



**Environmental colonialism in the Maghreb?  
Harnessing green energy on indigenous  
peoples' land**



Leonora Haag





**Leonora Haag**

Intern at the Middle East and North Africa Programme at the Swedish Institute of International Affairs, UI.



## Introduction

The EU member states, and especially the Nordic countries, have some of the highest per capita levels of electricity consumption in the world.<sup>1</sup> Together they produced only 65% of the 37 000 petajoules of energy consumed in 2020.<sup>2</sup> The war in Ukraine has made Europe's reliance on energy imports painfully obvious. To strengthen its energy security and comply with climate agreement targets, the EU has been investing increasing amounts in North Africa's renewable energy sector over the past decade. To a large extent, this energy infrastructure has been developed in peripheral regions, rural areas primarily inhabited by indigenous people. These internationally funded projects are particularly sensitive in countries like Morocco, a highly socioeconomically territorialised and centralised state, where the government does not recognize the status of its indigenous population.<sup>3</sup> The world's largest concentrated solar plant, the Noor Ouarzazate Solar Energy Complex is such a project. Inaugurated in 2016, it was launched as a progressive initiative as part of a new green energy movement that would develop the county's rural regions and strengthen Morocco's status as a regional climate leader. The project has created increasing friction as the local population has criticised the systematic exclusion of local

representation, the absence of transparency and informed consent.

The objective of this policy brief is to study if, and how, the local population was consulted, compensated, and allowed to participate in the decision-making process surrounding the development of Noor Ouarzazate. Furthermore, it will examine the extent to which the project benefited the local population socio-economically. This brief will first provide background on the political and historical dimensions of the case study, then analyse the official narrative and assessments of the project and conclude with policy recommendations. The aim is to use Noor Ouarzazate as a case study to discuss the ethical dimensions of producing renewable energy in rural areas populated with indigenous people. This case study situates itself within the wider discussion on green grabbing, a contentious aspect of the industrial expansion of renewable energy in the Global South that causes land conflicts. These projects have often been physically located in rural areas inhabited by tribal and indigenous people. Several human rights reports indicate that their livelihood and culture have been endangered by the way such projects have developed. Serious commitments to climate justice alongside practical measures are required to ensure that the EU is not complicit in these human

<sup>1</sup> BP. "Statistical Review of World Energy 2021". 70<sup>th</sup> edition, pp. 13 & 63. Accessed: 2022-04-20. <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2021-full-report.pdf>

<sup>2</sup> Eurostat. "Energy statistics – an overview". Published 2022-02. Accessed: 2022-07-29. [https://ec.europa.eu/eurostat/statistics-](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Energy_statistics_-_an_overview#Final_energy_consumption)

[explained/index.php?title=Energy\\_statistics\\_-\\_an\\_overview#Final\\_energy\\_consumption](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Energy_statistics_-_an_overview#Final_energy_consumption)

<sup>3</sup> International Pact on Civil and Political Rights. "Amazighs of Morocco: an indigenous people despoiled".

UN Committee for Human Rights 118th Session, 17 October-4 November 2016, Geneva, pp. 3. [https://tbinternet.ohchr.org/Treaties/CCPR/Shared%20Documents/MAR/INT\\_CCPR\\_CSS\\_MAR\\_25280\\_E.pdf](https://tbinternet.ohchr.org/Treaties/CCPR/Shared%20Documents/MAR/INT_CCPR_CSS_MAR_25280_E.pdf)



rights violations, not least because it has obliged itself in law to protect human rights.<sup>4</sup> As accelerating electrification of urban infrastructure increases demand for renewable energy, these conflicts of interest must therefore be urgently addressed. Is it justifiable to sacrifice the resource-scarce livelihoods of indigenous people in the Global South to maintain highly resource-consuming lifestyles in the Global North?

## European Union's investments in North Africa

The EU's energy investments in its Southern Neighbourhood are directed through projects such as the Sahara Wind project<sup>5</sup>, the Mediterranean Solar Plan<sup>6</sup> and the Morocco-Nigeria gas pipeline<sup>7</sup>. Through

<sup>4</sup> Borrás, Saturnino et alii. "Land grabbing and human rights: the involvement of European corporate and financial entities in land grabbing outside the European Union". European Parliament. Published: May 2016, pp. 40.

<sup>5</sup> An EU-led initiative to construct multiple wind farms along the Saharan coastline from Senegal to Morocco with offshore potential for expansion for the leading developer Sahara Wind Inc. It is estimated that the production capacity could provide both the region and Europe with clean energy harnessed from the Atlantic winds at a record low price and delivered through high voltage transmission lines. Source: Sahara Wind. "Background on the Sahara Wind Project". Accessed: 2022-07-26, <https://saharawind.com/en/sahara-wind-project-background>.

<sup>6</sup> An EU-funded project to promote and invest in renewable energy and energy cooperation in the Mediterranean region. Launched in 2008, the initiative aims to improve the transmission capacity and integration of the European/Mediterranean gas and energy markets. Main partner countries are Algeria, Egypt, Jordan, Lebanon, Morocco, Palestine, Syria and Tunisia. Source: European Investment Bank. "Mediterranean Solar Plan, Project

related agreements, the EU incentivises the North African energy sector to integrate into the international energy market and encourages energy exports to Europe. The strategic value of such investments for Europe is evident from the expanding transmission network between the two continents. New subsea electricity interconnectors are planned between United Kingdom and Morocco, Egypt and Cyprus, Tunisia and Italy and Algeria and Spain.<sup>8</sup> Groups in the EU, such as *Desertec*, increasingly have lobbied for stronger trans-Mediterranean energy cooperation, emphasising the profitable potential of the rural desert regions of North Africa for

Preparation Initiative (MSP-PPI)", European Investment Bank, 2016, <https://op.europa.eu/en/publication-detail/-/publication/acb20c59-bf40-11e5-9e54-01aa75ed71a1/language-en> )

<sup>7</sup> In 2016, the Moroccan National Office of Hydrocarbons and Mines (ONHYM) and the Nigerian National Petroleum Corporation, later joined by the Economic Community of West African States (ECOWAS), signed a joint venture to construct the largest pipeline on the African continent. The 7000 kilometre long pipeline, stretching over 13 countries from Benin to Spain, will enable hydrocarbon-rich countries like Nigeria to expand their exports to Europe. Source: Reuters. "Nigeria and Morocco sign gas pipeline deal to link Africa to Europe". Reuters. Published: 2016-12-03. Accessed: 2022-07-26, <https://www.reuters.com/article/nigeria-pipeline-morocco-idUSL8N1DY007>

<sup>8</sup> Todorovic, Igor. "Several undersea power cables about to connect Europe and Africa". Balkan Green Energy News. Published: 2021-09-16. Accessed: 2022-03-15. <https://balkangreenenergynews.com/several-undersea-power-cables-about-to-connect-europe-with-africa/>



renewable energy extraction.<sup>9</sup> These regions have been described as uninhabited and unproductive provinces that could provide North African countries with export revenue to boost national economies while assisting Europe to meet its climate goals and energy demand.<sup>10</sup> With its strategic position at the intersection between the African and European continents, Morocco has been a major beneficiary of such investments. In the past decade, its political elite has attempted to present itself as an ambitious regional and international climate leader. It has introduced new legislation and institutional reforms to attract foreign investment in renewable energy projects.<sup>11</sup> Consequently, the EU granted €12 million towards the green energy transition in Morocco within the newly formed *EU-Morocco Green Partnership*.<sup>12</sup> The Moroccan Agency for Renewable Energy (MASEN) launched the

Noor Ouarzazate Solar Complex in 2011 with major funding from the European Investment Bank.<sup>13</sup> Hailed as a progressive initiative and the flagship of the EU's *Mediterranean Solar Plan*, it was one of the first solar complexes commissioned as part of the country's initiative to develop renewable energy production.<sup>14</sup>

## The Amazigh people

The Noor Ouarzazate solar energy complex is located 10 kilometres from the city of Ouarzazate in the *Drâa-Tafilalet* region, a rural desert area predominantly inhabited by North Africa's indigenous population, the Amazigh. The Amazigh (plural Imazighen), also known as Berber, are a diverse ethnic group that has lived in the Maghreb since 2000 BCE. Morocco has the largest Amazigh population in the region,<sup>15</sup> which is estimated to comprise 60% of the total Amazigh population of 20-30 million.<sup>16</sup>

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<sup>9</sup> Sahara Wind. "Sustainable Energy Policy: Connecting Africa to Europe". Accessed: 2022-07-26. <https://saharawind.com/en/european-sustainable-energy-policy-connected-to-africa>

<sup>10</sup> Hickman, Leo. "Could the desert sun power the world?". The Guardian. Published: 2011-12-11. Accessed: 2022-03-22.

<https://www.theguardian.com/environment/2011/dec/11/sahara-solar-panels-green-electricity>

<sup>11</sup> Cantoni, Roberto & Rignall, Karen. "Kingdom of the Sun: a critical, multiscale analysis of Morocco's solar energy strategy". Energy Research & Social Science nr. 51. 2019-03-26, pp. 22-25.

<sup>12</sup> European Commission. "The EU and Morocco form a Green Partnership on energy, climate and the environment ahead of COP 26". Published: 2021-06-28. Accessed: 2022-02-20.

[https://ec.europa.eu/clima/news-your-voice/news/eu-and-morocco-form-green-partnership-energy-climate-and-environment-ahead-cop-26-2021-06-28\\_en](https://ec.europa.eu/clima/news-your-voice/news/eu-and-morocco-form-green-partnership-energy-climate-and-environment-ahead-cop-26-2021-06-28_en)

<sup>13</sup> EU Neighbours South. "Morocco: European Investment Bank funds one of the biggest solar power complexes in the world". Published: 2019-08-08. Accessed: 2022-02-20.

<https://www.euneighbours.eu/en/south/stay-informed/news/morocco-european-investment-bank-funds-one-biggest-solar-power-complexes>

<sup>14</sup> European Investment Bank. "Mediterranean Solar Plan – Project Preparation Initiative". European Investment Bank. Published: 2016-07-08. Accessed: 2022-02-10.

<https://data.europa.eu/doi/10.2867/631774>

<sup>15</sup> Brett, Michael. "Berber". *Encyclopedia Britannica*, 20 Mar 2019, accessed 2022-03-22, <https://www.britannica.com/topic/Berber>.

<sup>16</sup> According to the International Work Group for Indigenous Affairs, results from the 2016's national census indicated that 28% of the population was Tamazigh speaking (language of the Amazigh) while Amazigh associations estimate between 65-70%.

<https://www.iwgia.org/en/morocco.html>



Friction has existed between the Arab and Amazigh populations throughout the centuries of Arabization in the Maghreb region. Forced assimilation and urban migration induced by socio-economic marginalisation have diluted the Amazigh identity. Despite its large Amazigh population, the Moroccan state does not recognize the Amazigh's indigenous status.<sup>17</sup> Political mobilisation is increasing among Amazigh associations such as *The Collective for Defence of the Rights to Land and Wealth (AKAL)*, which regularly protests against the state's mismanagement and dispossession of indigenous land.<sup>18</sup>

## Land tenure

The dispossession of Amazigh communities in Morocco dates to the colonial era. In 1919, the French colonial authorities established state control over the 15 million hectares of collectively owned indigenous land. While the communal councils retained formal ownership, the Office of Indigenous Affairs, which later became the Ministry of Interior, assumed control allowing it to sell the land to French and Moroccan government officials.<sup>19</sup> Following independence in 1956, the Amazigh's customary laws were abolished and communal chiefs and representatives replaced with government officials. Moreover, the communal councils'

authority over access to land was transferred to the government and free settlement decreed. This enabled any citizen to settle on indigenous land. In 1956, the Directorate of Rural Affairs was declared the sole representative institution for indigenous interests with authority over communal land, an arrangement that remains in place today.<sup>20</sup> The incremental transfer of authority over common land, the erosion of political representation and Amazigh autonomy have exacerbated ethnic divisions over resource distribution and resulted in rural poverty.

## The climate crisis

Indigenous people globally are affected first and most by climate change because of their societal and spiritual interconnection and integration with nature. The changing climate endangers the traditional lifestyle of rural Amazigh communities in Morocco, with desertification rapidly deteriorating the socio-economic conditions, causing land conflicts with Saharan tribes. Traditional customs that regulate communal consumption are increasingly abandoned as ancestral knowledge is lost. The dismantlement of systems such as *Agadir* for water management, *Agdal* for communal land distribution and *Tanast* for regulating irrigation, is undoubtedly accelerating the

<sup>17</sup> International Pact on Civil and Political Rights. "Amazighs of Morocco: an indigenous people despoiled".

UN Committee for Human Rights 118th Session, 17 October-4 November 2016, Geneva, pp. 3.

<sup>18</sup> IWGIA, "Indigenous peoples of Morocco", accessed 2022-03-22, [Morocco - IWGIA - International Work Group for Indigenous Affairs](#).

<sup>19</sup> Balgley, David. "Agrarian Capitalism and the Privatization of Collective Land in Morocco".

Researchgate, pp. 51. Published: Jan 2017.

Accessed 2022-03-22.

[https://www.researchgate.net/publication/333489239\\_Agrarian\\_Capitalism\\_and\\_the\\_Privatization\\_of\\_Collective\\_Land\\_in\\_Morocco](https://www.researchgate.net/publication/333489239_Agrarian_Capitalism_and_the_Privatization_of_Collective_Land_in_Morocco).

<sup>20</sup> Venema, Bernhard & Mguild, Ali. "Access to Land and Berber Ethnicity in the Middle Atlas, Morocco". Middle Eastern Studies, Vol. 39, No.4, October 2003, accessed 2022-02-07, pp. 41-43, <https://www.jstor.org/stable/4284326>.



region's rapid desertification.<sup>21</sup> Such environmentally adapted systems are integral parts of most indigenous cultures, which is why research has shown that indigenous people are the most effective preservers of biological resources.<sup>22</sup> Despite the fact that they make up just 5% of the global population, indigenous people protect 80% of global biodiversity.<sup>23</sup> For this reason, many argue that protecting indigenous peoples' traditional lifestyles is crucial to mitigate climate change.<sup>24</sup> Nonetheless, indigenous people around the world are increasingly being subjected to *green grabbing*, where their land and resources are appropriated purportedly for environmental ends.<sup>25</sup>

## Land dispossession

European colonisation of indigenous people around the world stretches back five centuries, in a history of genocide, cultural extinction and resource exploitation of land. In an attempt to mitigate the severe

generational socio-economic impact this has had, the United Nations recognizes indigenous peoples' vulnerability and their right to ancestral land, resources and self-determination in the UN Declaration on the Rights of Indigenous Peoples. However, land has always been a valuable asset and conflict over land ownership is often violent. The financial crisis in 2008 was the catalyst for what experts now describe as a global land rush. Land classified as underutilized and marginal, which is often informally owned by indigenous and tribal communities, has become an attractive commodity for investors. Before 2008, 4 million hectares of land across the world was purchased annually by institutional investors. In 2009 this jumped to 56 million hectares.<sup>26</sup> Land grabbing is a result of influential actors and companies taking advantage of informal or communal land ownership and socio-economic vulnerabilities in order to privatise large areas of land.<sup>27</sup> The displacement of Sahrawis for wind farms in Western Sahara,<sup>28</sup> Adivasi for the Sardar Sarovar

<sup>21</sup> IWGIA, "Indigenous peoples of Morocco", accessed 2022-03-22, [Morocco - IWGIA - International Work Group for Indigenous Affairs](#).

<sup>22</sup> Colchester, Marcus. "Self-Determination or Environmental Determinism for Indigenous Peoples in Tropical Forest Conservation." *Conservation Biology*, vol. 14, no. 5, 2000, pp. 1365, <http://www.jstor.org/stable/2641787>.

<sup>23</sup> WWF, "Recognizing Indigenous People's Land Interest is critical for people and nature", 2020-10-22, accessed: 2022-03-24, <https://www.worldwildlife.org/stories/recognizing-indigenous-peoples-land-interests-is-critical-for-people-and-nature>.

<sup>24</sup> Grounded, "Why protecting Indigenous communities can also help save the Earth", *The Guardian*, 2020-10-12, accessed: 2022-03-24, <https://www.theguardian.com/climate-academy/2020/oct/12/indigenous-communities-protect-biodiversity-curb-climate-crisis>.

<sup>25</sup> Hamouchene, Hamza. "The Struggle for Energy Democracy in the Maghreb". Rosa Luxemburg Stiftung. Published: June 2016, pp. 39.

<sup>26</sup> Li, Tania. "What is Land? Assembling a Resource for Global Investment". *Transactions of the Institute of British Geographers*. 39. Published July 2014, accessed 2022-03-24, pp. 592-594. [https://www.researchgate.net/publication/263895182\\_What\\_is\\_Land\\_Assembling\\_a\\_Resource\\_for\\_Global\\_Investment](https://www.researchgate.net/publication/263895182_What_is_Land_Assembling_a_Resource_for_Global_Investment)

<sup>27</sup> Espelund, Görrel & Karlsson, Andreas. "Rätt till jord ödesfråga i Afrika". *Världspolitikens Dagsfrågor*, Jan 2021, pp. 9.

<sup>28</sup> Allan, Joanna & Lakhal, Hamza & Lemaadel, Mahmoud. "An unjust transition: Energy, colonialism and extractivism in occupied Western Sahara". *Transnational Institute*. Published: 2021-11-10. Accessed: 2022-02-28.



Dam in Maharashtra India,<sup>29</sup> Heuny for the Xe Pian Xe Namnoy hydropower plant in Laos<sup>30</sup>, among many others, are examples of energy extracting industries getting involved in land-grabbing, environmental disruption and the displacement of indigenous communities. Weak political representation and legislative protection of their rights leave indigenous communities restricted from means of successfully taking legal action when dispossessed.<sup>31</sup>

## Development induced displacement

Most of the international financial institutions have corporate policies on how to address the involuntary displacement induced by the projects they fund. The World Bank Group has developed the Equator Principles and International Finance Corporation Performance Standards as frameworks for risk management and ethical conduct.<sup>32</sup> These internationally adopted corporate guidelines affirm that projects should be conducted with the free, prior and informed consent of affected communities and the benefits shared with

the local population. Furthermore, they underscore corporations' responsibility to compensate for any physical or economic displacement and protect indigenous communities. The World Bank, technically a part of the United Nations system, partly funded Noor Ouarzazate and classified it as a high-risk project. The classification required the investors and developers to conduct environmental and social assessments because the project involved displacement.<sup>33</sup> Its project appraisal and other official reports contain several concerning details regarding how the land acquisition and public consultation were conducted.

## Acquiring land

The state's authority over land and the inaccurate corporate and governmental land evaluations of Noor Ouarzazate enabled 3000 hectares of communal land to be sold at less than market value without the knowledge of the local community. The Land Acquisitions Plan describes how the public entity Office National de l'Electricité et de l'Eau Portable ONEE purchased the

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[An unjust transition: Energy, colonialism and extractivism in occupied Western Sahara - Longreads \(tni.org\)](#)

<sup>29</sup> River Resource. "Drowning a Valley: Destroying a Civilisation". River Resource Hub. Published: May 2015. Accessed: 2022-02-28 [fact finding report ssd2015.pdf \(riverresourcehub.org\)](#)

<sup>30</sup> Baird, Ian. "Catastrophic and Slow Violence: Thinking about the Impacts of the Xe Pian Xe Namnoy Dam in Southern Laos". *Journal of Peasant Studies*, 48(6), pp. 1167-1186. Published: 2021-08. Accessed: 2022-03-10. [\(PDF\) Catastrophic and Slow Violence: Thinking about the Impacts of the Xe Pian Xe Namnoy Dam in Southern Laos \(researchgate.net\)](#)

<sup>31</sup> Permanent Forum on Indigenous Issues, "Sustainable Development in the Territories of Indigenous Peoples". United Nations Economic and Social Council, 2018-02-21, pp. 4-6.

<sup>32</sup> International Finance Corporation. "Performance Standard". International Finance Corporation. Accessed: 2022-04-02.

<sup>33</sup> The World Bank. "International Bank for reconstruction and development - project appraisal document". Published: 2014-09-04, pp. 34. [https://documents1.worldbank.org/curated/en/748641468279941398/pdf/PAD10070PADoP10odi\\_sclosedo120220140.pdf](https://documents1.worldbank.org/curated/en/748641468279941398/pdf/PAD10070PADoP10odi_sclosedo120220140.pdf).



land and then directly transferred it to the company Moroccan Agency for Renewable Energy (MASEN). The document describes the process by which the price of the land was based on corporate and governmental descriptions of a pastoral area with 8300 inhabitants as arid, uninhabited and of little economic use.<sup>34</sup> Based on this assessment, the land price was set at 1 MAD per m<sup>2</sup> in an area where land was usually sold and rented for 10-12 MAD per m<sup>2</sup>.<sup>35</sup> The final price review and subsequent sale were then approved by two committees comprised of governmental representatives, ministers and two specially selected community representatives. The local community was only made aware of the land sale after it had already been approved.<sup>36</sup> This process of transferring land ownership without the knowledge or approval of the owners can be characterised as land grabbing. Unlike MASEN and the consultancy 5Capital, the two major international banks that provided funding acknowledged in their assessments that the project would cause economic displacement. However, they inaccurately claimed that the affected communities had approved the project and the land sale. This is of particular concern since these documents were the basis for the funding approval by the EU and the World Bank.

<sup>34</sup> The World Bank. "International Bank for reconstruction and development - project appraisal document". Published: 2014-09-04, pp. 34.

<sup>35</sup> Rignall, Karen. "Solar power, state power, and the politics of energy transition in pre-Saharan Morocco". *Environment and Planning A*. 48(3), Dec 2015, pp. 549, <https://www.researchgate.net/publication/2863>

## Consulting the community

To comply with international standards on community participation, the developers MASEN and the Saudi Arabian company ACWA Power eventually organised public meetings to inform the affected communities. Residents from rural areas with high levels of illiteracy and poor internet connections were invited to join public meetings held in Rabat's most luxurious hotel. Technical risk assessments and information were presented in English, French and Standard Arabic, but not in the Darija (Moroccan Arabic) or Tamazight dialects. These factors contributed to the weak representation of public interests at the meetings, which were primarily attended by governmental officials and NGO representatives.<sup>37</sup> The decision by MASEN and ACWA to organise the meetings in this way demonstrates a disregard for local stakeholders' right to information. This prevented them from being involved in and representing their local interests in the decision making on and planning of an industrial project that affected their livelihood. The clear rejection of local interests is evident in many interviews in independent reports: "A local activist shrugged that residents never had a chance to say no: 'the Governor said, the project will be done. Don't fret over it'".<sup>38</sup> The population's contribution with local

[96667 Solar power state power and the politics of energy transition in pre-Saharan Morocco](#)

<sup>36</sup> Belghazi, Amin & Sammouni, Mohammed. "Morocco's Mirage of Socioeconomic Change". Zenith, 2020-12-16.

<sup>37</sup> Rignall, 2015, pp. 549f.

<sup>38</sup> Rignall, 2015, pp. 550.



knowledge and representation were neither welcomed nor permitted. Initial promises of local employment and reduced electricity costs were not kept, which contributed to the perception that the financial gains would never be shared with local communities.<sup>39</sup>

## Compensation

The erosion of tribal autonomy, state appropriation of land and the government's refusal to recognise the Amazigh's indigenous status are the three primary historical factors that enabled the government to seize control of the proceedings from the land sale. The Acquisition Plan, approved only by government committees, contained a clause stating that the proceedings would be managed by the Ministry of Interior. The monetary proceedings were placed in a fund to be exclusively managed by the ministry, which would be distributed through development projects agreed in collaboration with the local population.<sup>40</sup> To this day, the community has had no access to the fund and has not been invited to participate in the selection process for development projects. This is evident from interviews with locals in anthropologist Sarah Ryser's fieldwork. "We wanted to fund

an association with the money but the *Caïd* [local state authority] refused to grant us permission. We have the right to be the ones responsible for the fund, but they refused".<sup>41</sup> The development projects established to improve agriculture, infrastructure, irrigation and local tourism have been systematically implemented with a top-down approach.<sup>42</sup> In addition to the rejection of local initiative, the official definition of stakeholders was narrow, omitting neighbouring communities that also were economically affected by the development.<sup>43</sup> The bureaucratic means for denying the affected communities fair compensation shows how the solar complex project has been used by the state to centralise its authority over resource distribution and decision making.

## Centralising authority

Many studies and investigations have shown that the promised local employment and socio-economic benefits did not reach most of the local population. Instead, the complex has had a detrimental impact on the environment, aggravating the living conditions of local people. The significant water consumption and heat accumulation of the solar panels, along with allegations of

<sup>39</sup> Wuppertal Institute; Germanwatch. "Social CSP – Energy and development: exploring the local livelihood dimension of the Nooro I CSP project in Southern Morocco". Wuppertal Institute for Climate, Environment and Energy: Wuppertal; Germanwatch: Bonn, 2015-06-30, pp. 200-205.

<sup>40</sup> World Bank. "International Bank for reconstruction and development - project appraisal document". Published: 2014-09-04, pp. 35.

<sup>41</sup> Ryser, Sarah. "The Anti-Politics Machine of Green Energy Development: The Moroccan

Solar Project in Ouarzazate and Its Impact on Gendered Local Communities". Land. 8. 100, June 2019, pp. 18, [https://www.researchgate.net/publication/333912562\\_The\\_Anti-Politics\\_Machine\\_of\\_Green\\_Energy\\_Development\\_The\\_Moroccan\\_Solar\\_Project\\_in\\_Ouarzazate\\_and\\_Its\\_Impact\\_on\\_Gendered\\_Local\\_Communities](https://www.researchgate.net/publication/333912562_The_Anti-Politics_Machine_of_Green_Energy_Development_The_Moroccan_Solar_Project_in_Ouarzazate_and_Its_Impact_on_Gendered_Local_Communities)

<sup>42</sup> Rignall, 2015, pp. 553.

<sup>43</sup> Ryser, 2019, pp. 5.



deforestation by ACWA, have left major areas barren leading to major agricultural losses. This has contributed to rapid desertification in the area, despite the fact that environmental assessments had indicated no such risk. According to a journalistic investigation, have several seasons of severe drought exhausted the region's main water reserve, the El-Mansour Eddalibi Dam. This has forced local communities to retrieve water from springs and rely on water tank deliveries.<sup>44</sup> The choice of concentrated solar power (CSP), one of the higher water-consuming and expensive solar technologies on the market, has been criticized by anthropologists such as Karen Rignall. She argues that the Moroccan state's choice of technology and the preference for fewer, larger power plants in an economically marginalised and water-scarce area displays the state's strategic ambition to centralize energy production for national export. Instead of decentralised installations of solar panels for private production, these mega-complexes have strengthened the state's centralised authority and further territorialised the rural resource distribution that has marginalised for many decades the Amazigh population in particular.<sup>45</sup> Political and corporate actors exploited the socio-economic vulnerability of the indigenous communities, and their marginalisation was further cemented when their natural resources were transformed into state-controlled commodities to be sold on the European energy market. Promoting solar energy as clean provided the Moroccan state, the corporate developers and the EU with an ethical justification for their financial gains while depriving the indigenous and

rural communities in the region *Drâa-Tafilalet* of their natural resources. The despondency of decades long systematic marginalisation is evident in Rignall's interviews with residents: "if we can help the whole world with clean energy, why we cannot do more to build factories here, improve agriculture, and help people out of poverty in Ouarzazate?".<sup>46</sup> The communities have lost not only access to and ownership of their land, but also the means of survival for future generations in the region.

## Conclusions

The systematic exclusion of community representation, participation and the lack of socio-economic benefits for local communities are evident from official reports and independent studies on the Noor Ouarzazate solar plant. These documents show that the industrial complex, which was funded by the EU, has severely impaired the local environment and led to land grabbing. Community members and their representatives lacked the information to fully comprehend all the agreements and were thus denied the ability to make informed decisions. Legal and societal structures dating from the colonial era allowed the state to centralise authority over energy production and resource distribution, thereby reinforcing colonial power relations. This effectively prevented local communities from receiving fair compensation, participation and representing their interests in decision-making processes that directly affected their livelihood. The state's legal expropriation of the community's land

<sup>44</sup> Belghazi & Sammouni, 2020.

<sup>45</sup> Cantoni & Rignall, 2019, pp. 27.

<sup>46</sup> Rignall, 2015, pp. 550.



and compensation clearly violates human rights and the UN Declaration on the Rights of Indigenous People. Firstly, this demonstrates corporate and governmental exploitation of the legal discrepancies between national and international jurisdictions. Secondly, it exposes the credulity of EU institutions when political narratives and partial corporate assessments can lead to a failure to take responsibility or properly scrutinize the projects they fund.

The development of Noor Ouarzazate proves that self-regulation of corporate standards and policies is inadequate and that stronger legally binding regulations are needed. Unequal power relations are the central issue in developing such projects. Institutionalised mechanisms are required to provide politically and economically weak actors with legal representation and technical expertise to facilitate fair negotiations. The market surge in large private land acquisitions makes stronger international measures necessary to facilitate a fair sustainable development. The environmental deterioration in Ouarzazate demonstrates the contradiction in developing renewable energy in rural areas that endangers the livelihood of indigenous peoples and violates their right to the land. International legislation on safeguarding indigenous peoples' traditional customs is an effective measure for mitigating climate change and should be respected when developing renewable

energy industries. Implementing energy projects in collaboration with indigenous communities can enable industries' integration with the environment, reducing the disruption of ecosystems.

The EU is an influential supranational actor that has facilitated human rights violations in Morocco when funding the construction of a mega-factory on indigenous land. Noor Ouarzazate is an example of the EU's strategic use of the Maghreb to secure its own energy supply and resources with no consideration for the humanitarian and environmental consequences for the region. The socio-economic and environmental effects of Noor Ouarzazate should serve as an alarming prediction of how MASEN's upcoming renewable projects are likely to develop. At this point, the solar stations Noor Boujdour and Noor Laayoune are under construction on occupied territory in Western Sahara.<sup>47</sup> The Moroccan think tank *Policy Center for the New South* recently estimated that "each km<sup>2</sup> of desert receives an annual amount of solar energy equivalent to 1.5 million barrels of oil".<sup>48</sup> This narrative is uncritically reproduced in the Swedish media, depicting Noor Ouarzazate as a solution to the climate crisis.<sup>49</sup> This demonstrates the effectiveness of using green energy to discursively justify exploitative business agreements and quasi-colonial enterprises. Only legally binding regulations and independent supervision can prevent the plundering of natural resources

<sup>47</sup> ACWA Power. "Noor PV 1". Accessed: 22-04-20. <https://acwapower.com/en/projects/noor-pv-1/>

<sup>48</sup> Western Sahara Resource Watch. "Greenwashing Occupation: how Morocco's renewable energy projects in occupied Western

Sahara prolong the conflict over the last colony in Africa". October 2021, pp. 4.

<sup>49</sup> Bjerström, Erika. "Vi ska bli en grön energibro mellan Afrika och Europa". SVT Nyheter.

Published: 22-04-05. Accessed: 22-05-19.



from rural and indigenous communities through state-sponsored extraction of clean energy.

## Recommendations

### National governments

- Ratify the UN Declaration on the Rights of Indigenous People and the International Labour Organization convention no. 169 (the Indigenous and Tribal Peoples Convention, 1989).
- Recognize the status of indigenous communities and protect their land and resource rights.
- Engage in discussions and collaborations with indigenous and tribal communities to develop regenerative strategies to strengthen biodiversity and restore critical natural resource supplies.
- Implement stronger national legislation on resource exploiting business practices and enforce corporate accountability.
- Invest in decentralised and local installations for renewable energy, rather than mega-sized power plants that disrupt local ecosystems and the environment.

### The European Union

- Commit to respecting indigenous and human rights by commissioning independent reports and assessments with local collaborators and scrutinize the national laws on all funded projects; legally protect the communal land rights of indigenous and tribal communities.
- Recognize indigenous communities' customs in independent project assessments, such as agricultural practices and pastoralism, to determine land value and ownership more accurately.
- Strengthen legally binding regulations and mechanisms for enforcing corporate accountability in the industrial sectors in which the EU invests.

### Corporations

- Conduct transparent and inclusive project planning and implementation, inviting local stakeholders and representatives to participate.
- Provide information to local communities in a comprehensive way and establish local facilities for distributing information and education.
- Protect local interests by allowing legal advisers to local communities into any negotiation regarding the transfer of resources; respect the international principles on free, prior and informed consent.
- Protect indigenous resource adaptive systems that sustain the local environment. Continuously conduct sustainability assessments to evaluate the long-term impact of production, which include local knowledge on resource use and the environment.



**Table 1**

<b>Noor Ouarzazate</b>	
<b>Estimated total cost</b>	\$2.5 billion (60% EU funds)
<b>Area</b>	3000 hectares
<b>Total capacity</b>	580 megawatts
<b>Annual consumption</b>	3 million m <sup>3</sup> water and 7000 tonnes diesel <sup>50</sup>
<b>Employment</b>	1 000 temporary and 60 permanent jobs <sup>51</sup>
<b>Developers</b>	Consortium: ACWA (Saudi Arabia), MASEN (Morocco), Aries (Spain) and TSK (Spain)
<b>Contractors</b>	TSK Electrónica y Electricidad (Spain), Acciona Infraestructuras (Spain), Acciona Ingeniería (Spain), Sener Ingeniería y Sistemas, Sener (Spain), Sepco III (China) and Azelio (Sweden)
<b>Funders</b>	The European Investment Bank, the World Bank, Kreditanstalt für Wiederaufbau, Agence Francaise de Development, the Clean Technology Fund, the African Development Bank & EU Neighbourhood Investment Fund. <sup>52</sup>

<sup>50</sup> ESFC. "Noor Ouarzazate: the world's largest concentrated solar power plant built in Morocco". [Noor Ouarzazate: the world's largest concentrated solar power plant built in Morocco \(esfccompany.com\)](https://www.esfc.com/noor-ouarzazate-the-worlds-largest-concentrated-solar-power-plant-built-in-morocco/)

<sup>51</sup> African Development Bank. "NOORo the largest concentrated solar power complex in Africa increases the share of renewable energy in electricity generation in Morocco". Published: 2015-11-13, pp. 3. [https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/NOORo\\_Press\\_Kit\\_Eng.pdf](https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/NOORo_Press_Kit_Eng.pdf)

<sup>52</sup> Power Technology. "Noor Ouarzazate Solar Complex". Published: 2020-03-20. Accessed: 2022-05-09. <https://www.power-technology.com/projects/noor-ouarzazate-solar-complex/>



## Bibliography

ACWA Power. "Noor PV 1". Accessed: 22-04-20. <https://acwapower.com/en/projects/noor-pv-1/>

African Development Bank. "NOORo the largest concentrated solar power complex in Africa increases the share of renewable energy in electricity generation in Morocco". Published: 2015-11-13. [https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/NOORo\\_Press\\_Kit\\_Eng.pdf](https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/NOORo_Press_Kit_Eng.pdf)

Allan, Joanna & Lakhal, Hamza & Lemaadel, Mahmoud. "An unjust transition: Energy, colonialism and extractivism in occupied Western Sahara". Transnational Institute. Published: 2021-11-10. Accessed: 2022-02-28. [An unjust transition: Energy, colonialism and extractivism in occupied Western Sahara - Longreads \(tni.org\)](https://www.tni.org/en/publication/an-unjust-transition-energy-colonialism-and-extractivism-in-occupied-western-sahara)

Baird, Ian. "Catastrophic and Slow Violence: Thinking about the Impacts of the Xe Pian Xe Namnoy Dam in Southern Laos". *Journal of Peasant Studies*, 48(6). Published: 2021-08. Accessed: 2022-03-10. [.PDF\) Catastrophic and Slow Violence: Thinking about the Impacts of the Xe Pian Xe Namnoy Dam in Southern Laos \(researchgate.net\)](https://www.researchgate.net/publication/354111111_Catastrophic_and_Slow_Violence_Thinking_about_the_Impacts_of_the_Xe_Pian_Xe_Namnoy_Dam_in_Southern_Laos)

Belghazi, Amin & Sammouni, Mohammed. "Morocco's Mirage of Socioeconomic Change". *Zenith*, 2020-12-16.

Bjerström, Erika. "Vi ska bli en grön energibro mellan Afrika och Europa". *SVT Nyheter*. Published: 22-04-05. Accessed: 22-05-19.

Borras, Saturnino et alii. "Land grabbing and human rights: the involvement of European corporate and financial entities in land grabbing outside the European Union". European Parliament. Published: May 2016.

Brett, Michael. "Berber". *Encyclopedia Britannica*, 20 Mar 2019, accessed 2022-03-22, <https://www.britannica.com/topic/Berber>.

BP. "Statistical Review of World Energy 2021". 70<sup>th</sup> edition. Accessed: 2022-04-20. <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2021-full-report.pdf>

Cantoni, Roberto & Rignall, Karen. "Kingdom of the Sun: a critical, multiscalar analysis of Morocco's solar energy strategy". *Energy Research & Social Science* nr. 51. 2019-03-26.

Colchester, Marcus. "Self-Determination or Environmental Determinism for Indigenous Peoples in Tropical Forest Conservation." *Conservation Biology*, vol. 14, no. 5, 2000, <http://www.jstor.org/stable/2641787>.

Espelund, Görrel & Karlsson, Andreas. "Rätt till jord ödesfråga i Afrika". *Världspolitikens Dagsfrågor*, Jan 2021.



Eurostat. "Energy statistics – an overview". Published 2022-02. Accessed: 2022-07-29. [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Energy\\_statistics\\_-\\_an\\_overview#Final\\_energy\\_consumption](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Energy_statistics_-_an_overview#Final_energy_consumption)

European Commission. "The EU and Morocco form a Green Partnership on energy, climate and the environment ahead of COP 26". Published: 2021-06-28. Accessed: 2022-02-20. [https://ec.europa.eu/clima/news-your-voice/news/eu-and-morocco-form-green-partnership-energy-climate-and-environment-ahead-cop-26-2021-06-28\\_en](https://ec.europa.eu/clima/news-your-voice/news/eu-and-morocco-form-green-partnership-energy-climate-and-environment-ahead-cop-26-2021-06-28_en)

European Investment Bank. "Mediterranean Solar Plan – Project Preparation Initiative".

European Investment Bank. Published: 2016-07-08. Accessed: 2022-02-10. <https://data.europa.eu/doi/10.2867/631774>

EU Neighbours South. "Morocco: European Investment Bank funds one of the biggest solar power complexes in the world". Published: 2019-08-08. Accessed: 2022-02-20. <https://www.euneighbours.eu/en/south/stay-informed/news/morocco-european-investment-bank-funds-one-biggest-solar-power-complexes>

ESFC. "Noor Ouarzazate: the world's largest concentrated solar power plant built in Morocco". [Noor Ouarzazate: the world's largest concentrated solar power plant built in Morocco \(esfccompany.com\)](https://www.esfccompany.com)

Grounded, "Why protecting Indigenous communities can also help save the Earth", The Guardian, 2020-10-12, accessed: 2022-03-24, <https://www.theguardian.com/climate-academy/2020/oct/12/indigenous-communities-protect-biodiversity-curb-climate-crisis>.

Hamouchene, Hamza. "The Struggle for Energy Democracy in the Maghreb". Rosa Luxemburg Stiftung. Published: June 2016.

Hickman, Leo. "Could the desert sun power the world?". The Guardian. Published: 2011-12-11. Accessed: 2022-03-22. <https://www.theguardian.com/environment/2011/dec/11/sahara-solar-panels-green-electricity>

International Finance Corporation. "Performance Standard". International Finance Corporation. Accessed: 2022-04-02.

International Pact on Civil and Political Rights. "Amazighs of Morocco: an indigenous people despoiled". UN Committee for Human Rights 118th Session, 17 October-4 November 2016, Geneva.

IWGIA, "Indigenous peoples of Morocco", accessed 2022-03-22, [Morocco - IWGIA - International Work Group for Indigenous Affairs](https://www.iwgia.org/morocco).

Li, Tania. "What is Land? Assembling a Resource for Global Investment". Transactions of the Institute of British Geographers. 39. Published July 2014, accessed 2022-03-24, pp. 592-594. [https://www.researchgate.net/publication/263895182\\_What\\_is\\_Land\\_Assembling\\_a\\_Resource\\_for\\_Global\\_Investment](https://www.researchgate.net/publication/263895182_What_is_Land_Assembling_a_Resource_for_Global_Investment)



Permanent Forum on Indigenous Issues, "Sustainable Development in the Territories of Indigenous Peoples". United Nations Economic and Social Council, 2018-02-21

Power Technology. "Noor Ouarzazate Solar Complex". Published: 2020-03-20. Accessed: 2022-05-09. <https://www.power-technology.com/projects/noor-ouarzazate-solar-complex/>

Reuters. "Nigeria and Morocco sign gas pipeline deal to link Africa to Europe". Reuters. Published: 2016-12-03. Accessed: 2022-07-26, <https://www.reuters.com/article/nigeria-pipeline-morocco-idUSL8N1DY007>

Rignall, Karen. "Solar power, state power, and the politics of energy transition in pre-Saharan Morocco". *Environment and Planning A*. 48(3), Dec 2015.  
River Resource. "Drowning a Valley: Destroying a Civilisation". River Resource Hub. Published: May 2015. Accessed: 2022-02-28 [fact finding report\\_ssd2015.pdf \(riverresourcehub.org\)](https://www.riverresourcehub.org/fact-finding-report-ssd2015.pdf)

Ryser, Sarah. "The Anti-Politics Machine of Green Energy Development: The Moroccan Solar Project in Ouarzazate and Its Impact on Gendered Local Communities". *Land*. 8. 100, June 2019, pp. 18, [https://www.researchgate.net/publication/333912562\\_The\\_Anti-Politics\\_Machine\\_of\\_Green\\_Energy\\_Development\\_The\\_Moroccan\\_Solar\\_Project\\_in\\_Ouarzazate\\_and\\_Its\\_Impact\\_on\\_Gendered\\_Local\\_Communities](https://www.researchgate.net/publication/333912562_The_Anti-Politics_Machine_of_Green_Energy_Development_The_Moroccan_Solar_Project_in_Ouarzazate_and_Its_Impact_on_Gendered_Local_Communities)

Sahara Wind. "Sustainable Energy Policy: Connecting Africa to Europe". Accessed: 2022-07-26. <https://saharawind.com/en/european-sustainable-energy-policy-connected-to-africa>

Sahara Wind. "Background on the Sahara Wind Project". Accessed: 2022-07-26, <https://saharawind.com/en/sahara-wind-project-background>.

The World Bank. "International Bank for reconstruction and development - project appraisal document". Published: 2014-09-04, [https://documents1.worldbank.org/curated/en/748641468279941398/pdf/PAD10070PADoP100d\\_isclosedo120220140.pdf](https://documents1.worldbank.org/curated/en/748641468279941398/pdf/PAD10070PADoP100d_isclosedo120220140.pdf)

Todorovic, Igor. "Several undersea power cables about to connect Europe and Africa". *Balkan Green Energy News*. Published: 2021-09-16. Accessed: 2022-03-15. <https://balkangreenenergynews.com/several-undersea-power-cables-about-to-connect-europe-with-africa/>

Western Sahara Resource Watch. "Greenwashing Occupation: how Morocco's renewable energy projects in occupied Western Sahara prolong the conflict over the last colony in Africa". October 2021.

WWF, "Recognizing Indigenous People's Land Interest is critical for people and nature", 2020-10-22, accessed: 2022-03-24, <https://www.worldwildlife.org/stories/recognizing-indigenous-peoples-land-interests-is-critical-for-people-and-nature>.



Wuppertal Institute; Germanwatch. "Social CSP – Energy and development: exploring the local livelihood dimension of the Nooro I CSP project in Southern Morocco". Wuppertal Institute for Climate, Environment and Energy: Wuppertal; Germanwatch: Bonn, 2015-06-30



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