

# aeolian infrastructures,



KENCEI

# aeolian publics

Cymene Howe and Dominic Boyer examine the politics of wind and power – in all their turbulence – in Oaxaca, Mexico.

**WHAT KIND OF INFRASTRUCTURE IS THE WIND?** And what kind of public might it produce? If the main purpose of an infrastructure (Larkin 2013) is to set other things in motion, then wind turns out to be quite amply infrastructural. It fills sails, cools skins, helps lift anything with wings into the sky. In a way, the wind is purely infrastructural; one sees what it *does* much more than what it *is*. And yet, wind also feels very much unstructured. It is elementally loose, a force that may be captured, but never contained. Wind is motion: without movement, it becomes merely air. Wind is nothing if it is not animated. It is an unmooring that acts upon bodies, often best known through our touching (in) it (Ingold 2007). After having been pelted and blown for many months, our skin made arid by the winds of southern Mexico, we came to recognize that wind can only operate as an infrastructure by composing many publics, by pulling persons into its spheres of politics and potential (Sloterdijk 2014). The raw form of *aeolis* may be a resource, a cosmological force, or quotidian oscillating pressures, but in the quest for renewable forms of power, wind's infrastructural capacities are made more tempestuous through the manifold human attempts to capture it (Howe and Boyer 2016). Multiple forms of aeolian publicity operate contemporaneously, competing for prominence and authority in channeling the force of the wind and its infrastructural capacities.

The Isthmus of Tehuantepec, which tapers across the state of Oaxaca in southern Mexico, has among the best terrestrial wind resources anywhere in the world. Anyone who has been through the isthmus knows this is no normal wind. The barometric pressure differential between the Gulf of Mexico and the Pacific Ocean urges air through a narrow gap in the Sierra Madres, creating routine conditions of near tropical storm force in the winter months. Blowing at speeds of up to 30 meters per second, *el norte*, the northern wind, is known to strip the paint off boats, raise the roofs from houses, and mangle 18-wheelers. As one might imagine, for centuries (or longer) the *Istmeño* wind has been a powerful presence and medium for cultural and moral reflection. According to the *binnizá* (Zapotec) and *ikojts* (Huave) populations of the isthmus, the wind has breathed the world into being. It has likewise made “strong backs” and tenacious wills; anyone

who has been pummeled by the dust and stones the wind carries within it will also readily recognize why *Istmeños* sometimes call this “the devil's wind.” Nothing controls or thwarts *el norte*; one simply shelters from it as best as possible.

Beginning in 2008, the Mexican government undertook a rigorous plan to harness the wind of the isthmus for the purpose of renewable energy development. Mexico remains a petrostate, but oil is faltering: Mexican heavy crude extraction dropped by nearly 50% from 2004 to 2012, and the supergiant oil field in the Gulf of Mexico is running dry. The nationalized oil company *Petróleos Mexicanos* (PEMEX) will no longer be able to contribute the immense revenue stream it has provided to the Mexican nation state. In his interview with us, former President Felipe Calderón admitted that in some years as much as 43% of the government's operating budget comes from oil sale revenues. In light of recent production declines, and in an attempt to partially staunch greenhouse gas emissions and slow the growth of global warming, Mexico instituted some of the most aggressive climate change policies in the world. During his tenure, Calderón created legislation that made Mexico one of only two developing countries in the world to enshrine long-term climate targets into federal law. The 2008 Renewable Energy and Energetic Transition law, for one, requires that 35% of Mexican electricity come from non-fossil fuel sources by 2024.

The advent of renewables and carbon mitigation targets, however, have also raised questions about how renewable energy development may disenfranchise local populations and limit local autonomy. To meet the ambitious goals set in place, wind parks have rapidly been erected across the isthmus, now a dense crop of white towers blooming across the skyline. And as wind parks have proliferated in number, so too have the towers themselves grown in size, with 3-megawatt turbines topping 105 meters (32 stories) and weighing 285 tons. Thus it is not surprising that many *Istmeños* have come to refer to them as “the white giants.” Where the giants have found footing, responses to them have become polemical. From the vantage point of some residents and many government officials, wind parks will bring riches and development to

LEFT:  
Mural in  
La Ventosa

the region. But for others, the turbines raise the specter of neoimperialism, simply another instance of resource extraction in a place sensitive to these kinds of exploits. In the region, the expansion of wind parks has been troubled by two essential worries: one, that land is being expropriated by foreign capitalists aided by government agencies; and two, that local ecosystemic conditions are being forever altered, disrupted, and perhaps destroyed by the installation of industrial-scale wind parks. Though the turbines may themselves be trained to “eat the air”—as one local headline put it—the preoccupations cycling through the isthmus have largely pivoted upon questions of land and water. Whether in critique or in support of wind power expansion, local populations, state agents, and corporate representatives have found themselves caught up in what we have come to think of as an aeolian public (Howe and Boyer 2015).

In their efforts to enroll political support for wind development, the Mexican and Oaxacan governments, together with international energy companies and financiers, have engaged in processes to create a supportive public for the region’s terralogical and energetic transformation. How does one go about making an aeolian public? In southern Mexico it is, at minimum, a four-step process consecrated by government functionaries and renewable energy developers. Through public meetings, advertising campaigns, and, on occasion, door-to-door solicitation, residents occupying the perimeters of the wind parks, or landholders who might lease parcels for development, have been encouraged to become a public by: 1) embracing the broad economic developmental potential of wind power for the region (rather than viewing it as a force that beats down crops, antagonizing everything in its path); 2) monetizing the kinetic energy of wind as a quantifiable, calculable, and remunerative good (rather than a cosmological force that has breathed the world into being); 3) joining with national policy regimes to increase cleaner forms of energy production and to take part in a new kind of Mexican exceptionalism generated by wind, sun, water, and biofuels (rather than continuing to rely on the petrologics of nationalized oil); and, finally, 4) imagining one’s self as enmeshed in a larger climatological public, a global anthropos of energy makers and users that actively seek remediation to the harms of atmospheric contamination, severe weather, and threatened crops, which are also well-known phenomena in the isthmus.

As in other fragile neoliberal political situations, the infrastructural powers of the “wind rush” are expected to close the gap between the promises of liberal citizenship and governments’ failures to fulfill core responsibilities worthy of civic fidelity (such as providing clean water, energy, security, shelter, and a vigorous economy; see, for example, Anand 2011; von Schnitzler 2013). Istmeño wind has taken on a salvational form; it is expected to blow jobs and prosperity into one of the poorest areas of one of the poorest states in Mexico while at the same prototyping a new energy future for the Mexican petrostate. For one former director of sustainable energy for the State of Oaxaca, the wind is the “diamond” in the resource crown of the region. Without this wind, he stated, “there would be no development in the isthmus.” He likewise

had great aspirations to construct a “City of Knowledge” that would train young Istmeños for future engineering careers in Mexico and abroad. “Today,” said the director, “our people migrate to the United States to pick strawberries, but with the wealth and training the wind boon will bring, soon they will be running your wind parks!” The technoprofessional ambitions of such officials were not lost on deaf ears; Istmeños hoped for more employment and educational opportunities that would spare them having to migrate like so many in the region. While the City of Knowledge has yet to appear, by the end of 2015, 80% of Mexico’s installed wind power capacity, 2,300 megawatts, was located in the isthmus.

Isthmus wind parks have had some true believers to be sure. Don Porfirio Montero, a large landowner and evangelical Christian leader in the isthmus, built a considerable empire for himself on land rented to wind companies. He and his allies see a blessed partnership with wind energy companies that are transforming an agricultural region into an epicenter of white-collar industry, opportunity, and prosperity. Yet, even within Montero’s hometown of La Ventosa, one of two towns almost entirely encircled by wind parks, we sensed great ambivalence to the proliferation of wind turbines. Many residents complained that only a small group of wealthy landowners (like Montero) had amassed the promised benefits, with new revenues ploughed into fancy trucks and new homes rather than into projects like enhancing schools, refurbishing health clinics, or improving roads that would benefit the community more widely. Within the contract system established in the isthmus, renewable energy companies share a percentage of the profits generated by the wind parks once they are in operation. Communities can expect some small portion of company profits to be put toward human infrastructural projects like schools and health initiatives. But speculation about graft and a lack of information about how, and to whom, revenues are distributed has caused enduring suspicions. Some local residents have found work during the construction phase; far fewer have acquired more permanent jobs (repairing specialized turbines, for instance). Most management positions are still held by Spanish and American professionals whose companies build and run the parks. Streets have been paved, lowering the dust and grit profile in places like La Ventosa, but residents are often unclear who has carried out these good works and whether in fact they *are* good. Many of those living in La Ventosa appreciated the modern glimmer of newly paved streets, for example, but they scorned the fact that their new streets were without drainage, meaning that in the rainy season the roads ran wild with flooding and their toilets sometimes belched murky waters of origins unknown.

For those who have been especially vocal in challenging the wind parks, it is not a matter of opposing renewable energy per se, but instead of criticizing the way that Mexico’s turn to renewable energy has proceeded. Dominated primarily by Spanish energy corporations, the wind sector seems to reiterate a politics of colonial exploitation through the means of transnational capital. As many in opposition to wind park development have voiced, the turbines are a sign of a *nueva conquista* (new

conquest). The regulatory environment that the Mexican government created for renewables is highly advantageous to foreign direct investment. Initial contracting for wind parks also took place under somewhat suspicious conditions, with select corporate sponsors given exclusive negotiation rights over prime land that, in turn, prohibited landowners from seeking competitive bids on contracts. Land that is privately owned has generally been less contested; owners receive a direct rental payment from renewable energy companies and thus directly benefit from wind park development. However, wind parks have also been planned for communally held land, designated by the federal government due to historic farming rights (*ejidos*) or historical indigenous stewardship (*bienes comunales*). Here, the relationship between land and the people attempting to manage its future is more complicated. Circulating throughout the isthmus are stories of collective authorities being manipulated and “bought” at the expense of the communities to which they are supposed to be accountable. Critics of wind development readily claim that exploration and usufruct rights were ill gotten, often through bribes paid to *presidentes municipales* (mayors) or *comisariados* (collective land commissioners). With contracts lasting 30 years, and “evergreen” unless nullified by the landowner, accusations of corruption are invariably paired with charges of land expropriation or the “*despojo*” (sacking and looting) of indigenous and *campesino* lands.

Wind park development in the isthmus, like many infrastructural initiatives in Mexico, has followed a neoliberal and individualized economic logic. The industrial model instituted in the isthmus is predicated on a corporate self-supply model called *autoabastecimiento*. *Autoabastecimiento* forges partnerships between private wind developers and large industrial clients—such as Walmart and Coca-Cola—over a period of many years. Corporate consumers are able to secure below-market prices for their electricity and benefit from *bonos de carbono* (emission reduction credits); companies are also able to “green” their corporate profiles. Meanwhile, the Mexican state receives infrastructural assistance—in the form of substation construction, for instance—at no, or low, cost. In the discourses of clean energy development, local communities are often portrayed as profiting from the *autoabastecimiento* model because landowners receive rents. However, many Istmeños have begun to wonder about the true benefits of wind development. Following a longer political tradition in the isthmus, residents have voiced concerns about megaprojects in general, even those that are supposed to be clean and green.

The office of the Assembly of Indigenous Peoples of the Isthmus of Tehuantepec in Defense of Land and Territory is easily seen on the streets of Juchitán; it is the edifice with the anti-turbine art on its facade. Our meeting with two of the founders of the “*anti-eólico*” (anti-wind) resistance took place inside a tiny room decorated with images of past victories and heroes from Che to Zapatista Subcomandante Marcos. Rodrigo, one of the movement’s founders, emphasized that he and his *compañeros* are not opposed to renewable energy; they are opposed to the way its institutionalization has taken place. To illustrate

this point, Rodrigo narrated a political genealogy linking wind parks, foreign domination, and resource extraction in an account of economic imperialism that needed to be thwarted. For this, he said, we need to turn to history: the student movement in Mexico City in 1968 and a guerrilla *foco* in Chihuahua before that; the Zapatista rebellion, the beginning of the North American Free Trade Agreement (NAFTA), and a battle over an airport outside of Mexico City in the early 2000s; the teacher’s strike and state reactions in Oaxaca City in 2006; and finally Maoism itself with its agrarian peasant insurgencies and challenges to first-world imperialism. Rodrigo’s political lineage drew from multiple sources of inspiration, weaving a timeline through resistances near and far, both temporally proximate and distant. His cartography of responses to foreign domination, urban hegemony, and rebellions against neoliberal development brought us to the origins of the isthmus anti-eólico resistance in 2005. Rodrigo explained that the resistance could claim several significant victories, including nullifying contracts across the region and “rescuing” 1,200 hectares of land from being contracted and thus turned into wind parks. For Rodrigo and the several hundred protestors who have come to identify with the resistance, wind parks are less a proposition regarding wind or electricity than they are a means to extract land from local hands.

In other communities, like the binnizá hamlet of Álvaro Obregón and the ikojts village of San Dionisio del Mar, planned wind park projects have catalyzed powerful political polarization and violence. Roads have been blockaded, town halls occupied, community radio stations attacked, trucks kidnapped, stones thrown, and limbs broken. Although land expropriation is an enduring concern in the shadow of the turbines, in maritime places such as Álvaro and San Dionisio, it is fish, shrimp, and lagoonal waters that seem most imperiled. The sandbar of Santa Teresa is home to mangrove stands, and its surrounding waters provide a reservoir of subsistence for many local fishing families. The *barra* is also where local residents have blockaded a road and prevented the installation of what would have been Latin America’s largest single-phase wind park to be constructed on the barra by Mareña Renovables. Fisherfolk were concerned about the park’s impact on their fishing grounds. Would the barra shake with every lop and turn of a turbine blade? Would the lights and sounds of the machines terrorize and disperse the aquatic creatures upon which many local people survive? Luis Gutierrez-Doblado, a teacher from the region and an opponent of the wind parks, put it this way:

I understand this is supposed to be a form of clean energy. [But] if they gave us all the money in the world, we’d still say “no.” Our children and our grandchildren will depend on the fish, the shrimp, the love of the land, respect for nature, and all of our cosmology that we have as an indigenous community.

Forging a rhetorical link between indigenous peoples, love of land, and respect for nature may not be a novel statement, but it does index the troubled paradox be-

tween forms of energy that are environmentally beneficial writ large, but that may nonetheless negatively affect ecosystems and people living in places where new models of industrial power are being generated. The giant wind park never did come to fruition. Resistance against the “white giants” had become increasingly fierce and investors’ patience increasingly overtaxed.

In the isthmus, the hopeful promises of “wind power” have been constantly drawn back down to earth through decades-old battles over land tenure, local ecosystemic possibilities, and centuries-old conflicts over the expropriation of Istmeño resources by faraway powers. While government and corporate functionaries have attempted to create a singular aeolian public, we argue that aeolis compels, by necessity, multiple publics, surfacing manifold routes to authority, management, and cosmologies. Many models of publicity suggest that publics are constituted by circulating messages (e.g., Anderson 1998;

Warner 2002). Other accounts of public formation show how infrastructures themselves mobilize publics around their capacities, flows, and durability (Anand 2011; von Schnitzler 2013). Aeolian publics are something different altogether. Wind does not operate in the systemic fashion that electric grids, transportation networks, or pipelines do. It is a more expansive and open infrastructural entity, one that is constantly in motion, refusing closure. Aeolian publics are thus constantly undone and remade through the ontological status of wind itself as a fleeting, gusting, and turbulent force facilitating wealth and energy but also cosmological worlds and powers of resistance. ■

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**CYMENE HOWE** is Associate Professor of Anthropology at Rice University. **DOMINIC BOYER** is Professor of Anthropology and Director of the Center for Energy and Environmental Research in the Human Sciences at Rice University.



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