherman said that the exploratory work done by Mareña Renovables in 2011, particularly the perforations on the *Barra Santa Theresa*, harmed the fragile ecosystem. As word of the project on the *Barra* spread, the

communities living alongside the lagoon grew increasingly angry, and some factions of the communities united to oppose the project. Nothing would be built on the *Barra Santa Theresa*, they said, and they would protect their lagoon at any cost.<sup>49</sup>

Concern and suspicion turned into outright rage when the company announced that the fisherman could only enter the lagoon during particular hours – construction of the wind farm would have priority. Many laughed and scoffed at these outsiders’ arrogance, who are they to tell us when and where we can or cannot work. Their work, they explained, is dictated by the tides, and no one, especially not these foreigners, could dictate their movements. Another “engaño,” or deception, emerged as residents of San Dionisio del Mar learned their mayor awarded permits to Mareña Renovables and pocketed the money for himself. This act showed the residents that not only did this foreign company disrespect them, but also their own authorities were going to be the ones who would benefit. This act of corruption, endemic in local politics, underscored patterns of abuse that predates the arrival of Mareña Renovables, and suggested that the practice would only get worse. The one protection they always had had from economic deprivation was the lagoon, the “bank,” and they were not going to let anyone take that away.<sup>50</sup>





# Many Names – One Project:

Mareña Renovables had a wide-ranging international set of investors. Included in the ranks were the Australian investment firm Macquarie, Japan's Mitsubishi Corporation, and the Dutch pension fund PGGM. As the communities of the Laguna began to oppose the Mareña project, they mounted a multifocal campaign of resistance. There was the physical, where residents blocked off entry points to the *Barra*, as well as legal efforts in the courts. In February 2012 at a tribunal in Salina Cruz, Oaxaca, the representative Flavio Sosa Villa Vivencio of the Partido del Trabajo (Workers Party) revealed to the judge the way in which the contract, signed between the company Preneal Mexico (the owners prior to Mareña) and the residents of Santa María del Mar, unfairly compensated residents. The contract gave the company access to 2,000 Hectares of terrain at the cost of 115 pesos/year/hectare. Mareña, comparatively, would have earned nearly a billion pesos per year.<sup>51</sup>

San Mateo del Mar was the first city to block access to the *Barra Santa Theresa*. San Mateo del Mar, which was going through political divisions independently of the project, united to defend the lagoon. When the company could not get to the *Barra* through San Mateo del Mar, they tried passing through Alvaro Obregon, the only alternative. Then Alvaro Obregon, also largely dependent on the lagoon, joined in the opposition movement and blocked the companies from entering the *Barra*. Ultimately, after nearly two years this kind of physical blockade and the juridical efforts in the court system, Mareña Renovables folded and the project was cancelled. In January 2014, the project was declared “dead” in the Mexican weekly magazine *Proceso*. This success by local opposition groups was only enjoyed momentarily. In the months following the cancellation of the project on the *Barra Santa Theresa*, people began to hear about a new wind farm, with the exact same figures as the project designed by Mareña Renovables, in development for the outskirts of Juchitán de Zaragoza. This project, owned by a company Eólicos del Sur, listed many of the same investors as the previous projects that had been first owned by Preneal and then bought by Mareña Renovables.<sup>52</sup>

The project owned by Mareña Renovables sparked conflict. Residents who opposed the project, residents in favor of the project, company representatives, and the municipal, state and federal government agencies all had a stake in what would transpire. The local conflict between residents emerged within already existing political and social

disputes. In particular, the influence of political parties and their leaders, as well as a history of systemic corruption all played a role in the conflict over the Mareña project. The duplicities of local leaders meant that the general public was dubious of politicians and party politics, causing the towns of Alvaro Obregon, San Dionisio del Mar, and San Mateo del Mar to kick out their elected leaders and claiming their indigenous right to use a system of “Usos y Costumbres” of “Use and Customs.” This rejection of partisan politics in relationship to the wind energy projects reveals the ways in which the two are seen to be working together. By using an alternative model of decision-making, these communities seized the chance to make change.

Local officials and company representatives worked together to facilitate the installation of the Mareña project and actively tried to silence opposition groups. It is reported that the ex-mayor of the San Dionisio del Mar was deposed by activists because he “was given over 20 million pesos, which was not given to him for social development, but it was money that the company awarded him in order to grant them permissions to use their land.”<sup>53</sup> There are well-documented acts of flagrant corruption, in addition to both physical and emotional acts of violence. This is in addition to the more subtle forms of intimidation occurring between both groups of actors.

While the Mareña project was cancelled officially in 2013, the conflict between and within communities linger. This is the painful result of the work begun by Mareña Renovables. Faults lie not with the company alone, but in the way the company and its supporters, both officially and unofficially engaged in discussion with the public. Not only exacerbating existing tensions, the prolonged opposition to the Mareña project has also radicalized activists opposed to commercial wind energy and further polarized debate. Those who wish to develop infrastructure projects in Mexico must see this event as a lesson in how not to work with communities. Corporations must engage with government authorities and residents using the same legal and ethical principles they might in their countries of origin and those of their investors. Alliances with politicians, who the company may or may not have known, might engage in corrupt practices, resulted in many of the problems that emerged. Notably, wind energy projects are quite a long-term investment and therefore exceed the time-scale of partisan leaders. Companies should see their projects in this broader context and value relations with residents in the region writ large and not only with authorities and landowners. Practices of transparency should guide companies in order to counter the widespread suspicion of political leaders in Mexico, which will add value to the long-term operability of their efforts.

# Human Rights, Indigenous Rights, and Consultation

The Mareña Project received funding from the Inter-American Development Bank (IDB). Funding from IDB requires companies to protect the rights of indigenous peoples. Mechanisms and standards have been emplaced to protect indigenous communities due to the history of inequality and their persistent vulnerability. Mexican laws at the state and federal level also seek to protect these types of communities. One of the most important legal tools designed to fortify the rights of indigenous communities comes from the International Labor Organization (ILO) in Convention 169. Nations that are signatories to the ILO Convention are required to take “special measures” that consider both the historic and contemporary vulnerabilities of indigenous communities. The heart of ILO convention 169 is the idea of a free, prior, and informed consultation with residents affected by megaprojects. The undergirding logic of the consultation is to help the various stakeholders, including companies, communities, investors and governments negotiate the potential impacts of a project and to “safeguard the persons, institutions, property, labor, cultures and environment.”<sup>54</sup> Article 169 outlines the consultation as a process:

“The Convention requires that indigenous and tribal peoples are consulted on issues that affect them. It also requires that these peoples are able to engage in free, prior and informed participation in policy and development processes that affect them... Effective consultation is consultation in which those concerned have an opportunity to influence the decision taken. This means real and timely consultation. For example, a simple information meeting does not constitute real consultation, nor does a meeting that is conducted in a language that the indigenous peoples present do not understand.”<sup>55</sup>

The lack of consultation required by Article 169 is one argument used by activists to stall and/or cancel projects on the Isthmus. They argue that without a consultation, projects are in fact illegal. In the case of Mareña Renovables, residents were never consulted about the proposed project on the *Barra Santa Theresa*. One resident stated, “There was never a consultation held here, as international law demands. Nor have the laws of indigenous peoples been followed, nor does anyone want to even mention them.... Real information for the people, like what is outlined by Convention 169 of the ILO – we have

never seen that. The community should be informed honestly about what could happen. We demand a consultation that is truthful, because we have seen how in the town of La Venta, its only now that people are asking more questions about the potential negative effects of these projects, and no one ever told the community about these possible effects.”<sup>56</sup>

Free, Prior, and Informed Consent (FPIC) is a tool resulting from many years of negotiation and activism regarding the ways in which private companies engage with indigenous communities. The primary juridical mechanisms regulating FPIC include the ILO Convention 169, Articles 2 and 26 of the Mexican constitution, as well as transnational soft law norms coming from international financial institutions, and the UN Declaration on the Rights of Indigenous Peoples signed in 2007.<sup>57</sup> The most oft cited regulation is likely the ILO’s Article 169 that demands that indigenous communities be consulted about the installation of mega-projects in their communities. However, the ambiguity of the article and the lack of procedural specifications have meant that Article 169 was carried out according to varied standards of practice. Demand for “free, prior, and informed” consultation has been a juridical tool that indigenous activists have used to challenge the legality of mega-projects.

The right to consultation is recognized both within Mexico and among international organizations as a fundamental collective human right. The intention is to establish an intercultural dialogue between the State and indigenous peoples in developments that affect them. This human right is “closely linked to their right to self-determination, and in turn, becomes a central instrument for ensuring the attainment of a comprehensive set of rights.” The right to prior consultation, the right of indigenous people to participate actively in making decisions about things that will impact their communities, is the product of basic principles such as self-determination, equality, cultural identity, pluralism and respect for their land, territory, and natural resources.<sup>58</sup>

The ILO Convention 169 outlines special measures required for projects affecting indigenous communities. The convention states, “Consultation with indigenous peoples should be undertaken through *appropriate procedures*, in *good faith*, and through the *representative institutions* of these peoples... with the objective of achieving agreement. The parties involved should seek to establish a dialogue allowing them to find appropriate solutions in an atmosphere of mutual respect and full participation. Effective consultation is consultation in which those concerned have an opportunity to influence the decision taken. This means real and timely consultation. For example, a simple information

meeting does not constitute real consultation, nor does a meeting that is conducted in a language that the indigenous peoples present do not understand.”<sup>59</sup>

Other regulations afforded to indigenous communities come from Mexico’s Federal government and the State of Oaxaca:

1. Article 26 of The Constitution of the United States of Mexico indicates that a population must be taken into account if the executive power will be authorizing permissions or facilitating the working of private companies.
2. Article 2 of The Constitution of the United States of Mexico, Part B, Section IX, notes the obligation to carry out consultations.
3. Performance Standards (Normas de Desempeño) required by the Inter-American Development Bank and the International Finance Corporation (IFC) part of the World Bank include:
  - a. Performance Standard ND 1: Contains specific requirements for the management of the public participation process which requires: 1) public participation to collect the views of the affected population on the risks, impacts and mitigation measures of the Project, 2) continuous and timely disclosure of information relevant to the Project, 3) Conflict resolution mechanism in all cases where adverse impacts on the local population are expected.
  - b. Performance Standard ND 7: The objectives of Performance Standard seven is to underscore the need to avoid adverse impacts on Indigenous Peoples’ living in the area of influence of the project. Where avoidance is not feasible, the project should minimize and/or compensate for impacts in a manner commensurate with the scale of project risks and impacts, the vulnerability of the affected communities of Indigenous Peoples, and develop mechanisms that are tailored to their specific characteristics and expressed needs.

The State of Oaxaca Also has particular laws in its constitution, including:

1. Article 36: "The State shall maintain constant communication with the authorities of indigenous peoples and communities to ensure that their internal systems are appropriately recognized and respected by people and institutions alien to them.
2. Article 53: Work and projects promoting the State, organizations or individuals that can impact indigenous peoples and communities in natural resources, should be discussed, analyzed and previously agreed upon in collaboration with such peoples and communities.
3. Article 57: In order to safeguard the integrity of indigenous territories and natural resources from the effects of pollution and environmental degradation, these communities have the right to demand reparations for ecological damage.



# Access to and Application of Information

Claims by anti-wind energy activists, community members supporting wind energy developers, as well as company representatives and government officials often present very different versions of the same events and data, thus making it quite difficult to differentiate fact and fiction. In addition, “facts” and “data” have long been tools used to support one’s own version of the events. Thus, we often see the same numbers being used in favor of wind energy in one case, and then used to show the destructive effects it is having in the region. Communities on the Isthmus of Tehuantepec, legally recognized as indigenous peoples (known as Huave or Zapoteco), have insisted that their legal rights be observed. International law has sought to rectify historic injustices by demanding companies and governments conduct “free, prior, and informed” consultations when they wish to install projects that will affect indigenous peoples. However, as we know, this law has long either not been enforced, or has been conducted in a sort of rushed and cursory fashion. Companies and government representatives have limited the information they provide, particularly with regards to their proprietary technologies, in order to protect this information from arriving in the hands of competitors.<sup>60</sup>

One of the most concerning aspects of this debate for local residents has been their inability to access data and other information regarding the “the price at which the electricity will be sold and the terms of distribution.”<sup>61</sup> This has made many feel cheated, leading to suspicions and claims of corruption. This has also limited the “chance for landowners to negotiate a more equitable share of earnings.”<sup>62</sup> The lack of financial information results in suspicions that can have quite real effects on project development. Although companies may not be legally required to share this kind of fiscal data, transparent financial practices would help to assuage some of the deep suspicions and anger that its absence repeatedly evokes. The games being played with information exacerbate existing tensions between residents, government officials, and companies while also appearing, at least on the surface, to re-inscribe historic inequalities (both real and perceived) between transnational corporations and indigenous communities.

# Conclusions

Were the conflicts that emerged with the proposed Mareña Renovables project a turning point in the relationship between communities, government, and companies regarding the further installation of wind farms on the Isthmus of Tehuantepec? It appears as though they may just be. The company Mareña Renovables is today operating under new leadership with a new name, *Eólicos del Sur*. When seeking permissions from Mexico's energy sector to install a project in the municipality of Juchitán de Zaragoza, SENER stipulated permissions on the successful completion of an indigenous consultation process. Activists, human rights NGO's, and the municipal government in the city of Juchitán de Zaragoza also pushed the implementation of a consultation process that mobilized the highest of international standards. Beginning in October 2014, a consultation process began in Juchitán de Zaragoza that as of May 2015 is underway.

It is crucial that investors and companies understand the legal framework and see the consultation not as an impediment, but a means of adding value to this long-term investment. If companies engage seriously with the indigenous communities where they hope to work, they will be able lay the groundwork for successful operations for the long lifetime of their investment. To date, few consultations have actually taken place, though new laws now require projects to first conduct a consultation with indigenous communities in the future. Companies should be prepared to engage in consultations in good faith, and not rush what appears to be a lengthy process. This phase should be included in their project timelines. That being said, observations of the current consultation underway in Juchitán de Zaragoza require patience and may actually fail to address the undergirding epistemological differences between the various players. Developers must take into account that their project could be denied approval. While the responsibility to facilitate the consultation lies with the Mexican government, companies and investors are, in the long run, the ones held accountable. Their success and/or failure to engage with the community could make them the subject of ridicule by international humanitarian organizations should things go wrong. However, it is the government as an intermediary and regulator that should hold companies accountable. Critical in this dynamic is the role of investors as they hold significant power to influence corporate decisions. Investors must encourage companies to follow international norms, as a failure to do so will put their investment at risk.



Residents of Juchitán de Zaragoza are currently in the process of consultation for the newest iteration of the Preneal-Mareña wind farm, a 132MW wind farm owned by *Eólicos del Sur*. Now into its seventh month, this consultation process has faced various hurdles. In particular, the information being requested by residents exceeds the kind of broad sweep that companies have historically provided. No longer will a glossy booklet of possible environmental impacts and corporate social responsibility pledges suffice. This kind of unsubstantiated discourse to which they are not legally accountable falls on deaf ears on the Isthmus of Tehuantepec, who have seen too many corporations fail to deliver on their promises. Only by providing detailed information about financing and payments, with accompanying expert testimonies and studies conducted by impartial individuals, can communities hold not only the company, but also their government accountable.

Champions of wind energy – from private developers to turbine manufacturers, from government officials to national and international financial institutions – tend to assume that the public will support these projects simply because they are making clean energy. What is assumed in this case is that technologies effect the environment and the social fabric of a place uniformly. We know that technologies do not exist in hermetically sealed boxes. Rather, technologies are installed in the physical and social ecosystems where they are in operation. The presumption that wind energy is always an ethical good, as it decreases CO<sub>2</sub> emissions, has allowed some companies to install projects without taking all the legal steps necessary, which clearly is no longer enough to garner support.

The case of the Mareña Renovables project described in this paper offers insight for the future of wind energy not only on the Isthmus of Tehuantepec, but across Mexico and Latin America as well. A failure to consider the real social, economic, and environmental fabric of a very specific place led not only to the cancellation of the project and the loss of significant investment, but perhaps more tragically, has led to lingering political and social mistrust in the communities where they worked. Their failure to anticipate opposition, and then their participation in overt attempts to manipulate stakeholders and social resistance, was reckless and irresponsible. It would be an important step forward for companies and governments using the language and available financial mechanisms of “sustainable” or “green” development to be required to abide by all existing legal norms and laws. Projects that are able to use the language of sustainable and responsible development to gather interest from investors and financial institutions must be required and held accountable to the ethical claims these terms espouse. It would be wise for international policy institutions to consider new ways of holding these companies accountable to not just the discourse of sustainability, but more importantly, the ethics of sustainability. Only by engaging in a fair-minded dialogue with isthmus residents could the stated goals of sustainable development ever truly be reached.

Martin Pasqualetti, a social scientist and expert on the social response to renewable energy eloquently argued, “The conditions for development differ from group to group, time to time, and especially landscape to landscape. This means that neither acceptance of, nor opposition to, a technology in one location will necessarily transfer to another location. Likewise, support or opposition to renewables will depend less on the type of resource than on how one location differs from another in terms of physical environment, cultural underpinnings, and social structures... [The] love of existing landscapes can tout any benefits that renewable energy development may promise.”<sup>63</sup> If companies committed equal time, attention and funding to the study of the social, cultural, and economic realities as they did to the technical aspects of projects, a less antagonistic climate in the communities where they work could be fostered. Companies would benefit from engaging in a truly holistic period of research and conversation prior to signing lease agreements that would allow for those very leases to have a sense of legitimacy and fairness. A prolonged study of the social landscapes where projects are proposed, much like the year of meteorological testing that companies must conduct, would offer important insight into how companies and communities might engage in mutually beneficial ways. One would hope that this sort investment in understanding the social landscape would help companies to engage in projects of corporate social responsibility that could genuinely create lasting forms of value for the communities of the Isthmus of Tehuantepec.

Rather than waiting until the period of permitting and construction, companies would benefit from considering the communities and residents near sites of proposed installation as equally crucial for project success as other qualities like the availability of wind resources and the turbine technologies. During the window of time that companies are measuring available wind resources in order to site turbines in their polygon, they should be consulting with communities as well as experts. Not only do companies need support from technicians, environmental scientists, and engineers, but also trained social scientists from within the communities, as well as those who are committed to understanding the cultural specificities of a place, might offer important insight. Project investors can lend their voice at this stage. Investors in renewable energy projects, often enticed by the discourse of sustainable development, must push developers asking for their money to ask the difficult “cultural” and “social” questions surrounding their projects. It is only when each and every group of actors involved in a project are held accountable to the words and discourses that they espouse that green energy can truly complete the promises it makes to international institutions, socially responsible investors, and the communities where they choose to work.

# Key Reasons for Opposition to Wind Energy on the Isthmus of Tehuantepec:

The opposition to wind energy on the Isthmus of Tehuantepec can be narrowed into the following categories:<sup>64</sup>

1. **Land Tenure:** Land here is managed in a number of overlapping regimes. The region has communal land ownership, ejidal systems, as well as some small property owners.
2. **Rent Payments:** Companies working in the region are paying far less percentage of their earnings as rent payments to residents than they do in other countries across the world. Landowners also often do not have the necessary means to negotiate with developers on equal footing.
3. **Failure to conduct thorough consultations:** As proscribed by Article 169 of International Labor Organization and the Mexican and Oaxaca State Constitutions: Companies have long been required to conduct “free, prior, and informed” consultations. However, when any consultation has occurred, they have not been conducted under the framework and best practices published by international organizations.
4. **Lack of Information:** Communities have not had access to important information regarding the development, potential effects, and financial aspects of the projects. The lack of specific information regarding the financing of projects, amounts paid to both state and local governments in taxes, as well as corporate profits have led many residents towards skepticism. Due to their experiences with local, state, and national corruption, and the continued presence of both corrupt officials and back-room deals by power-players at the local level, communities assume that corruption is underway.
5. **Simplistic Information:** In the cases where information has been provided, for example, at the consultation currently underway in Juchitán, much of the information given to the general public has been overly generalized and simplistic. For example,

when offering information from the environmental impact statement to the citizens of Juchitán, representatives from SEMERNAT (Mexico's version of the EPA) failed to indicate exact numbers of species that may be affected both during and after project construction. In addition, the facts that were provided did not have any references or citations. This lack of academic rigor not only undermines the individual experts conducting the studies, but also has the effect of placing the validity of the entire report into question.

- 6. Local Authority and Suspicion:** When companies first arrived on the Isthmus, they often failed to note the complex power dynamics of the region and often found themselves in compromising situations. In their dealings with local municipal governments, community agrarian associations, and various labor unions, just to name a few stakeholders, corporate representatives found themselves extremely vulnerable. With a lack of awareness about local dynamics and history, corporate ethics have been compromised as they sought to negotiate with communities and government authorities. When corporations fall into precarious and ethically questionable circumstances, the value of their specific project, and wind energy in Mexico more generally, is compromised, effectively becoming part of a fraught history of corruption – a popular critique of Mexico's energy sector and private development in the country.
- 7. Energy costs:** Residents on the Isthmus of Tehuantepec are paying more per KW hour of electricity than the corporations producing energy on their land. Many see the low cost of industrial energy versus domestic energy, especially in sites near energy production, as unjust. In recent months, various demands have arisen on this topic. For example, in the fall of 2014, the Coalition of Campesinos and Students of the Isthmus (COCEI), a powerful leftist political party in Juchitán, have demanded a more favorable electricity tariff from the wind energy sector.<sup>65</sup>

The wind energy industry the world over knows that long-term detailed studies of the environment are essential to the future success of any wind farm. However, the care and attention that all recognize is necessary for making technical and/or engineering decisions does not come into the same kind of consideration when discussing the social environment where projects are to be built. If developers and regulators valued an understanding of the social environment as thoroughly as they did with understanding the wind speed and natural environment, developers would be much better prepared to engage with local communities during the life-time of their projects, from construction to operation.

Today, wind turbine technology has evolved. The newest turbines have larger surface areas, making sites with lower wind speeds that had been ignored now sites of potential profitability. The Mexican wind energy sector is expanding with parks popping up across the country. While many see the growth of wind energy as the inevitable next step in a progressive approach to green economic development— the presence of the resource means it should be harnessed towards a productive end— will only succeed if and when the social and the natural landscapes of new projects are considered in concert. When social decisions are made quickly and without the careful methodical consideration an engineer might give to a technical question, wind farm owners are often confronted down the road with their decision, as many developers can attest when landowners or construction workers block access to project owners or denounce projects to the press.

This paper has argued that wind energy on the Isthmus of Tehuantepec has produced far more than mere electricity. Like other kinds of large-scale energy or infrastructure projects, the arrival of wind turbines also brings worldviews into conversation. Wind energy projects and developers identify nature as a resource for human use while many residents of the Isthmus of Tehuantepec see their windy world through quite a different lens. While difficult to pin-down, istmeños have engaged with the land in productive partnership that carries with both their history and spiritual qualities. In order to dispel current tensions and rectify mistakes made in the path forward, a critical rethinking of this kind of sustainable development is urgently needed.

# Endnotes

- 1 Nikiforoff, B. et al. (1946). "Mexico's Electrification Program, Part 1." *The Journal of Electrical Engineering*
- 2 Webber, J. (11/12/2014). "Investment Influx promises Cheaper and Greener Power." *The Financial Times*
- 3 *ibid*
- 4 Renewable Energy Report (2/9/2009). "After Years of Spinning Wheels, Renewables in Mexico Forge Ahead." McGraw-Hill, Inc. ISSN: 1355-6258, Issue 173
- 5 *Ibid*
- 6 As of Spring 2015, 21 wind farms are in operation and 2 more near completion on the Isthmus of Tehuantepec. For more information, see [www.amdee.org](http://www.amdee.org)
- 7 See Appendix 1 for Map of Wind farms in Mexico and detailed maps of the Isthmus and wind farms
- 8 Hawley, Chris. (6/17/2009). "Clean energy a 'dirty business' in Mexico; Some residents of wind-energy hotbed resent impact on lives, land." *USA Today*, Money, pp.1B.
- 9 Information provided in this table compiled from, "Electricity regulation in Mexico: overview" by Juan Francisco Torres Landa Ruffo, et al. (<http://us.practicallaw.com/9-524-0279#a40782>) and Carreón, Víctor, Armando Jimenez, and Juan Rosellón. (2005). "The Mexican Electricity Sector: Economic, Legal and Political Issues." Centro de Investigación y Docencia Económicas. (<http://aleph.academica.mx/jspui/handle/56789/3755>).
- 10 A self-supply power company (SSPC) is formed by a power developer to generate electricity, which is solely available to its partners and/or shareholders. Power and/or capacity delivery, conveyance, or transfer to third parties is not allowed. The developer (who formed the SSPC) promotes the power generation project to certain future off-takers (mainly industrial users, and in limited cases, municipalities). Off-takers will purchase a share or equity participation in the SSPC. The off-takers purpose isn't to participate in the equity of the company, but for legal and regulatory purposes, they must be shareholders or partners so that they are able to acquire power or capacity from the self-supply power company. (For more information see <http://us.practicallaw.com/9-524-0279#a81681>)
- 11 Webber, J. (11/12/14). *The Financial Times*. The self-supply was described in *The Financial Times* more thoroughly by one reporter: "For the past two decades, Mexico has given private companies the limited opportunity to generate power – allowing groups such as CEMEX, the cement producer, or Walmart, the Mexican arm of US supermarket group Walmart, to generate power, including wind or solar, for their own needs. Now, they will be allowed to sell that power to third parties, as will electricity companies that are already in, or about to enter, the newly liberalized market."

- 12 Tamayo, Víctor. (March 2015). Personal Communications.
- 13 Comisión Reguladora de Energía (CRE) es te Spanish name for this government organization.
- 14 Cardona, Wendy Lozano. (05/2013). "Energías Renovables: Unidad de Inteligencia de Negocio." Primera Edicion (no venal) Mexico. Ciudad de Mexico. Excerpt from pages 25-26.
- 15 Cheeseman, Gina Marie. (05/17/2012). "Mexico is Rapidly Increasing Wind Power Installations." <http://www.triplepundit.com>.
- 16 Clean Development Mechanism (CDM) is defined by the United Nations as follows: "The CDM allows emission-reduction projects in developing countries to earn certified emission reduction (CER) credits, each equivalent to one ton of CO<sub>2</sub>. These CERs can be traded and sold, and used by industrialized countries to a meet a part of their emission reduction targets under the Kyoto Protocol." The United Nations Framework Convention on Climate Change. [www.unfccc.com](http://www.unfccc.com). Accessed 11/15/14.
- 17 Metz, B. et al. 2007. "Glossary J-P. In (book section): Annex I. In: Climate Change 2007: Report of the Intergovernmental Panel on Climate Change." Cambridge University Press, Cambridge, U.K., and New York, N.Y., U.S.A
- 18 See Appendix 1, Wind parks operating on the Isthmus of Tehuantepec
- 19 The Clean Technology Fund (CTF) seeks to promote scaled-up financing for demonstration, deployment and transfer of low carbon technologies that have the potential to significantly reduce green house gas emissions. (Excerpt from Reyes 2011 and [www.worldbank.org](http://www.worldbank.org)).
- 20 Sánchez, César. (1/23/2009). "Venderá CEMEX bonos de carbono." Reforma. Mexico City, Mexico.
- 21 <http://www.sowitec.com>
- 22 Cardona, Wendy Lozano. 05/2013. "Energías Renovables: Unidad de Inteligencia de Negocio." Primera Edicion (no venal) Mexico. Ciudad de Mexico
- 23 The agrarian authority is either the president of the "bienes comunales," the president of the Ejido, or in some cases, the town or city's mayor. In Juchitán de Zaragoza there has not been a recognized agrarian authority since the 1960s. This power has fallen in the hands of the mayor of Juchitán by default.
- 24 Kamarich, Al-Shimas. (1922). "The Mexico Southland." Fowler, Indiana. Benton Review Shop.
- 25 Henestroza Orozco, Ricardo. (2008). "Centrales eólicas en el Istmo de Tehuantepec; su impacto ambiental y socioeconómico" en Elementos, revista de Ciencia y Cultura de la Universidad Autónoma de Puebla.
- 26
- 27 Personal Interviews. (March 2015).
- 28 Binford, L. (1985). Political Conflict and Land Tenure in the Mexican Isthmus of Tehuantepec. *Journal of Latin American Studies*, 17(1), 179–200.

- 29 *Ibid*
- 30 *Ibid*
- 31 Mendez, Sara. (2014). "Megaprojects on the Isthmus of Tehuantepec." CODIGO DH, Oaxaca City, Mexico.
- 32 Kelly, James. (1994). "Article 27 and Mexican Reform: The Legacy of Zapata's Dream." Scholarly Works. Paper 668.
- 33 Schmidt, R and William C. Gruben. (1992). "Ejido Reform and the Nafta." FRBSF Weekly Letter. Number 92-34, October 2, 1992.
- 34 Authors Schmidt and Gruben (1992) write, "Noting Mexico's "insufficient output, low productivity," and "unacceptable living standards" in the agricultural sector, President Salinas proposed to open land ownership to greater market discipline by better defining property rights. Under the new rules, members of an ejido collective can rent land to non-ejido members, and can obtain full rights to the land, including the right to sell to other parties. Moreover, to protect those rights, the constitutional right to new ejido land has been eliminated, reducing the threat that newly private lands would be appropriated by the government for new communally held ejidos. Limitations on ownership are greatly reduced. Corporations now can own ejido land, for example. Moreover, foreign investment now is encouraged and foreign corporations can own Mexican agricultural land."
- 35 State run sugar refineries were very successful during the 1980s and provided farmers with a steady stream of seeds and income. Other development programs like President de Gotari's project, Solidaridad and its subsequent iteration, Prospera also made agricultural work viable. As these programs of support dwindle, many have left their fields' fallow due to the high cost of fertilizer and irrigation.
- 36 Binford, L. (1985). Political Conflict and Land Tenure in the Mexican Isthmus of Tehuantepec. *Journal of Latin American Studies*, 17(1), 179–200.
- 37 O Cearansky, S. (2010). Fighting the Enclosure of Wind: Indigenous Resistance to the Privatization of Wind Resources in Southern Mexico. In *Sparking a worldwide energy revolution social struggles in the transition to a post-petrol world* (pp. 505–522). Oakland, CA: AK Press.
- 38 Lopez, C. F. L. 2012. *La Lucha Indígena por la Dignidad Humana. Conflictos Socioambientales y Derechos Humanos en el Movimiento Indígena del Istmo de Tehuantepec*. Centro de Investigaciones y Estudios Superiores en Antropología Social, Guadalajara, Jalisco, México.
- 39 Jiménez-Maya, I. (2011). "El Megaproyecto Eólico en el Istmo de Tehuantepec, Oaxaca. Energías Limpias, Empresas Sucias y Resistencia Social." *Planes Geoestratégicos, Desplazamientos y Migraciones Forzadas en el área del proyecto de desarrollo e integración de Mesoamérica* (pp. 222–241). Mexico: DEAS-INAH, CEFI (Universidad de los Andes), Universidad de Antioquia.
- 40 Morales, Alberto Lopez. (11/2005). *El Universal*.
- 41 Martínez Veloz, Jaime. (2013). "La Energía Eólica en Mexico\_Una Perspectiva Sobre Tierra." *La Secretaría de Gobernación*.



- 42 Personal Communications (Fall 2014).
- 43 See appendix – Images of spaces marked by wind energy convo.
- 44 Translated from Spanish by author: “Por supuesto no estamos en contra de los proyectos que se pretende instalar en Juchitan. Si, pero si vienen, se les den trabajo a todos ustedes companeros. Que les den las prestaciones de que corresponde. Desde aqui pedimos a los tres niveles del gobierno, de que antes de que firmen los convenios de que dimos un tarifa preferencial de energia electrica para todos los Juchitecos.” (Marcha del sindicato de obreros, Juchitan de Zaragoza, 10/5/14).
- 45 See Appendix
- 46 Translated from Spanish by author: Personal Interviews, September 2014.
- 47 Personal Interview, September 2014
- 48 The Zapotec phrase Bií Hioxo is the name given to the strong winds between late October and March. However, in the 1974 dictionary of Zapoteco, the phrase is written Bi Yooxho and translates to the north wind. Personal communications have also explained Bi Yooxho as wind like an old grandfather. (
- 49 See appendix 2, Map of Isthmus of Tehuantepec and Lagoon
- 50 See Appendix, Map of area
- 51 Matías, Pedro. (03/24/2013). “Huaves: Contra Los Dueños del Viento.” *Proceso*. Mexico City, Mexico.
- 52 Community of Juchitan municipal government decided to conduct an indigenous consulta under the international laws OIT 169.
- 53 Rojas, R. (2/18/2013). “No instalará Mareña Renovables parque eólico en Dionisio del Mar.” *La Jornada*, Seccion: Sociedad, pp. 39, For more see <http://www.jornada.unam.mx/2013/02/18/sociedad/039n1soc>
- 54 For more information, see <http://www.ilo.org/indigenous/Conventions/no169/lang-en/index.htm>
- 55 *Ibid*
- 56 Nahmad, S. et al. (2014). “La Vision de los Actores Sociales Frente a los Proyectos Eolicos.” CIESAS, Pacifico Sur. pp.99. Translated from Spanish by author, “No ha habido una consulta, como lo marcan las leyes internacionales, la misma ley de los pueblos indígenas no ha sido ni siquiera mencionada, lo único que se ha visto es que hacen foros las grandes empresas, cuando los grandes empresarios en Huatulco que han hecho como 5 coloquios, pero la población una información real y verdadera como la marca el convenio 169 de la OIT para nada y es que la gente debe estar enterada realmente de qué es lo que tiene que pasar, que sea verdadero, porque ahorita en La Venta ya se empezaron a ver unas cuestiones de afectaciones y eso no se lo dijeron a la gente.”

- 57 Rodríguez-Garavito, C. (2011). "Ethnicity.gov: Global Governance, Indigenous Peoples, and the Right to Prior Consultation in Social Minefields." *Indiana Journal of Global Legal Studies*, Vol. 18, No. 1 (Winter 2011), pp. 263-305
- 58 Comité Técnica Asesor de la Consulta Indígena. (October 2014). "Protocolo Para La Implementación del Proceso de Consulta Previa, Libre, e Informada sobre el Desarrollo de un Proyecto de Generación de Energía Eólica." Pp.4. For more information see, <http://sener.gob.mx/portal/Default.aspx?id=3035>. Translated from Spanish by Author.
- 59 For more information see: <http://www.ilo.org/indigenous/Conventions/no169/lang-en/index.htm>.
- 60 Borjas, M. (June 2014). Personal Interview with author.
- 61 Nahmad, S. et al. (2014). "La Vision de los Actores Sociales Frente a los Proyectos Eolicos." CIESAS, Pacifico Sur.
- 62 Borja, M. et al. (2004). "*Wind Annual Report 2004*." International Energy Agency. Pp.160
- 63 Pasqualetti, M. (2011). "Social Barriers to Renewable Energy Landscapes." *The Geographical Review*. 101(2):201-223
- 64 Personal interviews and observations 2014-2015
- 65 Juárez-Hernández, Sergio and Gabriel León. (2014). "Wind Energy in the Isthmus of Tehuantepec: Development, Actors, and Social Opposition." *Revista Latinoamericana de Economía: Problemas de Desarrollo*. Volume 45:178.



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