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TUNISIA'S ENERGY SECTOR:
A JUST TRANSITION ANALYSIS

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Introduction

As the transition towards low-carbon energy moves to the forefront of global policy agendas, states have gradually scaled up their commitments to reduce greenhouse gas emissions and shift towards renewable energy sources. Beyond technological and clean energy ambitions, decarbonization transitions entail deep structural changes across systems with broad socio-economic implications.[1,2] More importantly, some countries' decarbonization pathways are reproducing patterns of global injustices, such as dispossession; unequal distribution of benefits and burdens; the disappearance, emergence, and transformation of jobs; a lack of inclusive decision-making process; and the exacerbation of existing vulnerabilities.[3]

However, when managed carefully, energy transitions can also be powerful transformative tools for creating regenerative economies and net social benefits.[4] Such transitions are known as Just Transitions, or ones that engender "thriving economies that provide dignified, productive, and ecologically sustainable livelihoods; democratic governance and ecological resilience."[5] Just transition is largely intersectional at its core, addressing current and historic issues pertaining to gender, race, class, and other forms of oppression. It embodies key dimensions of justice which are procedural, redistributive, and restorative while including interactions and dynamics between the local, national, and international levels. Addressing the justice dimension in the broader political economy of transitions is, therefore, essential to ensure that they are inclusive and equitable, and leave no one behind.

A case in point is Tunisia, a country with considerable potential to shift towards renewable energy sources, where multiple and competing narratives are shaping decisions on how its energy transition should unfold. As in other countries, Tunisia's transition will entail significant structural changes across systems, mediated by the competing and powerful interests of key stakeholders in the energy field.[6] Decision-making within this context will be crucial, particularly given the existing power dynamics and struggles that shape this sector. Two main narratives are currently influencing decisions in the energy sector. The first dominant discourse draws on neoliberal practices of green extractivism, where natural resources are exploited for export purposes, whereas the second opposing discourse calls for justice, democracy, and community ownership of energy projects. This article engages with these competing energy transition narratives in Tunisia to gauge the country's progress on just transition principles.

How Tunisia's Governance Landscape is Stalling Energy Democracy

Tunisia appears to be slipping back to authoritarianism. The country's already-precarious political landscape deteriorated in July 2021 when President Kais Saied suspended parliament, and then extended this suspension until the next elections in December 2022. The new constitution, proposed by Saied, also hinges on highly undemocratic practices.[7]

The shift in the political landscape away from democracy has direct repercussions on the country's energy transition. A key pillar of a just energy transition is the concept of "energy democracy," which views energy and the environment as

1 Newell, P., & Mulvaney, D. 2013. The political economy of the 'just transition'. *The Geographical Journal*, *179*(2), 132-140.

2 Geels, F. W. 2014. Regime resistance against low-carbon transitions: introducing politics and power into the multi-level perspective. *Theory, culture & society*, *31*(5), 21-40.

3 Sovacool, B.K., Martiskainen, M., Hook, A. and Baker, L., 2019. Decarbonization and its discontents: a critical energy justice perspective on four low-carbon transitions. *Climatic Change*, *155*(4), pp.581-619.

4 Mundaca, L., Busch, H. and Schwer, S., 2018. 'Successful 'low-carbon energy transitions at the community level? An energy justice perspective. *Applied Energy*, *218*, pp.292-303.

5 Climate Justice Alliance. 2018. Just Transition a Framework for Change.

6 Newell, P., & Mulvaney, D. 2013. The political economy of the 'just transition'. *The Geographical Journal*, *179*(2), 132-140.

7 Yerkes, S & Alhomoud, M. 2022. One Year Later, Tunisia's President Has Reversed Nearly a Decade of Democratic Gains. Available from: https://carnegieendowment.org/

public goods and promotes the sovereignty of people and communities over them. Autocratic practices will signify less public participation in energy projects and setbacks in public ownership approaches, thereby moving away from energy democracy principles.

Moreover, despite efforts to advance political decentralization in Tunisia, this process has not been mirrored in its energy sector, which remains highly centralized under the monopoly of the national utility company Société Tunisienne de l'Electricité et du Gaz (STEG), which strictly controlled the sector since Tunisia's independence.

In the early 2000s, prompted by the depletion of the country's fossil fuel reserves, renewable energy projects made their entry on the policy stage through two programs that encouraged the installation of water heaters and solar photovoltaics (PVs): "Prosol" (introduced in 2005) and "Prosol Elec" (introduced in 2009).[8] Local actors were also encouraged to produce their energy and sell the surplus to STEG through net metering. In parallel, the programs focused on job creation, with Prosol Elec creating a market for solar suppliers, manufacturers, and installation businesses. Throughout the implementation of these programs, STEG remained in a position of strength.

The Jasmine revolution shifted the balance of power in the sector.[7] A new space for dialogue emerged which allowed for the criticism of STEG's performance and its policies by other actors, mainly the National Energy Efficiency Agency (ANME).[9] This shift also enabled the formation of new alliances between actors in support of renewable energy projects, such as the ANME supported by the German agency for international cooperation GIZ.[7] Crucially, these actors were also calling for the introduction of new players to the market, mainly the private sector. In June 2011, GIZ organized the first seminar on self-production from renewable energy sources, through which the criticism of STEG's regulatory framework first materialized. The long negotiations that ensued between STEG, ANME, and GIZ resulted in an energy transition plan that opened the market to private investors: the Tunisian Solar Plan (TSP), which aimed to produce 30% of electricity from renewables by 2030.[10] Law 2015-12,[11] on the production and sale of electricity from renewable resources, would govern the plan's implementation.

STEG has opposed these plans on the basis that they are precursors to the privatization of electricity generation throughout the country. The opposition to private sector involvement stems mainly from a syndicate within STEG, the general federation for oil and gas FGEG (Fédération Générale de l'Electricité et du Gaz), which has long opposed projects involving private investment funding, particularly since the update of Law 2015-12. At the same time, private actors have faced increasing challenges in the production of renewable energy. While obliged to sell exclusively to STEG, independent producers have not been granted connection to the national grid.[12]

Private sector involvement in renewable energy projects in Tunisia is a fraught issue. On the one hand, resistance to this involvement reinforces the monopoly of STEG over the sector. On the other hand, unregulated private sector participation could restrict the rights of the local population to energy sovereignty and incur unintended social and economic consequences for the country (see the section on contested renewable energy projects and just transition). Of note is the fact that to date, private investments in renewable energy projects have favored foreign companies, despite the presence of capable national actors. Of 22 renewable energy projects since 2015, only half have Tunisian project leaders and only four are exclusively led by Tunisian firms.[13] Thus, so far, the involvement of the private sector seems to occur at the expense of local involvement and development.

Engaging with this debate from a just transition framework would involve an active engagement of the relevant stakeholders and a national tripartite dialogue that includes local communities, and both the public and private sectors.[14] A just transition for all is built on principles that promote

8 Prosol Elec is a small-scale program where local actors generate energy through RE, was matched with a financial scheme based on subsidized loans that could be repaid by customers through their electricity bills. See Rocher, L. and Verdeil, É., 2019. Dynamics, tensions, resistance in solar energy development in Tunisia. *Energy Research & Social Science*, *54*, pp.236-244.

9 Rocher., L. & Verdeil., E. 2013. Energy transition and revolution in Tunisia: politics and spatiality. *The Arab World Geographer*. 16 (3), 277.

10 IRENA. 2021. Renewable readiness assessment. Available from: https://irena.org/

11 This Law is set to regulate (i) self-regulation/consumption; (ii) independent power production for local consumption (concession for projects more than 10 MW and authorization for those less than 10 MW) and (iii) independent power production for export

12 WMC and TAP. 2022. Renewable energy: Electricity producers call for connection to the STEG grid. Available from: https://www.webmanagercenter.com/

13 Ben Rouine, C & Roche, F. 2022. 'Renewable' energy in Tunisia: an unjust transition. Available from: https://longreads.tni.org/

14 ILO. 2013. Just transition principles.

decent work, social inclusion and justice, and environmental sustainability, but there is no blueprint for what such a transition would exactly entail. Instead, what is meant by "justice" should be defined at the national and local level, with close attention to the question of "who defines what is just, and for whom".

Yet, no national dialogues on energy transition are taking place in Tunisia. Communication among different stakeholders is absent, in large part due to certain policies that undermine dialogue. Circular 20, released in November 2021, precludes ministries from negotiating with syndicates without prior approval from the Presidency of the Government. While the Tunisian government and the Tunisian General Labour Union (UGTT) are currently in negotiations regarding this circular, the ongoing reversal to a more autocratic landscape is likely to further undermine such dialogue unless explicitly addressed.

Tunisia's Energy Sector at a Turning Point

The Tunisian energy sector has been facing incremental shortages since 2000[15] due to increasing local demand and depleting reserves, with a deficit reaching almost 5.9 million tons of oil equivalent in 2019. Subsidies for oil and gas, which make up almost 94% of the energy mix, have also placed significant strains on government budgets reaching more than 150 billion euros in 2015.[16] In 2021, renewable energy sources constituted only 3 to 4% of the country's energy mix, behind its 2020 targets of 12%. Electricity production in Tunisia remains heavily reliant on natural gas, which makes up 97% of the sector's capacity, the majority of which is imported from Algeria, or received as royalty. Declining domestic gas production now only makes up 38% of the electricity production mix.

Ahead of COP26, Tunisia set bold ambitions aiming at a 45% reduction in carbon intensity by 2030, and ambitions to reach carbon neutrality by 2050. Tunisia also placed its energy sector at the heart of its updated Nationally Determined Contributions (NDCs), where 73%t of GHG reductions are planned to occur through a mixture of energy efficient measures and scaling up on renewable energy. COP26 outcomes did not raise Tunisia's targets to produce 30% of its energy needs from renewable energy by 2030.[17]

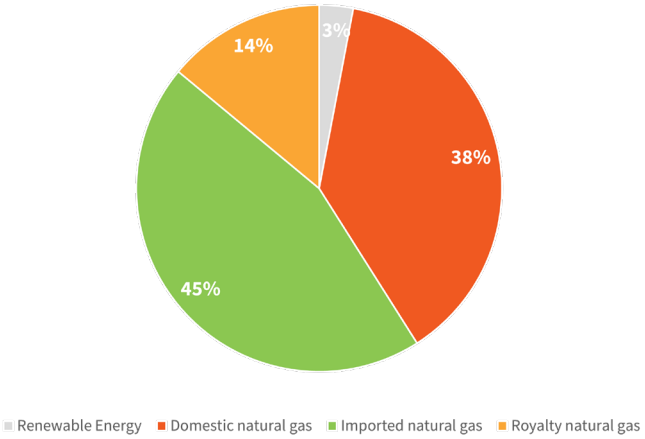

Figure 1. Electricity production by source in Tunisia

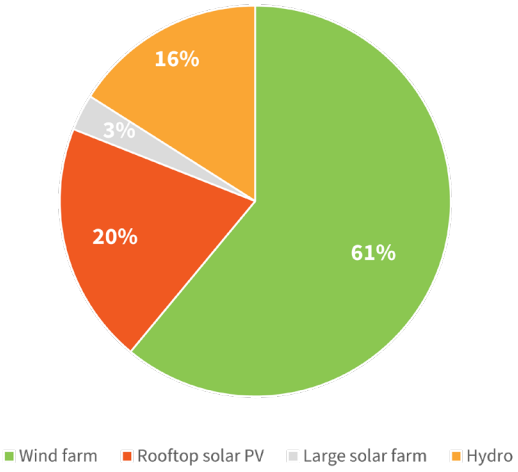

Figure 2. Renewable energy mix in Tunisia[18]

Against this backdrop, the Covid-19 pandemic created a setback for renewable energy deployment in Tunisia. As a result of the pandemic, subsidies for renewable energy which were introduced in 2017 have been reduced from 429 $/kW

15 Moisseron, J.Y., Guesmi, K. and Gerin-Jean, M., 2018. *Assessing EU–Mediterranean Policies in the Fields of Energy from a Bottom-up Perspective: The Case of Tunisia* (No. 33). MEDRESET Working Papers.

16 World Bank. 2019. Project Appraisal Document on a Proposed Loan in The Amount Of $151 Million To STEG for an Energy Sector Improvement Project.

17 Republic of Tunisia. 2021. Updated Nationally Determined Contribution Tunisia. Available from: https://unfccc.int/

18 Nouicer, A. 2022. What a Green Transition Means for Tunisia. Available from: https://www.ispionline.it/

to a mere 179 $/kW for installed capacity larger than 1.5 kW.[19] Tunisia had recognized its energy transition as a key pillar for sustainable development and job creation but still struggled to translate policies and strategies into actual actions on the ground. Throughout the pandemic, no concrete steps were taken to advance this transition.

It was not until December 2021 that reforms were on the horizon again, and concrete proposals were put in place to accelerate Tunisia's solar plan and the overall deployment of renewable energy. The ministry of energy and mines put forward 1500 MW solar and wind program set to launch in January 2022, and the passing of a decree to unblock five solar concession projects with a total capacity of 500 MW. Additionally, plans were set in place to accelerate biddings and authorizations, shortening the award deadlines to four months and processing authorization requests in three months.[20]

The global gas crisis triggered by Russia's invasion of Ukraine and the pandemic became another driver of renewable energy deployment in Tunisia. The crisis pushed the country to further tap into its strategic reserves to meet domestic demand, after having raised fuel prices three times in the past year, and electricity prices by 12%. In June 2022, the government in collaboration with GIZ launched a new program aiming to produce 35% of its energy needs through renewable energy, from 2022 to 2025.[21] This was followed by a Memorandum of Understanding (MoU) between Tunisia and the United Kingdom on technical and financial support for the development of renewable energy, with the British ambition to become the largest foreign investor in this sector in Tunisia.

Planning for energy security in an increasingly uncertain world while transitioning to a low-carbon economy requires a holistic strategy that considers the systemic effects of transitions. After a transition that could be described as stagnant, the energy sector is now at a turning point, requiring strategic and targeted reforms, while navigating two main competing narratives about the direction and trajectory of the energy transition in Tunisia.

19 Electricite. 2021. Tunisia: Lower subsidies for solar energy equipment upsets sector players. Available from: https://www.agenceecofin.com/

20 Renewables Now. 2022. Tunisia approves 500 MW of solar projects. Available from: https://renewablesnow.com/

21 AEP. 2022. Tunisia, Britain Sign MoU for Renewable Energy Development. Availablefrom:https://africa-energy-portal.org/

Competing Energy Transition Narratives

The transition towards clean energy in Tunisia is being influenced and mediated by two main opposing discourses. The first is the dominant neoliberal hegemonic discourse, manifested through extractivism: a capitalist mode of accumulation exercised in the Global North to extract natural resources from other regions primarily through export. The second narrative is led mainly by grassroots movements in resistance to extractivist projects as well as large-scale renewable projects which are often accompanied by unintended social consequences. Centered around the principles of just transition, this movement is calling for the equal distribution of benefits and revenues of resource management and extraction.

Green extractivism

Extractivism is a mode of accumulation of natural resources, intended particularly for export purposes that can be traced back to the 1500s as colonial conquests advanced in the Americas, Africa, and Asia.[22] Today, extractivist practices remain a core feature of global capitalism and have largely shaped the structuring of many economic sectors in countries of the Global South.[23] Market-oriented and neoliberal models often exhibit extractivist patterns, and scholars have identified their prevalence in Tunisia mainly in large oil and gas extraction projects and phosphate mining. For example, transnational companies in Tunisia can own 100% of oil and gas concessions, which is the case of Shell that receives full interests on the Miskar concession, the largest gas field in the country.[24] After extraction, the multinational company then proceeds to resell the gas to STEG, in hard currency as if it were an imported good.[21] Similarly, water-intensive

22 Acosta, A., 2013. Extractivism and neoextractivism: two sides of the same curse. *Beyond development: alternative visions from Latin America*, *1*, pp.61-86.

23 Ye, J., J. D. van der Ploeg, S. Schneider, and T. Shanin. 2020. "The Incursions of Extractivism: Moving from Dispersed Places to Global Capitalism." *Journal of Peasant Studies* 47 (1): 155–183. doi:10.1080/03066150.2018.1559834.

24 Hamouchene, H. 2019. Extractivism and Resistance in North Africa. TNI. https://www.tni.org/files/publication-downloads/web_maghreb_en_21-11-19.pdf

phosphate mining, which is targeted primarily for export, has deprived local communities and farmers of water resources and, subsequently, local employment. The Tunisian state has usually facilitated the operations of these multinationals in multiple economic sectors, through the introduction of neoliberal policies that favored extractivist practices. Despite the introduction of Article 13 in Tunisia's 2014 Constitution which proclaims the Tunisian people's ownership of natural resources, its implementation is far from being enacted.

The same patterns of accumulation by dispossession can also be identified in renewable energy projects and low-carbon pathways, a process that came to be known as "green extractivism".[25] This institutional approach to development and environmental projects prioritizes the mining and export of extractive capital to international markets while creating (un)intended consequences in countries in the Global South. These consequences include economic dependence, the relegation of national and local development priorities, the marginalization of vulnerable groups and the displacement of the local population, the unequal distribution of projects' benefits and income development, and resource and land dispossession.[16]

A prime example of green extractivism in Tunisia is the TuNur project, a large-scale concentrated solar power (CSP) project covering over 3.5 million km^2 of land in the Saharan desert in the South of the country.[26] The 4.5-gigawatt CSP was aimed solely for export to Europe through underground sea cables, namely to Italy, Malta, and France. TuNur quickly became known in Tunisia as a "green grabbing" project, stirring local discontent as it essentially entails the appropriation of land and resources under the guise of environmental goals. Beyond the control of significant swathes of land, this project would require a considerable amount of water usage for the maintenance of panels in an arid region, which poses an additional controversy for water-scarce Tunisia.[17] This mega-project manifests the nature of extractivism by promoting the export of local resources to countries in the Global North, and further distorting the structuring of the Tunisian economy by concentrating the wealth in the hands of a few and unequally redistributing income.[27] Across the country, local populations opposed this project as its agenda failed to prioritize local development and job creation, which stalled TuNur's implementation. In 2020, it was announced that the project would move forward, with the transmission line to Italy set to be operational by 2028. This project is largely extractivist by nature, promoting the flow of natural resources in the form of renewable energy, from Tunisia to countries in the Global North, with minimal local benefits being generated.

Another decarbonization pathway encouraged by international actors in Tunisia has been the export-oriented green hydrogen industry. Since 2020, European countries have had their eye on "solar-rich" North Africa as a hub for green hydrogen production, to diversify their energy mix. Another target country considered was Ukraine,[28] however with the Russian invasion and the subsequent disruption of the global gas market, North African countries received even more interest, as Europe attempts to decrease its reliance on Russian gas. Using renewable energy to power the electrolysis process, North African countries would produce green hydrogen and export it to Europe for domestic consumption, in line with envisioned decarbonization pathways. Guided mainly by the European Green Deal and more recently by the REPowerEU communique, EU countries turned to "solar abundant" North Africa for a potential source of supply of green hydrogen. Since the Russian invasion of Ukraine, EU countries doubled their imported green hydrogen targets to 10 million tonnes per year by 2030.[29] In Tunisia, the green hydrogen narrative has been led primarily by Germany. Indeed, in December 2020, the Tunisian Ministry for Energy Mines and Renewable Energy signed a EUR 31 million Memorandum of Understanding with the German Federal Minister for Economic Cooperation and Development (BMZ) for developing its green hydrogen market.[30] In June 2022, Tunisia took its first commitment towards developing this market, by launching the H2VertTun, commissioned by BMZ and implemented by GIZ.[31] This project aims to develop Tunisia's strategic approach to green hydrogen, in terms of technical support, market creation, and research and innovation by setting up a Tunisian-Bavarian technology hub.

Although represented as a win-win situation for both regions,

25 Bruna, N., 2022. A climate-smart world and the rise of Green Extractivism. *The Journal of Peasant Studies*, pp.1-26.

26 Hamouchene, H. 2017. TuNur in Tunisia: Another case of energy colonialism. Available from: https://www.cadtm.org/

27 Acosta, A., 2013. Extractivism and neoextractivism: two sides of the same curse. *Beyond development: alternative visions from Latin America*, *1*, pp.61-86.

28 European Commission. 2020. A hydrogen strategy for a climate neutral Europe. Available from: https://ec.europa.eu/

29 European Commission. 2022. REPowerEU: Joint European Action for more affordable, secure and sustainable energy. Available from: https://eur-lex.europa.eu

30 Energy Central. 2020. Germany grants Tunisia €30 million to develop green hydrogen market. Available from: https://energycentral.com/

31 GIZ. 2022. Promoting a green hydrogen economy in Tunisia. Retrieved from: https://www.giz.de/

this model is largely extractivist by nature. In highly water-scarce and energy-insecure Tunisia, the exploitation of local water resources and land solely for export purposes is another form of accumulation by dispossession. In response to this criticism, green hydrogen proponents have emphasized that water from desalination will be mainly used in its production, a process that is nonetheless very energy intensive. The rollout of green hydrogen will also require a significant capital investment in infrastructure, from electrolyzer capacity to pipelines, which could in return deepen Tunisia's debt and reliance on development financial institutions and foreign capital. A recent study[32] has also questioned the feasibility of such strategies based on case studies in Egypt, Algeria, and Morocco. The author argues that the cost of production and transportation (through shipping or pipelines) would not be feasible, and "could cost almost 11 times more than natural gas per unit of energy prices before the winter energy crisis and the invasion of Ukraine, even before storage and transportation".[5] Additionally, the process of transporting hydrogen to Europe is expected to be highly energy intensive, and North African countries would benefit more from using this renewable energy to meet their domestic needs.

Contested large-scale renewables and a just transition

Initially, decarbonization pathways in Tunisia followed a more decentralized approach, despite remaining under the tight control of STEG. Large-scale renewable projects were gradually pushed on the energy transition agenda and were often met with community resistance. Inspired by the 2008 phosphate mining protests in Gafsa, energy projects also became the stage for social unrest. Although communities throughout the country usually support sustainable practices, there is a common movement opposing large-scale energy projects in a NIMBY (not-in-my-back-yard) fashion.[33] This section will unpack these movements which are mushrooming across different parts of the country and explore their link to the emergence of a new narrative on just transition.

In 2010, the construction of wind farms in the governorate of Bizerte was met with strong opposition from local communities, due to disturbances caused by construction works, and the absence of job creation and local development from the project. This later translated into several attacks on these facilities in the region, and the subsequent disruption of production for more than six months. In this approach, STEG failed to consult communities in renewable energy projects and precluded citizens and local development from solutions.

The case of the Borj Essalhi wind turbines is another example of contested renewable energy projects.[34] Built during the Ben Ali regime on the ancestral farmland of Borj Essahli, this project became a dispute between local villagers and STEG since the revolution, and inhabitants gradually stopped paying their electricity bills in protest. Villagers claim to have been "dispossessed by force" under the authoritarian regime of Ben Ali, as they had to enter a contract with STEG and rent out their land for 30 years. The turbines were indeed built on collective lands which hold cultural and productive value for the residents of Borj Essalhi. This restricted their ability to fully use their land for agricultural purposes and they were not compensated through continuous access to electricity to support their livelihoods. Since the revolution and the refusal of inhabitants to pay their electricity bills in protest, the village has faced continuous periods of blackouts.

In Gafsa, the villagers of Segdoud are currently opposing a large-scale solar project of 120 MW led by the French multinational Engie, in cooperation with the Moroccan energy company Nareva.[35] As part of the government's recently approved new solar concessions, this project has left locals demanding job creation and local development, in return for the use of their collective agricultural land, and solar energy deemed a "public good". The plant's construction is set to take place at the end of 2022 and is estimated to cost over EUR 90 million. Like the rest of the country, Segdoud has faced a prolonged period of drought which has put a strain on the livelihood of farmers. As the region is already suffering from high unemployment rates as a result of mine closures during the pandemic, and generally very poor levels of development, local communities have questioned the benefits of this project which is set to be implemented on 400 hectares of agricultural lands currently managed by the council of collective lands in Redyef. The socio-economic

32 Barnard, M. 2022. Assessing EU plans to import hydrogen from North Africa: The cases of Morocco, Algeria and Egypt. Retrieved from: https://www.tni.org/

33 Rocher, L. and Verdeil, É., 2013. Energy transition and revolution in Tunisia: politics and spatiality. *the Arab world geographer*, *16*(3), pp.267-288.

34 Delpuech, A., & Poletti, A. 2021. Borj Essalhi: The High Costs of Wind Turbines. Available from: https://inkyfada.com/

35 Delpuech, A., & Poletti, A. 2022. "It's our sun": in Segdoud, the struggle for energy sovereignty. Available from: https://inkyfada.com/

marginalization of this region is typical of the Tunisian governance model, which has long neglected the country's peripheries in favor of its urban centers.

Similarly, two solar plants implemented in Tozeur near the Saharan desert are currently stirring discontent amidst the local farming community.[36] Since the implementation of the project in 2020, oasis farmers in the region saw their electricity bills soar, accumulating debts reaching USD 6 million. Indeed, a proportion of water resources in the oasis have been dedicated to the maintenance and operation of the plants. Coupled with increasingly frequent periods of droughts, oasis farmers who did not benefit from the electricity generated at the solar farm had to heavily rely on energy-intensive groundwater pumping to irrigate their crops. In water-scarce Tunisia, access to water is a common problem faced by farmers, and it has only been exacerbated by the Tozeur projects. Currently, STEG is threatening to cut off the electricity supply to farmers, unless they settle their soaring debts. The solar farms were meant to power over 40,000 households, unfortunately, they excluded the most vulnerable populations in the region, who were not consulted. The Tozeur case accurately portrays the direction of the transition in Tunisia, which is heavily focused on mitigation, while excluding the most vulnerable population impacted by climate change. This approach is also reflected in the country's climate budget, where only 20% is dedicated to adaptation.

Another contested renewable energy project was launched in Tataouine, by a consortium led by ETAP, the state-owned company for oil and gas, and Italian oil and gas multinational, ENI. The project constituted the largest private solar farm in Tunisia, using a solar tracking system technology to generate and sell electricity to STEG, at USD 24/MWh, the lowest bid ever recorded in Africa. The project, completed in December 2019, was still not connected to the national grid due to opposition from the FGEG. In July 2022 the station was granted connection to the national grid and is set to be operational soon.

The recent large-scale solar concessions which were approved by the government could engender similar social and political opposition. All these projects initiated by foreign private investment could see similar fates as the Tozeur and Tataouine plants unless a different approach is adopted throughout their development. The projects are set to produce 500 MW of renewable energy and are currently being led by several international players. The Norwegian company Scatec Solar will be constructing three farms in Sidi Bouzid, Tozeur, and Tataouine with a total capacity of 300 MW. The Chinese group TBEA in partnership with the company Amea based in Dubai will be leading the second concession in Metbassta near Kairouan with a capacity of 100 MW. The third solar concession in Gafsa led by Engie-Nareva has already become a source of tension as mentioned above.

From political opposition to unintended social consequences, such large-scale renewable energy projects could disrupt Tunisia's energy transition and leave it in the stagnating state it has been for the past years. Key actors in the energy sector will need to develop more inclusive approaches which prioritize citizens and local development while intensifying stakeholder dialogue to ensure the acceptance of green solutions by all actors. While many have criticized the NIMBY-like reaction of local communities, they have failed to highlight the root cause of this phenomenon. Resistance is indeed occurring when communities are dispossessed from their lands, while not even benefiting from energy projects. This trend is highly common in Tunisia where urban development is very often done at the expense of the country's peripheral regions. In the post-covid era where unemployment levels have soared and regional inequalities deepened, the demand for job creation and local development has become even more pronounced. With the lack of government intervention or attention to these issues, communities' grievances intensified as they were left overlooked and unheard. In response, there has been a growing movement calling for justice in energy projects. Without referring to the term of "just transition", citizens in Tunisia have been advocating for its principles across the country.

A renowned case of resistance to energy extractive projects is the El Kamour movement. This movement started in 2017 and was led by the youth in the Southern region of Tataouine, demanding a fair distribution of the revenues of oil and gas projects in that region. Tataouine's gas and oil fields contribute respectively to 20 and 40% of the country's outputs, yet the region faces severe socio-economic and infrastructure challenges. Revenues created from energy projects are not reinvested in this area through local municipalities but instead go to the central government. Periodic protests erupted in Tataouine throughout the years demanding local jobs and local development, which culminated in an agreement in 2017 between locals and foreign oil and gas companies.[37] Companies operating in the region were required to ensure jobs for the locals, while the government was tasked with setting up a USD 29 million development fund for the region. By 2020 and throughout the

36 Depluech, A. 2022. Debt-stricken Tunisian farmers 'ignored' as government rolls out solar megaproject. Available from: https://www.climatechangenews.com/

37 Sherif, Y. 2017. The Kamour Movement and Civic Protests in Tunisia. Available from: https://carnegieendowment.org/

pandemic, the requirements set by the agreement were only partially met. Lockdown measures coupled with the closure of the Libyan borders translated into a severe economic collapse of the region. Replicating the 2017 sit-ins where protesters occupied the El Kamour pumping station, an essential transit point for companies for weeks, interrupting production. Nowadays, protesters are regaining the scene as their demands are still not being met.[38] One main critique has been directed towards the structure of the development fund, which serves only as a complementary aid to existing self-financing capacity of young entrepreneurs in the region. This movement, therefore, provided a platform to rethink and restructure regional development funding, in a way that equally benefits both the center and peripheral areas in Tunisia.

Inspired by El Kamour, a "resistance to accumulation" movement has been observed in renewable energy projects as well. A new discourse emerged that promotes renewable energy as a public good through the concept of "energy sovereignty". This concept refers to the ability of countries, and communities to make independent decisions about the structures and sources of their energy supply, from generation to distribution and consumption.[39] An important actor leading this discourse has been the Tunisian Platform of Alternatives. Alongside the UGTT, they started organizing community assemblies to discuss people's right to energy and creating energy cooperatives. This association created at the end of 2019 includes multiple working groups, one of which tackles energy democracy and aims overall to provide a platform for thinking about a new economic model for Tunisia. This model offers an alternative to private-public partnerships in Tunisia which have reproduced patterns of extractivism and exploitation of resources at the expense of local communities. It also offers a pathway away from the monopoly of STEG in the sector. This movement has particularly gained momentum in the Southern parts of the country, where land grabs and a lack of job creation and local development were most prevalent. From Bourj Essalhi and Tozeur to more recently the village of Segdoud, these acts of opposition are likely to become more prominent and require more attention from the State. The movement is however still in nascent stages and requires deeper conceptualization to clarify potential sources of funding and identify the role of the state and the cooperatives' organization scheme.

38 Ferichichi, K. 2021. Un an après l'accord d'El Kamour : Les sit-inneurs reviennent à la charge. Available from: https://lapresse.tn/

39 Thaler, P. and Hofmann, B., 2022. The impossible energy trinity: Energy security, sustainability, and sovereignty in cross-border electricity systems. *Political Geography*, *94*, p.102579.

Recommendations and Ways Forward

The Tunisian energy transition can take multiple trajectories. In the business-as-usual scenario, large-scale projects, heavily led by foreign private companies will continue dominating the renewable energy landscape. Resistance from trade union workers and local communities will multiply, hindering the transition to clean renewable energy sources. With the volatility of the gas market and the energy crisis happening in Europe, Algerian gas could become an uncertain source of energy supply. To ensure energy security and sovereignty, the Tunisian state needs to strengthen and materialize its green transition approach, while placing justice at the center of its dialogue. To further advance the discourse on just transition, there needs to be a national restructuring of the country's energy strategy, to promote where possible decentralized systems, particularly in rural areas, and to balance different actors' interests to ensure inclusivity.

There is no blueprint for achieving a just transition, nor is there a successful model which has been implemented or negotiated to this day. Planning for a just transition is a contextualized exercise, which should be initiated at the national level. It is a complex, multi-scalar and diverse process that should be centered around social movements and cannot exclude critical actors such as the state and the private sector. An attempt to develop a just transition strategy should be carried out by the government, in a heavily consultative process, to ensure that what is meant by justice is defined at the local level and approved by local communities and other actors. As the Justice Transition concept is becoming more mainstream in international organizations and multinational development banks, it is being stripped of its radicality. Moreover, the dominant discourses on just transition originate mainly from research and practices in the Global North, covering drastically different challenges than those faced in the Global South.[40] Currently, dominant Just Transition discourses in developing countries have mostly focused on coal phase-out as well as jobs and the workforce, as in the case of South Africa,[41] and more recently Indonesia.[42] There is a more urgent need to frame Just Transition in the

40 Alarcón, P., Diaz, N.C.C., Schwab, J. and Peters, S., Rethinking 'Just Transition': Critical Reflections for the Global South.

41 Chassidy, C. 2022. The Just Energy Transition Partnership with South Africa will hinge on domestic reform. Available from: https://www.atlanticcouncil.org/

42 UK Government. 2020. Indonesia Just Energy Transition Partnership Launched at G20. Available from: https://www.gov.uk/

context of decolonization, extractivism, and natural resource sovereignty.

Planning for Just Transition is a lengthy and complicated process. By taking a proactive approach, the Tunisian government can ensure a speedy and successful transition towards clean energy sources. This can be achieved through the following actions:

- Advance the discourse of a just transition by defining principles that protect the rights of citizens while also incorporating the interests of other actors such as the State and the private sector.
- Engage with academics, trade unions, civil society, communities, practitioners, the private sector, and government officials to create a strategy for a just transition. This includes defining what justice means, identifying sectors, communities, and workers impacted by the country's potential decarbonization, identifying winners and losers of this transition, and balancing just processes with just outcomes.
- Create a national social dialogue in the context of renewable energy projects which considers the interest of all actors, particularly farmers and local communities whose voices are currently not included in the conversation. By promoting procedural justice and including communities in energy decision-making, projects are less likely to face resistance from local populations. This dialogue is crucial if large-scale renewable energy projects are to be successfully implemented.
- Promote the decentralization of renewable energy sources to give communities more ownership and sovereignty of projects and increase their degree of acceptability. Decentralization of projects and local tax reforms are crucial for the regional development of Tunisia's peripheral and most vulnerable areas, as it would enable local authorities to collect more revenues.
- Develop regional programs, institutional structures, and business models to support the decentralization process and advance the concept of energy cooperatives. This also needs to be accompanied by legal reforms which establish the legitimacy of new business models and protect citizens' rights.
- Create a national dialogue on Law 2015-12 to ensure the buy-in and cooperation of all stakeholders in the implementation of this law, which is crucial for private sector participation in large-scale renewables.

About the Arab Reform Initiative

The Arab Reform Initiative is an independent Arab think tank working with expert partners in the Middle East and North Africa and beyond to articulate a home-grown agenda for democratic change and social justice. It conducts research and policy analysis and provides a platform for inspirational voices based on the principles of diversity, impartiality, and gender equality.

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