

'Renewable' energy in Tunisia: an unjust transition

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Tunisia has achieved a high electrification rate, increasing from 21 per cent at the creation of the Tunisian Company of Electricity and Gas (STEG) in 1962 (six years after independence) to 99.8 per cent¹ nowadays. However, the country's energy sector is currently facing several issues. Being highly dependent on fossil fuel-based energy (which accounts for 97 per cent of the production of electric production), the sector is facing increasing consumption, while the already limited national resources are diminishing. In fact, the national production of primary energy decreased by 36 per cent between 2010 and 2018. Over the same period, the demand for energy increased more than twofold. This context has led to the expansion of the primary energy balance deficit, which increased from 15 per cent in 2010 to almost 50 per cent in 2018, simultaneously enhancing Tunisia's energy dependence (more than half of the natural gas consumed is imported from Algeria). All of this has resulted in a steady rise in electricity prices for consumers.² Tunisia is a signatory to the Paris Agreement (2015) and is committed to its nationally determined contribution (NDC), which aims to reduce the country's greenhouse gas emissions across all sectors by 41 per cent relative to 2010 levels by 2030, despite the fact that Tunisia contributes only 0.07 per cent of global emissions.³ The planned reductions include a 46 per cent decrease in emissions in the energy sector. The achievement of these goals would align with Tunisia's ambition of reducing its energy deficit.

Tunisia is meanwhile promoting the diversification of its energy mix through developing renewable energies. However, the climate policies that have been designed by Tunisia in the last few decades have failed to bring about the changes needed. This is because they remain embedded in a capitalist framework that imposes a quest for endless growth and that prioritizes private profit above all else, resulting in ‘an energy expansion, rather than an energy transition’.⁴ An alternative to the models developed so far is needed, to incorporate social and environmental goals within climate policies. This could be achieved through a public goods and public ownership approach if the latter were carried out by accountable institutions, namely within the framework of energy democracy. This implies a scheme that involves ‘genuine popular participation and control’.⁵ To tackle this challenge and to bring about ‘real’ solutions, the concept of a ‘just transition’ has been introduced into global discussions around the energy transition. This concept advocates a fair shift to an economy that is ecologically sustainable, equitable and just for all its members. It asserts that transforming the way we use and think about energy requires deep transformations in every sector, and that the energy transition should be implemented carefully in order not to reproduce or deepen existing inequalities. Hence, the idea of a just transition emphasizes the issue of democracy, as well as the issues of sovereignty over public goods and the environment (among others).⁶ Indeed, focusing on communities’ interests in the design of an energy transition must involve taking steps away from the current financial, profit-based system in order to include consideration of other dimensions. According to the just transition framework, a real solution cannot simply tackle only one aspect of the problem of climate change – for instance, the sources of energy – while overlooking the social and environmental sectors that may depend on those sources in various ways. The idea is to get away from narrow visions and goals and to consider the way in which renewable energies should be developed.

In 2017, referring to the necessity of a just transition, the Movement Generation argued that ‘Transition is inevitable. Justice is not’. However, considering recent developments including the fact that the COVID-19 pandemic has failed to bring about any significant change in our system, it is becoming more and more obvious that the status quo could well last much longer than we might have expected, while its adverse repercussions grow exponentially. In this context, there is no space left for a wait-and-see attitude: immediate action must be taken towards both an effective transition and justice.

While Tunisia is now entering a new energy transition, following its international commitments, almost no debate has occurred at the national level on the redistributive aspects of this transition, which raises serious concerns and crucial questions. For instance, who will benefit and who will lose from this transition? Who controls the knowledge and technology that will be used to implement this transition and to what extent will the transition deepen Tunisia’s historical dependency on imperial powers? Will this energy transition open the door to the liberalization and the privatization of the energy sector? To what extent will this energy transition help to address the issues of structural

unemployment and inequality in the country? Will this transition facilitate an increase in democratic control over natural resources or will it exacerbate capitalistic land-grabbing at the expense of local communities?

This paper seeks to provide some reflections in order to attempt to answer these questions. In this context, the paper aims to reflect on the concept of a just transition within the context of Tunisia. In a first part, we present the 2015–12 law on renewable energy and its implications. We then investigate to what extent the renewable energy transition represents a convincing development opportunity for Tunisians themselves. Last, we question the impacts of renewable energy development on people's rights and on the environment.

The renewable energy law: a turning point in Tunisia's energy transition

a) The Tunisian Solar Plan: a renewal of the trend towards dependency as strategic orientation

In 2015,⁷ Tunisia launched the updated version of the Tunisian Solar Plan (its French acronym is PST), an operational plan that sits within the country's energy transition strategy. The plan was originally published in 2009 and aims to increase the ratio of renewable energy from 3 per cent in 2016 to 30 per cent in 2030,⁸ which requires the production of an additional 3,815 megawatts (MW) from renewable energy. According to the PST, 46 per cent of new renewable energy will be produced by wind turbines, 39.6 per cent by solar photovoltaic (PV) panels, 11.8 per cent by concentrated solar power⁹ and 2.6 per cent by biomass.¹⁰ The PST's intermediary goals were updated after a December 2017 conference on accelerating the implementation of renewable energy projects.¹¹ This policy follows a regional – if not global – trend towards the expansion of renewable energy, partly through public–private partnerships (PPPs), justified by the lack of sufficient governmental resources to build power plants.¹² To give one example, Morocco has been following a similar path since 2009, when its solar plan was presented by King Mohammed VI.¹³ However, the promotion of PPP as a substitute to public procurement and public debt is misguided as the PPP is a kind of securitization of a public project whereby profits are privatized and losses are socialized.¹⁴ The PST requires around 8 billion euros of investment over the 2015–2030 period, including 6.3 billion for equipment and 1.7 billion for the development of the power grid.¹⁵ According to the plan, two-thirds of this funding will come from private sources, predominantly foreign investment, and one-third from public sources. Most of these financing needs focus on importing knowledge and expertise (through technologies, equipment and patents) and will accelerate Tunisia's current path of dependency. This will materialize through the deepening of Tunisia's foreign debt in order to finance this imported technology, which is subject to monopoly conditions and intellectual property rights. In this context, the PST is designed in such a way that it reinforces power dynamics whereby a Southern country needs to borrow more so as to import Northern technology and knowledge production in order to transition to renewable energy. Through this plan, Tunisia is continuing to

promote an economic model that is led by foreign investment as the only way of financing its development. While some parts of the funding needed for Tunisia's renewable energy plan may come through foreign investment (or even climate finance/debt), no efforts have been made to explore ways of producing and controlling the knowledge necessary to achieve some parts of the PST in order to reduce both knowledge and capital dependency on industrialized countries.

b) The 2015-12 law: liberalization, privatization and the lack of state control

Since 2009, steps have been made towards progressively liberalizing the Tunisian energy sector: law n°2009-7, dated 9 February 2009, introduced private sector electricity production from renewable energies for firms' self-production.¹⁶ This was followed by decree n° 2009-2773, detailing the conditions of surplus selling to the national company STEG. A big step was taken in 2015, with law n° 2015-12¹⁷, relating to the production of electricity from renewable resources. This law opened up the power grid to private companies, enabling them to produce energy, primarily for domestic use and for exportation thereafter, through an authorization regime (for projects of between 1 and 10MW) and a concession regime (for projects of more than 10MW). These liberalization measures, which put an end to STEG's monopoly, aim to make the regulatory framework more attractive for foreign investors.¹⁸ Other later decrees and regulations specify conditions and procedures for the achievement of these projects,¹⁹ including connection to the national grid²⁰ and providing standard contracts for firms to start producing under the mentioned regimes. In this context, the idea that the energy sector functions most efficiently when it is managed by private companies, as opposed to the ineffectiveness of public management, still prevails today in Tunisia, despite a serious lack of independent studies on the impact of liberalization policies on the electricity production sector.²¹ The process of privatization, initiated decades ago, has not provided enough evidence that this point of view is in fact correct.

As a matter of fact, the claim that private companies provide better services for a lower price has not been confirmed by the facts. On the contrary, while PPPs are sought after by states for development reasons, private companies tend to prioritize corporate profit above all under these contracts, and this aspect of divergent interests has often been overlooked. These partnerships often induce increased prices, along with labour violations, declining service quality and a failure to implement an ambitious climate strategy. The Tunisian law relative to PPPs, enacted in late 2015, does not provide sufficient tools for the state to address the negative impacts of these types of projects, and to ensure the protection of public and citizens' interests. No right to compensation for affected communities is envisaged, and neither are mechanisms for government control and supervision – to prevent green grabbing, for instance.²² Moreover, civil society and local communities have limited access to information about PPP proposals and are not encouraged to participate in discussions.²³ Therefore, PPPs raise financial issues for the government, as much as they represent a threat to the efficient delivery of services and genuine democratic control over projects.

c) The influence of international interests in the context of the policymaking process

The energy transition in Tunisia is being promoted by international actors, some of whom are connected to previous projects that have aimed to develop renewable energy in northern Africa for export to Europe. One of them, Desertec, was centred around an 'unrestricted flow of cheap natural resources from the Global South to the rich industrialized North, maintaining a profoundly unjust international division of labour', as Hamza Hamouchene has described.²⁴ Comparable to Desertec, Nur Energy (a UK-based company) and Zammit Group (based in Malta) are the main stakeholders of the TuNur project, which aimed in its early days to establish a giant solar power plant in the region of Kebili, with the purpose of exporting the produced electricity to Europe through cables under the sea. This project organized a powerful lobby that sought to obtain the inclusion of provisions relating to exports in the renewable energy legislation, against resistance from the state electricity monopoly.²⁵ The role of international actors in influencing domestic policies has been well-documented in the field of renewable energy, especially as regards the German–Tunisian relationship in this sector. Germany, which is a pioneer in the area, sees in Tunisia a high potential to be tapped. Accordingly, since the 2012 German–Tunisian partnership on energy, Germany has been providing technical and financial support through industrial investments and the establishment of institutes and foundations in Tunisia. The latter seek, among other things, to influence political parties by promoting 'green' development ideas.²⁶ These actions, carried out in the context of bilateral cooperation, have had some repercussions in relation to the Tunisian regulatory framework.

In fact, some recommendations made by the German development agency, the German Agency for International Cooperation (GIZ) and Desertec Industrial Initiative (Dii), seem to have anticipated some of the measures contained in the 2015 law. The official motives of German cooperation are said to be beneficial for the development of Tunisia, particularly in relation to employment.²⁷ Germany's actions in Tunisia fit into the context of European Union (EU) activities in this area. A 2015 communication by the European Commission about the strategy for an Energy Union clearly expresses the European Union's (EU's) wish to encourage and develop renewable energies, notably through international cooperation with non-EU countries.²⁸ This would be done within the framework of the Energy Charter Treaty (ECT), which was established in the early 1990s. In fact, the European effort to involve Tunisia in this process dates back to 2013, when the country was approached by the ECT secretariat, through the mediation of the German embassy, to join the treaty within the context of its 'MENA Project' of expansion in the region. The country's membership of the ECT is still under discussion.²⁹ The ECT includes provisions on foreign investments in the energy sector, including in relation to investor–state dispute settlement (ISDS). This tool gives corporations the power to sue governments when they consider that states' policies are detrimental to their profits, even if those policies aim to foster an energy transition or social rights that are in the public interest. ISDS claims have

already delivered billions of dollars of taxpayers' money to big corporations and the mere threat of ISDS therefore constrains states in their policy design, thus interfering with democratic processes.³⁰

Following the principles set out in the ECT, the EU is seeking to deepen liberalization in order to standardize the Tunisian legislative framework through negotiations around the Deep and Comprehensive Free Trade Agreement (DCFTA) (ALECA being the French acronym). This liberalization offensive would undermine the state's capacity to regulate – sometimes against investors' interests – and therefore would facilitate the introduction of European investors (who benefit from the EU's extensive subsidy programmes) into the Tunisian market. This would eventually open the way for exports, thus ensuring energy security for Europe, rather than for Tunisia.³¹ For European companies, accessing the Tunisian market means increased cost-effectiveness and competitiveness because of lower salary and fiscal charges and the transfer of environmental costs. The pressure exercised on Tunisia, and the lack of consultation of civil society in the DCFTA negotiation process, have been already pointed out.³²

d) Progress of, and resistance to, the privatization process

Prior to law n°2015-12, the production of electricity – excluding the self-production regimes – was the monopoly of the public utility company, STEG. This state-owned company had already embarked on several investments to develop the production of electricity from renewable energy. For instance, two wind power plants belonging to STEG were established in the north of Tunisia before 2015: a 54MW plant in Sidi Daoud and a 190MW plant in Bizerte.³³ However, the company's executive considers these projects very expensive. In an interview with Nawaat magazine, Taher Aribi, former CEO of STEG, stated: 'To invest in such projects, we are obliged to sign debt agreements. Clean electricity production projects cost three times as much as a conventional plant. Our financial capacity is fragile for investment, borrowing or guarantee remittances'.³⁴

Since the liberalization of renewable electricity production under the authorizations and concessions regimes, the proportion of private investment has increased. According to 2018 figures, 42.5 per cent of the electric power coming from planned wind and solar energy projects will be produced as a result of PPPs. However, it should be mentioned that not all of those power plants are operating yet.³⁵ In parallel, STEG has been developing its two PV power plants in Tozeur (Tozeur I and Tozeur II), of 10MW each.

Because of the lack of available information on the progress of renewable energy projects, it is hard to define to what extent the sector is currently developed, and in which conditions. For instance, the information published on the Ministry of Industry, Mines and Energy website states that 'in 2017, STEG began building the first 10MW PV plant in Tozeur [Tozeur 1] which has been put into operation on 10 March 2021. A second 10MW extension plant at the same location [Tozeur 2] has been put into service on 24 November 2021'.³⁶ However, a press article issued on 5 November 2021 reports that the operationalization of the plants is just starting. The article mentions that the delay was

due to financial issues faced by Tozeur 1 and to postponements in the shipping of equipment related to the COVID-19 pandemic for Tozeur 2.³⁷ Both plants are now operational and have been officially inaugurated in March 2022.

Another power plant has been built in Tataouine and was ready for operationalization in June 2020. However, the General Union of Tunisian Workers (UGTT)³⁸ has blocked the plant's connection to the national grid,³⁹ claiming that the process will eventually lead to the privatization of STEG. This situation has not been resolved to date,⁴⁰ with the plant waiting to be connected to the national power grid while negotiations with the trade union go on. In July 2020,⁴¹ the Minister of Industry⁴², Mines and Energy posted on Facebook a message accusing the General Federation of Electricity and Gas (FGEG), a branch of the UGTT, of 'sabotage' against the operationalization of the 10MW PV power plant in Tataouine, which has been built under the authorization regime by the Tunisian Enterprise of Petroleum Activities (ETAP), a public company and a subsidiary of ENI (an Italian oil company). However, the FGEG's opposition to the project needs to be read in the context of its opposition to privatization in general. As a matter of fact, the UGTT's opposition to the PPPs in particular, and to privatization in the production of electricity in general, is not new.

As early as January 2014, the FGEG spoke out against the bill prepared by the Ministry of Industry and adopted by the government which would eventually become the 2015-12 law. It criticized the decision-making process behind the bill, asserting that it was drawn up without involving the UGTT, or STEG's executives and engineers. The FGEG's secretary-general noted that the project was launched in haste and without referring to studies prepared in advance or to a general national energy strategy. On 27 March 2018, a call for the non-privatization of the electricity production sector was reiterated by the FGEG. Later, on 26 February 2020, a few months before the blocking of the Tataouine power plant by the UGTT, the government issued a decree authorizing the creation of self-production companies for the production of electricity from renewable energies and defining the conditions for the transportation of electricity and the sale of excess energy to STEG. The FGEG secretary-general⁴³ then expressed the categorical opposition of the Federation to the privatization of electricity production in Tunisia. These policies were depicted by the FGEG as paving the way for private and foreign investment, favouring investors' profit over the public utility (STEG). The FGEG had stated that it would protest against this orientation because the production of electricity by private individuals and its direct sale to customers would disrupt the electricity network and impact the distribution of electricity, making it inaccessible to certain categories of the population. It also rejects the commodification of electricity, which affects national security and STEG's public status.

Impacts of the current energy transition: a fair shift for Tunisia's development and people's rights?

a) A real development opportunity for the Tunisian renewable energy sector?

Regarding human resources and skills development, Tunisia is implementing a training scheme in the energy sector, which has been adapted to renewable energies. To this end, academic and professional programmes have been designed, provided by public and private universities, including engineering schools. The National Agency for Energy Management (ANME) has also started offering training and certification programmes. These efforts have led to the development of human resources that are capable of providing companies with the skills required to help implement national renewable energy programmes, with greater 'competitiveness' (i.e. more cheaply). However, local skills and expertise are insufficient to enable local enterprises to conceive, carry out and maintain large-scale wind and solar power plant projects. In addition, the stagnation of the wind farm at Bizerte since 2012 has led to the disintegration of previously acquired expertise.⁴⁴ In parallel, a number of operators have emerged that give substance and structure to the renewable energies sector that is being developed: government institutions, manufacturers and suppliers of equipment, installation and maintenance companies, design offices, etc. Also, building on its prior industrial experience, Tunisia has the capacity to develop partnerships with foreign manufacturers to produce renewable energies equipment. Indeed, in regard to PV, national firms are engaged in assembling some modules imported from China, Germany, Japan, Italy, Spain and France.

In the case of wind turbines, there is strong potential for industrial integration: a Tunisian private company, SOCOMENIN⁴⁵ – which originally specialized in metal construction – is producing wind turbine towers, and local industry is also capable of manufacturing turbine components in the mechanic, electric and electronic industrial sectors, including by adapting the production line where appropriate. In addition, related logistics, transportation, construction, exploitation and maintenance activities can all be carried out by domestic enterprises. However, despite these advantages, the Tunisian renewable energy manufacturing sector remains unable to support the development of major projects. Tunisia lacks certain raw materials and intermediate technologies that are essential to the development of such projects. These include silica, PV cells, electrical wires, alternators for wind turbines and wind turbine controllers.⁴⁶ Equipment and intermediate technologies which are not produced locally must be imported, resulting in a dependency on foreign suppliers. In fact, the reality is that this sector has thus far grown mostly thanks to residential PV installation programmes and 90 per cent of Tunisian renewable energy sector companies work in the PV sub-sector. As a consequence, the market is mostly developed in the area of PV installation. According to the preliminary findings of a 2019 GIZ survey, out of 150 enterprises in the sector, more than 85 per cent were installers, a third were suppliers of PV components, and 20 were design offices, while there were only two project developers, two PV panels manufacturers and one training office. Also, when we look at calls for proposals and calls for tenders related to renewable energy authorizations and concessions in the period 2017 to 2019, we find that development corporations were only just emerging at this time.⁴⁷

In addition, in spite of the existence of some national actors, Tunisia's willingness to attract foreign investors tends to exclude local companies and Tunisian developers: for instance, the government prioritizes foreign companies with a background in developing projects of the same scale with the same technology.⁴⁸ Indeed, the selection of projects is based on the prior experience of the developer or its subcontractors, and on the consistency and feasibility of the project, which de facto gives preference to foreign investors from countries that are leading the way on the development of renewable energy projects and which have stronger financial resources.⁴⁹

Under the authorization regime (10MW projects), out of the 22 projects which have benefited from an agreement in principle after the three rounds of calls for tenders launched between 2017 and 2019, only half have Tunisian project leaders and only four projects are exclusively led by Tunisian firms. By comparison, five projects exclusively involve to French firms and three to German ones.⁵⁰

As regards concessions for solar energy production, all five projects (for a total of 500MW) are awarded to foreign firms. The Norwegian company SCATEC Solar has won tenders for three projects, for a total of 300MW.⁵¹

Number of projects obtained by companies in tenders between 2017 and 2019 under the concession regime according to nationality (in percentages)

Power (MW) if the sum of projects obtained (authorisation) by companies pooled nationality (in percentages)

Power (MW) of the electricity production projects obtained (concession) by companies depending on their nationality (in percentages)

Thus, if the Tunisian-led renewable energy sector has some assets as regards the development of local projects, it remains too weak to carry out the expected large-scale projects in the current context. Thus, to reduce its dependency, Tunisia would be wise to promote small-scale projects at the household or community level that would be more suited to local expertise, and less intensive in terms of capital and knowledge requirements.

b) Challenges to promoting local development and to reducing regional inequalities

In order to ensure that the development of renewable energy in Tunisia is beneficial for the local economy, the 2015 law was followed by several other laws and decrees. These have included laws to create an incentive framework for investments in renewable energies. Law 2016-71, dated 30 September 2016, on investments in the field of renewable energies, and the subsequent government decree n°2017-389, dated 9 March 2017, concerning financial incentives encourage targeted regional development and local employment generation through renewable energy projects. They also create tax benefits to encourage companies to invest in marginalized regions⁵² and reinvest part of their profits.⁵³

However, several developers and investors have faced difficulties finding funding and have pointed out some regulatory and bureaucratic challenges to participating in calls for tenders (also linked to the plurality of institutions involved).⁵⁴

Fiscal and financial incentives seek to bring development to marginalized regions, which is where most of the renewable energy projects are located.⁵⁵ However, the effective development of those targeted regions needs to be assessed, including by taking into account the risk of dispossession of communities. Indeed, when analysing the list of eligible companies for the installation of solar panels within the framework of the Prosol Elec⁵⁶ project (for self-production purposes), the companies based in more developed regions stand out. Indeed, out of 380 Tunisian firms, only 40 are based in the targeted regions (Jendouba, Beja, Kasserine, Gafsa, Tozeur, Kebili, Tataouine, Gabes, Kairouan, Sidi Bouzid, Kef), with most of the companies being based in the Tunis and Sfax areas.⁵⁷ This means that the more developed regions are reaping most of the benefits of the development of this sector by accumulating more profit and generating more employment, at the expense of other regions that need this the most.

To make an accurate estimation of job creation, both direct and indirect employment must be taken into account. In the case of renewable energy projects, direct jobs cover activities in the areas of energy production, installation and construction, and maintenance, whilst indirect jobs include sales, engineering and research, training, etc. The forecast of employment creation in the field of renewable energies is around 3,000 jobs per 1000MW produced annually with solar PV energy. The number of additional jobs for the whole renewable energy sector in Tunisia is estimated to be between 7,000 and 20,000.⁵⁸ However, a majority of those jobs are not long-term since most of them are needed just for the construction and startup phase of projects which lasts just a few years (an average of five temporary jobs at this stage for 1 MW of renewable energy), whereas maintenance of projects requires very few employees (an average that drops to two sustainable jobs per 1 MW mostly in the field of maintenance).⁵⁹ Therefore, large-scale PV and wind energy projects may not be best-suited to providing numerous long-term employment opportunities. In addition, the development of job creation has to be backed up by the stimulation of all branches of the sector. In this respect, the local production of the technologies required for renewable energy projects would offer strong potential for new job creation, since low dependency on importations implies more employment.⁶⁰

Accordingly, despite an official focus on marginalized regions and local employment generation, there might be a risk that the current framework actually ends up taking hold of land in the least developed areas in order to exploit the renewable resources there, without proper compensation for local communities, maintaining an internal colonial dynamic.⁶¹

c) Social and environmental rights of local communities: emerging concerns in the light of the Borj Salhi village mobilization

In the strategic vision for the energy sector adopted by the government in 2018, fairness in energy distribution and good governance are officially promoted, through the securing of fair access to energy in every region, in the best conditions, the development of a social responsibility policy, the creation of a regulatory authority and the implementation of a more transparent process.⁶²

Additionally, under the 2015-12 law, the first step required for an electricity production project using renewable energy, within the framework of the authorization regime, is the conducting of a feasibility study. This study must include environmental and social impact assessments. The environmental impact assessment must be carried out by a consulting firm and must include at least a basic description of the initial condition of the site, the characterization of the site and a description of neighbouring areas, an estimation of the future impact of the project on local flora and fauna, and an estimation of the visual and acoustic impact.⁶³

However, despite this framework, social and environmental measures seem not to be always followed. In 2000, the first wind turbine project in Tunisia was established around 70 kilometres away from Tunis, in the northeast of the country, followed afterwards by other phases of installation in 2003 and 2009. This renewable energy power plant, which includes around 40 wind turbines, is providing electricity to 50,000 Tunisians. However, in Borj Salhi, the village in which the 2009 extension was implemented, villagers currently do not benefit from a connection to the high-voltage grid and cannot access STEG electricity meters, and their deteriorated grid experiences frequent outages. For more than a decade the nearby village community has denounced this power plant project, which is owned by STEG. Indeed, the 2009 extension provoked a social mobilization of the villagers living near the plant. The proximity to the wind turbines is one of the first reasons for their discontent: the closest turbine is located less than 50 metres away from one residence, causing discomfort for villagers, especially because of the consequences for their health of the constant noise, which also affects animals. From an environmental impact perspective, the landscape modifications have led to soil erosion and a dieback of olive trees. Among other issues raised by the villagers is the lack of maintenance of the wind turbines by STEG, which leads to technical accidents.

At the heart of the discontent is the lack of inclusive decision-making, which could have taken into consideration the consequences for local land and inhabitants, and ensured their ownership of the project. After the latest negotiation meeting, held in March 2021, between the villagers and STEG, the latter announced itself '*ready to assume [their] full responsibility and to end this ten-year conflict*'. However, the case remains open as no further action has been taken by STEG since then.⁶⁴

The example of the village of Borj Salhi demonstrates that public awareness, local communities' participation and rights, as well as environmental sustainability, are not yet guaranteed in the face of other interests. The impacts on the social and environmental rights of local communities should be closely monitored, both on paper and in practice, in future projects.

Conclusion

This overview of developments in Tunisia's renewable energy development sector highlights several incompatibilities with a just transition model. First, we identify limits in terms of democratic decision-making, because of the influence of a number of non-national actors and a lack of consultation of other stakeholders (such as the UGTT or local communities). This led to the introduction of the 2015 law, which encourages privatization, including in the form of PPPs, placing Tunisia firmly within the global neoliberal scheme regarding the development of renewable energy. This has opened the door to neocolonial initiatives, such as Desertec and Tunur, which prevent government control over renewable energy projects, and, by extension, impede Tunisians' sovereignty over their own resources. Moreover, this chosen path reinforces financial and knowledge dependency on foreign actors through foreign direct investments and technology importation, instead of Tunisia investing in energy sovereignty through local development of the renewable energy sector. This means that the current short-term strategy adopted by successive governments in the last decade, by choosing to invest in PPPs rather than in public services, has been focused more on attracting private (and especially foreign) investors and securing their profits – despite the long-term financial burden it might induce – than on fostering local development. As a result, communities' rights are neglected, with effects ranging from an inadequate access to electricity to land dispossession, specifically for people in already marginalized regions.

This framework continues to favour actors from relatively privileged regions, whereas impoverished areas are further marginalized and dispossessed of their resources. It seems that, once more, most of the dynamics are profit-driven and short-term, which also explains why the provisions regarding the protection of the natural environment are insufficient. With the priority given to the realization of large projects at all costs, insufficient consideration is given to local people's needs and the environment in which these projects are being established, and not enough attention is paid to the conditions required for their economic integration into the national economy. Despite a lack of accessibility of information and insufficient investigative and field-based work (which could yield greater knowledge about who owns what, who does what, and who are the winners and losers), some cases – such as the one in Borj Salhi – nevertheless reveal deep deficiencies in the current framework, and suggest that there might be many other similar examples that have not yet caught the public's attention.

Based on our analysis of local expertise in Tunisia, a just transition would give households and communities the means to produce their own electricity based on small-scale PV projects, which would reduce capital and knowledge needs and promote the development of job-generating local actors. Worldwide, many civil society actors have undertaken a phase of re-municipalization – namely, the reclaiming of public ownership of services – to set up 'community-led and climate-conscious' public services, by regaining control over local resources. Thus, privatizing should be avoided in the first place.⁶⁵ Local governments could promote the installation of small-scale PV by local companies in order

to break with the current reinforcement of regional inequalities. Management of these projects at the local level would also give more ownership, rights and power to local communities to control and oversee the means of production in the energy sector.

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Notes

¹ See STEG's website: <https://bit.ly/3iyge27>

² Tractebel (2019) 'Chapitre 1: contexte énergétique', in Projets d'énergie renouvelable en Tunisie – Guide détaillé. GIZ. Available at : http://www.tunisieindustrie.gov.tn/upload/ENR/Guide_detaille_ENR_tunisie_mai2019.pdf

³ P6 NDC Tunisie. Available at: https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Tunisia_per_cent20First/INDC_per_cent20Tunisie_per_cent20VF_per_cent205_per_cent20aout_per_cent20Valid.pdf

⁴ Sweeney, S., Treat, J., Chavez, D. (2021) 'Energy transition or energy expansion?' TUED and TNI. Available at: <https://www.tni.org/files/publication-downloads/tued-tni-energy-expansion.pdf>

⁵ Sweeney, S., Treat, J., Chavez, D. (2021), op.cit.

⁶ Sweeney, S., Treat, J., Chavez, D. (2021), op.cit.; website of Movement Generation: <https://movementgeneration.org/justtransition/> (retrieved 11 March 2022)

- ⁷ Agence Nationale pour la Maîtrise de l'Énergie (2015) Nouvelle Version du Plan Solaire Tunisien. Available at: https://www.energiemines.gov.tn/fileadmin/user_upload/energies_renouvelables/PST_2015.pdf
- ⁸ Kacem, S. (no date) 'La Stratégie de la Maîtrise de l'Énergie et le Plan Solaire au Niveau National' [PowerPoint Presentation]. Available at: https://energypedia.info/images/a/a4/Strat_per_centC3_per_centA9gie_de_la_ma_per_centC3_per_centA9trise_de_l'_per_centC3_per_centA9nergie.pdf (Retrieved 11 March 2022).
- ⁹ Concentrated solar power uses solar thermal energy to generate power by using mirrors or lenses to concentrate a large area of sunlight onto a receiver: the concentrated light is converted to heat which drives a heat engine (e.g. steam turbine) connected to an electrical power generator (source: Wikipedia).
- ¹⁰ Khalfallah, E. and Amaimia, N. (2018) 'Efficacité énergétique et énergies renouvelables', Chapter 9 in *Rétrospective du secteur tunisien de l'énergie*.
- ¹¹ Tractebel (2019) *Projets d'énergies Renouvelables en Tunisie, Guide Détaillé*. GIZ. Available at: https://www.energiemines.gov.tn/fileadmin/docs-u1/Guide_Detaill_per_centC3_per_centA9_Energie_Renouvelable_Tunisie.pdf
- ¹² A PPP is often defined as a long-term contract between a private party and a government agency for providing a public asset or service, in which the private party bears significant risk and has significant management responsibility (source: World Bank, 2012).
- ¹³ Rachdi, L. (2016) 'La centrale solaire de Ouarzazate: un modèle à suivre?' Note de décryptage. Tunisian Observatory of Economy.
- ¹⁴ Chandoul, J. (2015) 'Note de synthèse à propos du projet de loi sur les PPP en Tunisie'. Policy paper. Tunisian Observatory of Economy.
- ¹⁵ Agence Nationale pour la Maîtrise de l'Énergie (2015), op.cit.
- ¹⁶ The self-production regime allows the residential sector, any local authority and any public or private company, connected to the national electricity network in medium voltage or high voltage (MT-HT) and operating in the industrial, agricultural or tertiary sectors, to produce electricity for their own consumption from renewable energy and to be able to sell the surpluses to STEG.
- ¹⁷ Republic of Tunisia (2015) Law n° 2015-12 of 11 May 2015, relating to the production of electricity from renewable energies. Official Journal of the Republic of Tunisia, 12 May 2015 n° 38. pp. 926–932. Available at: <https://www.igppp.tn/fr/node/305>

- ¹⁸ Julien-Laferrière, O. (2017) 'Coopérations et diplomaties économiques concurrentes: le rôle de l'Allemagne dans la nouvelle politique énergétique de la Tunisie'. Analytical note. Tunisian Observatory of Economy.
- ¹⁹ Republic of Tunisia (2016) Décret gouvernemental n° 2016-1123 du 24 août 2016, fixant les conditions et les modalités de réalisation des projets de production et de vente d'électricité à partir des énergies renouvelables. Available at: <http://extwprlegs1.fao.org/docs/pdf/Tun181323.pdf>
- ²⁰ Republic of Tunisia (2017) Arrêté de la ministre de l'énergie, des mines et des énergies renouvelables du 9 février 2017, portant approbation du contrat type de transport de l'énergie électrique produite à partir des énergies renouvelables pour la consommation propre, raccordée aux réseaux haute et moyenne tension et d'achat de l'excédent par la STEG. Available at: http://www.steg-er.com.tn/wp-content/uploads/bsk-pdf-manager/Tf201703944_9.pdf
- ²¹ Louati, I., « ALECA, Production d'électricité et Energies renouvelables : Quel avenir pour la STEG et la transition énergétique en Tunisie? », Note d'analyse n°8, Observatoire Tunisien de l'Économie, 2019. Available at: <https://www.economie-tunisie.org/fr/observatoire/ALECA-Production-electricite-Energies-renouvelables-Steg>
- ²² Green grabbing is a concept that was coined to designate 'all the activities you can see where ecosystems are being put up for sale; (Source: TNI (2012) 'Green grabbing: the social costs of putting a price on nature'. Available at: <https://www.tni.org/en/article/green-grabbing> (retrieved 11 March 2022)
- ²³ Chandoul, J. and Gondard, C. (2019) 'Des projets qui ne décollent pas, Défis à relever et leçons à tirer des partenariats public-privé en Tunisie'. Working paper. Tunisian Observatory of Economy and Eurodad.
- ²⁴ Hamouchene, H. (2015) 'Desertec: the renewable energy grab?' New Internationalist. Available at: <https://newint.org/features/2015/03/01/desertec-long>
- ²⁵ Darby, M. (2017) 'Giant Tunisian desert solar project aims to power EU'. Climate Home News, 04 August 2017. Available at: <https://www.climatechangenews.com/2017/08/04/giant-solar-project-tests-sahara-eu-power-export-dream/>
- ²⁶ See the program *Policies of the Future* (2016), for instance. Please see here for more information: <https://tn.boell.org/fr/2017/03/01/le-programme-policies-future-siyassat-el-mosta9bal>
- ²⁷ Julien-Laferrière (2017) 'Coopérations et diplomaties économiques concurrentes'. Observatoire Tunisien de l'Économie.

- ²⁸ European Commission (2015) Energy Union Package: Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee, the Committee of Regions and the European Investment Bank – A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy. Available at: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:52015DC0080>
- ²⁹ Energy Charter Secretariat (2013) ‘Report on policy on consolidation, expansion and outreach (CONEXO) for 2013’. Available at: <https://www.energycharter.org/fileadmin/DocumentsMedia/CCDECS/CCDEC201313.pdf>
- ³⁰ Verheecke, L., Eberhardt, P., Olivet, C., Cossar-Gilbert, S. (2019) ‘Red carpet courts: 10 stories of how the rich and powerful hijacked justice’. TNI and others. Available at: <https://www.tni.org/en/redcarpetcourts>; Eberhardt, P., Olivet, C., Steinfort, L. (2018) ‘One Treaty to rule them all: the ever-expanding Energy Charter Treaty and the power it gives corporations to halt the energy transition’. TNI and CEO. Available at: <https://www.tni.org/en/energy-charter-dirty-secrets>
- ³¹ Louati, I (2019) ‘ALECA, Production d’électricité et Energies renouvelables’
- ³² Riahi, L. and Hamouchene, H. (2020) ‘Deep and comprehensive dependency: how a trade agreement with the EU could devastate the Tunisian economy’. Tunisian Platform of Alternatives and TNI.
- ³³ Chaabane, N. (2014) ‘Tunisie: Enjeux énergétiques, l’éolienne entre besoins et appréhensions’. Nawaat. Available at: <https://nawaat.org/2014/09/12/tunisie-enjeux-energetiques-leolienne-entre-besoins-et-apprehensions/> (Retrieved 11 March 2022).
- ³⁴ Chaabane (2014) ‘Tunisie: enjeux énergétiques’.
- ³⁵ Republic of Tunisia (2018) Accélération des projets de production d’électricité à partir des énergies renouvelables. Ministère de l’Énergies, des Mines et des Energies Renouvelables. ANME and PNUD. Available at: http://www.anme.tn/sites/default/files/acceleration_des_projets_de_production_delectricite_a_partir_des_energies_renouvelables.pdf
- ³⁶ Website of the Ministère de l’Énergies, des Mines et des Energies Renouvelables: <https://www.energiemines.gov.tn/fr/themes/energies-renouvelables/projets-et-programmes/projets-de-la-steg/>
- ³⁷ WebManagerCenter (2021) ‘Les essais de mise en service de la centrale de Tozeur ont commencé’. WebManagerCenter, 5 November 2021. Available at: <https://www.webmanagercenter.com/2021/11/05/475104/les-essais-de-mise-en-service-de-la-centrale-de-tozeur-ont-commence/>
- ³⁸ In French: Union Générale des travailleurs Tunisiens.

³⁹ Trustex (2020) 'Tunisie: Le projet de raccordement de la centrale électrique de Tataouine est saboté (Mongi Marzouk)'. Trustex, 29 July 2020. Available at: <https://www.tustex.com/economie-actualites-economiques/tunisie-le-projet-de-raccordement-de-la-centrale-electrique-de-tataouine-est-sabote-mongi-marzouk>

⁴⁰ Sarra, A. (2021) 'La production d'hydrogène pour libérer les développeurs d'énergies vertes en Tunisie'. WebManagerCenter, 21 October 2021. Available at: <https://www.webmanagercenter.com/2021/10/25/472992/la-production-dhydrogene-pour-liberer-les-developpeurs-denergies-vertes-en-tunisie/>

⁴¹ Press review of the UGTT blockage case, based on:
Jelassi, M. K. (2020) 'Exploitation des énergies renouvelables: pourquoi ça traîne encore?' La Presse, 29 July 2020. Available at: <https://lapresse.tn/69454/exploitation-des-energies-renouvelables-pourquoi-c-per-centCC-per-centA7a-trai-per-centCC-per-cent82ne-encore/>; L'économiste maghrébin (2020) 'Centrale solaire de Tataouine: Marzouk "étonné" de l'opposition face au projet'. L'économiste maghrébin, 27 July 2020. Available at: <https://www.leconomistemaghrebin.com/2020/07/27/energie-renouvelable-marzouk-etonne-opposition-federation-electricite-face-projet-centrale-solaire-tataouine/>; African Manager (2020) 'Le ministre de l'Energie fustige un "sabotage" du projet de raccordement de la centrale électrique de Tataouine. African Manager, 28 July 2020. Available at: <https://africanmanager.com/le-ministre-de-lenergie-fustige-un-sabotage-du-projet-de-raccordement-de-la-centrale-electrique-de-tataouine/>; Directinfo (2018) 'Tunisie: grève générale dans le secteur de l'électricité'. Directinfo, 30 March 2018. Available at: <https://directinfo.webmanagercenter.com/2018/03/30/tunisie-greve-generale-dans-le-secteur-de-lelectricite/>; Directinfo (2014) 'Tunisie: loi sur la production d'électricité à partir des énergies renouvelable'. Directinfo, 4 January 2014. Available at: <https://directinfo.webmanagercenter.com/2014/01/04/tunisie-loi-sur-la-production-delectricite-a-partir-des-energies-renouvelable/>

⁴² Mongi Marzouk.

⁴³ Abdelkader Jelassi.

⁴⁴ Baccari, N. (2020) 'Acquis et défis de la filière éolienne en Tunisie'. Agence Nationale de Maîtrise de l'Energie (ANME).

⁴⁵ Website of Socomenin: <https://www.socomenin.com.tn/eoliennes/>

⁴⁶ Tractebel (2019) 'Chapitre 5.3: environnement d'investissement et cadre incitatif en faveur des énergies renouvelables – incitations financières et fiscales'. In Projets d'énergie renouvelable en Tunisie – Guide détaillé. GIZ. Available at : http://www.tunisieindustrie.gov.tn/upload/ENR/Guide_detaille_ENR_tunisie_mai2019.pdf

⁴⁷ Tractebel (2019) 'Chapitre 3: acteurs des énergies renouvelables en Tunisie. Le secteur privé et les institutions financières'. In Projets d'énergie renouvelable en Tunisie – Guide détaillé. GIZ. Available at : http://www.tunisieindustrie.gov.tn/upload/ENR/Guide_detaille_ENR_tunisie_mai2019.pdf

- ⁴⁸ Julien-Laferrière (2017) 'Coopérations et diplomaties économiques concurrentes'.
- ⁴⁹ République Tunisienne (2020) Cadre réglementaire pour l'acquisition de l'énergie solaire en Tunisie – Sommaire pour les communes. Agence des Etats-Unis pour le développement international (USAID), sous la responsabilité du Ministère des Affaires locales et de l'environnement (MALE). Available at: http://www.collectiviteslocales.gov.tn/wp-content/uploads/2021/06/EP_SE-Cadre-Reglementaire-pour-lacquisition-de-lEnergie-Solaire-en-Tunisie-Sommaire-pour-les-Communes.pdf
- ⁵⁰ Website of Ministère de l'industrie, des mines et de l'énergie. <https://www.energiemines.gov.tn/fr/themes/energies-renouvelables/>
- ⁵¹ Website of Ministère de l'industrie, des mines et de l'énergie. <https://www.energiemines.gov.tn/fr/themes/energies-renouvelables/>
- ⁵² Republic of Tunisia (2018) 'Zones de développement régional: Avantages spécifiques accordés par l'Etat au titre du développement régional'. Available at: <http://www.tunisieindustrie.nat.tn/fr/dr.asp>
- ⁵³ STEG Energies Renouvelables (STEG-ER) – service company that specializes in engineering studies and consulting in renewable energies. See: <http://www.steger.com.tn/cadre-incitatif/index.html>
- ⁵⁴ Khalfallah and Amaimia (2018) 'Efficacité énergétique et énergies renouvelables'. p. 449.
- ⁵⁵ Website of Ministère de l'industrie, des mines et de l'énergie: <https://www.energiemines.gov.tn/fr/themes/energies-renouvelables/>
- ⁵⁶ Production of electricity for their own consumption from PV solar energy by the residential sector and establishments and groups operating in the industrial, agricultural or tertiary sectors, while benefiting from the right of sale of surpluses of electrical energy produced to STEG.

⁵⁷ ANME (2020) 'Projet Prosol Elec – Liste des sociétés installatrices éligibles'. ANME. Available at: http://www.anme.tn/sites/default/files/prosol_elec_-_liste_des_societes_installatrices_eligibles.pdf

⁵⁸ Schäfer, I. (2016) 'Le secteur des énergies renouvelables et l'emploi des jeunes en Algérie, Lybie, Maroc et Tunisie'. African Development Bank. Available at: https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/The_Renewable_Energy_Sector_and_Youth_Employment_in_Algeria_Libya_Morocco_and_Tunisia-1.pdf

⁵⁹ According to the results of a 2019 call for projects within the framework of authorizations. Website of the Ministry of Industry, Mines and Energy.

⁶⁰ Schäfer (2016) 'Le secteur des énergies renouvelables et l'emploi des jeunes en Algérie, Lybie, Maroc et Tunisie'.

⁶¹ Lakhal, M. (2018) 'Interview avec Sghaier Salhi: Les non-dits de la Tunisie postindépendance'. Nawaat, 5 April 2018. Available here: <https://nawaat.org/2018/04/05/interview-avec-sghaier-salhi-les-non-dits-de-la-tunisie-postindependance/>

⁶² Khalfallah and Amaimia (2018) 'Efficacité énergétique et énergies renouvelables'. pp. 448–449.

⁶³ Tractebel (2019) Projets d'énergies Renouvelables en Tunisie – Guide Détaillé. GIZ. Available at: [https://www.energiemines.gov.tn/fileadmin/docs-u1/Guide_Detaill per centC3 per centA9_Energie_Renouvelable_Tunisie.pdf](https://www.energiemines.gov.tn/fileadmin/docs-u1/Guide_Detaill%C3%A9_Energie_Renouvelable_Tunisie.pdf)

⁶⁴ Delpuech, A. and Poletti, A. (2021) 'Borj Essalhi: the high cost of wind turbine'. Inkyfada, 20 April 2021. Available at: <https://inkyfada.com/en/2021/04/20/wind-turbines-cap-bon-tunisia/>; Labiadh, I. and Attar, H. (2021) 'Les énergies renouvelables non propres: Borj Salhi ou la face cachée des énergies renouvelables'. Revue semestrielle de la justice environnementale. Droits, responsabilité sociétale, souveraineté alimentaire et développement durable. Troisième partie. Tunis and Kairouan : Forum tunisien pour les droits économiques et sociaux, département de la justice environnementale et climatique (FTDES). Available at: <https://ftdes.net/rapport-semestriel/>

⁶⁵ Kishimoto, S., Steinfort, L., Petitjean, O. (2020) 'The future is public: towards democratic ownership of public services. TNI and others. Available at: [https://www.tni.org/en/futureispublic\(futureispublic_online_def.pdf](https://www.tni.org/en/futureispublic(futureispublic_online_def.pdf) (tni.org); Kishimoto, S., Petitjean, M., Steinfort, L. (2017) 'Reclaiming public services: how cities and citizens are turning back privatization'. TNI and others. Available at: <https://www.tni.org/en/publication/reclaiming-public-services>