

## **Troubled winds from the South:**

The impact of large-scale wind energy projects on indigenous communities in Oaxaca

*Jorge Hinojosa Garza*

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(30hp/credits)



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## Abstract

The expansion of large-scale wind energy projects in the name of climate change mitigation has led to numerous social conflicts in Oaxaca. The Mexican government has put forward environmental policies that envision 35% of the national electricity to be generated by renewable sources in 2024. The urgency to achieve these climate change goals has been used to favor corporate projects that have been accused of unfair distribution of benefits and neocolonial practices against indigenous communities. I use Schlosberg's (2004) theory of environmental justice to investigate the different perspectives of justice within local communities that have seen the development of multiple wind farms. I find that there has been marginalization and exclusion because the repeated privatization of land has favored companies that look for a 'greener' growth, using the environmentalist narrative for development. Also, with the help of financial institutions and State-backed energy policies, projects have extended at the expense of the communities' economic activities, human rights and cultural values. The interaction with diverse stakeholders in the field helped me broaden the perspective of the local stakeholders concerning ongoing conflicts and the social impacts of these projects. Moreover, I highlight the injustices that have led local leaders to use social movements as a pathway to a more democratic energy future that adjusts to the needs of the *huave* and *zapoteco* communities without compromising their well-being.

**Keywords:** Oaxaca, wind energy, environmental justice, climate change, indigenous communities, social movements

**Word count (thesis): 13,422**

## **Acknowledgements**

I wrote this thesis during a time when our planet is giving us our last warning, if we care to listen, closing our eyes, for once? This goes to humanity, all of us! After all we are interconnected, we are one in this universe, aren't we? Are we here for love or greed? Now breathe deeply, close your eyes, smile, dive within yourself, listen to the air inside you. Envision a healthy planet, thriving and full of life. Breathe again, open your eyes, how do you feel now? Do you feel you are helping enough? We don't have much time, so I invite you to join this journey for the sake of life. Thank you!

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## **List of Abbreviations**

GEF – Global Environment Facility

IEA – International Energy Agency

IRENA – International Renewable Energy Agency

NREL - National Renewable Energy Laboratory

TWh – TeraWatt Hour

# 1 Introduction

During the past decade, the Mexican government has developed several environmental policies to tackle climate change. With the purpose of positioning the country as a sustainable development leader, the adoption of new climate change and energy laws has opened the field to accelerated investments in renewable energy, which demand is expected to grow threefold, from 0.5 EJ in 2010 to 1.5 EJ in 2030 (IRENA, 2015). The government has also committed to use at least 35% of renewable sources of electricity by the year 2024, 40% by 2035 and 50% by 2050 (IRENA, 2015). With the purpose of attracting large investments in energy, in 2013, Mexico initiated a transformation in the sector through a reform that allows private companies to operate in the market (IEA, 2016). At the same time, Mexico was one of the first countries to submit a climate pledge before COP 21 and recently approved the General Law on Climate Change<sup>1</sup> and the Energy Transition Law<sup>2</sup>. Through these international commitments on climate change mitigation and renewable energy escalation, Mexico started to attract international companies that are able to capitalize on the investment-friendly policies that entail incentives, such as long-term energy auctions<sup>3</sup> (IEA, 2016) and new modalities of self-supply energy production (Government of Mexico, 2015).

In this regard, the potential of wind energy in Mexico has been identified as one of the largest in Latin America, heading towards the annual production of 92 TWh of electricity by 2030 (IRENA, 2015). Most notably, there is one specific region in the country where the wind speed and conditions are one of the best in the world, the Isthmus of Tehuantepec region, located in the State of Oaxaca (Nahmad, Nahón & Langle, 2014). The Isthmus region has been strategically used by international financial institutions to develop wind farms throughout the past two decades, using international environmental funds (Ávila, 2017; Nahmad, Nahón & Langle, 2014). The battle for a piece of land in this area has been fierce, since several neocolonial projects have historically exploited natural resources, due to its geographical location between the Pacific and Atlantic Oceans (Dunlap, 2017a). In this sense, capital accumulation and appropriation of nature have been documented to happen since the Spanish colonization until today (Ávila, 2017), which has largely affected the biodiversity in

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<sup>1</sup> General Law on Climate Change. Available at:  
[http://www.diputados.gob.mx/LeyesBiblio/pdf/LGCC\\_130718.pdf](http://www.diputados.gob.mx/LeyesBiblio/pdf/LGCC_130718.pdf)

<sup>2</sup> Energy Transition Law. Available at: <http://www.diputados.gob.mx/LeyesBiblio/pdf/LTE.pdf>

<sup>3</sup> Companies are awarded contracts of 15 to 20 years in these energy auctions.

the area and the territorial rights of two main indigenous communities, the *huaves* and *zapotecos* (Nahmad, Nahón & Langle, 2014; Juárez & León, 2014). The latest colonization project in the Isthmus region has been the wind energy boom, which has seen at least 17 projects approved (Ávila, 2017) in an area where 67% of the inhabitants still live in extreme poverty (Huesca-Pérez, Sheinbaum-Pardo & Köppel, 2016). Driven by a political agenda that has relied on top-down environmental policies, wind turbines have become an inconvenient truth in Oaxaca, where numerous social conflicts have emerged as a response to neocolonial (Dunlap, 2017a; Howe, 2011), unequal (Juárez & León, 2014; Sellwood & Valdivia, 2018) and land-grabbing practices (Dunlap, 2018). The upsurge of local resistance against corporate projects has been jointly led by indigenous community leaders who claim that a few large energy companies have taken advantage of the sustainable development narrative to privatize their land (Castillo, 2011) while manipulating property contracts and affecting the primary economic activities of the communities (Dunlap, 2017b).

The social movements that emerged in Oaxaca look for respectful benefits within the communities, which have been excluded from the governance decisions of the wind energy companies and equitable profit in a region where annual project investments had increased to USD 2,200 million by 2015 (Filgueiras & Flores, 2016). The persistent marginalization of indigenous communities by government-backed wind projects has brought local leaders together with the purpose of opposing neoliberal practices and social injustices (Dunlap, 2018). Since the environmentalist discourse has dominated the development agenda of Oaxaca, alternative local networks of indigenous groups have found protests to be the only way to make their voices heard (Cruz Rueda, 2011). However, little has been done to promote alternative wind energy schemes that offer a more democratic governance within indigenous communities (Atiza-Montobbio, 2015).

Through this study, I want to highlight the different perspectives of justice within local communities that have seen the development of wind farms in Oaxaca. Using Schlosberg's (2004) theory of environmental justice, my aim is to use the research in the field to contribute to the discussion of the ongoing social conflict, specifically with the case of the *huaves* and *zapotecos*. The interaction with diverse stakeholders helped me explore the injustices that have led local leaders to use social movements as a pathway to more democratic energy policies. Therefore, I use social movements theory to investigate whether there is a better way forward to sustainability in Oaxaca. I guide the thesis using the following research questions:

1. What issues have originated the conflict between wind energy developers and indigenous communities in Oaxaca?

2. How does environmental justice evidence the implications of wind energy farms in Oaxaca?
3. Why are social movements a potential way forward to wind energy justice in Oaxaca?

## 2 Background

### 2.1 The *huaves* and *zapotecos* in Oaxaca

The Isthmus of Tehuantepec region under wind energy development, in Oaxaca, is mainly inhabited by *huaves*, primarily in the south, and *zapotecos*, mostly in the north (Oceransky, 2010; Pasqualetti, 2011). These indigenous communities have historically developed strong cultural relationships to their fishing and farming activities since the year 500 B.C. (Dunlap, 2017a; Ruíz, 2011). Since pre-colonial times, these indigenous groups have based their cultural and religious beliefs in nature, where agricultural crops have been the base of their economies, but most importantly a symbol of identity (Nahmad, Nahón & Langle, 2014). However, since the arrival of the Spanish colonizers, these coastal communities have been involved in different economic practices related to commerce because the State started to seize their lands and control strategic access routes (Acosta, 2007). In this regard, it has been identified that during the colony, Spanish people became the owners of agricultural trading and the indigenous territories were used to develop large plantations in benefit of Spain (Ruíz, 2011). The evolution of the relationship between the Mexican government and these communities has continued to be colonial until today, given the geopolitical importance of the Isthmus in terms of international commerce and food production (Nahmad, Nahón & Langle, 2014).

The colonial relationship between the State and the indigenous communities in Oaxaca became more unfavorable when the constitution of the State of Oaxaca, in 1824, promoted the privatization of communal indigenous land (Ruíz, 2011). The violent conflicts with the *zapotecos* started around the 1860s, when the government sent the army to claim large extensions of land, which has continued to affect the cultural identity and governance of this group (Ruíz, 2011). Nowadays, many lands belong to *ejidos*, which are communally owned areas. The complexity of the local governance of both indigenous groups allows representatives of each *ejido* to be elected in an Assembly (Huesca-Pérez, Sheinbaum-Pardo & Köppel, 2016). The historical form of communal governance of these communities is *usos y costumbres*, which involves collective property (Juárez & León, 2014). As a way of recognizing the value of indigenous people, in 2001, the Mexican constitution finally introduced indigenous rights and Mexico ratified the International Labor Organization (ILO) Convention 169, which means that the

government is now required to consult indigenous people on any productive process (Huesca-Pérez, Sheinbaum-Pardo & Köppel, 2016).



**Figure 1.** Geographical location of the State of Oaxaca, in Southern Mexico (Encyclopædia Britannica, 2007)

The reference to neocolonialism in this thesis relates to the existing power relations between the State and communities, as well as the exploitation of natural resources with the purpose of control, in the same way this was done during the Spanish colonization in Mexico (Sellwood & Valdivia, 2018; Dunlap, 2017a). Being that the modern energy projects of Oaxaca are claimed to be still binary in relation to the colonial logic of development (Robbins, 2012), local populations have increasingly risen up against this continuous domination.

## 2.2 The upsurge of wind energy conflicts in Oaxaca

The continuous colonization of the Isthmus of Tehuantepec region has been supported by several neoliberal policies that target ‘green growth’ and multinational wind project investments (Avila, 2017; Dunlap, 2017a). The story began in 2004, when Mexico received GEF<sup>4</sup> climate funding for the acceleration of wind energy through the elimination of development barriers (Nahmad, Nahón &

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<sup>4</sup> Global Environment Facility climate funding for wind energy development.

Langle, 2014), which was followed by the first large-scale projects in Oaxaca, led by Spanish companies (Howe & Boyer, 2016). As the promotion of the Isthmus remained a top priority for the government, by 2012, there were around 15 wind farms in the region, positioning Mexico as the second largest wind energy power in Latin America (Howe & Boyer, 2016). During the same year, the General Law on Climate Change was adopted by the national government and, in 2013, the energy reform came into place, opening the market to private companies and incentivizing large investments in the sector (IEA, 2016). By 2012, three Spanish companies were the main wind developers in Oaxaca: *Gamesa*, *Acciona* and *Iberdrola* (Ávila, 2017; Nahmad, Nahón & Langle, 2014). The momentum of this region was booming and international stakeholders named it the ‘wind energy corridor’ of Oaxaca (Oceransky, 2010). In this sense, international climate funds from diverse institutions contributed to the growth of wind projects within communities inhabited by *huaves* and *zapotecos* (Ávila, 2017), with the aim of supplying electricity to private companies, which is then fed to the national grid (Howe & Boyer, 2016). However, local communities started to actively oppose the ‘neoliberal’ projects that privatized their land (Ávila, 2017; Filgueiras & Flores, 2016), accusing international companies of land-grabbing and contract manipulations (Huesca-Pérez, Sheinbaum-Pardo & Köppel, 2016). The *zapoteco* communities of La Venta, La Ventosa and La Mata started to resist against unfair conditions in the wind sites and a collective lack of information provision by the government and developers (Juárez & León, 2014). Specifically, in La Venta, the exclusion of the local population from the conditions of the contracts and economic benefits became a subject of violent resistance (Dunlap, 2017B). It was documented that landholders received very low yearly payments per wind turbine, which is why many locals confronted authorities in La Venta, offended with 30-year contracts that would leave them in a vulnerable situation (Simon, 2013). One of the most symbolic cases of the wind energy conflict in Oaxaca is the San Dionisio project, which was supposed to be the largest in Latin America (Sellwood & Valdivia, 2018). The project was put forward by multilateral development banks and investors, but it became a target for local activists when they found human rights violation, lack of information and consent, cultural identity, among other corruption allegations (Sellwood & Valdivia, 2018; Dunlap, 2017b). The local resistance turned violent, given the failure of adequate economic compensation and ‘wind extractivism’ in the name of growth (Sellwood & Valdivia, 2018). After several confrontations and legal proceedings, the San Dionisio project was canceled (Ávila, 2017), but it was only the beginning of more conflicts.

### **2.3 From wind energy to social movements**

The San Dionisio project led community landowners to file a lawsuit against the main company, Preneal, since it affected fishing and local commerce within three different communities (Ávila, 2017),

as well as their human rights (Cruz Rueda, 2011). As a community, San Dionisio del Mar asked the Inter-American Court of Human Rights to be involved in the project, escalating the case to an international level (Sellwood & Valdivia, 2018). Since the community petitions were ignored by the wind developing company, nearby *huave* and *zapoteco* communities that were also affected by private wind farms started to protest violently, organizing blockades and using civil disobedience, as a strategy to push for social justice (Sellwood & Valdivia, 2018). The collective discontent against 'neocolonial' practices and territorial dispossession in the region evolved into more extensive resistance networks, leading to the creation of the Assembly in Defense of the Land and Territory of the Indigenous People in the Isthmus of Tehuantepec, "*La Asamblea*" (Ávila, 2017; Huesca-Pérez, Sheinbaum-Pardo & Köppel, 2016). The social mobilization strategies used by this Assembly managed to cancel the San Dionisio project in 2013 and, although many other suspicious wind projects were constructed, this social movement started using the term 'energy sovereignty' in favor of indigenous communities (Ávila, 2007). As a result of the collective resistance, there have been more wind projects in the Isthmus that choose a participatory form of development and consult the community more democratically (Hoffmann, 2012).

### **3 Methodology**

#### **3.1 Research Strategy**

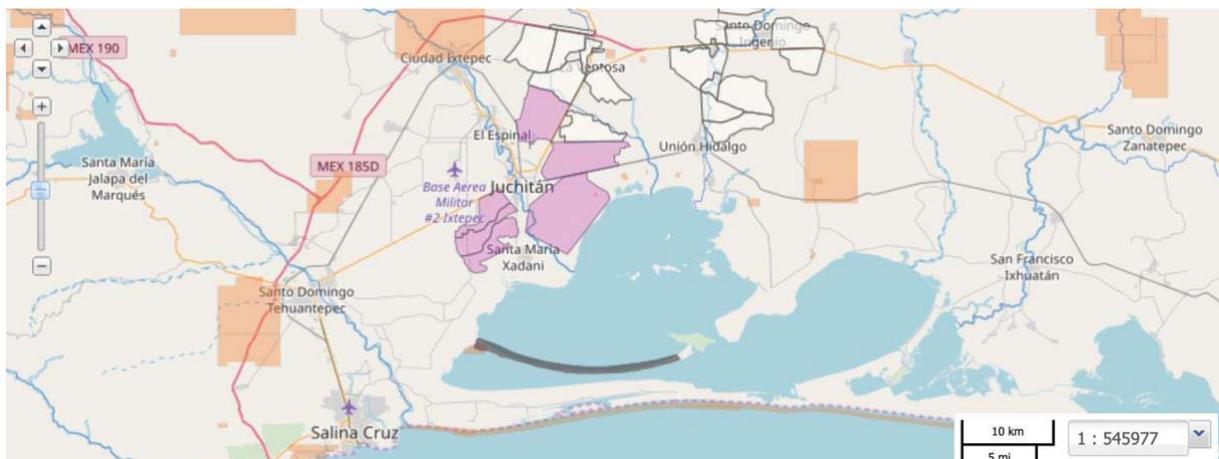
My research is based on constructivism, which suggests that humans have a perception of reality that is constructed (Robbins, 2012). This means that our perceptions are affected by our social world and different contexts (Robbins, 2012). In this thesis I address different approaches on justice, depending on the people and their contrasting views on the wind energy conflict in Oaxaca. Since the *huaves* and *zapotecos* have specific viewpoints on their relationship with nature and how technology impacts their culture, I attempt to understand the perceptions of these groups as suggested by Bryman (2012).

I base this thesis on qualitative research because I seek to analyze and understand the ongoing conflict with indigenous communities in Oaxaca from an environmental justice perspective. Since my aim is to highlight the different perceptions thoroughly, the nature of this work will be qualitative, using an inductive approach (Bryman, 2012). I went to the field with the environmental justice framework in mind, given the extensive injustices I found in the literature, but listening to the views of diverse local stakeholders brought me to include social movements as an emerging reality in Oaxaca. The escalation of social mobilizations that oppose the modus operandi of large-scale wind development was only apparent to me before reaching Oaxaca, but the local people gave me the feeling of hope when addressing these movements.

I research the case study of wind energy and its impacts on indigenous communities in Oaxaca because there are divergent perspectives of the conflict depending on the position of the stakeholders. Since it is relevant, in research design, to observe the social conflict under study, the case study allows me to better understand the local perspectives in the field (Bryman, 2012). Because, as a researcher, I aim to examine a social process that has developed for more than 15 years in Oaxaca, I chose the 'exemplifying case' for this study (Bryman, 2012). This type of case study allows the research in place to analyze implications of particular conflicts or issues while using various theories (Bryman, 2012).

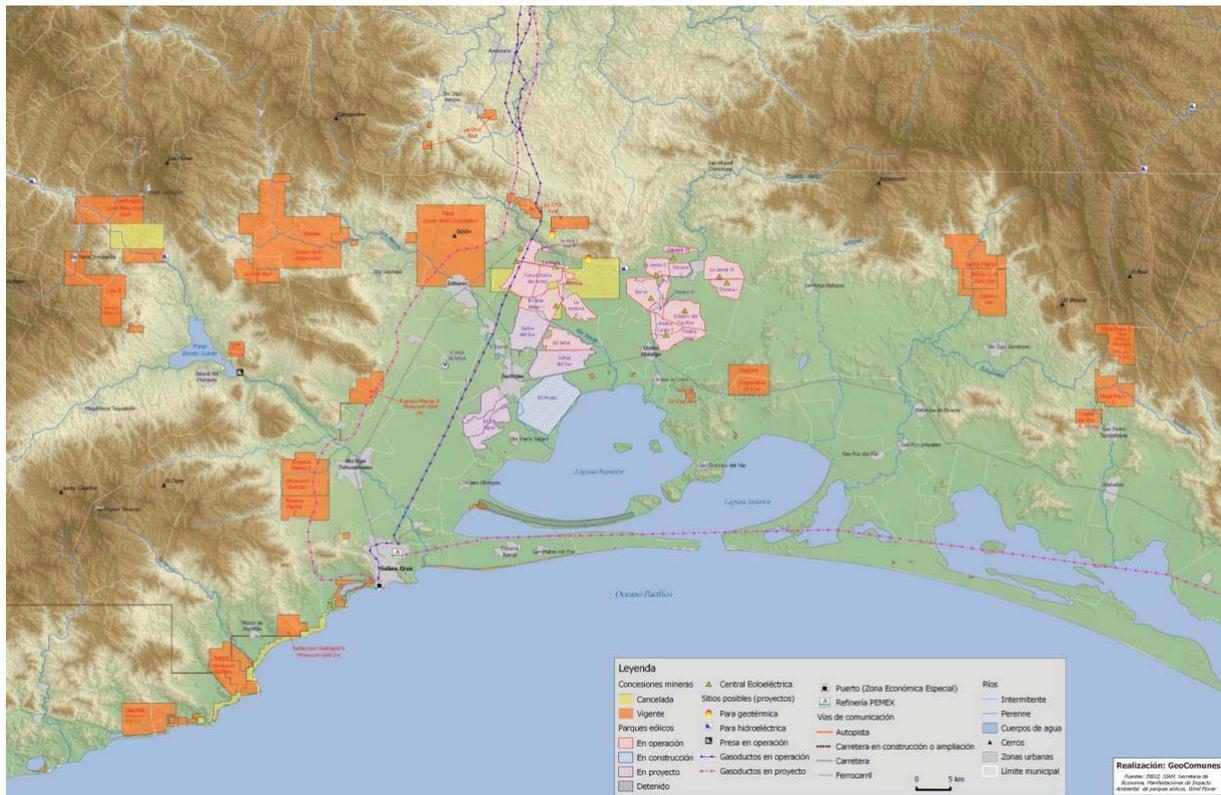
### 3.2 Case study and location

The case under study presents the ongoing conflict between large-scale wind energy developers and the *huave* and *zapoteco* communities, situated in the Isthmus of Tehuantepec, in Oaxaca, Southern Mexico (figure 2). The conflict area is located around the Pacific coast, where the large territories shown in purple encompass ongoing projects.



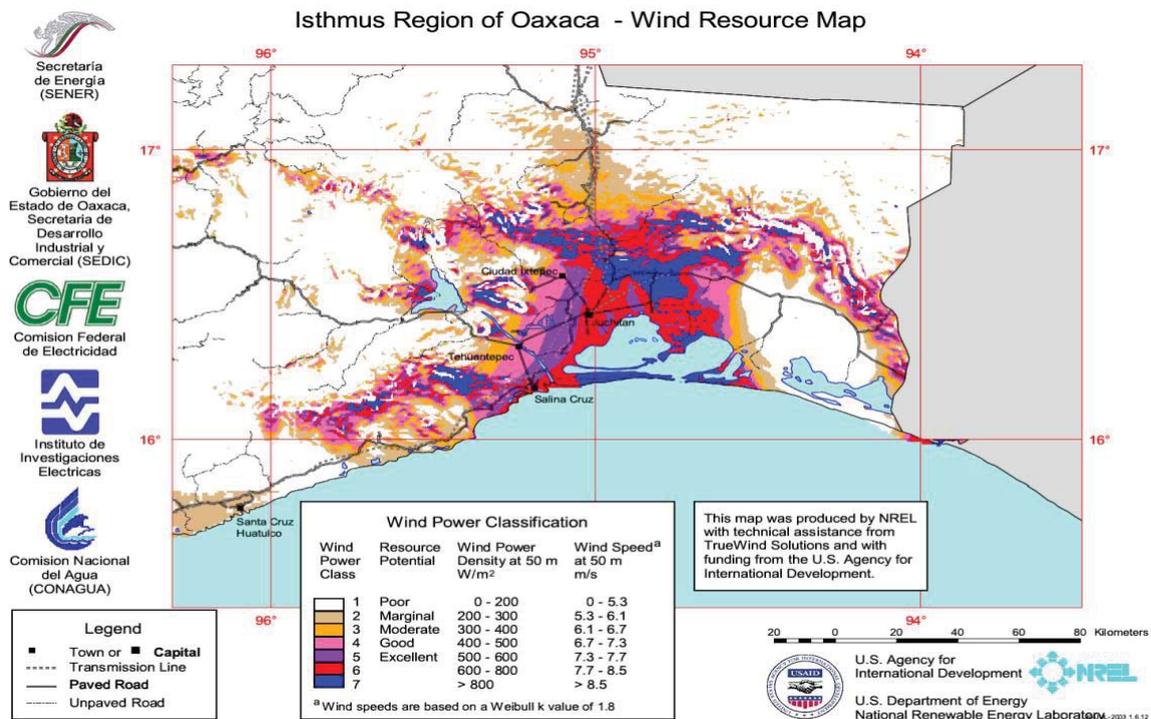
**Figure 2.** Geographical location of the wind farms within *huaves* and *zapotecos* territories in Oaxaca, by the Pacific Ocean (GeoComunes, 2015)

More specifically, figure 3 shows the communities under dispute, where the wind projects identified to date are displayed in purple and pink layers. As it has been identified in the field, the *zapoteco* communities of La Ventosa, La Mata and La Venta are located in the area of Juchitán. The *huave* communities of San Dionisio del Mar and San Mateo del Mar are situated more towards the East of the area under study (figure 3).



**Figure 3.** Map displaying the location of the identified wind farms in the Isthmus of Tehuantepec (GeoComunes, 2015).

The geographical position of the Isthmus is largely strategic for wind development, since it is situated between the Pacific and Atlantic Oceans, showing exceptional wind speeds, as displayed in figure 4. The rapid evolution of territorial disputes between private companies and communities in the Isthmus area has made the case of Oaxaca an extremely conflictive and dangerous one, even militarized in some areas (Dunlap, 2018). In this sense, prior to my field research, experts in the area warned me about some territories, recommending me to be strategic about the stakeholders that I needed to interview during the process. Therefore, I decided to do field research in the capital city of Oaxaca, in the State of Oaxaca, where diverse activists and stakeholders guided me to the most convenient rural areas. The people that I interviewed belong to communities under the district of Juchitán, Oaxaca, where diverse wind farms have been identified since 2004.



**Figure 4.** Isthmus region of Oaxaca wind resource map showing exceptional speeds (Elliott, et al., 2004)

### 3.3 Data collection and analysis

Given the qualitative nature of this study on environmental justice, I decided to pursue semi-structured interviews as part of the case study process (Bryman, 2012). Because of my purpose of collecting diverse perspectives of justice, I selected stakeholders that represent different positions with regard to the wind energy conflict in Oaxaca. After landing in the field in Oaxaca, I started to understand the issues of injustices and political discourses more comprehensively, which helped me develop a questionnaire, using Schlosberg's (2004) three dimensions of justice: distribution, recognition and procedure. The questions can be found in appendix 1, which were asked in Spanish, being the native language of most of the interviewees and second language to some members of the local communities.

With regard to the participants of this field research, table 1 lists the interviews that were conducted. A complete table with specific notes of each interview can be found on appendix 2. One participant decided to remain anonymous for this process because the political situation in the communities is still delicate for this person to make public statements.

**Table 1.** List of interviewees and their affiliation (own table)

| <b>Interview Number</b> | <b>Affiliation</b>                       |
|-------------------------|--|
| <b>Interview 1</b>      | Ministry of Environment - Oaxaca         |
| <b>Interview 2</b>      | Anthropologist and researcher - Oaxaca   |
| <b>Interview 3</b>      | Local activist - Juchitán                |
| <b>Interview 4</b>      | Field researcher - Communities           |
| <b>Interview 5</b>      | Field researcher and political ecologist |
| <b>Interview 6</b>      | Energy consultant                        |
| <b>Interview 7</b>      | Anthropologist and researcher            |
| <b>Interview 8</b>      | Land owner - Juchitán                    |
| <b>Interview 9</b>      | Community leader - Juchitán              |
| <b>Interview 10</b>     | Local activist                           |

Many of the stakeholders that I interviewed considered that information about the conflict has been hidden by the government and companies. Therefore, the realities they experience on a daily basis go beyond governance issues, since they have only been part of some protests and assemblies they were invited to. Some people have been threatened by community leaders in case they attempt to revolt against the negotiations that were taking place.

As part of the data collection process I had the opportunity of perceiving cultural identities of the indigenous communities, local beliefs traditions that make environmental justice judgments complicated, due to the use of *usos y costumbres* as a way of governance, among other aspects, that will be addressed in the results and analysis section. During the field work, government officials also gave me access to official maps and documents that detail climate change and social policies. The interaction with academics Oaxaca was an enriching process that widened the perspective of my research, clarifying the context of certain conflicts as well as the latest available literature for this study.

### **3.4 Limitations**

The political situation in the area under study is complex and dangerous. As mentioned by local experts and researchers, the conflicts between authorities and groups that organize civil disobedience events are still taking place. Moreover, some communities have been affected by criminal groups and the government's continuous lack of economic inclusion of indigenous people, which makes them highly risky to visit. In this sense, one of the interviewees told me one of the *huave* communities would not welcome a foreign researcher because people are not interested in 'technological lies' that only maintain the historical neocolonial reality. They have also confronted local authorities these past years, refusing international projects. Language was also a limitation, since many of these people do not speak Spanish fluently and, when asked specific questions for this research, it was not easy for them to communicate. Therefore, this thesis was developed within the boundaries of the given data and perceptions of the conflict, subject to the available time and resources in the field.

## **4 Theoretical framework**

### **4.1 Sustainability science**

This thesis has the purpose of contributing to the emerging field of sustainability science, which looks to explain the interaction between society and nature (Kates, et al., 2001). Since the goal of large-scale wind energy projects in Oaxaca is to mitigate climate change (Government of Mexico, 2015), there is a risk for these developments to drive another 'more complex problem', at the expense of the *huave* and *zapoteco* communities (Jerneck, et al., 2011). In this sense, wicked problems arise from responses to sustainability challenges, such as climate change, which pose threats to human beings (Jerneck, et al., 2011). It is therefore highly relevant to consider the relevance of planetary boundaries, which include climate change (Steffen, et al., 2018), avoiding to fall into the separation of natural and social sciences (Jerneck, et al., 2011). Moreover, sustainability science suggests the research to be interdisciplinary with the purpose of solving critical environmental problems (Jerneck, et al., 2011) without compromising the well-being of humanity (Spangenberg, 2011).

Being that the roots of the wind energy conflict in Oaxaca are associated to the interaction between modern technologies and indigenous communities, sustainability science brings a comprehensive perspective that involves stakeholder participation (Spangenberg, 2011), which helps researchers to give practical solutions to local problems, thoroughly acknowledging the necessities and perceptions of the groups under study (Clark & Dickson, 2003). Given that the essence of this work is to highlight

the injustices of the wind projects in the Isthmus region, sustainability science provides a critical approach that studies power relations that are useful with respect to cultural identities, ethnicities and inequalities (Jerneck, et al., 2011). In this regard, sustainability science looks to encourage societal transition processes that pursue a human-environment balance via solution-oriented strategies (Wiek, Ness, Schweizer-Ries, Brand & Farioli, 2012), which are useful in matters of environmental justice (Jerneck, et al., 2011), correspondent to the discussion of the case of Oaxaca.

#### **4.2 Environmental justice**

Environmental justice emerged as a movement that started to challenge increasingly the unfair conditions of the urban poor and disempowered communities, especially in the United States more than three decades ago (Robbins, 2012), influenced by racial and class-based disparities (Banerjee, 2012). Initially, the focus of the environmental justice movement targeted waste disposal facilities located in poor communities (Peet, Robbins & Watts, 2011). Parallel to the civil rights movement, the inspiration of the environmental justice advocates was motivated by the impact of environmental hazards on excluded populations, such as people of color (Cole & Foster, 2001). Challenging the idea behind 'environment' itself, this movement expanded the argument to include a focus on justice, with the aim of attaining the well-being of communities (Schlosberg, 2004). In this sense, the discussion evolved into a disapproval of the dominant 'environmental' discourse that was supported by large environmental organizations, allegedly marginalizing communities with economic disadvantages (Robbins, 2012).

The case of large-scale wind energy development in indigenous communities opens a debate that is essential to the challenge of 'sustainable materialism', since the persistence of development projects that favor privileged groups of the population raises deliberate questions of justice and equity (Schlosberg, 2013). In this regard, analyzing a sustainable development project without considering the human beings that interact with the environment is more and more confronted by activists and academics that helped shape the environmental justice theory (Peet, Robbins & Watts, 2011). The argument for justice goes on to question technological interventions that threaten local groups who have been connected to specific segments of nature and its resources (Banerjee, 2012). This means that the displacement of communities, unequal socio-environmental conditions and the violation of human rights in the name of 'sustainable' technological advances are meaningful components of the justice theory (Banerjee, 2012).

For the case of the *huaves* and *zapotecos* in Oaxaca, the multiplication of wind farms in their territories has been a reproduction of the neocolonial development schemes that have historically marginalized

these groups. In this sense, this thesis focuses on the multiple socio-ecological elements that are increasingly at stake in the Isthmus region. This is not only related to their natural resources and economy, but strongly linked to their cultural identity, which has been found to dissipate in many ways (Huesca-Pérez, Sheinbaum-Pardo & Köppel, 2016). Therefore, the importance of broadening the discussion of this nature-human interaction with a bottom-up environmental justice approach is vital, which I will pursue by using the framework proposed by Schlosberg (2004) and its three dimensions of environmental justice: distribution, recognition and participation.

#### ***4.2.1 Schlosberg's framework of environmental justice***

Schlosberg's framework of environmental justice originates from the argument that global environmental justice movements have mostly focused on the distributive idea of justice, resulting in insufficient attention towards problems that surge in local communities (Schlosberg, 2004). This means that the position that these movements sustain still largely targets the inequitable distribution of economic resources and environmental risk. However, the reality of the environmental problems goes beyond social injustice and maldistribution, expanding into a discussion that includes community devaluation, lack of recognition and participation (Schlosberg, 2004). As a bottom-up tool that aims for a comprehensive integration of environmental justice elements, Schlosberg's framework makes the case for indigenous communities, advocating for their human rights and cultural identities (Schlosberg, 2004). Attempting to understand the wind energy conflict in Oaxaca, then, cannot make use of classic environmental theories, but there needs to be a collective effort that fully interprets the needs of these communities, making sense of their human capabilities (Schlosberg, 2013), as well as the local governance that currently excludes them from having a strong voice on the perceived injustices from private companies and local authorities (Sellwood & Valdivia, 2018).

##### ***4.2.1.1 Distributive justice***

The distributive dimension of justice is referred to as the distribution of goods in a society and how these can be allocated (Schlosberg, 2007). It has been historically defined as part of the environmental justice theory, that distributive justice deals with the distribution of environmental bads (Walker, 2012). In this sense, a large part of the research in distributive justice concerns with environmental inequalities and environmental issues, such as climate change, greenspace and air pollution and their distribution within marginalized communities (Walker, 2012). More specifically, the principle that this dimension has followed is to look for environmental equalities, which are mostly measured by 'standards' (Walker, 2012). Nevertheless, being that the justice debate has become more plural, the distributive dimension has been critiqued by diverse scholars. Young (1990) claims that injustices are

not entirely related to distribution, but the lack of recognition of different groups is a fundamental demand that justice researchers need to address. In this regard, Fraser (2000) suggests that communities are not necessarily threatened by the same measure of environmental risks. This relates to the fact that different social classes or races are not recognized fairly, which means that the argument of cultural identity is also essential to environmental justice.

#### **4.2.1.2 Justice as recognition**

Justice as recognition is related to social groups and communities that are excluded by distributional schemes of environmental justice (Schlosberg, 2004). This dimension goes beyond the limits of the state (Schlosberg, 2007), to advocate for the cultural and institutional practices that encourage inequalities with regard to patterns of recognition, such as gender, race, ethnicity, among others (Walker, 2012). Since there have been numerous cases of environmental justice with oppressive practices, justice as recognition deals with cultural norms and values, increasingly with indigenous communities (Walker, 2012). In this sense, the identities of local activists are often devalued because they are not considered as part of the dominant environmental discourse (Schlosberg, 2004). As such, justice movements have substantially disputed the lack of recognition of marginalized communities to larger political and cultural realms, also related to group difference (Schlosberg, 2007). This means that individual groups have been favored by environmental policies that mainly rely on distribution issues, independent of the holistic needs of local communities (Schlosberg, 2007). Moreover, Fraser (2000) states that the lack of recognition is associated to institutional subordination and diverse inequities, suggesting that there is a need for fair community participation for these issues to be overcome. In this regard, the idea of including recognition as part of the justice debate is to confront the dominant or 'advantaged' groups and put an end to cultural injustices while listening to the realities of the people that interact with the environment on a daily basis (Fraser, 2000). Nevertheless, in a society where the market is more valued than culture, injustices are more and more common, such as in the case of the *huaves* and *zapotecos* in Oaxaca.

#### **4.2.1.3 Procedural justice**

As part of the environmental justice framework, procedural justice deals with the decision-making and the fairness of the process within distributional justice (Walker, 2012). This dimension attempts to provide the involved stakeholders with non-discriminatory and equitable procedures that implicate institutions and non-state actors (Walker, 2012; Schlosberg, 2007). The specific focus that differentiates procedural justice from justice as recognition is that of asking whether the whole process is fair and how it can be reformed, instead of solely concerning with misrecognitions of social groups

(Jenkins, McCauley, Heffron, Stephan, & Rehner, 2016). In this regard, the relevance of equal participation in decision-making processes is crucial for procedural justice, where the inclusion of community members and the transparency of environmental information play essential roles for injustices to be avoided (Walker, 2012). Therefore, the demand for a democratic participation that respects human rights of fairly recognized social groups has brought the environmental justice discourse to a more integrative debate, where the inclusion of the three dimensions of Schlosberg's (2004) framework challenges injustices from a broader perspective. In the case of indigenous communities in Oaxaca, the numerous complaints against neocolonial and unfair wind energy practices go beyond distributive issues, given the lack of cultural inclusion and a repeated process of lack of institutional transparency. Thus, adopting a democratic process that considers inclusiveness, consultation, equal access to resources and information (Walker, 2012) has emerged as an alternative approach to push for via social pressure in the region.

### **4.3 Social movements**

After analyzing the environmental justice framework, it is important to investigate the role that social movements have played throughout the past two decades in the continuous social conflicts within wind energy developers and indigenous communities in Oaxaca. Being that there have been cases of organized resistance in the Isthmus region, where communities have confronted private companies and authorities, this thesis adds the perspective of collective action as a driver for sustainability and justice within local communities. Social movements have been studied since the 1960s, as part of powerful transformation demands that led to political mobilizations against neoliberalism, women discrimination, among other social concerns (Della Porta & Diani, 2006). As a form of contentious politics, social movements have been characterized to challenge conventional regimes (Tarrow, 2011), putting pressure on authorities to fight against the control of society (Della Porta & Diani, 2006). In this sense, several social struggles have emerged to oppose hegemonic discourses, such as the domination over indigenous communities in Latin America (Tarrow, 2011), as well as the growth of environmentalism, related to the power of international organizations across scales (Della Porta & Diani, 2006).

The rise of globalization and 'westernization' has favored multinational organizations that benefit from new technologies and the market, which has led to vigorous social resistance from groups, such as the climate justice movement, which was born as an opposition to 'failing' international climate policies at the UN level and neoliberal initiatives led by the Global North (Kluttz & Walter, 2018). Given that the climate justice movement is a global initiative that benefits from its presence across borders and

coalitions with strategic political parties, it has been studied as an example of collective efforts that demand environmental justice using a specific campaign against authorities (Tilly, 2004). This is related to the way recent social movements have responded to sustainability problems that no longer belong to nation-states, but to global corporations that strategically influence environmental policies to continue generating profit (Tilly, 2004). The need for urgent action from social movements on the environment has been described by Klein (2014) as a 'necessary climate disruption' if we still want to avoid 'planetary collapse'.

With the aim of having a stronger impact against injustices, Tilly (2004) suggests social movements to include the following main elements: a campaign, a repertoire and public displays of worthiness, unity, numbers and commitment (WUNC). The campaign is the capacity of public efforts to make claims against specific authorities, while the repertoire refers to political actions or operations movements use to obtain specific goals (Tilly, 2004). Regarding the WUNC, movements are expected to have an ability to show how worthy they are and to assess the commitment of the main participants to the movement (Tilly, 2004). Furthermore, Della Porta & Diani (2006) suggest that through social movements, there should be a clear conflict against identified opponents and the members of the group are expected to share a collective identity with the goal of fostering social change. Because of the continuous presence of violent and non-violent conflicts against authorities in Oaxaca, understanding the influence of social movements theory on the change towards a more democratic wind energy transition is crucial. In this regard, recent studies have identified the importance of social movements for sustainability. Hess (2018) finds that mobilizations with strong repertoires are fundamental in energy democracy initiatives because new forms of governance that involve political coalitions and cultural justice are needed. Since corporations and local governments are still incentivizing energy for market growth via economic policies that open the door to investors, social movements allow alternative governance schemes to develop, depending on the community demands (Stahler-Sholk, 2010). More specifically, social movements in the Global South have increasingly used resistance strategies to make bottom-up claims for more inclusive sustainability initiatives to flourish (Isgren, 2018; Hess, 2018). With this I aim to discuss the potential of alternative mobilizations for wind energy development to evolve as a more equal process in line with social justice within indigenous communities in Oaxaca.

## 5 Results and analysis

Throughout my field research, I had the opportunity to interact with relevant stakeholders within the wind energy conflict in Oaxaca. The viewpoints of members of different communities and diverse experts in the subject enriched this process by contributing with primary data that I could not obtain from the literature. Since I used Schlosberg's (2004) environmental justice framework to design the interviews, the division of the injustices into each one of the three dimensions, distribution, recognition and procedure, became easier to compile. As mentioned in the theoretical framework section, the fact of being in the field in Oaxaca made me realize the importance of social movements for the amelioration of democratic practices between international companies, governments and local communities. Therefore, this thesis also turns to recent theory of social movements to investigate the potential of collective action for bottom-up sustainability. Because *huave* and *zapoteco* communities have predominantly been excluded from decision-making processes, governance schemes and land-use issues in the Isthmus region, local experts recommended me to interview researchers and activists that have been able to access strategic information on the conflict, as shown on table 1 in the methodology section. The main findings from the field are thoroughly outlined on appendix 3, using the environmental justice framework, with the aim of facilitating this qualitative analysis with a simple structure on a table.

### 5.1 Analysis on distributive justice

#### 5.1.1 Economic impacts in the communities

The interviews with community members and academics in Oaxaca pointed out several negative economic impacts within the *huaves* and *zapotecos*. The first issue that they indicated was that, since the beginning of the development of large-scale wind farms in Oaxaca, there have been numerous losses on agriculture and livestock production, given to diverse matters related to the construction process of the wind turbines (interviews 3; 4; 8). More specifically, the local communities of La Venta, La Ventosa and La Mata, mainly *zapotecos* historically depended on agricultural crops for their subsistence, which was not even considered abundant in this poor region (interview 3). The problem they see with these large operations that privatize land is that the environmental legislation in these rural areas is almost never enforced against investors and companies that 'benefit the economic demands of the State' as was said on interview 8. Therefore, the wind turbine installations mean that "a lot of trees will be cut" and "whatever land-use we had before was negotiable", because of the investment opportunities these renewable projects started to generate on international companies (interview 3). As said by one of the community members, according to the interviewee, "we were poor,

*but now some wind turbines are surrounding us, like modern promises”* (interview 8). From the indigenous people view, these lands used to benefit them from natural activities, in this case, agriculture, livestock and fishing, but now the government decided to allow “*Europeans and Americans”* take over the main income they used to have by promising ‘sustainable growth’ to companies (interview 8). In the case of La Venta, *zapotecos* groups claim that due to the lack of institutional governance of the municipality, there is no clear direction on how much income companies should pay land tenants and employees. Therefore, the land owner told me that some people get paid more than others, while many of the employees are foreigners who ‘come and leave’ as soon as the wind turbines are operating (interview 8). In this sense, the inequality within economic compensation is related to the fact that approximately 50% of the people in La Venta receive the small income the Spanish company, *Acciona*, ‘promised’, but the rest of the population still have not (interview 3).

The reality of what happens with the economic compensation within communities is not very simple to understand. The local people say that most of the benefits stay with the land owners, since multi-annual contracts signed by the companies allow them to receive a fix income. However, community members and former employees argue that there is no transparency within the process, even escalating to a point of ‘the ones in power’ threatening specific groups of people for continuous disagreement and resistance regarding payments (interview 4). In this regard, the interviewees stated that there are many cases of negotiations between companies, the government and community leaders, mostly *ejidatarios*<sup>5</sup>, where the ‘rules of the game’ are agreed without a general consensus within the community. Thus, the information that concerns income compensation for land owners and specific dates for payments as well as employment salaries has not been shared transparently (interview 8). In the case of La Venta, the national electricity company (CFE), which was state-owned at this time, charged expensive monthly electricity rates to the land owners while their lands were producing wind energy. This means that the real beneficiaries from the generation of renewable energy in these indigenous lands are the foreign companies and the government, through CFE, given the injustices that have taken place these past two decades in the Isthmus (interview 3).

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<sup>5</sup> *Ejidatarios* are the owners of *ejidos*, which are agreed owned land extensions that use community-based governance schemes.

*“We do not really know how much income is generated from wind energy in the community. Companies tell us different things, depending on the agreements they had with specific land tenants and the long-term contractual schemes they have. The uncertainty and the inequality have brought discontent here”. (interview 8)*

Nevertheless, not all the interviewees opposed the economic compensation schemes, as they have evolved throughout the years. Two participants told me that without the development of wind farms, *“things would continue to be as they have always been in Oaxaca”*, which relates to unequal communities where the ones in power have the ‘real say’ concerning land-use and economic production (interviews 1; 6). In this regard, these local experts added that the abundance of large-scale wind energy projects brings more clean energy access to the people, which is very much needed given the already questionable past that mining and oil exploration activities have left within indigenous communities. This includes endless pollution and the same inequality and lack of transparency when it comes to economic compensation in most cases (interview 6). The truth of where the benefits of accelerating wind energy production in Oaxaca go is far from positive, though, since the lack of clear regulations have left many community members in unfavorable economic situations when they used to have easier opportunities (interview 4).

### **5.1.2 Land injustices**

One of the injustices that was repeatedly mentioned in the interviews is the land-use dispute that has been part of many wind farms in the Isthmus region. What has emerged in several wind projects within *huave* and *zapoteco* communities has been very different in many individual cases. In some cases, such as La Venta, the national electricity company (CFE) has offered lower annual payments than private companies per hectare of land, around MXN 2,000, while in cases like La Mata, the payment is almost twice as high (interview 4). To begin with, the interviewees frequently said that *ejidos* are very complex land forms of property that emerged after the Mexican revolution. The plurality of rural indigenous groups that own these properties and diverse *usos y costumbres* communal regulations are also essential aspects that influence how many private companies have decided to follow their own path in terms of land leasing and payments (interviews 4; 6). In this sense, an issue that has continuously been claimed by indigenous communities is land-grabbing (interview 4). This means that international companies make ‘negotiations’ with community leaders and land tenants for long-term leasing contracts saying they will pay specific yearly amounts and describing the land-use activities that will be possible to share territory with wind energy development. However, many negotiations end up in contracts that are not clear in the local languages of *huaves* and *zapotecos*, the clauses are quite

ambiguous and the people in charge of the leases are also receiving more money for not disclosing the right information to the rest of the community (interview 9). Moreover, through ‘shady’ negotiation processes and commonly absent local authorities, some Spanish companies have taken advantage of the ignorance of the people with regard to contracts and land-use variants to “*commit land dispossession and even exploit the territory*” (interview 9). Some locals say this has been done in a way that ‘corrupt lawyers’ that cooperate with certain authorities negotiate other terms with the ones in power to then take advantage of the uses of these properties and defer payments that were agreed to longer terms (interview 9). Specifically, the case of San Dionisio del Mar, a *huave* area, has been one of the main catalysts of an ongoing conflict with local communities. What happened in this area is that some companies purchased the privatized land first with the aim of selling it later to other financial consortiums that had already negotiated different deals that benefitted some community *ejidatarios* and their financial return (interviews 4; 9). Another injustice that happened in San Dionisio del Mar and other wind farms in Oaxaca is the abundance of contract manipulations, where corruption has been frequently reported in diverse community assemblies.

*“It is just another common case of Southern Mexican neocolonialism, where fake negotiation processes take place and contracts benefit the ones in higher positions of power”. (interview 9).*

The interviewees described this as a common case where ‘money talks’ and financial returns for these large extensions of land are very promising for approximately 30 years, where it is very difficult to know who to blame for these injustices within communities where their people have already deceived the others by collaborating with local authorities (interviews 5; 9). In this regard, people that work for the government of Oaxaca told me how dangerous and difficult it has been to find the guilty stakeholders in negotiations that have ended up in social conflicts between local communities and authorities (interview 1). This is one of the reasons for the government to send the army to the streets in the violent conflicts that started to develop after San Dionisio del Mar. As stated in the literature I reviewed, some participants also agree that the governance ambiguities of these areas of Oaxaca have led to more and more cases of land privatization and unfair economic outcomes for foreign companies and the affected local inhabitants (interview 5). This is even more troublesome when investors know these territories are being used for ‘wind extractivism’ for the sole purpose of generating profit from wind energy (interview 4). Nevertheless, things have started to change after the San Dionisio project was canceled and the social mobilizations went beyond confrontation to scale the situation to an international legal injustice, looking for energy democracy in struggling territories (interview 4).

*“This has always been unfair. From the beginning to the end, people come, people go, money flows and we are still struggling here. Oh, but this never ends!” (interview 3)*

### **5.1.3 Climate policies for the benefit of whom?**

The persistence of climate and energy policies at the national level have attracted many new companies to exploit the ‘promised lands of wind’ in the Isthmus region (interview 5). This trend has also motivated the State of Oaxaca to come up with ‘state of the art’ climate change policies that allow the communities to get involved in ‘necessary’ adaptation and mitigation actions that respond to international agreements (interview 1). The view of the interviewees that support these policies is clear in terms of the Paris Agreement and the discourse of sustainable development. They mention time after time that the poverty of the State of Oaxaca has a brighter future with foreign investments in renewable energy, where growth will benefit the population (interview 1). Nevertheless, the perspective of the local activists and community members is that these environmental policies are ‘more of the same’ in terms of capitalist legislation with the goal of generating as much electricity as possible from wind farms for the sake of fulfilling the market (interviews 5; 10). Furthermore, the recent energy reform that incentivizes private companies to develop their own projects has resulted in a boom of competitors in the Isthmus region, where most attention goes to the sustainable development discourse (interview 5). In this regard, the view of the locals is that financial institutions and companies already know the market mechanisms that foster the sale of electricity to the market, as well as the long-term growth for the energy sector.

*“They know how to make investments and install wind turbines everywhere, but they forget that there are people and ecosystems living here”. (interview 10)*

The opposition from the indigenous communities was clear from the moment I started talking to them. Since the government had extensively supported large-scale investments without transparency with the purpose of giving market stability, the division of the Isthmus map into wind energy development areas was the most important highlight of ‘sustainability in Oaxaca’ (interview 4). With already more than 15 projects operating in the region, most of them developed by Spanish companies and with questionable environmental and social safeguards, local communities used the momentum of San Dionisio del Mar to scale up the social conflict (interview 10). The clash of perceptions was evident from the two sides of the conflict. On one side, the government members and consultants that were interviewed see the expansion of wind farms as a ‘necessary thing’ that benefits the State of Oaxaca to access more international funds, since the region is poor (interviews 1; 6). Nevertheless, on the other side, the people that lived the daily injustices of the development operations as they evolved,

feel excluded and 'used' by the ones in power to 'produce their lands' in the name of development (interviews 5; 10).

The fundamental issue I perceived from the interviews is that the dominant discourse of climate change mitigation is already being used to fund more and more development projects that 'bring more hope' to the Isthmus region. However, when one side of the struggle has the support of funds and policies, the other one naturally feels disadvantaged and excluded from the relevant decision-making processes that take place (interviews 3; 4). Overall, the benefits of climate policies in the case of wind energy in Oaxaca have been for a minority of the involved population. Although these policies are not the main historical reason for this to happen, they have reproduced the classical neocolonial relationships between the foreigners and the locals because of the way the Isthmus is politicized (interview 10).

## **5.2 Analysis on justice as recognition**

### ***5.2.1 Neocolonial practices***

Neocolonialism is a very common experience of the indigenous communities in Oaxaca because of its continuous occurrence in a daily basis. From the way these communities perceive foreign people, or even a 'foreign Mexican' like me in the area, the feeling of cultural exclusion is very visible in this part of Mexico. The historical reasons for indigenous people to be neglected by foreigners and the government, mostly funded by them, go back to the Spanish colonization, where the owners of land and capital made it very clear who was in economic control (interviews 2; 5). Since justice as recognition is a tenet of environmental justice that goes beyond the limits of the government, the views that I obtained from interviewees are closely related to their daily perceptions about social issues. From the first interview in Oaxaca, I started to feel resentment from *zapotecos* against many international development agencies and stakeholders in the area. The stories that they told me go very much in line with the oppressive practices that happen all around Latin America, in the quest for natural resources, suddenly "*inconvenient populations stand along the way of the foreigners*", which ends up in conflicts or neocolonial habits (interview 5). As one community member said, "*this is part of our collective imaginary*". The reproduction of what already happened after the Spanish first arrived in Oaxaca is, therefore, still evident. Nowadays it is not coffee, but wind energy, the precious resource that "*means a lot of capital from a very rich land*" (interview 2).

More than a distribution problem, what wind energy has brought to *huaves* and *zapotecos* is a lack of respect and indigenous rights violation (interview 5). Although ILO Convention 169 regarding

indigenous rights is ratified by the Mexican government, the overall perception of this field visit is that the people that provide the capital for investment are not the indigenous communities, but the companies that have the technologies and capacities. Therefore, the position of the government, and even community leaders in La Venta, La Ventosa, La Mata and other projects, has been to 'be on the side of the money' and allow clean energy to conquer the territories (interview 7). One of the main issues of the neocolonial practices has been to exclude and marginalize the local inhabitants instead of thoroughly including their cultural values, social traditions and governance habits (interview 5). However, this seems like a very long and difficult process to follow when communities are used to these injustices and power relations with private companies that buy or 'grab' their land. Moreover, the perception from local authorities is that these communities have very complex governance practices and make the climate targets of the State very challenging with diverse conflicts between *huaves* and *zapotecos* already taking place in the area (interview 1). In this sense, neocolonialism is still the dominant practice in the Isthmus while community members have had little choice but to participate and opted to look for economic survival by obtaining land income (interview 5).

### **5.2.2 Cultural injustices**

Indigenous communities in Oaxaca feel that the fact of wind energy companies taking over their land has cultural implications that go beyond inequality. The traditional agricultural and fishing practices these people have historically used to sustain their economies are also part of their religious beliefs and cultural values (interview 7). Because of the deep connection the *huaves* have cultivated with nature for centuries, they feel there is a 'territorial and cultural invasion' or colonization that is happening in Oaxaca (interview 7). Specifically, the case of San Dionisio del Mar, where social mobilizations grew so much to the point of stopping the construction of the wind turbines in 2012, indigenous rights were never respected by ambiguous financial consortiums that used third parties to sign long-term contracts involving corruption (interview 4).

*"They were basically using our land to produce money without really caring about our values and beliefs". (interview 5)*

The loss of cultural identity of *huaves* and *zapotecos* in the Isthmus region is not something new, given the persistence of government projects that look to boost economic growth in the State (interview 1). In this sense, it is well known that these indigenous groups resist to participate with the hegemonic capitalist model that is promoted by the government. This is not convenient for the government because it opposes their 'modernization' and promotion of the region as an economically flourishing one (interview 3). However, what the interviewees perceive from the situation in Oaxaca is that

inequality has only been growing and the importance of maintaining 'minority' identities that do not offer potential growth for wind energy investors is 'only important on paper' (interview 5). What this means is that these groups are manipulated via the inclusion of some powerful and strategic community leaders with the aim of showing a legitimate process that supposedly respects their rights (interview 7). Thus, the neocolonial practices that have prevailed in Oaxaca have taken advantage of the renewable energy potential while ignoring the voices of the marginalized population.

*"Instead of fishing and producing in their farms, people are now seeing wind turbines take over their cultural heritage. They sell the story of sustainability, but for whom?"*  
(interview 7)

Although serious conflicts have emerged between communities and authorities because of the multiple injustices people have perceived, the oppression from the ones in power has not allowed the people to recover what they already lost. There have been more and more efforts from community leaders and activists to restore cultural identity, which has brought more democratic practices when projects are being planned (interview 4). Moreover, communities are finally starting to be consulted and included in a few cases, which gives more hope. This is occurring through consistent legal processes that rely on indigenous rights to claim 'the justice that allows these cultures to be recognized after all' (interview 7).

### **5.3 Analysis on procedural justice**

Procedural justice has been one of the essential elements of a more democratic future for *huaves* and *zapotecos* in Oaxaca. Because this environmental justice dimension deals with fair participation and decision-making processes, the information I obtained in the field allowed me to understand the local efforts that are being made by several stakeholders to contribute to justice within the contexts of megaprojects in the region.

#### ***5.3.1 Unclear legislation and consultation processes***

Most of the participants emphasized the lack of consultation of indigenous people that has commonly dominated wind energy project in the Isthmus. Their general perception is that, although consultation processes are supposed to take place before projects are approved, only two formal cases have been documented to date (interview 4). It is known that ILO 169 convention protects indigenous communities and that the latest energy reform requires previous consultation in any production-related project. Also, the Law of General Ecological Equilibrium in Mexico allows anyone from the public to ask for consultations and queries concerning the projects under development. However, in

most of the cases companies have ‘hidden information’ and held small meetings with convenient stakeholders to prevent the public from slowing the projects (interviews 4; 7). In this sense, some Spanish companies claim that they have undertaken these legal processes correctly, including participatory meetings within communities, such as in the case of San Dionisio del Mar (interview 1). Nevertheless, there has been a growing discontent related to the fact that meetings are held in Spanish and the information that authorities and project developers disclose is incomplete (interview 7).

*“There has been a massive simulation of consultation processes that local people do not understand or attend because of disinformation. Companies just do this to please local authorities and keep going with the wind turbines”. (interview 10)*

It is clear, as many participants insisted, that the lack of transparency within local authorities in the communities and the desire for developers to advance in a fast pace to fulfill investors has led to a chaotic misinformation (interview 10). This is one of the main reasons for communities in San Dionisio del Mar, La Venta and La Ventosa to begin serious resistance by going out to the streets and asking for justice.

*“People got tired of misinformation and discourses. There is exploitation and land-grabbing, consultation is meant to happen transparently.” (interview 10)*

The legal strategies that private companies have been accused to follow throughout the development of more than 15 wind farms in Oaxaca have gone out of control because of corruption and manipulation cases (interview 4). This is what ended up provoking local groups to demand transparent information in every project that concerned their communities, thus stopping the development of some wind farms through civil disobedience (interview 7). However, because many cases of violent repression and violation of human rights have been reported, communities decided to formalize a legal process against wind energy developers through a selected committee. The main issue, initially was that the government did not officially reply to local demands and it has been identified that legal processes are not known to have proceeded fairly (interviews 7; 8). The complexity of institutions and governance in Oaxaca is naturally difficult to understand, given the plurality of actors that are involved in the legal operations and policies concerning indigenous communities. Furthermore, communities themselves are not entirely sure of the people who command certain public information matters and other members have been threatened by ‘coyotes’ who are paid to hide the real side of the story (interview 10). This is why committees and assemblies have been designed to formalize the legal fight against these procedural injustices, with attention from human rights institutions, in this case the Inter-American Court of Human Rights.

## 5.4 From discontent to social movements in Oaxaca

The evolution of an unstable political process that has lasted more than two decades in the Isthmus region has been characterized by social discontent and several revolts in *huave* and *zapoteco* communities. The wind energy conflict led by unhappy community members in San Dionisio del Mar was only one of many mobilizations that unfolded from unacceptable levels of corruption and socio-ecological devastation in the Isthmus region (interview 7). The social opposition started to upsurge when many communities started to communicate with each other about the injustices and ambiguous land practices that were taking place with large wind energy companies. Since many communities also share properties and use different legal schemes that do not correspond to the national one, confusion within contracts and payment schemes led some locals to organize blockades and protests in communities, such as Álvaro Obregón (interviews 7, 10). The situation worsened when some other community members noticed that the police was using violence to end the opposition movements, which brought more communities to join the mobilization in the Isthmus (interview 4). Therefore, resistance spread out to further areas, including La Ventosa, San Mateo del Mar, San Dionisio del Mar, among others, where the collective discontent was growing because of a persistent violation of human rights and inaction from the government (interview 7). This became a serious and dangerous situation in the cases of San Dionisio del Mar and Santa María del Mar, since more and more protests and blockades were being stopped by local authorities. Some of the interviewees said that people have been threatened and injured by other community members that were collaborating with ‘fake lawyers’ that helped private companies settle land leasing contracts in large extensions of territory (interviews 4; 8).

Overall, the social discontent in the region evolved collectively into an organized movement that accused companies and the government of ‘land extractivism’ and corruption regarding consultation processes (interview 10). The general demand was to end neocolonial occupations and territorial dispossession among wind energy projects where local inhabitants were being ignored and their economic activities were notably affected (interview 7).

*“At some point in 2012 it was commonly known that international banks and companies had manipulated contracts and avoided formal consultations, which ended up in local anger and violence”. (interview 7)*

The continuous mobilization led the community that was affected by the San Dionisio project to file an international lawsuit against Preneal, accusing it of violating human rights, cultural identity, among other economic impacts within the surrounding inhabitants in 2012 (interview 7). The cancelation of

this project in 2013 did not mean that the others stopped, but there were many improvements with regard to participatory justice in this case. Therefore, the Assembly in Defense of the Land and Territory of the Indigenous People in the Isthmus of Tehuantepec, "*La Asamblea*" was formed with the aim of fighting against the injustices that originated from the energy megaprojects (interviews 7, 10). Because the injustices continued and communities found more manipulations to oppose to, civil disobedience was still used as a strategy to influence decision-makers and private companies' actions (interview 4). The point of the evolving local resistance in the Isthmus was to find alternative solutions to large-scale projects that were leaving local inhabitants affected in many ways (interview 4).

My general perception from the communities on these social mobilizations in Oaxaca is that they were the only way to 'make their voices heard' against the 'favored energy developers' and their 'collaborators' in the government. The campaign and repertoire of the social movement that emerged in Oaxaca were easy to identify during the interviews. The battle against corporate projects that threatened communities was the campaign I perceived and the repertoire involved an organized mobilization through civil disobedience and legal allies as strategies to influence local governments and companies to act transparently. As a group of communities that found their way to achieve more justice, collective action was their approach to a more democratic governance of energy within indigenous communities. Concerning the WUNC of the social movement that derived from "*La Asamblea*", from the interviews I obtained general information that helps this analysis. The worthiness of the movement is characterized by the alliance of diverse *huave* and *zapoteco* communities that have seen wind development injustices in their areas. These strong links between communities, such as La Venta, La Ventosa, La Mata, among others have displayed an opposition worthiness that has not been overshadowed by the presence of the army in the region. With regard to unity, the only indication that I found is the constant use of banners against neoliberalism. In terms of numbers, the civil disobedience events and protests have gone from hundreds to thousands of people, depending on the gravity of the injustices people have faced. One activist said that some protests included blockades on highways and complete communities participating together. Lastly, the commitment element of the WUNC has been symbolized by the continuous participation of locals although there has been oppression by authorities. Activists feel they have risked much, but a larger risk threatens them if these illegal practices continue to persist in Oaxaca. As a case of social movements for sustainability, the communities in Oaxaca have made it clear that these injustices will no longer be tolerated.

## 6 Discussion

The case of large-scale wind energy development in Oaxaca has evolved into a fierce conflict that involves, on one side, private companies and the government, using the discourse of sustainable development in the State. On the other side, *huaves* and *zapotecos* make their voices heard for social justice in a land that is still embedded in strong neocolonial practices. As analyzed in this thesis, these two contesting perceptions have struggled their way to power in the midst of controversial practices that implicate distribution, recognition and procedural injustices that I identified through the interaction with indigenous communities and stakeholders in Oaxaca. Given the adoption of a policy agenda that has addressed the wicked problem of climate change via the promotion of large-scale investments, there have been winners and losers in the name of renewable energy. As shown in the previous section, the collaboration of the government, private companies and certain community actors has led to an extensive production of nature for the sake of 'green growth'.

Schlosberg's (2004) environmental justice framework has given this analysis a multidimensional perspective that thoroughly highlights the complex elements that encompass a social conflict that is still ongoing in Oaxaca. The particularity of this framework to act as a bottom-up tool that allows the views of the local stakeholders to be considered gives strength to the human side of wind energy development in indigenous territories. As I found in this thesis, many injustices have been a constant in Oaxaca, from unfair economic strategies that have benefitted developers and a minority of community members to neocolonial practices that lead to the loss of cultural identity of *huaves* and *zapotecos* in the region. I also find that the problem of recognition is not only occurring because of foreign companies being favored when energy contracts are given, but indigenous communities have become inconvenient for the State to promote growth and climate mitigation through large-scale projects in a region where poverty and exclusion prevail.

The results in this thesis also show that the struggle for a better distribution and recognition in the Isthmus region have come at very high procedural costs, where social movements have achieved the cancelation of a wind energy project through legal procedures that have given hope to the local inhabitants of San Dionisio del Mar. However, there are still many large-scale projects under development where social resistance has been oppressed by authorities and the lack of interest from the State to fully investigate contract manipulations and land injustices threatens the sustainability of the *huaves* and *zapotecos*, who happened to inhabit lands with exceptional wind speeds. My findings are in line with a recent debate on 'wind extractivism' (Dunlap, 2017b), which suggests the complete dominance of capital over nature with the aim of production and growth. This relates to the way

environmental narratives have been framed as urgent issues with ‘sustainable’ solutions that go back to the concept of sustainable development and the Rio + 20 negotiations. In this sense, Sellwood & Valdivia (2018) point out that for Oaxaca, this framing has been convenient for more than two decades since it assures the abundance of ‘green capital’ in a territory where marginalized populations are still dominated.

The constant domination of capital over nature in Oaxaca is also a practice that indigenous communities consider neocolonial, which in this case is not mining, but wind energy. The principle, though, is the same in terms of the use of technology for the production of resources in an area that is full of unique traditions and cultural values. Thus, the discussion of whether a project mitigates climate change for the good of national climate goals or a more holistic well-being for the local population is essential. My findings show that the interest of the government and companies in Oaxaca have been more on the side of capital and growth, while the desire of the inhabitants is to have a more integrative sustainability that includes their decisions and does not threaten their economy and culture. This is where the environmental justice framework provides arguments that allow local inhabitants to question who really benefits from the development of many wind farms in such a fast manner. With regard to distribution, communities were promised economic benefits that were not clearly agreed and ended up in fewer hands while land leases were not treated transparently. Concerning recognition, cultural identity is still a fundamental loss for *huaves* and *zapotecos* while privatized lands in the name of climate change displace them to other areas. Procedural justice has allowed the analysis in this thesis to enter the arena of confrontation in terms of ambiguous and illegal practices that have not only violated indigenous rights, but also granted a few corporations the ability to appropriate valuable land. The perceptions from the interviews in Oaxaca display an offended face of these communities who have suffered from injustices for decades. Furthermore, what the wind energy turmoil has brought to the region goes beyond clean energy projects or ‘environmentalist’ narratives to challenge the roots of neocolonialism in the first place. Many people repeatedly said during the process that they do not care about fighting against energy projects anymore, whether they are environmentally friendly or not, but they radically oppose the complete dissipation of cultural values and traditional societies that these communities have progressively lost to development agendas.

The collective anger in the Isthmus served as an alarming call for action that rapidly escalated through the different *huave* and *zapoteco* communities with wind farms in their backyards with the initial purpose of opposing unfair practices, although the undeniable truth they wanted to dispute is the neoliberal policies of the government, now tagged under sustainable development projects. This is

why the social movements that emerged from the local discontent used 'wind extractivism' and 'green growth' as elements of an unchanging system that urgently needed to deliver flares of justice before completely detonating. Nevertheless, it was evident that taking legal action against the government and corporations, even at an international level, was not enough to give the population a transparent resolution. Therefore, local communities already felt as the legitimate losers of this conflict, which led their true desires of hope to consolidate as a movement that could influence political actions (interview 10). The evolution of the conflict in Oaxaca went from local resistance within communities to an organized movement that adopted the Assembly as a strategic mechanism to push for energy sovereignty and international attention on indigenous injustices (interview 4). The perceptions in the field indicate that this was a crucial turning point for wind energy development in the Isthmus, which has led to more robust legislation with regard to indigenous consultation and participatory processes. This is in line with Hoffman (2012), who finds that there have been more democratic wind projects in the region that are using participatory sustainability and inclusive schemes that adhere to a more holistic justice.

The environmental justice violations in Oaxaca have been used by the social movements to legitimate their political strategy and influence convenient stakeholders for their claim to become more meaningful. Nevertheless, there are still potential synergies between the environmental justice framework and social movements theory for the future sustainability of wind developments to be stronger. For instance, worthiness and commitment from the WUNC can influence the recognition and procedure dimensions of environmental justice by strategically positioning the main targets of each step of the opposition movement. In this regard, the level of worthiness that the social movement has can be a driver of distributive justice while not posing a threat to recognition elements, such as cultural values of indigenous communities. By holding a strong commitment in the social movement, the capacity of creating political alliances that are essential for a local sustainability might help the procedural element of justice to be better aligned with the arguments the local population claim against the continuous wind energy injustices. As a way to respond to challenges, such as the dominant discourse that is embedded in the sustainable development agenda of Oaxaca, the repertoire that has been used by the Assembly has been strong enough to bring more justice to the people via procedural actions. Nevertheless, there is still work to be done in terms of spreading the movement's campaign and repertoire to other communities and ensuring that environmental justice is addressed through strategic social movement tactics, where the WUNC plays a relevant role. In this sense, communities can be sure that none of the environmental justice dimensions are left behind as they progress through alliances and grow the movement with a clear goal in mind.

## 6.1 The way forward in Oaxaca

The role that social movements have played in the foundation of more radical sustainability schemes has been essential in the case of the Isthmus. The inclusion of *huaves* and *zapotecos* as community members who have a voice in the decision-making of wind energy projects has given hope to a population that is still embedded in strongly unequal realities. In the case of Oaxaca, the world has listened to the voices of the alienated indigenous communities in the name of climate change, which can no longer sustain in the same way. There is need for change at the main source of the neocolonial issues that threaten the livelihood of humans and ecosystems not only in Oaxaca, but in many places of a planet that is reaching its socio-ecological boundaries. Thus, the multidimensional perspective of environmental justice has allowed me to outline the tipping points of a delicate, but constantly changing social conflict that originated from the frontiers of distribution, the alertness of recognition and the uneasiness of procedural justice. The way forward for indigenous communities in Oaxaca is far from settled, though, since there are multiple wind farms under development and contesting perspectives on the sustainability model to follow. It might be that the political and the ecological find their way through a turbulence that goes across scales, from the global to the local, from the dominant narrative to the radical democracy. That being said, the future convergence of wind, developers and communities will depend on a troublesome, but already tested battlefield, where people have made their resounding voices heard in the name of justice.

## 7 Conclusion

The case of large-scale wind energy development in Oaxaca is a tale of two discourses. On one side, the government makes a determined effort to position the State as the promise of wind energy in Mexico and Latin America via innovative climate change policies. Under an environmentalist narrative that places investment in technology and growth on top of the development strategy, indigenous communities are treated in neocolonial terms and companies make their way to master the energy market. On the other side, however, spread the voices of the *huaves* and *zapotecos* as the legitimate owners of these fruitful lands and ancient cultural values that are part of the essence in Oaxaca. Their position stands on the brink of equality and recognition, where their future is compromised to the development model the State decides to follow in the next years. The issue is that there are many disagreements between the wind developers and the multiple viewpoints the complex indigenous communities maintain. From essential elements of cultural identity to the critical safety of their natural resources, these communities have fought for more than two decades against an enemy that is not a

single institution or an individual authority. The adversaries the local people have found in Oaxaca are systemic, powerful, and they join forces to extract the maximum possible wind resources within the largest available territory in the State. Therefore, the contest has not been fair for the communities and they claim justice in their backyards once and for all.

Throughout this thesis, I have shown the contrasting perspectives of diverse stakeholders involved in the wind energy conflict of Oaxaca. The environmental justice lens has allowed me to analyze the fundamental sources of injustice that the *huaves* and *zapotecos* are facing in their daily lives. I have found that the economic impacts on these communities have been discursively inherited along contract manipulations and land-grabbing techniques that lie beyond institutional control. The distribution side of justice has made it clear that climate policies are present in Oaxaca, for the benefit of the few. Notwithstanding, the struggle for recognition is one that lies on multiple scales of justice, from the neocolonial relationships between foreign companies and communities to the lack of national and State governments to defend the loss of cultural identity of the *huaves* and *zapotecos*. As analyzed in this thesis, the dominant discourse has been too much of a powerful force to oppose with limited resources and political influence. Therefore, procedural justice has played a crucial role in the legal struggle for a collective solution that benefits the population. From the disregard of human rights to the constant indifference of local authorities to enlighten the aisle of social justice, serious clashes have taken place in streets and legal courts. The good news is that there has finally been a sense of victory through local participation and inclusion, even reflected in recent environmental legislation.

In the troubled winds from the South, indigenous communities find themselves fighting against a powerful shadow that leaves little space for light, but light after all.

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## 9 Appendices

### Appendix 1 – Interview questions

Lund University

Researcher: Jorge Hinojosa Garza

Interview questions:

- How did you get this job?
- What is your relationship with wind energy projects in Oaxaca?
- What are the main benefits of these projects?
- Do you feel there are benefits within the communities and the environment?
- Have you perceived recognition, distribution, and participation elements of justice in these projects in Oaxaca?
- What are the land-use implications of these projects?
- What was the role of governments, firms and consultancies in these developments?
- Have you encountered any injustices in these projects? If yes, what are they?"
- What role does climate change play in these projects?
- How do you think wind energy benefits the population given recent indigenous consultation practices?

## Appendix 2 – Interview participants and field notes

| Interview number | Affiliation                              | Notes   |
|------------------|--|---|
| Interview 1      | Ministry of Environment - Oaxaca         | Zapotecos conflicts and lack of democracy within communities<br>Oaxaca is still looking for a sustainable development and a green economy with carbon markets<br>Lack of consultation processes within communities and land-use complex contracts |
| Interview 2      | Anthropologist and researcher - Oaxaca   | The governance of wind energy is unclear because of authoritarian, top-down restrictions  |
| Interview 3      | Local activist - Juchitán                | Land grabbing and shady contracts from companies offering low economic benefits<br>Unequal compensations and benefits to community members and land tenants   |
| Interview 4      | Field researcher - Communities           | Green grabbing, lack of clarity of energy policy<br>Interest of companies in growth and electricity market instead of social equity<br>Local activism and movements have advanced towards a more democratic consultation process                  |
| Interview 5      | Field researcher and political ecologist | Complexity between conflicting communities and questionable democracy in governance<br>Neoliberal policies and market-oriented mechanisms have given private companies hope for growth  |
| Interview 6      | Energy consultant                        | Without wind farms, communities do not receive enough economic benefits and rely on agriculture and cattle<br>Oaxaca needs clean energy for international markets to help the population access electricity at lower costs                        |

|                 |                                  |  |
|-----------------|----------------------------------|--|
| Interview<br>7  | Anthropologist<br>and researcher | <p>Only 2 consultation processes have occurred with indigenous communities in Oaxaca</p> <p>The legislation on indigenous consultation is not clear and the democratic governance is questionable</p>  |
| Interview<br>8  | Land owner -<br>Juchitán         | <p>No sense of community in social benefits</p> <p>Low payment to employees and almost no jobs for unskilled workers</p> <p>They want help from the government to obtain better payments</p> <p>Power clashes between community groups</p>   |
| Interview<br>9  | Community<br>leader - Juchitán   | <p>Negotiation with companies has been unfair</p> <p>Developers have the advantage because of large investments and equipment</p> <p>Agriculture and cattling have been ignored, since wind energy is the priority for investors</p> <p>Municipal authorities remain distant from the negotiations and operation of these projects</p> |
| Interview<br>10 | Local activist                   | <p>Through the discourse of energy market growth, they colonized the Isthmus even more</p> <p>Cultural identity remains under threat, since it is not convenient for the ones in power to be inclusive</p>   |

### Appendix 3 – Environmental justice framework and primary field results

| Distributive justice  | Sources                  | Justice as recognition                     | Sources            | Procedural justice  | Sources             |
|---|--------------------------|--|--------------------|---|---------------------|
| Unfair economic benefits for communities                          | Interviews<br>3, 4, 8    | Cultural exclusion and marginalization     | Interviews<br>2, 5 | Lack of consultation within communities                   | Interviews<br>1, 7  |
| Market-oriented mechanisms and climate policies benefit companies | Interviews<br>1, 5, 10   | Indigenous rights violation 169 Convention | Interviews<br>5, 7 | Lack of democracy when making contract and land decisions | Interview<br>7      |
| Private companies get most benefits from wind energy              | Interviews<br>3, 8       | Neocolonial practices against communities  | Interviews<br>4, 7 | Violent oppression against local social movements         | Interviews<br>7, 10 |
| Low payment and lack of compensation                              | Interviews<br>6, 8       | Cultural identity neglected                | Interviews<br>7, 8 | Unclear legislation from municipalities                   | Interviews<br>4, 7  |
| Land-grabbing for investors' benefit and unfair for land tenants  | Interviews<br>3, 4, 6, 9 |  |                    |   |                     |