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Energy Colonialism in Europe: A Participatory Analysis of the Case of Granada (Spain)

Josefa Sánchez Contreras [1,2,*], Alberto Matarán Ruiz [3,4,*], Luis Villodres Ramírez [5], Celia Jiménez Martín [6], Guillermo Gámez Rodríguez [7], Rafael Martín Pérez [8] and Álvaro Campos-Celador [9]

1 Department of Sociology, University of Granada, 18071 Granada, Spain
2 Department of Sociology, University of Cambridge, Cambridge CB2 1TN, UK
3 Department of Urban and Regional Planning, University of Granada, 18071 Granada, Spain
4 Department of Geography, University of Cambridge, Cambridge CB2 1TN, UK
5 Estación Experimental de Zonas Áridas, Centro Superior de Investigaciones Científicas, 08035 Almería, Spain; luvillo@eeza.csic.es
6 Asociación Labcasa, 18650 Dúrcal, Spain; labcasa@riseup.net
7 Hábitat 4 S.C.A., 18004 Granada, Spain; guigamrod.coop@gmail.com
8 Plataforma Dí No a las Torres, 18290 Caparacena, Spain; rmartinp1@hotmail.com
9 Department of Energy Engineering, Faculty of Engineering of Gipuzkoa (Eibar Section), University of the Basque Country, UPV/EHU, 48940 Eibar, Spain; alvaro.campos@ehu.eus
* Correspondence: scjosefa@ugr.es (J.S.C.); mataran@ugr.es (A.M.R.)

Abstract: The energy crisis and the exacerbation of climate change, along with the associated geopolitical tensions, including the war in Ukraine, are accelerating the energy transition in Europe. A transition from fossil energy sources to renewable energy sources that have a low Energy Return Rate, involves, among many other issues, the use of wide areas to locate the necessary infrastructure for production, transport and storage, altering territories with agricultural, cultural and ecological values. This process is based on the deployment of renewable energy megaprojects in peripheric areas of the continent, mostly in the southern states creating a wide range of social conflicts and resistances. We analyse this process in the case study of the province of Granada, a peripheric territory of south-east Spain considering the category of energy colonialism and the six dimensions that characterise it, arguing that this is a proper approach to address internal colonialism related to the corporate energy transition. We also want to demonstrate the importance of using participatory methodologies for this analysis, so we have developed an online survey, semi-structured interviews and participatory cartography workshops, always focusing on the citizens and stakeholders who are resisting the deployment of renewable energy megaprojects in the province of Granada. The obtained results allow us to confirm the necessity of using participatory methodologies and the colonial aspect of this deployment, including the characteristics of social resistance, the territorial impacts, the land-grabbing process and the inequalities in the production, distribution and use of energy. We conclude with the need to articulate a decolonial energy transition where participatory methods constitute a fundamental tool both to attend the resistances and to build the alternatives.

Keywords: colonialism; energy; renewable energy; corporate energy transition; climate change; participatory methods; Granada

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1. Introduction and Objectives

The peak oil and the energy (and material) crisis [1,2] are creating new geographic configurations in Europe linked to the corporate energy transition that is leading the process. There is a common and logical view in the European Union and beyond about approaching the climate emergency through the substitution of fossil fuels with renewable energy sources, but the hegemonic narratives of this energy transition and the policies for dealing with climate change are based on the sacrifice of territories whose population

consume a minimum amount of energy and therefore have smaller responsibility for the climate emergency. In previous research [3,4], we have shown that continuity of traditional colonial practices exists, and there is even an intensification of the old extractive methods of production of colonial modernity. Therefore, as it will be described in this article, territories of the Global South and the peripheries of the Global North are suffering the expansion of extractivism and the deployment of megaprojects linked to renewable energy, mostly including solar farms and wind farms, high-voltage power lines and the fledging development of hydrogen infrastructure, among others.

In addition, this energy crisis has become more severe due to the war detonated in 2022 by the Russian invasion of Ukraine. In this context, states are modifying their legislation and redesigning their energy plans to speed up the transition. This is the case of the European Union whose agenda has substantially increased the commitment to renewable energies from the current 20% to 45% in 2030 [5]. The existing difficulties in outsourcing the production of European renewable energies to countries of the Global South [6] imply that the peripheral territories of the European Union are considered as priority locations for the deployment of the corporate energy transition that predominates from the old continent.

A transition from fossil energy sources to renewable energy sources that have a low Energy Return Rate [7] involves, among many other issues, the use of wide areas to locate the necessary infrastructure for production, transport and storage [4], altering territories with agricultural, cultural and ecological values [8,9]. For this reason, the accelerated deployment of renewable energy megaprojects and their associated infrastructures [10] is implying a growing number of socio-territorial conflicts that are generating resistance to this deployment on behalf of the affected communities both in the South as well as in the peripheries of the Global North [11].

The main objective of this article is to analyse the deployment of renewable energy megaprojects and their associated infrastructure in the province of Granada (south-east Spain) according to the category of energy colonialism [3]. This decision is based on the fact that this category is useful for the Global South and the peripheries of the Global North [3] since it includes internal colonialism [12], and it evolves in the intersection between social movements and dedicated academic research, which is the frame of our work in the territory of Granada. Our aim is to demonstrate that considering energy colonialism is a correct option.

The secondary objective of this article is to demonstrate the importance of using participatory methodologies to compile the knowledge and opinions of citizens and stakeholders who are resisting the deployment of energy megaprojects.

The article is structured as follows: Section 1 presents the introduction and objectives; Section 2 presents the methodology; Section 3 presents the results according to the analytical framework of energy colonialism and its six dimensions; in Section 4, we discuss the case study according to those six dimensions and Section 5 outlines our conclusions.

Geographic Description

The province of Granada is located in the southeast of the Iberian Peninsula, in the autonomous region of Andalusia, it consists of 12,531 km^2 and 921,338 inhabitants (2022) [13]. Like the rest of Spain, the population is concentrated in the capital and the coastal areas, leaving most of the territory as low-density municipalities. The percentage of protected natural areas reaches 23%, including exceptional biodiverse reserves such as Sierra Nevada [13].

The geographical situation of the Iberian Peninsula implies that it has a high solar potential with an irradiation between 1600 kW/m^2 and 1950 kW/m^2 in most of the territory [14], with Granada being one of the provinces with the highest insolation degree.

Wind potential is also high in many areas of the country and in Granada itself, where for a large part of the territory it is around 6 m/s. These characteristics, added to the difference in wind patterns with respect to the interior of the European continent, make it especially appropriate for transnational renewable supply [15]

Therefore, the whole of the Peninsula, and in particular areas such as the province of Granada, is a place of great interest for renewable energy megaprojects that seek to take advantage of the energy potential and the lack of population in most of its surface, even though it is an ecologically valuable and fragile territory.

2. Theoretical Framework

Our decision to use the category of energy colonialism is based on a broad literature review of the different approaches that have addressed and critiqued the corporate energy transition from social, economic and political perspectives. First, we want to point out the approaches to environmental justice that focus on the impacts subaltern communities suffer due to increased inequalities [16–20], including the importance of spatial injustices and the concentration of the negative impacts of the renewable energy deployment on subaltern populations [21–24]. Other published research is based on a political ecology approach, considering the oppression of indigenous and rural populations by big corporations and states, according to existing economic structures and power relations [10,11,17,25].

Nevertheless, Batel [26], the first author who has published on energy colonialism, considers that the environmental justice and political ecology framework is insufficient to understand the deep colonial context of the corporate energy transition, including the structures that uphold and legitimate the existing injustices.

According to this, we have considered the decolonial approach [27,28] to describe in this article how the actual hegemonic corporate energy transition based on the deployment of large-scale energy projects renews historical colonial injustices. This counter-narrative is essential to describe properly the real aims and effects of the corporate energy transition as well as to imagine and build alternative visions of a more just energy future [3].

There is a growing literature that considers the colonial critique and the continuation of colonial practices when addressing the effects of the corporate energy transition on subaltern populations. According to this, in previous research [3], we found a wide range of concepts and categories, and in this research, we have developed a broader literature review. In summary, we can highlight the following: "political energy regime" [29], "climate necropolitics" [30], "green dispossession" [31–33], "climate apartheid" [34], "climate colonialism" [35,36], "green sacrifice" [37], "multiple colonialisms" [38,39], "low-carbon colonialism" [38,39], "carbon colonialism" [38,40], "sustainability colonialism" and "resource capitalism" [41], "green colonialism" [42–46], "green extractivism" [24], "infrastructural colonialism" [47] and "transnational colonialism" [20]. Among them, the concept of "energy colonialism" has also been considered in different publications on renewable [6,26,48–53] and fossil fuel sources [54,55].

Even though our proposal is based on and maintains important similarities with previous approaches, we prefer to use the term "energy colonialism", as it is developed at the intersection between social movements and committed academic research, including the situated knowledge and experience of our research team [3,4].

Our approach is based on how the current corporate deployment of renewable infrastructure exacerbates old capitalist economic relations of accumulation by dispossession [56], including the accumulation by defossilisation [2,48,57] as a concept that synthesises the exacerbation of dispossession due to the energy transition [58] and also accumulation by wind energy described in particular for this sector by Siamanta and Dunlap [59]. The South of the World as the main colonial area and the peripheral territories of the Global North as subaltern actors of internal colonialism have played the role of suppliers of raw materials and energy; but even the energy transition dominant narrative is supposed to be sustainable, the reality is that those already affected areas by the capitalism unsustainability are now suffering from an extension and intensification of extractivism and the privatisation of land, natural resources and basic public services, such as electricity.

As we want to demonstrate in this article, the corporate energy transition is a continuation of the fossilist model [3,6,38,41,50,51,54,55] and does not change the pattern or model

of energy generation, even though there is large evidence of the terrible impacts created by the fossil fuel energy production [1,21,30,35,41,50].

In summary, as we have defined in previous research [3], "energy colonialism is a global phenomenon that, in the 21st century, constitutes a continuation of historical relations of domination exercised by states and corporations of the Global North over the Global South, even within the peripheries of the Global North. This translates into an asymmetry of power in relation with impacted communities, whether they are indigenous, pastoralist or peasant. Therefore, inequalities unfold through different forms and degrees of violence carried out by land grabbing and dispossession. Energy is also obtained based on biocultural destruction and the dismantling of commons. Unequal distribution of costs and benefits from energy production is intrinsic to this phenomenon since the negative impacts are concentrated in sacrifice zones [53] while the profits go to distant places. This is legitimised by the neoliberal, racist and patriarchal discourses of those who promote a corporate energy transition in the context of the climate crisis. In this convulsive scenario, energy colonialism is being contested by indigenous, environmentalist, rural and peasant movements who continue to resist and protect their territories, lives and biocultural memory, present and future.

In order to analyse the deployment of large-scale renewable energy projects in Granada, we are going to use an actualisation of the six dimensions that according to our previous research characterise energy colonialism [3].

(1) The geopolitical dimension.

This dimension considers the spatial preconditions that have determined the forms of the current corporate energy transition in a historical context [26,31,32,51,52] and the deployment of infrastructure in space [47]. The geopolitical dimension allows us to evaluate if they are installed to meet the needs of nearby communities or if the energy generated is destined for other countries or distant areas [60], according to internal or international colonialism [12]. This dimension is aligned with the concept of "Sacrifice Territories" (TdS) [53] that considers the production areas as places that could, can or must be sacrificed to fulfil the needs of the corporate energy transition, which are mainly an inefficient attempt to maintain the overconsumption of energy by the Global North.

(2) The dimension of economic and financial inequalities.

This dimension analyses the inequalities that are generated in the production, distribution and consumption of renewable energy [2,16,23,29] in a model that is widely centralised and dominated by large companies with access to credit, carbon bonds [38,61] and other administrative benefits [31,62]. A clear characteristic of colonialism of this corporate energy transition is that rural and indigenous communities consume much less energy, and in the vast majority of cases, they experience energy poverty [63–65].

(3) The dimension of power, violence and decision-making.

This dimension analyses the severe impacts on subaltern territories, the internal social fractures and the different degrees of violence that companies and governmental institutions inflict on subaltern communities, especially on those who actively defend their territories [11,53]. This dimension also considers the clear colonial aspect of the extreme violence of occupying or foreign actors of the territory or country in which the deployment of large-scale renewable energy infrastructure takes place [25,26,29,36].

(4) The dimension of land grabbing and dispossession.

In this dimension, there is a particular focus on the land tenure impacts produced by the deployment of the renewable energy infrastructure that requires much larger surfaces per energy unit than those of the fossil energy system [8,66]. It includes dispossession, changes in the type of ownership and other legal aspects that hinder the free use of these territories by the impacted communities [16,58].

(5) The dimension of impacts on territory and commons.

This dimension is also related to the large surface that is occupied by renewable energy infrastructure and its subsequent biocultural destruction and privatisation of commons [3,8,9,67] far away from the consumption places. This represents the increasing inequalities between the ecological, social and cultural impacts suffered within the lands dispossessed by megaprojects compared to the minor benefits obtained by affected communities [11]. This also reinforces the colonial narrative of the corporate energy transition since it also generates a false impression in the consumer population that the new renewable energy infrastructure has no impact and can be expanded freely and unlimitedly [26].

(6) The dimension of resistance and socio-territorial conflicts.

This dimension represents the resistance of social movements that build their knowledge during these conflicts [17,24,29,33,36,68], demonstrating the existence of energy colonialism that affects their lives and using this term to denounce this situation. This dimension also analyses critically the "Not In My BackYard" (NIMBY) argument posed by the leaders of the corporate energy transition to characterise movements that resist renewable energy development downplaying their broader structural critique of the corporate energy model, mainly in the Global North [69–71].

3. Materials and Methods

To begin with, in order to describe the situation of renewable energy in the province of Granada, a document and bibliographic review was held out, gathering data on megaprojects with more than 5 MW of power through the Public Transparency Portal of Andalusia's Regional Government (Portal de Transparencia de la Junta de Andalucía) and the Spanish Electrical Network website (Red Eléctrica de España, Alcobendas, Spain).

Based on the compilation of all these projects, we have used a Geographic Information System (QGIS) to evaluate the average area currently occupied by megaprojects in the province of Granada, obtaining as a result 10.29 ha/MW for wind megaprojects, somewhat lower to the 32 ha/MW estimated by the Ministry of Ecological Transition as a direct impact for the whole of Spain [72], and 2.8 ha/MW for photovoltaic solar projects, which is closer to 2.2 ha MW estimated by the Ministry of Ecological Transition for the whole of Spain [72].

In addition to this, we calculate the total energy production of renewable energies in the province of Granada (Mw·h) according to the empirical co-efficient of production. This coefficient is the result of dividing the total renewable energy production in a certain territory by the total installed potential of renewable energy. The Andalusian Energy Agency has registered in 2022, 512.6 Mw·h of photovoltaic energy production and 740 Mw·h of wind energy production. Dividing these figures by the installed potential of photovoltaic (553 Mw) and wind energy (407.2 Mw), we calculate the empirical co-efficient of production for photovoltaic (926.944) and wind energy (1817.289) in the province of Granada.

The participative research held with the citizens who are raising resistance to the deployment of renewable energy infrastructure was achieved using a mixed methodology, quantitative and qualitative, based on three techniques: a survey (questionnaire), a semi-structured interview and a workshop based on participative cartographies.

Survey:

According to Anguita et al. [73], a survey can be defined as "a technique that uses a set of standardised research procedures, through which a data series of representative cases of a wider population or universe are collected and analysed, and from this, an attempt is made to explore, describe, predict and/or explain a series of characteristics".

A survey is based on a questionnaire that can be defined as a document that brings together the indicators of the variables included in the objective of the survey in a structured manner [74].

Specifically, in this case, an online questionnaire of 38 questions using a semi-structured scheme was designed (see Appendix A), with different types of questions (open questions, closed questions and multiple-choice questions). The objective was to obtain and compile the largest amount of data and information possible, making the questionnaire as easy to use and as straightforward as possible for those who would answer it.

When drafting the text for the questions, we use the possible impacts (negative and positive) of the deployment of photovoltaic and wind energy and the construction of high-voltage lines as a starting point. We also consider the degree of information available to the public and, finally, the existing support for renewable energy production among the people who are interviewed.

It Is Important to highlight the fact that before structuring the final format of the questionnaire, a pre-test or pilot test was created to enable us to determine whether the questions asked were correctly written and therefore could be adequately understood by all the individuals involved.

Interview:

This is a conversation between a group of people, the interviewers (generally one person supported by another member of the team) and the interviewees (normally just one person). The dialogue is guided by the interviewer and recorded by the supporting team member in order to encourage the creation of continuous conversational discourse, using a previously defined line of questioning arguments related to the area of research.

This interview is designed to be unstructured or open, using generic questions that enable the interviewees to openly express their opinions. These questions are concluded with other more specific ones if the interviewee needs guidance to provide more opinions. The interviews took place in person and lasted between 60 and 90 min, approximately.

The script was designed in line with the contents of the questionnaire. These are the questions that have characterised the interviews: the possible impacts (negative and positive) of the deployment of photovoltaic and wind energy, and the construction of high-voltage lines; the degree of information available to the public and finally, the existing support to renewable energies among the people who are interviewed.

The participatory cartography workshops:

This is a group technique, which was also carried out live. The debate space that is generated in a workshop must be an environment that is conducive to encouraging all the participants to share their opinions with the group.

There are numerous techniques that can be used in a workshop. In this case, the workshop started by sharing the results obtained in the previous literature review, and both the interviews and the surveys, finishing up with a summarised description of the deployment of renewable energy megaprojects in the province of Granada.

For the debate phase, a cartographic technique [75] was chosen using a collective mapping process. This is based on a spatial representation of the local knowledge including both the impacts of the deployment of renewable energy megaprojects in the local context and the heritage and environmental values recognised by the locals. In this manner, we can produce a group reflection that enables the participants to point out diverse facts and knowledge that help create a complete combination of aspects of a certain reality, and participants can contribute to each other's wider understanding of the situation, as well as the problematisation of social, subjective and geographical territories.

Lastly, the facilitator team developed the synthesis phase through a report with a full version and a summary version that was presented publicly and discussed with the population of the Sacrifice Territories in four feedback sessions that consisted of a presentation of the report in a public space within the affected municipalities, along with a debate regarding this document with the attendees.

Sample selection:

Flexible criteria were used to create the sample as mainly the citizens and the different stakeholders who are involved in the resistance to the deployment of renewable energy megaprojects in the province of Granada were required. According to this, for the participatory activities we have contacted the existing platforms (groups of organisations and citizens) in the most affected areas, including the platform "Say No to Towers" (Di No A Las Torres) in the Lecrín Valley and Alpujarras in the south of the province, the Platform "Say No to Towers in Altiplanos and Geopark" (Di No a las Torres en los Altiplanos del Geoparque) in the central and northern part of the province, Alliance Energy and Territory

(Alianza Energía y Territorio—ALIENTE) and Environmentalist in Action (Ecologistas en Acción) which are composed by local organisations and also citizens from all over the province.

The Interviews were particularly dedicated to the leaders of the existing platforms covering the different areas of the province of Granada.

In addition to this, except for the interviews, the other participatory activities (workshops and online survey) were open to the public. Every activity was promoted in the social media, WhatsApp groups and other contact lists of the platforms and also in central places of the municipalities where we have developed the workshops with the clear message of considering those citizens and stakeholders who are resisting the deployment of renewable energy megaprojects. We have increased the participation of this part of the local society that was our target in this participatory process.

Following this methodological scheme, a participatory process promoted by the authors of this research was developed between June and November 2022, which included 3 participatory mapping workshops with a total participation of 48 people, 10 semi-structured interviews with 10 people, an online survey answered by 84 people (73 of them are part of the contracted platforms) which was analysed using Microsoft Excel and 4 feedback sessions with discussion of the results with the presence of 200 people. Therefore, we understand that the total 352 people who have participated in the process are representative of the citizens who are resisting the current deployment of renewable energy megaprojects in the province of Granada.

Given that the people in the work team belong to the Sacrifice Territories and are part of the defence processes exercised by the communities against the deployment of wind, photovoltaic and electric transport infrastructure, our methodology starts from a situated position [68,76,77] that allows constant fieldwork that involves field visits and experience in the affected areas for more than a decade, including participant observation in assemblies, process consultation and legal proceedings.

4. Results

As we have previously indicated, the systematisation of the information has been carried out based on the six dimensions with which we have defined energy colonialism in other texts [3].

(1) The geopolitical dimension: Where is energy generated and where is it used?

The historical role of Spain in the European context could be framed in a form of subalternity that is even more accentuated in the case of Andalusia, which is the main extractive economy and exporter of raw materials within the Spanish State [78] and also determines a clear southern issue such as the one described by Gramsci (2002) [79] in the Iberian Peninsula. In addition, the bursting of the real estate bubble has implied a "reprimarisation" of the Andalusian economy [80] mediated by the development of all kinds of megaprojects, including those of renewable energies and the increase in extractivism, in some cases related to the needs of the energy transition such as the iron mines in Alquife (Granada, Spain).

Currently, regarding renewable energy megaprojects, the geopolitical dimension of colonialism is substantiated by a series of data that demonstrate the continuity of the geopolitical role assigned to the peripheral and southern territories of Spain such as the province of Granada.

According to Spanish Electric Network (Red Eléctrica de España, the semi-public company that builds and manages the electricity grid) in Spain [81], in 2023, 15,225 GW of photovoltaic solar energy and 29,457 GW of wind energy were installed and in operation, constituting a total of 44,682 GW of installed capacity of renewable energy [82]. The National Integrated Energy and Climate Plan 2030 (PNIEC) foresees for 2030 a total installation of 50.3 GW of wind energy and 59.2 GW of photovoltaic solar energy, while Spanish Electric Network accumulates projects and project requests that reach 81,285 GW of wind energy and 128,101 GW of photovoltaic solar energy [81]. This enormous difference

from planned growth to private projects represents the economic interest of corporations to increase production in the context of a clear reduction in electricity demand [82].

According to the Andalusian Energy Agency [83], the province of Granada is characterised by having an electrical energy generation system based on renewable energy and cogeneration with a total renewable installed power of 0.8 GW, which represents an increase of 19% in the last decade. Wind energy, with 0.4 GW, represents 50% of the total renewable power of the province. Regarding solar energy, the development of solar thermal technology has been very important in the province. In 2008, the first commercial plant in the world that had thermal storage was put into operation, and currently, Granada has a thermo-solar capacity of 0.15 GW while photovoltaic solar energy currently has an installed capacity of 0.16 MW.

In 2022, a total of 100 photovoltaic electricity generation and wind power megaprojects have been requested according to data collected directly through the Transparency Portal of the Andalusia Regional Government and on the website of the Spanish Electric Network [81]. This represents a possible installed power of 0.85 GW with respect to wind power and a total of 3.32 GW of photovoltaic solar power reaching a total of 4.17 GW.

Likewise, considering the calculation of the average area currently occupied by megaprojects in the province of Granada (described in methodology) and based on the requested megaprojects, we have calculated a potential affected area of 8756.84 ha with respect to wind farms and 9294.40 ha with respect to photovoltaic solar plants to reach a total of 18,051.24 ha affected.

Large companies and investment funds that promote these energy megaprojects are settling where they find it the most economically profitable: land near high-voltage lines (LAT) to transport energy to other territories and places where Spanish Electric Network locates electrical substation (SET) so that the projects can discharge the electricity into the grid. There is no organisation or territorial planning linked to these industrial installations; therefore, there is a disorderly and irregular implementation of wind and photovoltaic megaprojects, making certain areas saturated with these types of projects. We have called these territories "Sacrifice Territories" (TdS) [3]. Relating the studied megaprojects to these key points, we have identified five Sacrifice Territories:

TdS BAZA: around SET BAZA 400 kV.

TdS GUADIX—HUÉNEJA: around SET HUÉNEJA 400 kV.

TdS MONTES ORIENTALES: around LAT 400 kV BAZA—CAPARACENA.

TdS VEGA—GRANADA—TEMPLE: around SET CAPARACENA 400 kV.

TdS ALPUJARRAS—LECRÍN: around SET SALERES 220 kV.

Figure 1 shows the five Sacrifice Territories. The areas affected by the wind and photovoltaic megaprojects in the Sacrifice Territories (including the transmission lines 400 kV BAZA—CAPARACENA and BAZA—RIBINA) in process (18,912.82 ha) resulted in 3.38% of the total surface of the municipalities of the mentioned territories. The sum of the length of the high-voltage lines that discharge the megaprojects is 279.30 km.

Although we have not considered them in the computation of surfaces, we should add three large pump storage or reversible hydroelectric plants described in detail by Muñoz [84], among other infrastructure associated with the deployment of renewable energy megaprojects in Granada. The first one is designed for the Negratín Reservoir in the Baza TdS, with a voltage of 275 MW, including the construction of a higher reservoir on the peak of Cerro Jabalcón that will occupy a surface of 15 ha as well as pipes, and 10.7 km of high-voltage lines to the Baza SET. The other two centres are designed on the Rules reservoir in the TdS Alpujarras—Valle de Lecrín. The first one is proposed by the Villar Mir group and is planned to have 357 MW, while the second one is much bigger and will have a voltage of 1.048 MW, including a 25.2 ha water basin in the Lújar Mountain Range and 60 km of high-voltage lines to transport through the Lecrín Valley and evacuate the produced energy.

According to Spanish Electric Network [81], the maximum demand registered in the province of Granada is 0.97 GW. If we compare that data with the total installed power

(0.8 GW) and the requested power (4.17 GW), we notice that the coverage of the production through renewable energies of the maximum demand for electricity in the province of Granada is 82.5% and could reach 429.9% if all the requested projects are built.

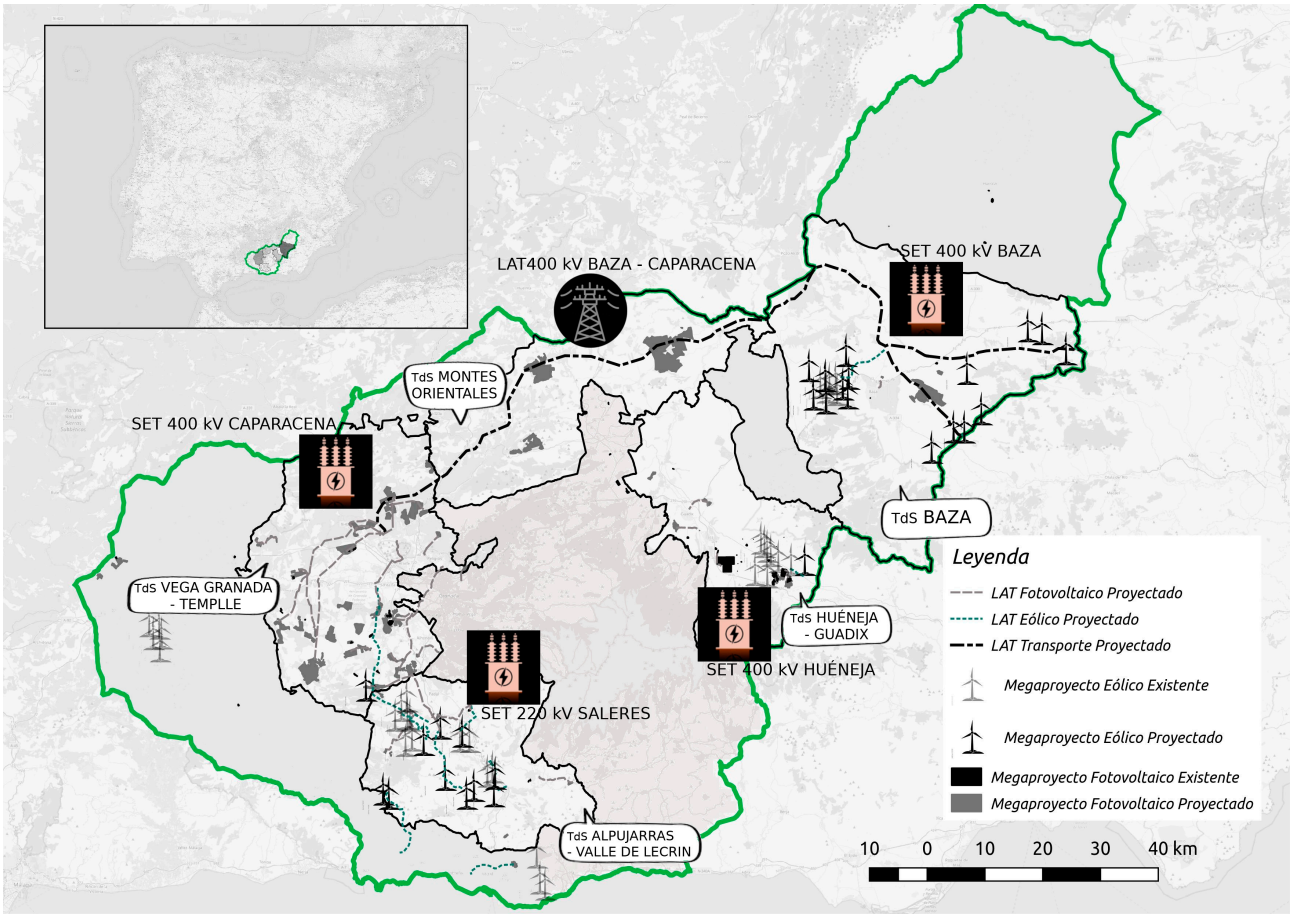

Figure 1. Sacrifice Territories in the province of Granada. Source: Compiled by authors.

As presented in Figure 2, comparing the annual energy demand in Granada (3041.16 GW·h) [81] with the estimated actual energy production through renewable energies (876.16 GW·h), the actual coverage is only 28.8%. But if we consider the estimated scenario of annual production by the existing and the requested projects (5499.99 GW·h), the coverage of the total energy demand through renewable energies increases to 180.85%.

If we compare the estimated maximum consumption peak with the total power (installed and in the process) of the wind and photovoltaic megaprojects in the Sacrifice Territories, it turns out that the mentioned territories will be able to produce 1296.86% more than their current maximum consumption, taking into account a 145.98% of installed power in 2022, greater than the current maximum consumption of the mentioned territories.

On the other hand, if we compare the total consumption of electricity in 2022 (1034.73 Gw·h) with the total renewable energy production in 2022 by wind and photovoltaic megaprojects in the Sacrifice Territories (606.07 Gw·h), there is a 58.57% coverture. But if we consider the future energy production scenario according to the projected megaprojects (5033.39 Gw·h), the coverture could arrive at 486.44%.

During 2022, the Spanish energy balance with the rest of the European system has been positive and amounts to more than 9000 GW·h [85]. In other words, the current development of renewable energy megaprojects resulting in an enormous increase in renewable energy installed capacity (44.682 GW in 2023) has positioned the Spanish State as an energy exporter. This overproduction is intended to cover the growing consumption needs in Northern and Central Europe, including their strategies for electrification and the

use of hydrogen. The energy would be sent through the high-voltage lines that have just been built in the province of Granada and that connect with other electrical lines that reach up to the eight existing electrical interconnections with France (3 in Guipúzcoa, 2 in Huesca, 2 in Lleida and 1 in Girona), to which the European Union has added in 2022 a proposal for the construction of another three more within the 5th list of Projects of Common Interest (a submarine cable between Gatika in Vizcaya and Cubnezais in Bordeaux, a connection through Navarra and another through Huesca).

All the described deployment of renewable energy megaprojects for exportation is performed against the majority of opinions received on behalf of the population that has taken part in our research. Although during the interviews and workshops, the citizens showed agreement to supply energy to nearby territories (65% support in the polls), they refuse to sacrifice their territories to supply distant places, with 70% reaching the opposition in the polls we have carried out.

(2) The economic-financial and inequalities dimension: Who is the energy for?

The territories that receive the produced energy will do so at the expense of the Sacrifice Territories, which is why great inequality will be generated, especially taking into account that energy consumption between some places and others is also clearly unequal. Thus, in the case of Granada, energy consumption per inhabitant is 1.4 toe/inhab [83], while that of Catalonia is 3.3 toe/inhab, being the average for the whole of the state of 2.7 toe/inhab [86], which, however, is well below the 3.5 toe/inhab in Germany [87].

In addition, at no time is an equitable distribution of the benefits of renewable generation plants being considered, something that is clearly favoured by the eminently private nature of the Spanish electricity sector: 90% of the consumption is in the hands of five private companies (Endesa, Iberdrola, Naturgy, EDP and Viesgo-Repsol), as so 80% of the capital of Red Eléctrica de España is also in private hands (66% also being foreign capital) [82].

We must add to what is stated above that the Spanish Government has favoured the deployment of renewable energy megaprojects and their concentration in the hands of large companies through the Royal Decree-Law 23/2020, of June 23, which approves measures in energy and other areas for economic reactivation. This has given rise to the fact that most of the renewable power plants in the country can be considered megaprojects (more than 5 MW).

Likewise, in the Spanish State, the production costs and the so-called regulated costs, including the transmission network and the incentives for renewable energies, are paid through the bills paid by the people and companies that consume electricity.

In the case of Granada, when analysing the owners or promoters of the renewable megaprojects, the presence of financial capital was detected as a fundamental part of the "invisible" companies that promote the mentioned projects and are the ones who ultimately make the big decisions. For example, the megaproject "PS_FV_OPDE_ILLORA2" promoted by the company PLANTA SOLAR OPDE 20, S.L., with a shared capital of only €3000, has Gustavo Carrero Diez, Alejandro Javier Chaves Martinez and Francisco Javier Remacha Zapatel as joint administrators whose business links are companies, such as INVERHOTELES DEL NORTE SA with a shared capital of €6,140,000, OPDE DEVELOPMENT SL, OPDENERGY HOLDING SA with a shared capital of €2,960,669.48 and INVERSIONES PENTAGONO SL. With a shared capital of €580,000, dedicated to buying, selling, exchanging and acquiring or disposal of any title. Following this trail in all the megaprojects published in the province of Granada, large companies such as ENDESA, IBERDROLA or NATURGY appear, alongside investment funds such as the Alba Financial Corporation and various names of business groups and people related to the large Spanish capital, particularly in construction and large projects, such as the Villar Mir family or the Cuerva family.

In addition, in some cases, the land is owned by large real-estate developers who, unable to develop it, dedicate it to renewable energy megaprojects, giving rise to the paradox that several of these lands were planned for large urban growth prior to the implosion of the real-estate bubble in 2009.

	Wind energy (MW)		Actual wind energy electricity production	Projected wind energy electricity production	Photovoltaic energy (MW)		Actual Phtovoltaic energy electricity production	Projected htovoltaic energy electricity production	Renewable energy (MW)		Actual renewable energy electricity production	Projected renewable energy electricity production	Annual consumption	Actual coberture	Projected coberture
	Installed	Projected	GW·h	GW·h	Installed	Projected	GW·h	GW·h	Installed	Projected	(GW·h)	%	(GW·h)	%	%
TOTAL GRANADA	402.21	850.70	730.93	2276.90	156.67	3320.44	520.21	3223.09	558.88	4171.14	1251.15	180.85	3041.16	41.14	180.85
TdS BAZA	34.00	604.70	61.79	1160.70		303.00		280.86	34.00	907.70	61.79	892.90	161.45	38.27	892.90
TdS MONTES	0.00	0.00	0.00	0.00		441.00		408.78	0.00	441.00	0.00	857.57	47.67	0.00	857.57
TdS GRANADA–TEMPLE	0.00	24.00	0.00	43.61		2088.58		1935.99	0.00	2,112.58	0.00	335.79	589.54	0.00	335.79
TdS HUÉNEJA	199.50	38.00	362.55	431.61		224.74		208.32	199.50	262.74	362.55	472.71	135.37	267.81	472.71
TdS ALPUJARRAS–LECRÍN	100.00	184.00	181.73	516.11		51.13		47.39	100.00	235.13	181.73	559.58	100.70	180.46	559.58
TOTAL TdS	333.50	850.70	3030.33	2152.03		3108.44		2881.35	333.50	3959.14	606.07	486.44	1,034.73	58.57	486.44

Figure 2. Annual energy demand and annual energy production through renewable energies in Granada (Spain). Source: Transparency Portal of the Andalusia Regional Government, Spanish Electric Network, Andalusian Energy Agency and own elaboration.

In other cases, foreign companies are the owners of the projects, including agreements with other transnational companies that will use this energy, as is the case of Verbund (Vienna, Austria), owner of a 147.6 MW installation that covers 161 hectares of agricultural land in the TdS El Temple-Vega in Granada, which sells the energy to AB InBev (producer of the global beer brands Stella, Budweiser and Corona in Europe).

However, on the other side of the coin, the constant increases in the cost of electricity (and other energy services) mean that in the Spanish State, up to 16.8% of households (8 million people) have an excessive expense in energy bills with respect to their income and that 10.9% of households (5.2 million people) could not keep their homes at an adequate temperature during the winter, in 2020 [88]. As prices continue to increase and energy shortages during the winter periods are expected in Europe, the scenario regarding energy poverty is shattering, and the Government of Spain itself is articulating measures to try to alleviate this difficult reality for millions of homes and companies. Among these aids, we find the Social Bonus that helps families pay electricity bills with discounts of up to 70%. In the case of Granada, 25,103 families (some 100,000 people) have received this payment during 2022, proving that despite it being a productive province, there is still a great unequal share of energy and benefits obtained.

Despite the benefits that these business networks receive, it is not at all clear that they generate employment or substantial benefits in the municipalities. Most of the jobs are temporary and are created during the construction process, as recognised by the Bank of Spain itself [89]. In fact, in the participatory process, the local communities pointed out the temporary aspect and the precariousness of the jobs offered. Once the megaproject has been installed, especially in the case of wind power megaprojects, jobs are very limited, and on many occasions, they are generated in places far away from where the parks are controlled or maintenance and cleaning tasks are contracted [89,90]. In fact, the people surveyed were questioned regarding the possibilities of generating employment by renewable energy infrastructures, in such a way that more than 65% indicated that few jobs are generated and 50% that very few, while a much lower percentage considers that these infrastructures generate employment (26% for photovoltaic solar, 23% for wind energy and 13% for high-voltage lines).

(3) The power, violence and decision-making dimension: Who decides where and how the energy is produced and consumed?

On the 20th of July, 2012, in the midst of the global and national financial crisis, the Spanish State signed a Memorandum of Understanding with the European Commission under the control of the International Monetary Fund (IMF) and the European Central Bank (ECB) [91] to obtain financial aid with which to pay the bailout to banks and large construction companies that were bankrupt at the time. In point 31 of the mentioned document (31. With regard to structural reforms, the Spanish authorities have undertaken to implement the specific recommendations for Spain in the context of the European Semester), Section 6 (the last one) includes the following text: "Specifically, it is recommended for Spain to complete the interconnection of the electricity and gas networks with neighbouring countries and address the problem of the electricity tariff deficit globally." This imposition by the EU, the IMF and the ECB has served to favour both the import of nuclear energy from France and the current export of renewable energy from Spain. Likewise, we understand that in these frameworks of unequal "negotiations", a mantra that is repeated in multiple statements by representatives of the European Union has also remained implicit: Spanish territory is the place that must produce the electrical energy that Europe needs.

In fact, in the current context of the energy crisis and accelerated increase in fuel prices, especially gas, the European Union has accepted that Spain and Portugal apply the so-called Iberian exception that decouples the prices of electricity from gas prices to a certain extent and which has made it possible to reduce the electricity bill of households and companies in the Peninsula. It is striking how, at the same time, the European Union itself requires Spain and Portugal to expand their production of renewable energy to supply Central and Northern Europe both through electrical interconnections and through the

construction of large production and hydrogen transport infrastructures. The flexibility of the electricity market in Spain and Portugal could then seem like a form of "payment" for their role as suppliers of renewable energy to Central and Northern Europe at this time of urgent needs in the areas of the highest consumption in the EU.

These colonial impositions of the great European powers have important consequences on the peripheral territories and imply the development of multiple mechanisms to accelerate the deployment of megaprojects and put an end to existing resistance in the affected territories. In this context, if we look at the particular case of Granada, the situation of sacrifice in the different territories and their people, which we describe throughout the text, must be classified as a violation against them. In fact, the administrative mechanisms that we describe below have been called bureaurepression instruments, due to their effect of causing the immobilisation of affected people in different manners. The mechanisms of this violation have the function of perpetuating the status quo of institutional and speculative powers to facilitate hoarding and dispossession. In this sense, more than 90% of the people responding to the survey and the vast majority of the people participating in the workshops state that they have not been consulted about the installation of infrastructures for renewable energies in their respective municipalities. And this reality is due precisely to the devices that both governments and corporations use to prevent citizen participation, as detailed below. We must note that those instruments have been described in both the interviews and the workshops by the stakeholders and citizens who are suffering and are expecting to suffer more from this particular type of administrative violence.

(A) Administrative Instruments.

The only legal way to express any opposition to the projects from the citizenry is to write allegations within a working period of approximately 30 days, since the project is in public information. After that exposure period, if there are no allegations, it is understood that the public is in favour and the participation process is concluded. The information is transmitted through an Official State or Autonomous Region Bulletin, which not everyone understands due to its high degree of complexity and the difficulty of following up on all projects. There has also been no intention from the municipality governments to inform the citizens of their own municipalities, not even those directly affected, who In some cases are only notified when their lands are going to be expropriated, with no possibility of reacting at an administrative level.

In addition, on the Transparency Portal of the Andalusia Regional Administration's search engine, if the names of the megaprojects and affected municipalities are used on the browser, the results are not directly shown, in such a way that the search becomes much more tedious and difficult. Access to public information displayed on the mentioned portal generally does not last beyond the minimum required by law. The exposed documents are often incomplete and separated from their constituent parts (installation project, evacuation line and electrical substation) with the added difficulty of linking them together.

(B) Legal instruments that avoid decision-making on behalf of the population that inhabits the Sacrifice Territories.

2021 Law for the Impulse of Sustainability in Andalusia (LISTA).

Law approved by the Andalusian Regional Government, in response to the attempt by some municipalities to plan and control the deployment of renewable megaprojects in their territory in accordance with the Law of Urban Planning of Andalusia (LOUA). This Andalusian law is designed to favour the deployment of megaprojects since it represents a flagrant violation of local autonomy in terms of urban planning, eliminating the power of municipalities to make a decision with respect to these renewable megaprojects in their territory since they are considered ordinary land uses in rustic land as in the case of mining activities.

Royal Decree-Law 23/2020, from the 23rd of June, which approves measures in the area of energy and in other areas for economic reactivation.

This royal decree excludes projects that are located in areas of moderate and low sensitivity from the environmental impact and citizen participation procedure, from the browser designed by the Ministry of Ecological Transition (see section on Territorial Impacts and Impacts on commons).

This has been the State Government's response to the organisation of citizens in platforms and associations who were coordinating to make allegations about the projects using the public information period established by the Environmental Impact Law. In this context, the citizen platforms began to obtain support from scientific organisations and were obtaining negative environmental impact declarations (DIA) from technicians of administrations with environmental competencies; for this reason, the Government had to avoid these procedures to continue favouring the accelerated and disorderly deployment of renewable megaprojects.

Proposal for a European Parliament and Council Directive amending the European Directive (EU) 2018/2001, on the promotion of the use of energy from renewable sources, Directive 2010/31/EU, on the energy efficiency of buildings, and Directive 2012/27/UE, regarding energy efficiency.

This modification proposal also intends to continue accelerating the deployment of megaprojects by eliminating procedures for evaluating the environmental impact of projects, thus ending the phases of public participation and consultation with interested parties. While the European Union ignores the role of the general public and those who own the land by preventing information from reaching them, a proposal arises so that institutions establish consultation and information points for those who promote these renewable energy projects and even prepare procedure manuals available to these promoters.

European Regulation (EU) 2022/2577 from the Council of the 22nd of December 2022 establishing a framework to accelerate the deployment of renewable energies.

While the amendment to the directive referred to above is being approved, the European Union Council approved on December 22nd the elimination of environmental impact assessment procedures for renewable energy megaprojects, networks that allow to evacuate their energy and storage systems, which would be considered as infrastructures of superior public interest.

As a proviso, this regulation indicates that the member countries must articulate zoning of the territories likely to be occupied by renewable energy infrastructures that should be subject to a strategic environmental evaluation, and must also articulate measures to protect the protected natural areas indicated in the Directive 92/43/CEE of 21 May 1992, on the conservation of natural habitats and of wild fauna and flora and important areas for birds in accordance with Directive 2009/147 CE of 30 November 2009, on the conservation of wild birds. However, this proviso is not a guarantee of an orderly deployment, since countries like Spain have not developed a detailed zoning following the territorial planning and strategic environmental assessment processes associated with this type of public policy. In this way, the European Union puts an end to systems for the prevention of environmental impacts in a context of null or very limited territorial planning and also eliminates the phases of public participation and consultation with interested parties.

Royal Decree-Law 20/2022, of the 27th of December, on response measures to the economic and social consequences of the Ukrainian War and support for the reconstruction of the island of La Palma and other situations of vulnerability.

Articles 22 and 23 of this Royal Decree 20/2022 represent a rapid manner to transpose the regulation that we have just described. In this way, it ends the environmental impact assessment procedures of energy megaprojects of more than 50 MW delegating the responsibility for environmental assessment to the State Government, since the autonomous regions are the competent ones in minor megaprojects, and according to this Royal Decree 20/2022, they can or not assume the new approval procedure without an environmental impact assessment. Thus, from now on, huge megaprojects can be approved just by presenting a document on environmental conditions that the promoter himself prepares synthetically,

as Royal Decree 20/2022 itself literally points out. In addition, the procedure will last a maximum of 10 days, with administrative silence being understood as positive.

(C) Environmental Procedure Evasion Instruments.

Fragmentation.

Until the approval of Royal Decree 20/2022, in the province of Granada, as in many other parts of the country, there have been numerous renewable megaprojects in process that propose a power that does not exceed 50 MW or an occupied area of less than 100 ha; in these cases, the processing procedure corresponds to the Autonomous Region, as established by Law 21/2013 of the 9th of December of Environmental Evaluation, in such a way that the promoters have been avoiding state control that until December 2022 implied a greater rigour in environmental processing than with the Andalusian administration.

We have also reviewed cases in which even different developers share evacuation facilities, which shows that they are, indeed, parts of the same project. This violates current environmental legislation and also article 5 of the Electricity Sector Law 24/2013, of the 26th of December, which details that "its evacuation infrastructures are part of the production facility, which include the connection with the transportation or distribution, and where appropriate, the transformation of electrical energy".

Non-existence of studies of the synergetic and cumulative impacts of megaprojects.

In addition, practically all the environmental impact studies of the proposed megaprojects, there is no study of the synergetic and cumulative effects on biodiversity (including bird life) of the operation of both high-voltage lines and other existing evacuation structures in the zone as well as the megaprojects already installed, in breach of Law 21/2013, of the 9th of December, on environmental evaluation. This is the case even when the megaprojects have the same name with a small variation, such as the photovoltaic megaprojects called Pinos Puente I, II, III, IV, V and VI, which would have an installed capacity of 275 MW in the Sacrifice Territory of the Vega de Granada—Temple.

Media instruments and greenwashing.

In the province of Granada, it is increasingly common to find news in the local press about the "social responsibility" of some of the promoters of megaprojects in order to avoid putting their actions into question. We have also detected that these promoters appear advertising in the local festivity books of the municipalities affected by their megaprojects. They also try to show themselves as agents with "sensitivity for active listening" by showing a speculative business as data that may seem like "small data for the industry" but are, without a doubt, "big data for humanity".

All these demonstrate the colonial narrative of the megaprojects, and this is without taking into account the publicity dressed as journalism in the local press about ecological reasons for the implementation of megaprojects, as well as the media support of institutional representatives of any political colour.

In this context, both the local communities that are defending their territories and individuals and groups that do not want to participate in this corporate energy transition model have been accused of being selfish in the face of the population's energy needs and of hampering the necessary fight against climate change. In this way, the public statements of leaders and businessmen, together with the opinions expressed by the journalism of the local and state media, have led to the social discredit of those who are defending territorial sovereignty and the possibility of articulating a just ecological transition.

In addition, both the companies in the sector and some government representatives use this narrative, the media instruments themselves and other strategies to divide local communities trying to promote megaprojects through clientelism handing out limited economic support to affected sectors of the municipalities. These types of strategies have led to violent attitudes towards people who disagree with the megaprojects, whose positions in some cases have been insulted with undemocratic methods by both institutions, companies and the sector of the population that could obtain some benefit from the projects or financial support from companies.

(4) Land grabbing and dispossession dimension: How are territories sacrificed?

As these large-scale projects are concentrated in the hands of a small number of private companies, the deployment of renewable energies throughout the country, and especially in Granada, follows a logic of land grabbing and dispossession of land and the energy it produces through sun and wind power.

Furthermore, most of the renewable power installed in the Spanish territory is located in rural areas with low population density, which has been referred to as rural "Empty Spain" [92] or "Emptied Spain" as it is called by movements defending the territory. Thus, according to Spanish Electric Network [27], the autonomous regions of Castilla and Leon, Castilla-La Mancha, Galicia, Aragon, Extremadura and Andalusia (to which Granada belongs) account for 79.2% of all installed renewable power.

Both the emergence of the concept of "Emptied Spain" and the development of a significant number of megaprojects in the rural territories of these and other autonomous regions are defended through a narrative that points to these places as terra nullius, as has occurred in other cases in the European context [6,26].

In this context, among many other notable impacts, the destruction of agricultural land and the difficulties encountered by agricultural and livestock farming as a result of the deployment of megaprojects are a major threat to a country that is the leading agricultural producer in the European Union. In fact, in the particular case of the province of Granada, a major impact on agricultural production is foreseen, as more than 80% of the surface area that could be affected by the megaprojects in progress corresponds to current land uses of agricultural value, as it can be seen in the Figure 3 where, using QGIS, we have overlapped the land use layers of the Corine Land Cover with the megaprojects in the pipeline.

In this context, we observe the generalisation of practices that erode the property right, through the standardisation of expropriations by emergency means and for the benefit of the private corporations that we have described in the section on the dimension of power and decision-making. In these cases, the owner of the land, generally a farmer, receives the unpleasant surprise of a "declaration of public utility" for his or her land, to which he or she has little to object because a renewable energy megaproject has been authorised on it and because this declaration also favours the narrative that this dispossession is being performed for the good of the citizens and not for the interests of the corporations that ultimately benefit from it. In this context, they are forced to urgently abandon their land and negotiate a reduced price, while, at times, they witness the corporate beneficiary agent transferring the expropriated property and the authorised project on it to a third party, in exchange for a multimillion sum of money. This is sustained by a law from the Franco dictatorship (Law from 16 December 1954 on forced expropriation).

In this way, the land is being dispossessed from those who own it and also from the rest of the population, who see their rural and natural landscapes disappear for the benefit of large companies and, by all means, the economies of the dynamic areas of Spain and Central and Northern Europe, which will be able to receive this energy in the near future.

Citizens and stakeholders have widely talked about this reality in the interviews and the workshops, including examples of this land grabbing developed by big actors of the renewable sector that now own large areas of their territories. These statements include particular references to the dispossession of common land in some forest areas of the sacrificed territory of Baza and also the dispossession of land that belongs to farmers even to those who are certified as organic in the case of Baza and Zújar in the sacrificed territory of Baza. According to the importance of the impacts on agriculture and livestock farming produced by the deployment of renewable energy, in the survey, 65% of the responses affirm that the deployment of photovoltaic plants is detrimental to agriculture and livestock farms, whereas 58% state that the wind farms are detrimental for agriculture and livestock farms, and finally, 64% said that high-voltage power lines affect agriculture and livestock farming.

Descripción Corine Land Cover	CORINE CODE	PROJECTED WIND (Has)	PROJECTED PHOTOVOLTAIC (Has)	HIGH TENSION LINE (HTL)	AFFECTED SURFACE (Has)	AFFECTED SURFACE (%)
Non-irrigated arable land	211	2875.71	5017.04	266.90	8159.65	43.14%
Fruit trees and berry plantations	222	1800.47	591.69	73.56	2465.72	13.04%
Sclerophylous vegetation	323	1426.98	356.60	52.89	1836.47	9.71%
Olive groves	223	133.93	1250.49	219.13	1603.56	8.48%
Natural grassland	321	897.88	455.34	99.75	1452.97	7.68%
Permanently irrigated land	212	63.35	1027.23	68.35	1158.93	6.13%
Agro-forestry areas	244	269.36	377.06	5.30	651.71	3.45%
Complex cultivation patterns	242	511.88	25.78	27.50	565.16	2.99%
Coniferous forest	312	341.44	21.74	14.20	377.38	2.00%
Agriculture with natural vegetation	243	207.25	35.45	7.80	250.51	1.32%
Transtitional woodland/shrub	324	142.54	53.08	8.55	204.17	1.08%
Broad-leaved forest	311	77.47	0.80	3.20	81.47	0.43%
Sparsely vegetated areas	333	3.23	41.28	10.08	54.59	0.29%
Mixed forest	313	5.35	31.92	0.00	37.27	0.20%
Construction sites	133	0.00	6.60	0.00	6.60	0.03%
Industrial or commercial units	121	0.00	2.30	0.56	2.87	0.02%
Inland marshes	411	0.00	0.00	1.82	1.82	0.01%
Pastures	231	0.00	0.00	1.47	1.47	0.01%
Water bodies	512	0.00	0.00	0.52	0.52	0.00%
Road and rail networks	122	0.00	0.00	0.00	0.00	0.00%
TOTAL		**8756.84**	**9294.40**	**861.57**	**18,912.82**	**100.00%**

Figure 3. Table of land uses affected due to renewable energy megaprojects and the high-voltage lines in process or already constructed. Source: Compiled by the authors.

(5) Territorial impacts and impacts on commons: What are the sacrifices territories suffer?

With regard to the dimension of territorial impacts and impacts on commons, it is necessary to take into account the environmental importance of the Iberian Peninsula and the potential impacts reflected in the data described in the previous section with regard to the possible surface area that would be occupied by the megaprojects underway. In fact, in the case of Spain, there are significant impacts on biodiversity that are directly linked to the effects on valuable ecosystems, including large agricultural areas. In 2021, 23 prestigious researchers signed a letter in the *Science* journal denouncing the serious problems being generated in biodiversity by the deployment of renewable energy megaprojects in Spain [9].

In the context of biodiversity, beyond this general position, it is necessary to pay particular attention to each territory in order to understand how these territorial impacts and impacts on the commons are produced. Thus, in the particular case of the province of Granada, of 26,744.9 ha affected by the studied megaprojects, 13,480.39 ha (50.4%) are included within an important bird conservation area (IBA and ZAPRAE), and 1178 ha (4.4%) affect territories under special protection; 52 ha affect an Asset of Cultural Interest (BIC) and a special protection area for birds (ZEPA) (0.2%). Furthermore, within the total territories affected, 10,319.83 ha (67.74%) are under the UNESCO landscape "Geological Park of Granada" declared World Geopark by UNESCO on 10 July 2020, which is located in the Sacrifice Territories of Baza and Hueneja—Guadix, affected by the wind and photovoltaic megaprojects, as well as by the route of the LAT 400 kV line.

The flora species that may be affected by the different elements of the electrical infrastructure are Cynomorium coccineum and Clypeola eriocarpa, classified as "Vulnerable" in the Andalusian Catalogue of Threatened Species. Likewise, the power line will affect areas included within the scope of the Steppe Bird Conservation and Recovery Plan, specifically the following areas included in the scope of the mentioned Plan: ZAPRAE Montes Orientales and ZAPRAE Hoya de Baza; characterised by the presence of species listed as Vulnerable in the Andalusian Catalogue of Threatened Species, specifically sandgrouse (Pterocles orientalis) and little bustard (Tetrax tetrax). They will also directly affect Critical Areas for the Conservation of Birds of Prey, interfering with their presence in colonisation by the imperial eagle (Aquila adalberti). Finally, areas of special protection such as Cerro de Jabalcón, Sierra de Baza and the Río Guadiana Menor-Upper Section ZEC are affected.

The work on the LAT BAZA—CAPARACENA began in 2019 with the 2011 Environmental Impact Statement already expired and received a Unified Environmental Authorisation in September 2020 with a 10-year-old environmental impact study that does not take into account, among other things, the declaration of the area as a Global Geopark or the existence of endangered species that were not catalogued 10 years ago, such as Echloe bazae, included in the Red Book of invertebrates of Andalusia. In December 2020, the groups in defence of the territory informed the UNESCO Global Geoparks Secretariat of the existing situation in the area, receiving the response that UNESCO supervises Geoparks every 4 years and that it cannot send a delegation of experts to assess the situation of the megaprojects in the Geopark, as the "Geopark concept is not incompatible with sustainable economic development", and closing the response with "it would be worth considering joining their efforts", with no other approach to date. As has been pointed out so many times in these territories over the last few years (and in the participatory process described here), referring to the situation of depopulation they are suffering, "the fact that we are FEW does not detract us from our RIGHTS".

On the other hand, the Ministry for Ecological Transition and Demographic Challenge has elaborated a zoning of the environmental sensitivity of the territory that has not followed the administrative procedures of territorial planning and includes the following categories: maximum (not recommended for implementation), very high, high, high, moderate and low.

With regard to the area affected by wind megaprojects in Granada, of 8755.39 ha affected, 6.18% are areas of maximum sensitivity (not recommended), 7% are areas of high sensitivity, 54.43% are areas of moderate sensitivity and the remaining 32.4% are areas of

low sensitivity. For photovoltaic megaprojects, from 9294.40 ha affected, 1.6% are areas of maximum sensitivity (not recommended), 0.9% are areas of very high sensitivity, 37.25% are areas of high sensitivity, 6.4% are areas of moderate sensitivity and the remaining 53.85% are areas of low sensitivity.

The results show that the majority of the photovoltaic and wind projects would be located in qualified areas; a total of 6566.13 ha is located in areas of high, very high or maximum sensitivity, being 24.55% of the planned area, while in areas of moderate and low environmental sensitivity, there are megaprojects for a total of 19,317.19 hectares, 72.22% of the planned area. As we have already pointed out, this high percentage of megaprojects would not be subject to the environmental impact assessment procedure nor the corresponding public participation, as approved in Royal Decree-Law 6/2022, which excludes projects in moderate and low sensitivity zones from the environmental impact assessment and public participation procedure. Subsequently, however, Royal Decree 20/2022 put an end to all environmental impact assessments for megaprojects of more than 50 MW, further reducing the control and prevention of environmental impacts of renewable energy infrastructures.

On the other hand, the pumping or reversible hydroelectric plants described by Muñoz [84] constitute three megaprojects of great impact which, if built, would affect areas of high landscape and environmental value, including habitats of community interest in the case of Cerro Jabalcón in the Baza TdS, which is a place of pilgrimage for the community, and in the case of the Sierra de Lújar in the Alpujarra—Valle de Lecrín TdS, which is also a territory that citizens have been proposing for years to be declared a natural park due to its exceptional value and its location next to Sierra Nevada.

It should also be borne in mind that renewable infrastructures consume resources [93]. Thus, the current deployment of megaprojects means greater water stress in areas where available resources are scarce, such as the province of Granada and especially the Sacrifice Territories, competing with ecological flows and other uses such as water supply and irrigation, which are of great importance in a territory such as the Southeast Peninsular with increasing water stress due to climate change [94].

However, neither the central nor the regional governments are planning the territorial implementation of renewable energy infrastructures (wind and solar photovoltaic) in such a way that the state plan that defines this deployment (PNIEC) does not include any proposal for the spatial planning of this process, which is so important for the Spanish territory. Furthermore, neither the PNIEC nor its Strategic Environmental Assessment evaluates the synergetic impact of the plan's measures as a whole, leaving everything to the Environmental Impact Studies of each project.

Finally, the question of territorial impacts and impacts on the commons appeared repeatedly in the workshops and in the participatory mapping, where the local population described the valuable territorial elements that were affected or could be affected by the deployment of renewable energy megaprojects including most of the references that we have described in this section.

Similarly, in the results obtained in the survey, 68% of the people surveyed indicated significant impacts of photovoltaic megaprojects on tourism. However, the appreciation of impacts increases even more when it comes to landscape, which is the highest percentage (84%), along with biodiversity (80%).

In the case of wind energy, the perception of damage is slightly lower than in the case of solar photovoltaic energy, reaching 58% for tourism. With regard to landscape and biodiversity, the percentages of responses indicating impacts remain high, 83% and 85%, respectively.

With regard to the impacts generated by high-voltage power lines, the impacts reported by the people surveyed are in percentages close to those of solar photovoltaic energy, reaching 70% in the case of tourism. Likewise, the surveys also reflect a high percentage of appreciation of impacts on the landscape (86%) and biodiversity (83%).

(6) The resistance and socio-territorial conflicts dimension: How are territories defended?

Since the beginning of the deployment of renewable energies in Spain, there has been resistance and local conflicts that have grown as the size of the installed power and its colonial character has become more evident, both in terms of the methods used and the current and future results for the sacrificed territories. The challenge of contesting renewable megaprojects, both on the streets and in institutional and judicial contexts, has led to the delay and cancellation of numerous projects.

In the particular case of Granada, the collective response of the citizenry dates back to 2018, in October of that year, the residents of the villages of the Alpujarras—Lecrín area began to mobilise and constitute the platform "Say No to Towers" (Di No A Las Torres) in the Lecrín Valley and Alpujarras, after discovering that the Granada Provincial Council had signed, together with eight Lecrín Valley municipalities, an agreement with Spanish Electric Network by which the developer undertook to allocate 700,000 euros to promote environmental sustainability in consideration of the environmental impact of the construction of a high-voltage line and a substation in the Lecrín Valley (SET SALERES) that would cross these territories in the province of Granada, where mega renewable energy projects are to be installed. As it has been described in the interviews by the stakeholders and in the workshops by the citizens, this platform has been leading numerous public demonstrations, both in their territory and in the capital of the province. Assemblies have been organised in all major municipalities (Dúrcal, Padul, Órgiva and El Valle), and the local councils approved opposition statements in all the territory. Until now the infrastructure has not yet been executed due to citizen pressure.

Subsequently, in July 2020, the Platform "Say No to Towers in Altiplanos and Geopark" (Di No a las Torres en los Altiplanos del Geoparque) was created in response to the construction of the 400 kV high-voltage line between Baza and Caparacena, the 400 kV substation in Baza and the wind and photovoltaic megaprojects that threaten these territories. Here again, the interviews and workshops show the resistance process that also includes assemblies and mobilisations in the sacrificed territories and joint demonstrations with the platform "Say No to Towers" (Di No A Las Torres) in the Lecrín Valley and Alpujarras as it can be seen in Figure 4, and also demonstrations organised with other organisations such as Environmentalist in Action (Ecologistas en Acción) in 2021.

Figure 4. Photography of the gathering of the platform "Say No to Towers" (Di No a las Torres) in Altiplano de Granada in 2020. Source: Taken by the authors.

Demonstrating their mobilisation and coordination capacities, on the 30th of September 2021, the different platforms in the province of Granada, which are part of a state platform called Alliance Energy and Territory (Alianza Energía y Territorio—ALIENTE), gathered outside the gates of the Andalusian Parliament together with other Andalusian

collectives to demand a moratorium on these megaprojects and a participatory roundtable discussion to organise this deployment, which aims to turn an important part of Andalusia and Granada into Sacrifice Territories.

5. Discussion

In the first place, it is necessary to justify why we use the category of energy colonialism in the case of Granada, which might seem more typical of territories of the Global South. The geographical location of this northern province in Europe indicates that it would seem more logical to place it on the perimeter of the metropolis rather than on the perimeter of the colonies. Undoubtedly, its history and its location in the global colonial order, as well as the dimension of inequalities and the types of violence used against local communities, are substantially different in Granada and in the territories of Latin America, Asia and Africa, continents where there is enormous violence. However, as we have described in this text, there is a continuity of other processes of internal colonialism previously existing in the territories of Southern Europe and particularly in Granada, such as the production of agri-food commodities [80].

Thus, as we have described, the deployment of megaprojects and renewable energy infrastructures constitutes a continuation of the historical domination of the Spanish peripheries, particularly in provinces such as Granada, by the wealthy areas of Spain and Europe, as well as by large corporations with headquarters in distant communities or foreign countries, all of which determine the colonial character of the analysed process.

In addition, in the presented case stud, it is clear that power and decision-making are concentrated in the State and Regional Governments, as well as in the large corporations that dominate the sector, in such a way that local communities cannot exercise their right to territory or to the effective participation in the decisions that concern them, being affected by different forms and degrees of violence verified empirically and through a rigorous analysis of the sources. In this context, land grabbing in local communities is reproduced and worsened, continuing with the processes of accumulation by dispossession, a typical colonial dynamic.

In relation to this, in the case of Granada, the deployment of wind and photovoltaic megaprojects would mean a power 4 times greater than that demanded in this province, which is added to the construction of a high-voltage line to send this energy to distant places, thanks to the interconnection plan with the rest of Europe. In addition, there is significant inequality regarding the use of energy produced in the Sacrifice Territories which generate up to 12 times more than they consume by exporting surpluses. In this way, both the province of Granada as a whole and the Sacrifice Territories themselves consume much less energy per inhabitant than the rich territories they supply, following a logic that is typical of the internal colonialism that has marked the historical evolution of the Spanish and European peripheral territories, whose resources have been systematically exported to generate benefits in rich areas of Spain and Europe.

On the other hand, biocultural and commons destruction is identified in the Sacrifice Territories situated in the province of Granada, which receive the impacts of renewable energy infrastructures while, as we have pointed out, the benefits are externalised and go to distant places.

Finally, for more than five years, both land dispossession and the impacts have generated resistance from local communities that seek to protect their territories and their biocultural memory in the face of a threat that they perceive as a continuity of subalternisation processes as part of the internal colonialism that they have suffered for several centuries.

6. Conclusions: From Energy Colonialism to Decolonial Energy Futures

Considering the six dimensions that characterise the category of energy colonialism and that have helped us to systematise and analyse the case study, it can be affirmed that the renewable energy megaprojects and infrastructures in the province of Granada, as an example of the peripheral and rural territories of Europe, represent a particular process of

capitalist destruction with characteristics of internal colonialism [52] even though they are not Global South territories.

As we have stated in previous research [3], energy colonialism is undoubtedly a conclusive and provocative term both for the states and companies that promote the corporate energy transition, as well as for the dissertations generated in academia and the social movements resisting these increasing tensions and promoting alternative transitions.

As we have highlighted when analysing the case study under the category of energy colonialism, historical and current colonial dominations also take place within Europe and European states. Therefore, energy colonialism must also include analyses of internal colonialism [12], as it is a global phenomenon in which no territory is exempt.

The resistances that are being articulated in the Sacrifice Territories and that also determine the colonial character of the process take on special relevance. These include diverse actors who are demanding an end to the processes that are destroying their territories and who, throughout the participatory process that we have developed, have expressed great interest in articulating an energy transition that is different from the corporate one. This includes the construction of self-consumption photovoltaic structures in different farms, rural tourism accommodations and residences belonging to the members of the platforms, considering that 90% of the leaders who we have interviewed have already made this investment. In addition to this, the participants of the workshops and the interviews described three processes to develop energy communities in the sacrificed territories, complaining that they are finding several problems with the institutions and the corporations dominating the electricity sector to develop these self-consumption communities while the big companies have always had the support of the administrations and the whole electricity sector.

It is therefore necessary to consider the knowledge and opinions of those who are articulating the resistance in these territories, and for this goal, participatory methodologies can provide other ways of improving the necessary energy transition [33]. It is urgent to speed up the reduction in the use of fossil fuels and nuclear power, so reducing the resistance to the deployment of renewable energies is very important and local residents can contribute to this process [95]. According to this, the stakeholders and the citizens participating in the workshops repeated the statement "Renewables yes, but not this way" (Renovables sí, pero no así) developed by the Aliance Energy and Territory (Alianza Energía y Territorio—ALIENTE) as a guideline for a more popular energy transition [48]. This is focusing on self-consumption, including domestic, municipal and community photovoltaic structures, as a main objective. This considers the large amount of land that can be used to deploy solar panels with a minimum on-site impact as it has already been transformed, such as urban land, industries, commercial areas, roads, big water channels, greenhouses and mining areas. The need to increase participation in the decision-making was also present in all the interviews and the workshops, and in some cases, the demand was a participatory spatial planning of the energy transition.

To conclude, in a scenario of energy colonialism that is technically inefficient and based on chimerical narratives that are impossible to fulfil [1], a people's energy transition [48] that decolonises energy is necessary. In this sense, it is a decolonisation based on the de-growth of the Global North, reducing its consumption and its direct and indirect CO_2 emissions, a shift towards distributed low-impact technologies, both electrical and, especially, non-electrical [96], and energy distribution that eradicates the gap between the Global South and North, and between central and peripheral territories [97].

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Appendix A

The questionnaire was based on the following questions:

Full Name (the results we will publish from the survey are anonymous, but in order to avoid repeated answers, we collect these details).

ID

Municipality of residence (only people originating from the province of Granada are included).

Do you belong to any association that puts the deployment of renewable energy or high-voltage lines into question in the surroundings or your municipality?

Do you know of any association that puts the deployment of renewable energy or high-voltage lines into question in the surroundings or your municipality?

Do you know if there are any photovoltaic solar power projects built or under construction in the surroundings of your municipality?

Do you know if there are any turbine generators or wind power projects built or under construction in the surroundings of your municipality?

Do you know if there are any high-voltage power lines built or in construction in the vicinity of your municipality?

Do you consider that the deployment of photovoltaic solar energy plants in the vicinity of your municipality has improved or could improve the economy and employment in your municipality?

Have you been consulted about the deployment of photovoltaic solar energy plants in the vicinity of your municipality?

Do you consider that the deployment of photovoltaic solar energy plants in the vicinity of your municipality has a negative effect on agricultural activities?

Do you consider that the deployment of photovoltaic solar energy plants in the vicinity of your municipality has a negative effect on farming?

Do you consider that the deployment of photovoltaic solar energy plants in the vicinity of your municipality has a negative effect on tourism?

Do you consider that the deployment of photovoltaic solar energy plants in the vicinity of your municipality has a negative effect on the landscape?

Do you consider that the deployment of photovoltaic solar energy plants in the vicinity of your municipality has a negative effect on biodiversity?

Have you been consulted about the deployment of wind turbine generators in the vicinity of your municipality?

Do you consider that the deployment of wind turbine generators in the vicinity of your municipality has improved or could improve the economy and employment in your territory?

Do you consider that the deployment of wind turbine generators in the vicinity of your municipality has a negative effect on agriculture?

Do you consider that the deployment of wind turbine generators in the vicinity of your municipality has a negative effect on farming?

Do you consider that the deployment of wind turbine generators in the vicinity of your municipality has a negative effect on tourism?

Do you consider that the deployment of wind turbine generators in the vicinity of your municipality has a negative effect on the landscape?

Do you consider that the deployment of wind turbine generators in the vicinity of your municipality has a negative effect on biodiversity?

Have you been consulted about the construction of high-voltage power lines in the vicinity of your municipality?

Do you consider that the high-voltage power lines installed in the vicinity of your municipality improve the economy and generate employment sources in your municipality?

Do you consider the installation of high-voltage power lines in your municipality, which are required to transfer energy from wind and photovoltaic power plants, to be detrimental to agriculture?

Do you consider the installation of high-voltage power lines in your municipality, which are required to transfer energy from wind and photovoltaic power plants, to be detrimental to farming?

Do you consider the installation of high-voltage power lines in your municipality, which are required to transfer energy from wind and photovoltaic power plants, to be detrimental to tourism?

Do you consider the installation of high-voltage power lines in your municipality, which are required to transfer energy from wind and photovoltaic power plants, to be detrimental to the landscape?

Do you consider the installation of high-voltage power lines in your municipality, which are required to transfer energy from wind and photovoltaic power plants, to be detrimental to biodiversity?

Do you think it is appropriate that energy is generated on the land of your municipality through photovoltaic and/or wind power plants to supply the consumption of your county?

Do you think it is appropriate that energy is generated on the land of your municipality through photovoltaic and/or wind power to supply the energy consumption of your province?

Do you think it is appropriate that energy is generated in your municipality through photovoltaic and/or wind power plants to supply the energy consumption of areas that are distant from your province?

Do you believe that renewable energy production installations should be promoted to be placed on the rooftops of your municipality?

Do you have any interest for energy to be produced on the roof of your residence?

THIS QUESTION IS NOT MANDATORY: Do you think that energy consumption should be reduced in households, transport, agriculture and industry (if no answer, place a dot or dash and continue with the survey)?

THIS QUESTION IS NOT MANDATORY: Briefly describe other damages generated from photovoltaic solar powerplants, wind turbines and high-voltage power lines in the vicinity of your municipality (if no answer, place a dot or dash and continue with the survey).

THIS QUESTION IS NOT MANDATORY: Do you have any demand or proposal in relation to the deployment of renewable energies in the vicinity of your municipality (if no answer, place a dot or dash and continue with the survey)?

THIS QUESTION IS NOT MANDATORY: If you like, here you can add a comment (in case of no answer please place a dot or a dash and continue with the questionnaire).

References

1. Turiel, A. *Petrocalipsis: Crisis Energética Global y Cómo (No) la Vamos a Solucionar*; Editorial Alfabeto: Madrid, Spain, 2020.
2. Kazimierski, M.; Argento, M. Más allá del petróleo. En el umbral de la acumulación por desfosilización. *Relac. Int.* **2021**, *30*, 209–225.
3. Sánchez Contreras, J.; Matarán Ruiz, A.; Campos, A.; Fjelheim, E.M. Energy colonialism: A Category to Analyse the Corporate Energy Transition in the Global South and North. *Land J.* **2023**, *12*, 1241. [CrossRef]
4. Sánchez Contreras, J.; Ruiz, A.M. *Colonialismo Energético. Territorios de Sacrificio para la Transición Energética Corporativa en España, México, Noruega y el Sáhara Occidenta*, 1st ed.; Icaria: Barcelona, Spain, 2023.
5. European Commission. *Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions REPowerEU Plan*; Regulation (EU) 2022/869; SWD: Brussels, Belgium, 2022.
6. Batel, S.; Devine-Wright, P. Energy colonialism and the role of the global in local responses to new energy infrastructures in the UK: A critical and exploratory empirical analysis. *Antipode* **2017**, *49*, 3–22. [CrossRef]

7. Hall, C.A.S.; Lambert, J.G.; Balogh, S.B. EROI of different fuels and the implications for society. *Energy Policy* **2014**, *64*, 141–152. [CrossRef]
8. Kiesecker, J.; Baruch-Mordo, S.; Heiner, M.; Negandhi, D.; Oakleaf, J.; Kennedy, C.; Chauhan, P. Renewable Energy and Land Use in India: A Vision to Facilitate Sustainable Development. *Sustainability* **2020**, *12*, 281. [CrossRef]
9. Serrano, D.; Margalida, A.; Pérez-García, J.M.; Juste, J.; Traba, J.; Valera, F.; Carrete, M.; Aihartza, J.; Real, J.; Mañosa, S.; et al. Renewables in Spain threaten biodiversity. *Science* **2020**, *370*, 1282–1283. [CrossRef] [PubMed]
10. Knuth, S.; Behrsin, I.; Levenda, A.; McCarthy, J. New political ecologies of renewable energy. *Environ. Plan. E Nat. Space* **2022**, *5*, 997–1013. [CrossRef]
11. Temper, L.; Avila, S.; Del Bene, D.; Gobby, J.; Kosoy, N.; Le Billon, P.; Martinez-Alier, J.; Perkins, P.; Roy, B.; Scheidel, A.; et al. Movements shaping climate futures: A systematic mapping of protest against fossil fuel and low—Carbon energy projects. *Environ. Res. Lett.* **2020**, *15*, 123004. [CrossRef]
12. González Casanova, P. *Sociología de la Explotación*; CLACSO: Buenos Aires, Argentina, 2006.
13. Instituto Nacional de Estadística. *Gobierno de España*; Instituto Nacional de Estadística: Madrid, Spain, 2022.
14. Ávila, J.M.; Martín, J.R.; Alonso, C.J.; Cos, M.D.; Cadalso, J.M.; Bartolomé, M.L. *Atlas de Radiación Solar en España Utilizando Datos del SAF de Clima de EUMETSAT*; Agencia Estatal de Meteorología: Madrid, Spain, 2012.
15. Centro Nacional de Energías Renovables. Mapa Eólico Ibérico. Centro Nacional de Energías Renovables, España. 2020. Available online: https://www.mapaeolicoiberico.com (accessed on 11 August 2022).
16. Lipari, S. Industrial-scale wind energy in Italian southern Apennine: Territorio grabbing, value extraction and democracy. *Cienze Del Territ.* **2020**, *8*, 154–169.
17. Avila-Calero, S. Environmental justice and the expanding geography of wind power conflicts. *Sustain. Sci.* **2018**, *13*, 599–616. [CrossRef]
18. Zárate, E.; Fraga, J. *La Política Eólica Mexicana: Controversias Sociales y Ambientales Debido a su Implantación Territorial. Estudio de caso en Oaxaca y Yucatá*; Trance: Mexico City, México, 2015; pp. 71–72.
19. Williams, S.; Doyon, A. Justice in energy transitions. *Environ. Innov. Soc. Transit.* **2019**, *31*, 144–153. [CrossRef]
20. Ramirez, J.; Böhm, S. Transactional colonialism in wind energy investments: Energy injustices against vulnerable people in the Isthmus of Tehuantepec. *Energy Res. Soc. Sci.* **2021**, *78*, 102135. [CrossRef]
21. Jenkins, K.; McCauley, D.; Heffron, R.; Stephan, H.; Rehner, R. Energy justice: A conceptual review. *Energy Res. Soc. Sci.* **2016**, *11*, 174–182. [CrossRef]
22. Fuller, S.; McCauley, D. Framing energy justice: Perspectives from activism and advocacy. *Energy Res. Soc. Sci.* **2016**, *11*, 1–8. [CrossRef]
23. Bouzarovski, S.; Simcock, N. Spatializing energy justice. *Energy Policy* **2017**, *107*, 640–648. [CrossRef]
24. Tornel, C. Energy justice in the context of green extractivism: Perpetuating ontological and epistemological violence in the Yucatan Peninsula. *J. Political Ecol.* **2023**, *30*, 1–28. [CrossRef]
25. Ávila-Calero, S. Contesting energy transitions: Wind power and conflicts in the Isthmus of Tehuantepec. *J. Political Ecol.* **2017**, *24*, 992–1012. [CrossRef]
26. Batel, S. A brief excursion into the many scales and voices of renewable energy colonialism. In *Routledge Handbook of Energy Democracy*; Feldpausch-Parker, A.M., Endres, D., Peterson, T.R., Gomez, S.L., Eds.; Routledge: London, UK, 2021.
27. Radcliff, S. *Decolonizing Geography. An Introduction*; Polity Press: Cambridge, UK, 2022.
28. Grosfoguel, R. *De la Sociología de la Descolonización al Nuevo Antiimperialismo Decolonial*; AKAL: Madrid, Spain, 2022.
29. Allan, J.; Lemaadel, M.; Lakhal, H. Oppressive Energopolitics in Africa's Last Colony: Energy, Subjectivities, and Resistance. *Antipode* **2022**, *54*, 44–63. [CrossRef]
30. DeBoom, M.J. Climate necropolitics: Ecological civilization and the distributive geographies of extractive violence in the Anthropocene. *Ann. Am. Assoc. Geogr.* **2020**, *111*, 900–912.
31. Siamanta, Z.C. Building a green economy of low carbon: The Greek post-crisis experience of photovoltaics and financial 'green grabbing'. *J. Political Ecol.* **2017**, *24*, 258–276. [CrossRef]
32. Siamanta, Z.C. Wind parks in post-crisis Greece: Neoliberalisation vis-à-vis green grabbing. *Environ. Plan. E Nat. Space* **2019**, *2*, 274–303. [CrossRef]
33. Ulloa, A. Aesthetics of green dispossession: From coal to wind extraction in La Guajira, Colombia. *J. Political Ecol.* **2023**, *30*. [CrossRef]
34. Alston, P. Climate Change and Poverty Report of the Special Rapporteur on Extreme Poverty and Human Rights. *Spec. Rapp. Extrem. Poverty Hum. Rights* **2019**, 1–19.
35. Bhambra, G.K.; Newell, P. More than a metaphor: 'climate colonialism' in perspective. *Glob. Soc. Chall. J.* **2022**, *2*, 1–9. [CrossRef]
36. Alkhalili, N.; Dajani, M.; Mahmoud, Y. The enduring coloniality of ecological modernization: Wind energy development in occupied Western Sahara and the occupied Syrian Golan Heights. *Political Geogr.* **2023**, *103*, 102871. [CrossRef]
37. Zografos, C. The contradictions of Green New Deals: Green sacrifice and colonialism. *Soundings* **2022**, *80*, 37–50. [CrossRef]
38. Bumpus, A.G.; Liverman, D.M. Carbon colonialism? Offsets, greenhouse gas reductions, and sustainable development. In *Global Political Ecology*; Peet, R., Robbins, P., Watts, M., Eds.; Routledge: London, UK, 2011; pp. 203–224.
39. O'Neill, L.; Thorburn, K.; Riley, B.; Maynard, G.; Shirlow, E.; Hunt, J. Renewable energy development on the Indigenous Estate: Free, prior and informed consent and best practice in agreement-making in Australia. *Energy Res. Soc. Sci.* **2019**, *81*, 102252. [CrossRef]

40. Bachram, H. Climate fraud and carbon colonialism: The new trade in greenhouse gases. *Capital. Nat. Social.* **2004**, *15*, 5–20. [CrossRef]
41. Parson, S.; Ray, E. Sustainable colonization: Tar sands as resource colonialism. *Capital. Nat. Social.* **2018**, *29*, 68–86. [CrossRef]
42. Fjellheim, E.M. "You can kill us with dialogue:" A critical perspective on wind energy development in a Nordic-Saami green colonial context. *Hum. Rights Rev.* **2023**, *24*, 25–51. [CrossRef]
43. Fjellheim, E.M. Wind energy on trial: Epistemic controversies and strategic ignorance in Norway's green energy transition. *Arct. Rev. Law Politics* **2023**, *14*, 140–168. [CrossRef]
44. Normann, S. Green colonialism in the Nordic context: Exploring Southern Saami representations of wind energy development. *J. Community Psychol.* **2020**, *49*, 77–94. [CrossRef]
45. Kårtveit, B. Green colonialism: The story of wind power in Sápmi. In *Stories of Change and Sustainability in the Arctic Regions*; Routledge: London, UK, 2021; pp. 157–177.
46. Dorn, F.M. Green colonialism in Latin America? Towards a new research agenda for the global energy transition. *Eur. Rev. Lat. Am. Caribb. Stud.* **2022**, *114*, 137–146. [CrossRef]
47. Dunlap, A. Bureaucratic land grabbing for infrastructural colonization: Renewable energy, L'Amassada, and resistance in southern France. *Hum. Geogr.* **2020**, *13*, 109–126. [CrossRef]
48. Bertinat, P.; Svampa, M. *La Transición Energética en Argentina*, 1st ed.; Siglo XXI Editores: Buenos Aires, Argentina, 2022.
49. de Jong, J.; van Schaik, L. EU Renewable Energy Policies: What Can Be Done Nationally, What Should Be Done Supranationally? Clingendael Seminar Overview Paper for the Seminar on EU Renewable Energy Policies. *Clingendael Int. Energy Programme* **2009**, 1–10.
50. Albert, M.J. The Climate Crisis, Renewable Energy, and the Changing Landscape of Global Energy Politics. *Alternatives* **2021**, *46*, 89–98. [CrossRef]
51. Kucharz, T. El Colonialismo Energético-Mineral de la Unión Europea. *Energía Equidad* **2021**, 8–26.
52. Batel, S.; Küpers, S. Politicising Hydropower Plants in Portugal: Spatio-temporal Injustices and Psychosocial Impacts of Renewable Energy Colonialism in the Global North. *Globalizations* **2022**, *20*, 887–906. [CrossRef]
53. Andreucci, D.; Zografos, C. Between improvement and sacrifice: Othering and the (bio)political ecology of climate change. *Political Geogr.* **2022**, *92*, 102512. [CrossRef]
54. Hamouchene, H.; Pérez, A. *Colonialismo Energético: El Acaparamiento del gas de la UE en Argelia*; Observatori del Deute en la Globalització (ODG): Barcelona, Spain, 2016.
55. Scheneider, J.; Peeples, J. Energy dominance. In *Routledge Handbook of Energy Democracy*; Feldpausch-Parker, A.M., Endres, D., Peterson, T.R., Gomez, S.L., Eds.; Routledge: London, UK, 2021.
56. Harvey, D. *The New Imperialism*; Oxford University Press: Oxford, UK, 2003.
57. Slipak, A.M.; Argento, M. Ni oro blanco ni capitalismo verde. Acumulación por desfosilización en el caso del litio ¿argentino? *Cuad. De Econ. Crítica* **2022**, *8*, 15–36.
58. Yenneti, K.; Day, R.; Golubchikov, O. Spatial justice and the land politics of renewables: Dispossessing vulnerable communities through solar energy mega-projects. *Geoforum* **2016**, *76*, 90–99. [CrossRef]
59. Siamanta, C.; Dunlap, A. Accumulation by wind energy': Wind energy development as a capitalist Trojan horse in Crete, Greece and Oaxaca, Mexico. *ACME Int. J. Crit. Geogr.* **2019**, *18*, 925–955.
60. Sovacool, B.K.; Cooper, C.J. *The Governance of Energy Megaprojects: Politics, Hubris and Energy Security*; Edward Elgar Publishing: Cheltenham, UK, 2013.
61. Bumpus, A.G.; Liverman, D.M. Accumulation by Decarbonization and the Governance of Carbon Offsets. *Econ. Geogr.* **2008**, *84*, 127–155. [CrossRef]
62. Lawrence, R. Internal colonisation and Indigenous resource sovereignty: Wind power developments on traditional Saami lands. *Environ. Plan. D Soc. Space* **2014**, *32*, 1036–1053. [CrossRef]
63. Bertinat, P.; Chemes, P.; Forero, L.F. *Transición Energética: Aportes Para la Reflexión Colectiva*; Taller Ecologista; Transnational Institute: Rosaria, Argentina, 2020.
64. Oxfam. *Informe Diciembre 2019. Injusticia Climática lo que Contaminan los Más Ricos y Pagan los más Vulnerables*; OXFAM Intermón Media Briefing: Brussels, Belgium, 2019.
65. Yacobi, H.; Lemanski, C.; Ram, M.; Flum, M. Introduction: Infrastructure, Inequality and the Neo-Apartheid City. *Soc. Space Mag.* **2022**.
66. Wu, X.; Shao, L.; Chen, G.; Han, M.; Chi, Y.; Yang, Q.; Alhodaly, M.; and Wakeel, M. Unveiling land footprint of solar power: A pilot solar tower project in China. *J. Environ. Manag.* **2021**, *280*, 111741. [CrossRef] [PubMed]
67. Dhar, A.; Naeth, M.A.; Jennings, P.D.; El-Din, M.G. Perspectives on environmental impacts and a land reclamation strategy for solar and wind energy systems. *Sci. Total Environ.* **2020**, *718*, 134602. [CrossRef]
68. de Sousa Santos, B. *Epistemologies of the South: Justice against Epistemicide*; Routledge: New York, NY, USA, 2015.
69. Otte, P.P.; Rønningen, K.; Moe, E. Contested wind energy: Discourses on energy impacts and their significance for energy justice in Fosen. In *Energy, Resource Extraction and Society. Impacts and Contested Futures*; Routledge: London, UK, 2018; pp. 140–158.
70. Wolsink, M. Wind power and the NIMBY-myth: Institutional capacity and the limited significance of public support. *Renew. Energy* **2000**, *21*, 49–64. [CrossRef]

71. Dechézelles, S.; Scotti, I. Wild Wind, Social Storm: "Energy Populism" in Rural Areas? An Exploratory Analysis of France and Italy. *Rural. Sociol.* **2022**, *87*, 784–813. [CrossRef]
72. Delgado, A. El estudio de la biodiversidad en la instalación de energías renovables. In *En Seminario: Transición Energética y Conservación de la Biodiversidad*; Asociación Española de Evaluación de Impacto Ambiental, Ministerio de Transición Ecológica y Reto Demográfico, Gobierno de España: Madrid, Spain, 2021.
73. Anguita, J.C.; Labrador, J.R.; Campos, J.D.; Casas Anguita, J.; Repullo Labrador, J.; Donado Campos, J. La encuesta como técnica de investigación. Elaboración de cuestionarios y tratamiento estadístico de los datos. *Atención Primaria* **2003**, *31*, 527–538. [CrossRef]
74. Rojas, A.J.; Fernández, J.S.; Pérez, C. Investigar mediante encuestas Fundamentos teóricos y aspectos prácticos. *Psicothema* **2000**, *12*, 320–323.
75. López Medina, J.M. El Diseño Participativo en Programas de Rehabilitación de Viviendas. Ph.D. Thesis, University of Granada, Granada, Spain, 2012.
76. Ravetz, J.R.; Funtowiz, S.O. *La Ciencia Posnormal: Ciencia con la Gente*; España, Icaria: Barcelona, Spain, 2000.
77. Haraway, D. Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspectives. *Fem. Stud.* **1988**, *14*, 575–599. [CrossRef]
78. Delgado, M.; Carpintero, O.; Lomas, P.; Sastre, S. Andalucía en la División Territorial del Trabajo Dentro de la Economía Española. Una Aproximación a la Luz de su Metabolismo Socioeconómico. 1996–2010. *Rev. Estud. Reg.* **2014**, *100*.
79. Gramsci, A. *La Cuestión Meridional. Introducción de Giuseppe Fiori. 1952*; Quadrata Editor: Buenos Aires, Argentina, 2002.
80. Delgado, M. Los megaproyectos como forma de apropiación de riqueza y poder en Andalucía. In *Los Megaproyectos en Andalucía. Relaciones de Poder y Apropiación de la Riqueza*; Delgado, M., del Moral, L., Eds.; Aconcagua Libros: Sevilla, Spain, 2016.
81. Spanish Electric Network (Red Eléctrica de España). Available online: https://www.ree.es/es/clientes/generador/acceso-conexion/conoce-el-estado-de-las-solicitudes (accessed on 11 February 2023).
82. Fundación Naturgy. *El Sector Eléctrico Español en Números*; Fundación Naturgy: Madrid, Spain, 2020.
83. Andalusian Energy Agency (Agencia Andaluza de la Energía). *Informe de Infraestructuras Energéticas de la Provincia de Granada*; Agencia Andaluza de la Energía: Sevilla, Spain, 2022.
84. Muñoz, J.M. El Gobierno Tramita Tres Centrales Hidroeléctricas Reversibles en Granada, Una de Ellas en el Emblemático Jabalcón. *El Independiente de Granada*, 30 October 2022.
85. Spanish Electric Network (Red Eléctrica de España). *El Sistema Eléctrico Español: Informe Resumen de Energías Renovables*; Spanish Electric Network: Madrid, Spain, 2021.
86. Statistics Institute of Catalonia (Instituto de Estadística de Cataluña). *Consumo de Energía por Habitante*; Statistics Institute of Catalonia (Instituto de Estadística de Cataluña): Catalunya, Spain, 2019.
87. Enerdata. German Energy Information. 2021. Available online: https://www.enerdata.net/estore/energy-market/germany/ (accessed on 12 February 2023).
88. Ministry of Ecological Transition (Ministerio para la Transición Ecológica). *Actualización de Indicadores de la Estrategia Nacional Contra la Pobreza Energética*; Ministry of Ecological Transition (Ministerio para la Transición Ecológica): Madrid, Spain, 2021.
89. Fabra, N.; Gutiérrez, E.; Lacuesta, A.; Ramos, R. *Do Renewables Create Local Jobs?* Documentos de Trabajo/Banco de España: Madrid, Spain, 2023.
90. Villodres Ramírez, L.; Jiménez Martín CMatarán Ruiz, A.; Sánchez Contreras, J.; Gámez Rodríguez, G.; Martín Pérez, R. *Colonialismo Energético en Los Territorios de Sacrificio del Sudeste Español (Provincia de Granada). Informe del Proyecto Understanding Green Extractivism*; European Environmental Bureau: Brussels, Belgium, 2022.
91. European Commission. *Spain-Memorandum of Understanding on Financial-Sector Policy Conditionality*; European Comission: Brussels, Belgium, 2021.
92. Del Molino Molina, S. *La España vacía*; Editorial Turner: Madrid, Spain, 2016.
93. Jia, X.; Klemeš, J.J.; Tan, R.R. Overview of Water Use in Renewable Electricity. *Gener. Chem. Eng. Trans.* **2021**, *89*, 403–408.
94. Shukla, P.R.; Skea, J.; Slade, R.; Al Khourdajie, A.; van Diemen, R.; McCollum, D.; Pathak, M.; Some, S.; Vyas, P.; Fradera, R.; et al. (Eds.) *IPCC, Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*; Cambridge University Press: Cambridge, UK; New York, NY, USA, 2022.
95. Rodríguez-Segura, F.J.; Osorio-Aravena, J.C.; Frolova, M.; Terrados-Cepeda, J.; Muñoz-Cerón, E. Social acceptance of renewable energy development in southern Spain: Exploring tendencies, locations, criteria and situations. *Energy Policy* **2023**, *173*, 113356. [CrossRef]
96. Almazán, A.; del Buey, R. En busca de nuevas tecnologías viables en la era del dilema renovable. In *Bioeconomía Para el Siglo XXI: Actualidad de Nicholas Georgescu-Roegen*; Gómez, A.A., del Buey, R., Eds.; Los Libros de la Catarata: Madrid, Spain, 2022; pp. 157–168.
97. Pérez, A. *Pactos Verdes en Tiempos de Pandemias. El Futuro se Disputa Ahora*; ODG: Barcelona, Spain, 2021.