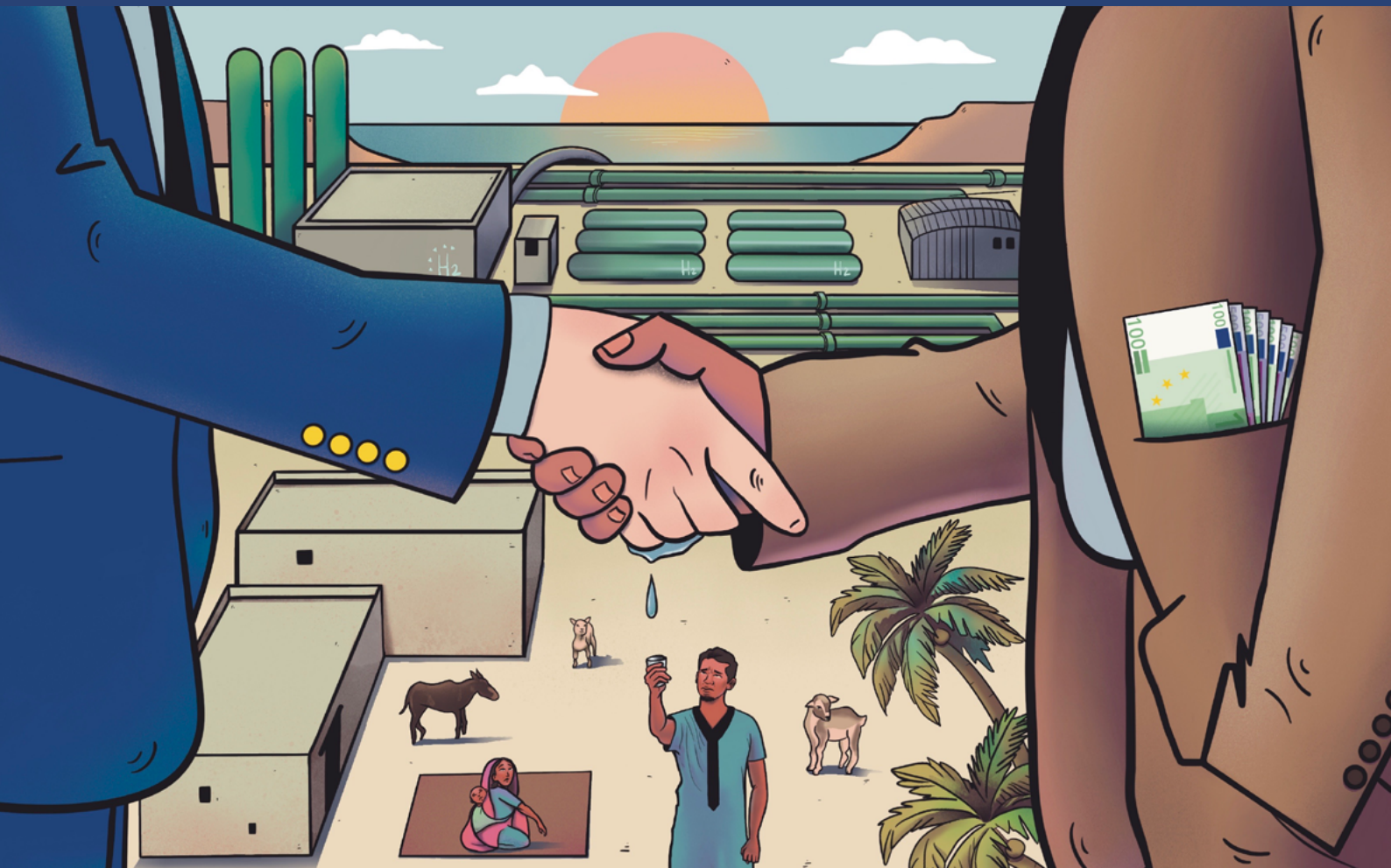


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Green Hydrogen in Morocco: Just transition or Greenwashing Neocolonialism?

The case of Guelmim-Oued Noun

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Introduction

Morocco has witnessed persistent growth in energy demand since the beginning of the twenty first century. This growth has been linked to the development of the economy, large export-oriented agricultural projects, the development of transcontinental transport between Europe and sub-Saharan Africa, and increasing consumption. Today a new challenge is emerging: that of climate change. Morocco, which has experienced increasing droughts during the last five years, is especially vulnerable to the effects of climate change.

Morocco's energy landscape remains heavily dependent on foreign supplies, with almost 90% of its energy being sourced from imported fossil fuels (Moustakbal, 2021). At the same time, under the patronage of the European Union (EU), Morocco aims to be a major producer of green hydrogen.

Rather than being an energy source on its own, hydrogen functions as an energy vector. Depending on the energy source and production process, colour tags are applied: 'green' hydrogen, 'grey' hydrogen, 'blue' hydrogen, and other variants. Green hydrogen results from the electrolysis of water using renewable sources, which produces hydrogen and oxygen, whereas grey hydrogen is produced by converting hydrocarbons, which releases carbon dioxide into the atmosphere. Grey hydrogen currently dominates the hydrogen market and is increasingly seen as a transitional solution that can act as a stepping stone towards more sustainable alternatives (Sabido, 2022).

Green hydrogen, while portrayed as a path towards energy sustainability and development stimulator, actually serves as a deceptive smokescreen to shape public opinion. Within Morocco's National Strategy for Sustainable Development 2030, a central objective is to seize opportunities offered by Climate Finance—a financial instrument mobilized

by industrialized countries with significant inflows expected from the private sector. This implies that Morocco's domestic capital will remain dependent on the fluctuations of the global market. The current spotlight is on green hydrogen, particularly considering Morocco's commendable potential in renewable energies.

Morocco's carbon dioxide emissions have remained low, with less than 1.9 tonnes per person in 2021 (Our World in Data, n.d.). Nevertheless, the country has taken major steps towards implementing spectacular decarbonised energy projects. After it hosted the COP22 climate talks in 2016, Morocco went on to inaugurate several large renewable energy projects. The Noor Power Station in Ouarzazate came online in 2018 and is the largest multi-technology energy complex in the world, with a production capacity totalling 582 megawatts (MW). In the same year, another project was inaugurated, the 85MW Laâyoune project – located in the heart of the disputed area claimed by Morocco and the Sahrawi Arab Democratic Republic (SADR).

Following the introduction of the European Green Deal, the European Commission's Hydrogen Strategy was officially released in July 2020. This strategy aims to provide Europe with 40GW of hydrogen, primarily from imports. This objective will be met by establishing infrastructure to be used to import hydrogen to Europe from North Africa (Van Wijk and Chatzimarkakis, 2020). In the same period, Morocco's Economic, Social and Environmental Council emphasised the country's role in providing Europe with green energy, as well as the ambition to reduce the country's energy dependency from 88% to 35% by 2040, and to less than 17% by 2050 (CESE, 2020).

However, the same year, has been marked by instability in regard to oil prices, energy policies

and climate change action. The global economic shutdown in 2020 due to the COVID-19 pandemic led to a significant decrease in global oil demand and oil prices (Hanieh, 2020). The subsequent economic recovery resulted in an increase in global energy consumption, leading to supply scarcity in oil, natural gas and coal markets in 2021, and driving up prices (IEA, 2021). These developments resulted in a dynamic of contradictions: a global ambition to accelerate the transition to green energies (Cornelius et al., 2020), and a simultaneous increase in dependence on fossil fuels. This situation was exacerbated by Russia's invasion of Ukraine.

Morocco's import dependency makes it very vulnerable to the vagaries of the global oil market of the kind seen in recent years: the national energy bill more than doubled, reaching almost €9.5 billion by the end of August 2022. This is primarily attributed to the rise in gas oil and fuel oil purchases, which was amounted to €4.53 billion in the same period. (Ministry of Economy and Finance, 2023a).

Following the Russian invasion of Ukraine, the European Commission launched the REPowerEU

plan, aiming to reduce the EU's dependency on Russian gas and ensure its energy security through greater use of renewables and 'green' hydrogen sources. Unable to produce its own hydrogen in sufficient quantities, the EU plans to obtain up to 10 million tonnes of 'green' hydrogen from North Africa by 2030 (Sabido, 2022). In this context, the European Commission has launched the European Hydrogen Bank with a €30 billion initial package from the European Investment Bank (EIB) and the aim is to mobilise further funding in the future. The Bank's aim is to unlock private investments in the green hydrogen value chain. The expected costs of imports, including production outside the EU, are estimated to reach €500 billion (European Commission, 2022).

The EU push for green hydrogen might serve Europe's energy transition, but in North Africa it will translate into a proliferation of sacrifice zones in the region. Targeted once again by European greed and attempts to monopolise new resources, if these plans go ahead North Africa will continue to be a site of neocolonial resource-grabbing.

The Legislative Framework for Energy Transition in Morocco

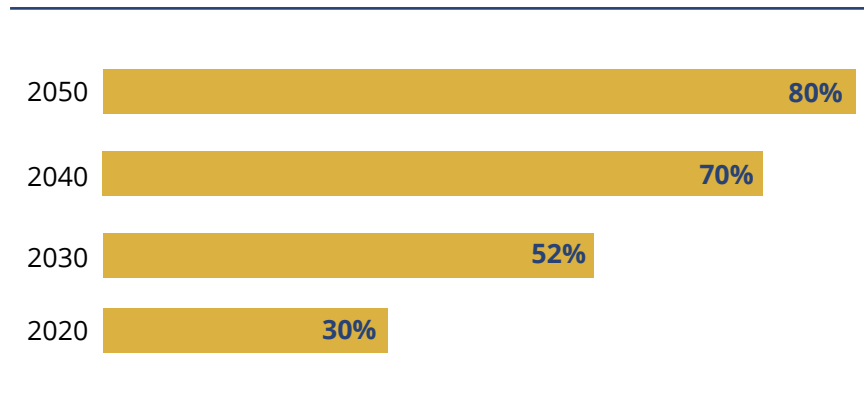
The 2009 Energy Transition Strategy proclaimed Morocco's ambition to produce 42% of its 2020 electric power production from renewable sources. This proved unrealistic: renewable production only reached 34% in 2020 (CESE, 2020).

A year after the strategy was announced, the Moroccan Agency for Sustainable Energy (Masen)¹ was established. In order to foster the development and diversification of a regulatory framework for renewable energies, the Institute for Research in Solar Energy and New Energies (IRSEN) was established in 2011. The IRSEN specialises in applied research and the financing of collaborative research projects involving Moroccan universities

and companies. It was also involved in restructuring the Moroccan Agency for Energy Efficiency (AMEE), and in founding the National Electricity Regulatory Authority in 2016.

In 2019, the National Hydrogen Commission was established to develop the Green Hydrogen Roadmap in order to establish national industry based on green hydrogen and its derivatives from renewable energies. This roadmap aims to increase Morocco's renewable energy production so that it accounts for 81.4% of total installed generation capacity by 2050 (Ministry of Energy, Mines and Environment, 2021).

Figure 1: Renewable energy targets 2020-2050 (%)



Europe has been a major export destination for green hydrogen manufactured in North Africa, including Morocco. This is within the context of the (il)logic of neoliberal state policies in North African countries that aim to develop legislative frameworks for directing public funds and resources to stimulate foreign and domestic private investment. An example illustrating this pattern is the founding of Morocco's National Electricity Regulatory Authority (ANRE) in 2016², a move that consolidated a trend

evident in 2021 when the private sector controlled 48% of electricity production and nearly all energy distribution (Moustakbal, 2021).

Energy legislation in Morocco is implemented through the bureaucracy – and under the direct commandment – of the monarchy, with no role played by representative institutions. The latter are reduced to ratifying anything enacted by the king's committees. Adam Hanieh describes this situation

as constituting a 'concentration of political power'. This occurs within the framework of neoliberalism, which claims to spread democracy through the expansion of the market (Hanieh, 2013). Processes of political decision-making are increasingly concentrated in the hands of single individuals or small, unaccountable committees, outside of state institutions. This institutional arrangement, and the secrecy surrounding decision-making, makes it more difficult for labour and social movements to resist neoliberal reforms.

It is in this political milieu that, for more than a decade, the state has sought to dismantle the National Office of Electricity and Drinking Water (ONEE). This was initially a public sector institution, before large parts of its services, especially electricity production, were partially privatised with the introduction of the multi-service concession contracts. The first contract granted to France's Lydec in 1997, by which the ONEE has switched from a comprehensive manager, producer, and distributor into a market-dependent customer. Afterwards, electricity sector in major cities has been ceded to foreign companies through concession contracts (Moustakbal, 2021).

On 18 April 2023, despite the opposition of the Energy Workers' Union, the House of Councillors ratified Bill No. 83.21, by a majority (House of Councillors, 2023), which will establish 12 regional companies in lieu of the national office of ONEE. These regional companies will be tasked with managing the services of distributing potable water and electricity, and sanitation. The private sector will be permitted to have a role in financing these companies.

These are simply trade contracts between the electricity producer and the state energy distributor. In Morocco's case, ONEE commits to purchasing its energy over a defined period. Private producers and donors require this type of contract to ensure a stable income throughout the contract's duration and to shield themselves from potential price fluctuations and/or a decline in energy demand. Additionally, These contracts apply not only to thermal power but also extends to renewable energies such as hydroelectric and solar power. Additionally, these contracts apply not only to thermal power but also extends to renewable energies such as hydroelectric and solar power. These agreements were neither transparent, nor participatory: they were drafted without the participation of the social partner, the National Energy Workers' League.³

The Northern Neighbour: continuing relations of hegemony

Foreign direct investments and debt are the backbone of the Moroccan economy, which has seen an increase in public debt over the past two years. This debt is projected to reach 83.6% of the gross domestic product (GDP) in 2023 (HCP, 2022).

This state of affairs evokes memories of the situation in 1983, when the International Monetary Fund (IMF) instituted a Structural Adjustment Programme (SAP) in Morocco. Liberalisation of the energy market was a key condition of the SAP (Akesbi, 1985), which redirected the local economy towards exports in order to generate hard currency to service rescheduled debts. As part of these liberalisation efforts, at the end of the 1990s the state privatised the country's largest oil refining facility, La Samir, and since 2002 it has allowed large distributors to import oil tax free. Then, in 2015, the state scrapped the price adjustment mechanism, which it had previously used to determine the domestic price of fuel. This economic situation and its historical context are further documented in the World Bank's 2019 report (Foster and Rana, 2020).

'Energy security' was motto of the national energy discussions in 2009. However, the current National Energy Strategy, which prioritise the EU's energy needs, threatens Morocco's energy security rather than strengthening it. For instance, the Moroccan and German governments signed the German-Moroccan Energy Partnership (PAREMA) in 2012, by which the German Agency for International Cooperation (GIZ) was providing technical expertise to the Moroccan government to improve the policy and regulatory framework for renewable energies. The partnership places a significant emphasis on exporting renewable energy to the EU, often framed as 'supporting Morocco's strategic goals,' namely the one related to increasing the share of energy

produced from renewable sources to 52% by 2030. The nature of such partnerships should ideally be mutually beneficial, and the prioritization of the EU energy needs over Morocco's energy security prompts scrutiny regarding the true balance of advantages in this arrangement.

Although branded part of a 'national strategy', renewable energy policies in Morocco are actually tailored to the needs and capital interests of Europe, not Morocco. This alignment is apparent both at the global level, with these policies mirroring the paradigms of neoliberal international finance institutions by facilitating accumulation by transnational capital, and at the domestic level, with monarchy-controlled capital exploiting successive energy crises since 2008 to maximise profits. For instance, the Energie Eolienne du Maroc (EEM), a subsidiary of Nareva Holding³ – whose major shareholder is the Moroccan royal family – holds a monopoly in the wind energy sector. Today, EEM has installed six large operational wind parks, and five further parks are under construction. The majority of these are concentrated in the area between Tarfaya and Boujdour (Nareva, 2023). These projects are part of a partnership between Nareva Holding and the French and Italian multinationals Engie⁴ and Enel, and are funded by the African Development Bank (AfDB), the European Investment Bank (EIB) and the German Development Bank (KfW) (Khatib et al., 2018). Thus, these large renewable energy projects fuse big Moroccan capital with imperial capital from the Global North.

As part of the European Green Deal, the European Commission issued the Clean Energy for All Europeans package in 2019, aiming to accelerate the transition to clean energy and to enhance the EU's energy security. The package also establishes

new measures relating to the electricity market, encouraging more connections and more cross-border trading between the EU and North African countries (European Commission, 2022).

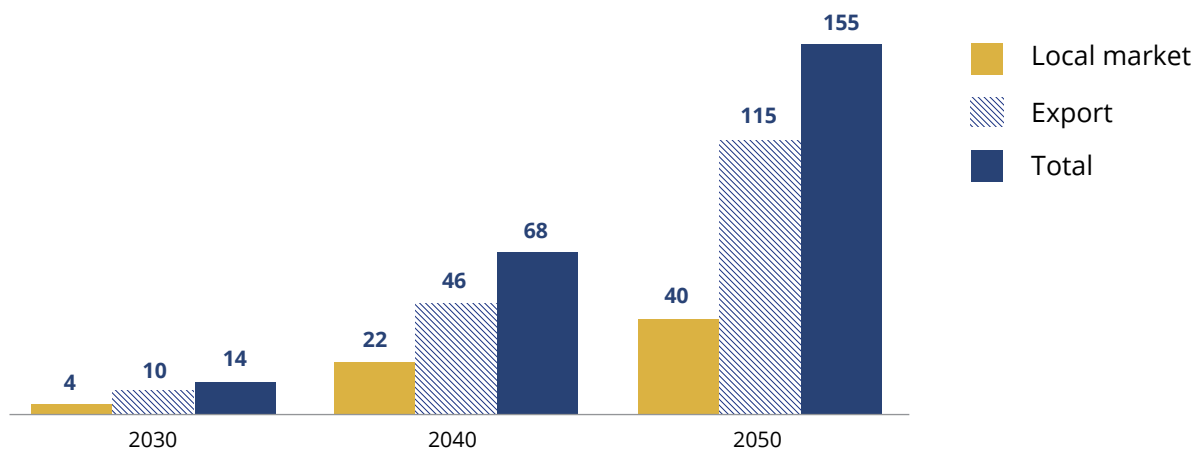
Already in 2018, GIZ had acknowledged Morocco’s position as a major green hydrogen exporter, forecasting that it would be able to provide 4% of global demand by 2030. By then, other European agencies have commanded the significant position of Morocco in leading hydrogen exports. The momentum provided by the Clean Energy for All Europeans package has further spurred Morocco’s interest in hydrogen production.

Morocco now aims to be a leading international hub for the production and export of green hydrogen, ammonia and methanol, and recently added the goal of being a world leader in green hydrogen

production to its energy plan. In this context, Morocco has become a member of the Africa Green Hydrogen Alliance (AGHA), established in 2021. AGHA, with founding members including Egypt, Kenya, Mauritania, Namibia, and South Africa, aims to foster collaboration with the private sector and development financing institutions (Green Hydrogen Organization, 2022). Being part of the EU’s importation geographic targets⁵, Morocco is set to play an important role in Europe’s energy transition and has already embarked on partnerships with a number of EU countries, including a 100-megawatt collaboration with Germany initiated in July 2020 (Cornelius et al., 2020).

As the figure below shows, forecasts of Moroccan green hydrogen production in TWh show that production will mostly be destined for export (Jamea, 2022):

Figure 2: forecasts of Moroccan green hydrogen production 2030-2050 (TWh)



Morocco’s focus on hydrogen production for export is premised on the idea that by redirecting the economy towards exports, developing countries like Morocco can increase their foreign currency earnings, allowing them to pay off debts while growing their economies. However, in the first wave of neoliberalism in the 1980s, the opposite took place. Competition between Southern countries led to the sinking of the global market and falling

demand for raw materials, the prices of which plummeted, while debt – and interest payments – rose sharply. This led to the so-called ‘Third World debt crisis’ in the early 1980s. Morocco’s aspiration to be a global leader in green hydrogen exports risks repeating these dynamics. The EU aims to diversify its import sources to include the entirety of the African continent (and beyond), so multiple countries will be competing to supply

Europe with the same commodity. The Green Hydrogen Roadmap does not attempt to hide this fact. Expecting that Morocco will initially control 4% of the green hydrogen market by 2030, it elaborates that 'by 2050, Morocco's participation in the global market is expected to decrease to 1%, as other countries work to accelerate the pace of development in this industry'.

It is evident from previous EU-Morocco fisheries and agricultural agreements that, behind the vacuous discourse about mutual cooperation, the logic of free trade is based on a unilateral principle: to open up the markets of the periphery to countries of the centre. Relations of domination continue to impose various barriers to exports from Southern countries to Northern countries, which are often less valued than exports coming from the North. This results in a chronic trade deficit (ATTAC Maroc, 2021). With green hydrogen technology being imported from the Global North, will Morocco be able to cover its value chain costs? Or will it follow the same logic of hegemonic specialisation, wherein countries of the North export high-value commodities—such as technology and knowledge— while Morocco exports sun, water and land at the cheapest prices? This is simply extractivism: a process that is both relentless and violent.

One example of extractivism serving the Global North is an energy project that aims to provide the UK with electricity produced in Morocco. After the British company, Xlinks, secured a \$37.36 million investment by the Abu Dhabi National Energy Company (TAQA) and British company Octopus Energy Group (Octopus, 2023), it took over a solar and wind project in southeast Morocco, Tan-Tan (Xlinks, 2023). The aim is to connect this power plant to the UK electricity grid by four high-voltage undersea direct current transmission cables, each 3,800 km long. The latter will be manufactured in the UK. By 2030, electricity from the project is projected to cover the clean and low-cost energy needs of more than 7 million British homes. Upon completion, the project will be able to provide 8% of the electricity needs of the UK. However, it will

entirely ignore the needs of Moroccans (Xlinks, 2023).

Even the energy produced for Morocco's domestic industrial sector, it tends to be export-oriented production. For instance, the Office Chérifien des Phosphates (OCP), a state-owned company with a monopoly on phosphate fertilizers production, much of which is directed to export. The Green Hydrogen Roadmap anticipates a surge in export demands for green ammonia, predicted to overshadow domestic demand by two to nine times by 2050. In alignment with this projection, the OCP has now taken a prominent role in ammonia production using green hydrogen. The company has initiated the Green Investment Program, with the goal of producing 1 million tons of green ammonia by 2027 and 3 million tons by 2032. This will be achieved by establishing a new green ammonia complex in Tarfaya (OCP Group, n.d).

For OCP, the primary objective of this initiative is to reduce its dependence on ammonia imports. This is especially significant considering that OCP is among the top global importers of ammonia (OCP Group, 2022). The expense tied to these imports was notably high in 2022, reaching an approximate amount of \$2.1 billion (TrendEconomy, 2023). However, it is worth noting that OCP primarily produces for direct ammonia exports and for export-oriented agriculture, given the limited absorption capacity of the underdeveloped Moroccan agricultural sector. Thus, this production is primarily directed to serve large-scale agriculture in Europe and the Americas.

Morocco frequently adopts the slogans of 'South-South' cooperation and 'win-win' relations with other African countries, but, as discussed above, its large energy projects are all geared towards meeting European needs. Laura El-Katiri, a Visiting Fellow at the European Council on Foreign Relations, notes that Morocco has connections through a regional energy complex that could provide green electricity to most countries in West Africa, but, instead, its electricity exports are currently dedicated to European markets (Pearce, 2023).

Financing Green Hydrogen Projects: the nationalisation of costs and the privatisation of profits

Since Morocco's official independence in 1956, the question of who will finance the development of local capitalism has remained a point of contention both within various sections of the ruling class, and between them and the popular classes, which comprise mainly wage earners and small-scale farmers. After the imposition of the SAP in 1983 the state burdened the popular classes with the cost of that development through an unjust tax system and through external debt. Today, the state relies on the same strategy. Debt, foreign investment and public finances are committed to building renewable energy infrastructure and facilitating access to land for private capital. Meanwhile, policies are enacted to 'improve' the environment for investment by simplifying or removing regulation and paving the way for tax avoidance.

The 2022 'Morocco Country Climate and Development Report' from the World Bank suggests that achieving Morocco's net-zero emissions target by the 2050s would require a budget of \$52.8 billion, including green hydrogen production and export costs. To fund this, a public-private partnership (PPP) is advocated, with the private sector expected to cover 85% of the expenses. In exchange, the public sector is supposed to provide capital and legal incentives to facilitate EU market integration (World Bank, 2022). Nevertheless, the net costs omit environmental and social costs; as well as public infrastructure costs like building roads and ports. Therefore, public investment is anticipated to, once again, finance capital-intensive infrastructure projects, while the private sector enjoys the benefits.

The preamble to Morocco's Climate Change Policy – which was developed with the technical support of GIZ and published in 2014 with the financial support

of the Federal Ministry of Economic Cooperation and Development (BMZ), Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection – states that achievement of the policy's goals would be 'primarily be hindered by financial limitations'. The preamble argues that the support of the international community, through the Green Climate Fund, is needed to accelerate implementation of the policy (Ministry Delegate to the Minister of Energy, Mines, Water and Environment in Charge of Environment, 2014). In this context, the 'support of the international community' simply means: debt.

It is important to evoke similar financing mechanisms that have been used for prior green energy projects in Morocco, and to clarify who bore their costs and who benefited from them. One example is Tarfaya Wind complex launched 2012. Under this PPP project, ONEE signed a 20-year Power Purchase Agreement (PPA) with the royal holding company Nareva, the French multinational Engie (Nareva, n.d). The project, with a total cost of 360 million euros, was financed by three Moroccan banks, Attijariwafa bank, Banque Centrale Populaire and Banque Marocaine du Commerce Exterieur (Engie, 2013). By this agreement, ONEE will buy power for 20 years at fixed rate, with the companies will benefit from both national grid and income.

Similarly, the Moroccan solar plan, a public-private partnership (PPP) jointly led by ONEE and Masen since 2011, was extensively financed by a considerable amount of debts of approximately \$9 billion, procured from the World Bank, the African Development Bank (AfDB), the European Investment Bank (EIB), the German Development Bank (KfW), the French Development Agency

(AFD), and contributions from private companies (World Bank, 2011, 2014a, 2014b, 2018b). Since its operation, the Ouarzazate solar power plant, which is the flagship project of this plan, has faced numerous criticisms due to the technology used and its growing annual deficit. (Hamouchene, 2022). This led to Mustapha Bakkoury resigning from his position as CEO of Masen, being under investigation of mismanagement and prevented from leaving Morocco. Tarik Hamane, the current deputy CEO of Masen, is due to replace Bakkoury. Prior to joining the agency, Hamane worked with Total Eren as Vice President in charge of hydrogen at the global level, as well as General Manager of the French group's subsidiaries in North Africa. Total Eren has secured a significant green hydrogen project deal in the region of Guelmim-Oued Noun, though Hamane was not the only individual behind this deal. In addition to holding prominent positions in banks and business circles, figures like Hamane

and Bakoury are appointed to their positions by the king. In other words, they are not elected and their work takes place beyond any parliamentary or popular oversight, raising questions about the relationships between political leaders, local elites and European multinationals.

Through PPPs, Morocco's Green Hydrogen Roadmap aims to provide direct financing through bilateral or multilateral partnerships, in addition to offering preferential tax treatment. Energy investors focus on the direct cost of producing green hydrogen, subtracting the so-called 'external costs' and charging them either to public finances (large infrastructure for these projects, such as highways, water desalination plants, storage facilities, export ports, etc.), or to the environment (such as water used in the production of green hydrogen, and land used for building wind farms).

The Case of Guelmim–Oued Noun

Guelmim-Oued Noun is one of Morocco's 12 regions. It comprises four provinces: Assa-Zag, Guelmim, Sidi Ifni, and Tan-Tan. Although the region's economy partly relies on subsistence farming (agriculture and grazing), a large administrative sector funded by public finances (the army, public administration, the police and civil service), and a grey economy (smuggling fuel and food), are the key economic engines. Remittances from Europe are also significant. However, since its location links the desert with the Atlantic Ocean, Guelmim-Oued Noun also offers high potential for energy from wind and sunlight.

Against this backdrop, the recent Report on Land Mobilized for Investment reveals a different aspect of the region's transformation. The report illustrates the extensive allocation of state-owned private domain (public land), facilitated through the mechanisms of sale and/or rent. However, the report does not provide comprehensive details regarding this process. In 2021, around 159,602 hectares were allocated to implement 377 investment projects. The energy sector alone, commands almost 98% of this area. Approximately 95% of this land is located in the Guelmim-Oued Noun region (Ministry of Economy and Finance, 2023b).

The entirety of this expanse was dedicated to Xlinks project (Ministry of Economy and Finance, 2023b). As described earlier, Xlinks has identified the Tan-Tan province as the location of a large

project of a total investment of approximately €23 billion. The project will utilize a surface area of 150,000 hectares to establish a solar and wind power plant that will exclusively transfer energy to the UK via underwater cables.

One noteworthy project in development is by the French company Total Eren. This is a hybrid production project that combines solar energy, wind energy, hydrogen and green ammonia, with investments estimated at more than €9 billion. The project covers the entire green hydrogen value chain, from wind energy production and photovoltaic power to hydrogen export. Total Eren aims to start working on the project by 2025, with production beginning in 2027, but little information about the project has been made public (Sbiti, 2022). This project will use 170,000 hectares of land¹, which is claimed to be state-owned. However, unlike the Xlinks project, there is no reference to Total Eren's use of state land in official documents.

Total Eren is not the only company seeking to invest in wind energy in Guelmim-Oued Noun. Australian company CWP Global is also looking to sign an agreement with the Moroccan government to build a \$20 billion mega green hydrogen and green ammonia project, which will be funded by the company's shareholders and various international commercial and governmental financial institutions (Rouwenhorst, 2022).

1. According to media information, preliminary studies require additional surface of 17,000.

‘Natives’ and ‘Vacant Lands’

The plundering of North Africa’s resources and the exploitation of its inhabitants during the colonial era was justified under the framework of Orientalism². From this perspective, Europe represented the ‘centre’ or the capital, the carrier of civilisation to a backward population in an uninhabited area. This colonial rhetoric remains discernible in the Wall Street Journal’s coverage of solar energy in the region of Ouarzazate: ‘The rugged landscape around Ouarzazate ... is known to some as a filming location for movies such as “Lawrence of Arabia” and television shows like “Game of Thrones.” Now, the sparsely populated area is getting attention for something else: solar power’ (Anderson, 2016). While the regions and companies may now be different, the Orientalist perspective remains unchanged. Total Eren is seen as a new Lawrence of Arabia, bringing the benefits of European civilisation, in the form of energy and jobs, to the inhabitants of this nearly empty region, which is peopled by natives and nomads.

This Orientalist lens is also evident in a paper by Friedrich Ebert-Stiftung that argues that the social and environmental challenges of green hydrogen production in MENA are irrelevant since

the desert is so vast and uninhabited (Matthes et al., 2020). To gain insight into the local perspective on this viewpoint, we turn to Laghdaf, a resident of Guelmim, who is a familiar face at the Ali Baba Café, in a commanding view of Rahbat zraa, the city’s historic square, Laghdaf reflects on the invasion by modern concrete buildings of his city’s cultural heritage and space. Unable to get a job related to the geography degree he holds, he previously worked in his family’s shop, selling vegetables grown in other parts of the country and fruits imported from abroad. Laghdaf highlights a misconception among residents that their land is just a vast area of nothingness. This misconception drives various forms of migration—towards Europe, internal migration, or migration to other desert regions— is decades of marginalization, though these root causes remain hidden. This obscurity explains the lack of opposition to large-destructive projects; and impoverished locals see them as opportunities. Renting land for wind turbines and solar panels becomes a dream for many. Laghdaf’s perspective reveals how perceived opportunities often overshadow the profound challenges faced by the community.

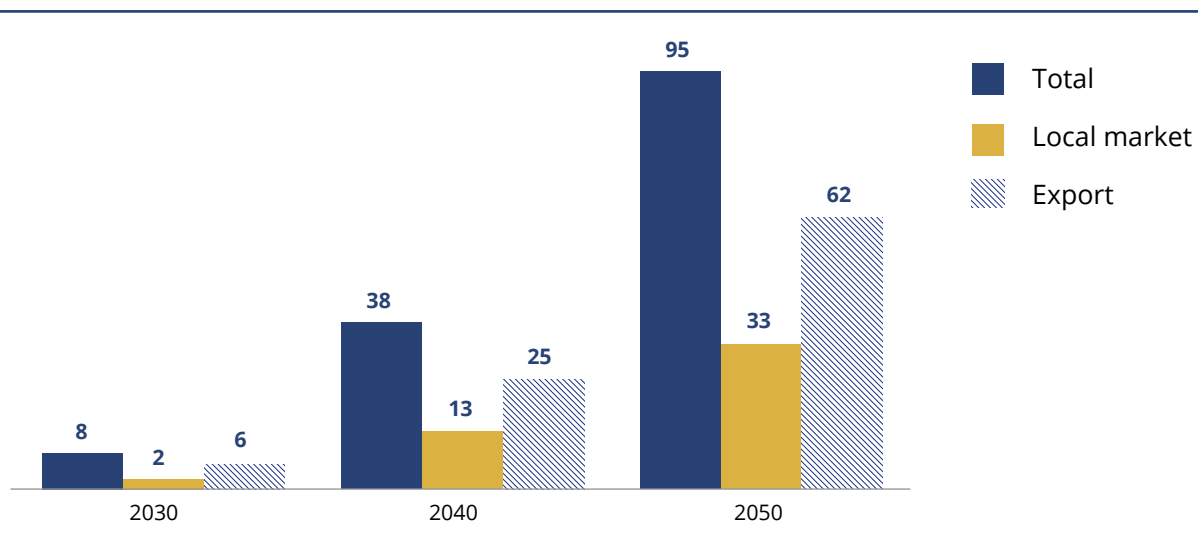
2. A concept coined by Edward Said in his book ‘Orientalism’ (1978), refers to Western stereotypes and perceptions of the Middle East and North Africa as exotic and inferior, often used to justify colonial trends in the region.

Water Pollution and Water Scarcity

For some time, the region of Guelmim-Oued Noun has been a locus for export agricultural investments that continue exhausting water resources. The latest of these is Israeli company Mehadrin, the largest grower and exporter of citrus in occupied Palestine. Mehadrin is investing more than €7.4 million in approximately 455 hectares in the region to grow 10,000 tonnes of avocados annually for export to Europe. Products that don't meet export standards will be retained locally (Levy, 2021). This poses a significant concern due to the nature of crops like avocados, which have substantial water requirements, especially in a semi-arid area.

The same water depletion dynamics apply to green hydrogen production projects, despite promises that water will be used sustainably in them (Jamea, 2022). This is a problem that is not limited to the region of Guelmim-Oued Noun, or to hydrogen production. For example, potable water resources are depleted to clean and cool down the solar panels of the Noor Power Station (Jmad, 2021). Thus, these projects operate as vehicles through which water resources are transferred abroad, depriving a country already facing water stress.

Figure 3: Water needs for hydrogen production (million cubic metres)
(Note: The numbers in this graph are estimated.)



At first glance, desalination technologies seem to offer a promising solution to Morocco's water crisis. However, these technologies face several criticisms, including the high energy requirements, the exorbitant costs of constructing and maintaining desalination plants, and the costs associated with technology and technicians. Moreover, desalination processes can have serious environmental impacts. The construction, operation and decommissioning of desalination plants all place extreme strain on

marine and coastal ecosystems, including through the discharge of concentrated saline into them. This strain is particularly pronounced when desalination relies on fossil fuels for its energy needs, as they have high energy requirements (Simon, 2019). Desalination is therefore a technical solution that benefits only renewable energy projects, while its negative impacts are borne by local populations and the surrounding environment.

Total Spatial Sabotage in the Name of Modernity

Geographical space is a natural gift, just like other forms of wealth which are plundered. Green hydrogen production projects affect the landscapes in which they are established in many ways. According *Le Desk*, Total Eren's project in Guelmim-Oued Noun involves five key components. The project involves wind and solar farms for renewable electricity, a hydrogen and ammonia production facility with storage, a desalination plant, an export site, and electricity transmission infrastructure. These infrastructures will be implemented between four towns: Msied, Tilemzoune, Tan-Tan and El Ouatia (Sbiti, 2022).

This vast space includes areas that have been traditionally used for small-scale farming and the nomadic pastoralists and their herds, who will be driven out of these areas to make way for hydrogen projects. Similar events have previously led to clashes in the Souss-Massa basin (Erraji, 2022). Modes of living associated with small-scale food production (agriculture and grazing) will be decimated, and desert ecosystems impacted (Pearce, 2023).

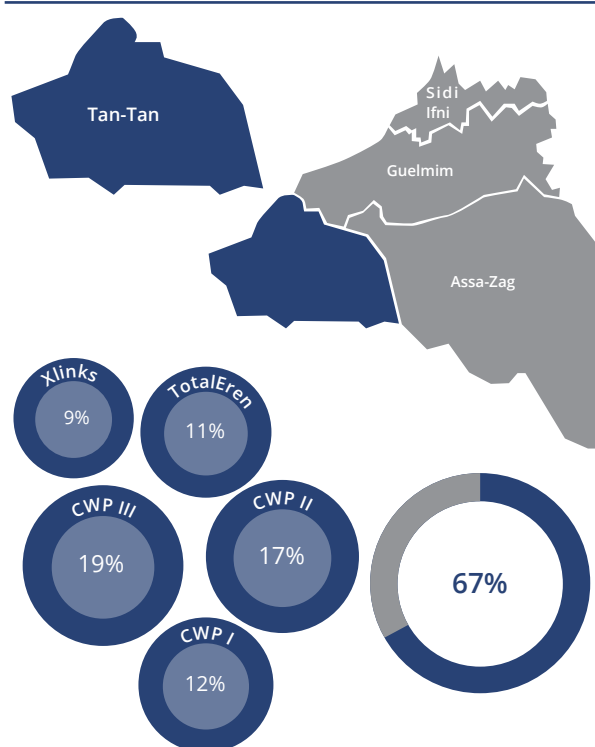
One of the possible sites for Xlinks solar and wind project in Tan-Tan Province, for example, is the Oued Chbika river. This is not empty desert: it is inhabited by the Reguibat and Tekna Bedouins, who graze sheep and camels across large areas of the desert (Pearce, 2023). Mouloud, a local resident, who holds a master's degree in political geography and who has been unemployed for more than a decade, has summarized this situation:

The displacement of these young producers will lead to displacement towards the city, thus amplifying the numbers of people in need of food and decreasing the numbers of those who produce it. The money generated from renting land to production companies will result in a rentier

mindset, as this rental money will secure a fixed income, particularly in the context of abject poverty that dominates the region... This is the modernity which they claim they bring us: whereby producers are transformed to consumers of what they produce (Interview with author, 2022).

This transformation is particularly evident when you look at the substantial investments made in energy projects. For instance, Total Eren alone has injected €9.4 billion, which is more than seven times the 2017 GDP of the Guelmim-Oued Noun region (€1.3 billion) (HCP, 2019).

Figure 4: Surface allocated to green hydrogen projects in the province of Tan-Tan (%)³



3. The projects are still in the feasibility studies phase, so numbers are subject to change (Ammonia Energy Association, 2022), (Cobo, 2023), (Sbiti, 2022), (Ministry of Economy and Finance, 2023b). A portion of Xlinks project will be installed in Assa Zag (Aljazeera.net, 2022).

What About Jobs?

Reporting on French company Total Eren, *Le Desk* stated that their project is ‘... an opportunity to create a Moroccan industrial sector, thousands of non-transferable jobs, whether direct or indirect, and an increase in competitiveness alongside the decarbonisation of key sectors of the Moroccan economy.’ These promises are significant and enticing, particularly in a region that has the country’s highest unemployment rate (18.9%) (HCP, 2019).

However, such promises of jobs and development associated with energy projects are a mirage. Viewing these projects within the framework of the economic policies of the state and of big local capital demonstrates the misleading nature of some of the claims made about them. More than two decades ago, the state dismantled Labour Code, eroding workers’ rights in favour of employers’ profits. It implemented fixed-term contracts, outsourcing, sub-contracting and unpaid internships. Yet bosses and foreign investors still consider the Labour Code ‘too rigid’ and demand that it be revised, something

the government promised to do after the 2021 elections. Thus, even if jobs are created by projects like Total Eren’s, they will often be outsourced and sub-contracted. Additionally, while these capital-intensive energy projects create thousands of jobs during the first phase of construction, these jobs do not last: most of them are temporary. Only a few technical positions remain in the long term, and most go to people from outside the region, as they require technical qualifications that few locals have.

Noor Power Station illustrates these dynamics. The station resulted in the creation of no more than a few small agricultural jobs for women, construction jobs, and occasional employment washing glass and mirrors in the scorching desert heat. Meanwhile, the wider area was transformed into a military facility, with watchtowers protecting the site. Boris Schinke of GermanWatch noted that there was ‘widespread disappointment’ within the community (Pearce, 2023).

What Do the Locals Think?

The EU–Morocco Roadmap on Advanced Status underlines the importance of consulting with local civil society in development projects. It encourages cooperation, including promoting dialogue and cooperation between NGOs, trade unions, professional organisations, cultural institutions, the media and other civil society actors. It also provides for maintaining regular and in-depth political dialogue to discuss issues of common interest, particularly in the areas of democracy, human rights, governance and development (EEAS, 2007). However, activities of this kind that have taken place in Morocco have largely been tokenistic, with public debate mainly aiming to convince communities and the wider society of the usefulness of energy projects, and to undermine resistance to them. Furthermore, in cases where public discussions about green strategies have occurred, the voices of those most directly impacted by these projects, including local communities, small-scale farmers, pastoralists, sailors, and agricultural workers, have been marginalized. For example, at a 2022 closed meeting on the development of green hydrogen in Morocco, El Mostafa Jamea, the Director of the MENA Renewables and Sustainability Institute (MENARES), betrayed a lack of interest in engaging with local communities, asking sarcastically: ‘Are we going to knock on the doors of the population to consult with them?’

In this broader context, there is a transparency issue perpetuated by both the political apparatus of the state and private companies. This information deficit is partly a result of the tense political climate that prevailed during the regional elections in September 2021, where international observers raised concerns about potential interference by the state apparatus in the electoral process (Africanews, 2021). Additionally, this electoral period was marked by the controversial death of Abdelouahab Belfqih, a prominent figure in the region and one of the leading candidates in the regional elections.

Furthermore, this political backdrop set the stage for the subsequent appointment of Mbarka Bouaida as the president of the Guelmim-Oued Noun Regional Council. In an interview with Aljazeera.net, Bouaida openly advocated for the allocation of suitable land for major projects, highlighting the positive impacts in terms of employment, economic growth, and attracting significant investments to the region. (Aljazeera, 2022). Her endorsement highlights the alignment of local political elites with global trends toward green hydrogen and further underscores the relationship between political and energy agendas in the region.

Against this backdrop, a well-known pattern of lack of transparency between the state’s political apparatus and private enterprises becomes evident. For example, the mystery surrounding the Total Eren project, reveals a clear information deficiency, both on the part of the state’s administrative apparatus and that of the private company. For instance, although representatives of the company met with the regional presidency in 2019 (Le Matin, 2019), Morocco’s Minister of Energy Transition and Sustainable Development, Leila Benali, revealed to *TelQue!* that she was not aware of the project (Chahid, 2022). Furthermore, Total Eren persists in hiding information under the “business confidentiality” pretext.

This context illustrates a classical pattern of “aggressive bureaucracy,” where the state’s political apparatus and private companies collaborate to serve their own interests while keeping the local population in the dark. These shortcomings expose the democracy and transparency of the capitalist market economy as a myth. If local people knew that the Total Eren project in Guelmim-Oued Noun will be built on vast areas of their lands, will deplete their water resources, and will enclose their geographical space, all to secure Europe’s energy consumption, not their own, they will reject it and oppose it.

A Diplomacy of Dependency and Green Normalisation

The Moroccan state's actions in regard to energy projects are marked by a dynamic of dependency, in which diplomatic issues, and particularly the issue of Western Sahara, are a key consideration. A recurring approach in all of Morocco's relations with imperialist countries (including those relating to energy projects) is to trade the country's economic independence for alleged diplomatic gains. For example, after the signing of the fisheries agreement between Morocco and the EU on 25 October 2018, Nasser Bourita, Minister of Foreign Affairs and International Cooperation, announced: 'The negotiations to renew the fisheries partnership agreement [...] includes the Moroccan Sahara, and this constitutes a stage that strengthens Morocco's position as the sole interlocutor for negotiating international agreements that include the Sahara' (Matthes et al., 2020). Indeed, the Moroccan government boasts of achieving diplomatic victories against the imaginary enemies of the homeland, while pawning Morocco's wealth to its real enemies – colonialists old and new, and their local agents.

Here it is worth highlighting the issue of Morocco's normalisation with Israel, and the two countries' collaboration on clean energy projects. Under American patronage, Morocco officially normalised its relations with Israel on 10 December 2020. Since that time, normalisation has intensified in various areas. For example, both countries signed a bilateral

agreement for energy cooperation to reinforce scientific research in the field of green hydrogen storage and transport to Europe. At the same time, negotiations have been launched between the ministries of finance of both countries, with the aim of growing economic relations (Qemmas, 2022). Morocco's normalisation with the colonial-occupation state has also accelerated at the level of the military and intelligence services. On 25 March 2022, the Israeli occupation army announced the signing of a memorandum of military cooperation with Morocco during the first official Israeli military visit to the kingdom. In November 2022, Israel and Morocco signed a security memorandum of understanding during Israeli Defence Minister Benny Gantz's first visit to Rabat. This aimed to facilitate intelligence cooperation, security purchases and joint training between the two countries (Fakir, 2022).

The various forms of collaboration between the two countries that have accompanied normalisation have also included activities in the green hydrogen production sector. For example, on the sidelines of the COP27 conference, Moroccan company Gaia Energy said that it had signed an agreement with Israeli company H2Pro to transfer, integrate and install the most efficient electrolyzers in the world, to produce large quantities of green hydrogen in Morocco (Gaia, 2022).

Conclusion: Towards a Just Environmental Energy Transition

In Morocco, climate adaptation and mitigation methods have thus far been outlined and imposed from above by big business and capital, on population groups that prior to the arrival of colonialism were able to live in their harsh desert surroundings in a way that preserved the environmental balance of their territories for centuries. These same people are now being asked to accept mitigation projects for which they will bear the financial burden on behalf of those who are truly responsible for climate change: major international energy companies and the industrialised countries of the Global North. Green hydrogen projects are one form of such projects that are being carried out at the expense of peoples of the Global South, and which take attention away from potentially more urgent adaptation work.

It is important to note here the fact that energy sources and their uses are not socially neutral: they are shaped by a clear class character which can either reproduce neocolonial domination or combat it. Projects producing green hydrogen in North Africa embody the former. These projects are being imposed on the North Africa region, fuelling competition between countries in regard to exports to the European market and hearkening back to the vacuous promises of neoliberalism and SAPs.

When discussing just energy transition in North Africa, including the role (if any) of green hydrogen, it is impossible to overstate the importance of solidarity between the peoples of the region. Genuine solidarity would ensure a just energy transition and popular sovereignty over wealth, production and consumption. It would challenge the neocolonial framework of the EU's institutions and agencies, as well as the framework neoliberal the International Financial Institutions.

This prompts us to ask crucial strategic questions, as posed by Hamza Hamouchene: *'energy transition for whom? And where will resources come from?'* (Hamouchene, 2022). This underlines the necessity of not only defining the key plays in a just response to climate change in North Africa, but also those who will shape and profit from energy transition in the region.

As a starting point for addressing these challenges, the energy sector should be removed from the control of private companies, transferred to public ownership and placed under popular citizen control. There should be a radical break with the logic of large, centralised projects in favour of decentralised solutions and projects which bring energy production closer to users. This would help avoid energy losses and reduce the cost of transmission. It would also entail designing new projects on a smaller scale that can be financed locally and with state assistance, rather than relying on debt and foreign direct investment (Moustakbal, 2021).

We must also stop capitalism, and capitalist states, from misappropriating the slogans and demands of movements fighting for a just environmental transition. In 1985, Luciana Castellina published an article entitled *'Why should red also be green?'*, calling for the authentic incorporation of the activist culture of environmental movements into the labour movement and its political manifestations (the left). According to Castellina:

At a time when the definition of the 'left' itself appears to be the subject of all this controversy, I think that we should conclude by saying that 'red' from now on should be described as 'green' too. 'Green' carries rich implications. It gives our project a distinctive identity, which is of vital importance

in our time, because it allows it to position itself as a group that is not looking for new ways to produce more efficiently, and to distribute in a fairer manner a greater quantity of the same things, organised around the same method of production and consumption, but rather as one which seeks to take advantage of new technological tools, to produce different things, and in the first place to bring about a new way of life. (Nikolic, 1986)

This has happened. In the mid-1990s, the Oil, Chemical, and Atomic Workers Union in the US reached out to environmental justice movements to build connections with the predominantly Indigenous, Black and Latinx workers and communities residing near energy facilities and affected by them. These movements collectively developed the concept of 'just transition'. The debates that resulted from these alliances strengthened environmental justice movements, in alliance with anti-capitalist and global justice movements, including the labour, feminist, peasant and student movements (Akuno et al., 2022).

It is imperative that we fiercely defend demands that radically break with capitalist expropriation and exploitation. We must revitalise the idea of democratic, universal and quality public services, and explore common ownership of resources, managed in a way that guarantees sustainability and creates bonds of solidarity between small-scale food producers and wage workers, among others. Below is a non-exhaustive list of demands that could light the way towards a just transition:

1. Create decentralised energy projects that take into account the needs of local communities. Local communities, including workers, small-scale producers and consumers, should run and manage these projects, through democratic cooperatives. Decarbonising industries currently using grey hydrogen and other fossil energies should be a priority.
2. Nationalise the energy sector, resist and roll back privatisation, and eliminate private monopolies in the area of oil and gas imports. Prevent the clean energy sector being used as a playground for export-oriented private investment. This will reduce fossil fuel use and emissions, eradicate toxic fertilisers, and help restore diverse and thriving ecosystems (Akuno et al., 2022, p. 62).
3. Nationalise the transport and banking sectors and place them under democratic national worker control, with a focus on mass public transport. These sectors are emissions-intensive: transport accounts for 38% of Morocco's energy consumption.
4. Defend food sovereignty and agroecological food production, whether in terms of agriculture, grazing or hunting. Such food production should be dependent on small-scale producers, and geared towards local, national and territorial markets, instead of energy- and emissions-intensive commercial export.
5. De-commodify natural resources, managing them collectively and sharing them fairly, instead of forcing local communities and the natural environment to bear the 'external costs' of the climate crisis.

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Endnotes

1. Masen serves as a gateway for implementing public-private partnerships (PPPs). All of its major projects are owned by private actors with significant shares under long-term Power Purchase Agreements. For more details, refer to the Moroccan Press Agency, 2020.
2. ANRE was established with the aim to open up Morocco's (renewable) electricity sector to private investors
3. According to an event organised by the Moroccan Workers' Union (UMT) in the House of Councillors named 'Structural transformations of the electricity sector, for what goals and at what cost', held on 27 May 2021.
4. Part of Al Mada Holding company, formerly called the National Company of Investment (SNI), it is a large private Moroccan holding company owned mainly by the Moroccan royal family. The group is a stakeholder in the country's largest private companies in seven sectors: energy (Nareva), banking (Attijariwafa), mining (Managem), construction (Lafarge Ciments), hotels (ONAPAR), supermarket chains (Marjane), and communications (Wana). The group also invests in other African countries, such as Cameroon, Ivory Coast, Rwanda and Gabon.
5. Formerly GDF-Suez. For more, see: Moustakbal, 2021.
6. As commanded by EU agencies, including Res4Africa and PwC, Green Hydrogen in Morocco: Policy recommendations to implement the national roadmap, <https://cutt.ly/Awt0npEE>; IRENA, Global hydrogen trade to meet the 1.5°C climate goal: part iii green hydrogen cost and potential, 2022, <https://cutt.ly/Wwt0blCB>; Dr. Ad van Wijk et al., A North Africa - Europe Hydrogen Manifesto, Dii Desert Energy, 2019, <https://cutt.ly/Zwt0ErAy>.



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The Committee for the Abolition of Third World Debt (CADTM) was established in 1990. Since 2016, it has been renamed the Committee for the Abolition of Illegitimate Debt. Currently, it comprises thirty active organizations spanning over 30 countries across four continents. Their main work centers on the topic of debt, striving to develop radical alternatives grounded in popular sovereignty.

www.arabic.cadtm.org



The Siyada Network is a consolidated platform dedicated to advocating for food sovereignty. It unites popular organizations, trade unions, and social movements in opposition to capitalism, environmentally harmful policies, and practices that perpetuate racism, patriarchy, monopolisation, and other forms of discrimination.

www.siyada.org