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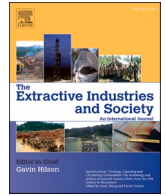
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Original article

The green transition in Morocco: Extractivity, inclusivity, and the stability of the social contract

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ABSTRACT

This paper investigates the social contract governing the green transition in Morocco. The theoretical framework builds on the literature on social contracts and policy coalitions, while the methodology depends on process tracing and qualitative data collected during fieldtrip visits. Identifying different possible social contracts that characterize the transition and differentiating between them in terms of their extractivity/inclusivity and stability, the paper suggests that Morocco tends to have an extractive but stable social contract. The European Union's growing demand on renewables and decarbonization represents a largely exogenous cause that set certain mechanisms through the activities of various state and social actors. Contextual conditions then shaped the impact of these activities on the resulting social contract. The presence of a powerful state that shared strong connections with powerful but subservient tycoons magnified the impact of their activities at the expense of those of other social actors, while other contextual conditions helped cement a pro-green transition policy coalition. The benefits accrued to those partners of the pro-coalition making it an extractive social contract, while the absence of a clear interest identification against the transition among other social actors made the emergence of a contra policy coalition less likely and stabilized the social contract.

1. Introduction

The green transition is regarded as a big developmental project in Morocco. The ecological benefits are remarkable. A study estimated that the successful implementation of the planned renewable energy projects would save as much as 228.143 million tons of carbon dioxide equivalent (MtCO₂) emissions until 2030 (Chentouf and Allouch, 2018). Yet, the green transition transcends ecological concerns. It is rather a project that have a major economic growth potential, where the state rallies many social actors behind with promises of significant benefits.

For the state, the transition is offering more strategic energy independence, a chance for transforming into a regional energy exporter for the first time ever, and an opportunity for industrial diversification and technological upgrading. The state, on its turn, brings on board a wide range of state and business actors by adopting a project of structural transformation and strong development of backward and forward linkages to the renewable energy sector, where the sector relies on inputs from and itself provides inputs to other sectors, respectively. As a forward linkage, green hydrogen schemes are strongly linked to the fertilizers industry and especially to the state-owned enterprise (SOE)

Office Chérifien des Phosphates (OCP) as a worldwide major producer and exporter of fertilizers. Interested businesspeople are from a wide range of economic sectors such as suppliers of the inputs of the renewable energy sector (backward linkage) and the important auto industry (forward linkage) that started to expand in the production of electrical vehicles (EVs). Interested businesspeople also include exporters to the European Union (EU) which increasingly pressure for decarbonization and currently targets six energy intensive sectors as part of the Carbon Border Adjustment Mechanism (CBAM) expected to be enforced in 2026. Benefits are also extended to the mining industry. At a time when the EU's Green Deal stresses on securing access to critical minerals and reducing the strategic imbalance in their supply currently in China's favor, Morocco shows up as the most active Middle East and North African (MENA) country in extracting significant amounts of rare earth minerals such as cobalt besides being a world leading exporter of phosphate. All of these new and expanding economic opportunities should also provide more and better paying jobs, which should provide a strong incentive for labor in a country where labor unions are strong even if fragmented among several unions with different political party affiliations.

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Thus, the green transition is being presented as an inclusive and sustainable developmental project. Yet, the degree of its inclusivity and sustainability could only be assessed by a deeper investigation of the interests of various important state and society actors, where the state, businesspeople, labor, and civil society organizations (CSOs) would be treated as broad actor sets from which actors with different interests could evolve. The green transition does not create only beneficiaries; potential losers or disadvantaged actors could also be identified. As representatives of local communities, CSOs would be concerned about the environmental and social impact of renewable energy projects. For instance, alarming was the extensive use of water as a cooling agent for concentrated solar panels (CSP) and the inadequate compensation received by the local communities in Ouarzazate and their various protests against this (Hamouchene, 2016). Concerns are also raised on the negative consequences of the intensification of mining on occupational health and safety hazards for the involved (mining) labor, while environmental degradation because of poisonous emissions and wastes and the excessive use of water in the process endangers local communities and could concern their CSO representatives. Even the production of clean renewable energies such as hydrogen is not without environmental problems for local communities, including the use of enormous quantities of water and the negative impact of the discharged brine of the desalination process on the salinity of seawater and the fishing activity (Delpuech, 2022).

Based on these considerations, this paper investigates the development and the characteristics of the social contract that characterizes the green energy transition plans of Morocco. The literature on social contracts (El-Haddad, 2020; Hickey and King, 2016; Loewe et al., 2021) and policy coalitions (Doner and Schneider, 2016; Fischer, 2015; Sabatier and Weible, 2007) were helpful in developing the theoretical framework of the paper. Methodologically, process tracing and system understanding of mechanisms as explained in Beach and Pedersen (2016), provided a necessary tool for the analysis of the Moroccan case. Another tool is developed from the literature on policy coalitions and assess those coalitions according to three main dimensions: a) various actors' interest from a certain process, b)- their power vis a vis each other, and c)- the ability of actors that have matching interests to coordinate. The empirical part of the paper mainly depends on qualitative data collected from interviews which were conducted during several fieldtrip visits to Morocco in 2023 and 2024.

Identifying different possible social contracts that characterize the transition and differentiating between them in terms of their extractivity/inclusivity and stability, the paper suggests that Morocco tends to have an extractive but stable social contract, at least in the medium run. The green transition is largely an exogenous cause that set certain mechanisms through the activities of various state and social actors. Contextual conditions then shaped the impact of these activities on the outcome, the social contract. State-society relations characterized by crony capitalism represented the most important contextual conditions. More precisely, the presence of a powerful state that shared strong connections with powerful but subservient tycoons magnified the impact of these actors' individual and joint activities at the expense of the activities of other social actors. Other contextual conditions- many of which were exogenous (to state-society relations)- helped shape interests and cement a pro-green transition policy coalition. The benefits accrued to those partners of the pro-coalition making it an extractive social contract. On the other hand, the absence of a clear interest identification against the transition among other social actors- such as labor, civil society organizations (CSOs), and even small and medium enterprises (SMEs) entrepreneurs- made the emergence of a contra policy coalition less likely and offered more stability to the social contract.

The novelty of this paper is in a)- its development of a theoretical framework that dwells on the literature on social contracts, policy coalitions, and institutional economics, b)- methodological tools that rely on process tracing and a new method of assessing policy coalitions'

relative power, and c)- applying all of these on a new field of great interest, the energy transition. The geographical focus on North Africa in relation to the highly active and geopolitical role of the EU in this field presents another important dimension of this paper, where such an analysis hardly exist in the literature and especially on North African countries.

The paper starts with a section that presents the theoretical framework of the research. This is followed by the methodology section in which the used research methods are discussed. Then the Moroccan case study is analyzed. The paper ends with a discussion, conclusion, and policy implication section.

2. Theoretical framework

2.1. The green transition and actors' interest

As the world reduces fossil fuel consumption and adopts renewable energy sources, a significant socioeconomic transformation of this green transition is happening in parallel. Although numerous renewable sources are considered, solar and wind energy dominate the discussion, particularly in the MENA region (European Investment Bank (EIB) & IRENA, 2015; IRENA and ESCWA, 2018). Hydrogen, especially green hydrogen produced from water through electrolysis, is also gaining attention. While solar and wind energies offer substantial opportunities for clean electricity generation, hydrogen is seen as a viable option for decarbonizing industrial sectors that cannot be electrified (Terrapon-Pfaff et al., 2021).

Debates have arisen regarding the social disruptions caused by the transition and the associated hopes, opportunities, and threats of this major structural change to various stakeholders. Accordingly, various collective state and social actors can be identified. They could be categorized into main sets such as the state, businesspeople, labor, and environmentally and socially oriented civil society organizations (CSOs). Each of these sets contain separate collective actors that are organized around a common interest, where it is possible to find within the same set (e.g.: businesspeople) actors with potentially conflicting interests based on their gains or losses from the green transition.

The state's primary interest is its survival, whether through reelection in democratic systems or maintaining power in authoritarian regimes (Sabry, 2019, 2021). Beyond the less attractive (especially for developing countries) goal of climate change mitigation, the green energy transition offers benefits such as enhanced energy security, reduced energy import bills (particularly for net fossil fuel importers), public revenue generation (e.g., through energy exports), and job creation (Schmitz, 2017). However, risks include the costs of such a major structural transformation. The state should not be seen as a homogeneous entity with clear interests; the executive, parliament, and various ministries and departments may have different and sometimes opposing interests, influenced by contextual conditions of the country in question.

Different actors could exist as well among businesspeople depending on contextual conditions. Businesspeople in energy-intensive industries who benefit from fossil fuel subsidies might perceive the transition as a challenge. To the contrary, the transition would be regarded favorably by businesspeople who would be allowed to benefit from self-energy consumption schemes, investors in renewable energy public-private partnerships (PPPs), those operating in sectors with which the renewable sector has backward linkages (e.g.: suppliers) or forward linkages (e.g.: fertilizers, electric cars), and exporters to markets that increasingly require decarbonization (e.g.: EU markets). Similarly, labor might be divided between those fearing job loss because of structural transformation and those expecting the generation of more green jobs. Prioritizing environmental or social goals could shape interests differently for CSOs representing the interest of local communities and the wider population. Even the call for a "just energy transition" stressing more equality in the distribution of benefits and an ecological sustainable transition (Ben Rouine and Roche, 2022), could divide CSOs on

which of the two broad sets of goals has a priority (e.g.: more compensation and share in developmental benefits or avoiding environmental degradation).

2.2. The green transition’s alternative social contracts

As defined by Loewe et al. (2021), social contracts are the “entirety of explicit or implicit agreements between all relevant societal groups and the sovereign (i.e. the government or any other actor in power), defining their rights and obligations towards each other.” The allocation of benefits in social contracts is not equitable, since powerful actors are capable of securing more benefits. Hence, the power dynamics in state-society relations shape social contracts (Hickey and King, 2016; Loewe et al., 2021). Contracts are subject to continuous change, even if change is insignificant or incremental. Considering power dynamics increases the relevance of the literature on political settlements (see Behuria et al., 2017; Khan, 2018).

The identified sets of actors possess varying degrees of power relative to one another. State actors typically play significant roles in state-society relations. The state’s power lies in its ability to organize effectively to promote the collective interests of its members. Cohesion is crucial for enhancing state power, whereas extreme polarization and internal conflicts are likely to weaken it (Sabry, 2022b). Broad-based business associations strongly represent businesspeople’s interests, but major business figures, or tycoons, have additional individual sources of power. These can be exercised through political party membership, securing parliamentary seats, or funding election campaigns (Sabry, 2023). Labor can present itself as a potent collective actor through less fragmented labor and trade unions (Shadlen, 2002). Conversely, CSOs tend to be the most fragmented and the least capable of forming a unified collective actor.

Building on the insights of Acemoglu and Robinson’s (2019) distinction between extractive and inclusive institutions, two possible social contracts to the realization of the green transition are here suggested.

- An extractive social contract: one whereby positively interested elites push green transition schemes forward at the expense or with the lack of interest of most of the society or societal actors.

- An inclusive social contract: one where most of state and societal actors have a positive interest in the green transition and only a few, if any, have an interest against it.

In an extractive social contract, the beneficiary elites could be exclusively interested state officials or at times a coalition of state officials and local and foreign businesspeople. One of the most extractive social contracts that the world has witnessed was the one in which President Mobutu Sese Seko (1965–1997) led the former Zaire (currently the Democratic Republic of Congo) as his private property. He controlled the vast mineral and agricultural wealth of the country while key officials tried to secure their shares from the rest without substantial resistance from various social actors (Evans, 1989; Wedeman, 1997). The inclusive social contract, to the contrary, is a contract that accounts for the interests of most of the concerned actors and balance between those interests. Such a contract is more likely to prevail in more democratic systems where various state and society actors have more balanced power relations and no single player is significantly dominant. This will lead to policies that are built on consensus and benefit most interested actors, such as the case for instance in Scandinavian countries (Sabry, 2023). Fig. 1 suggests the possible actors that would benefit from each of these different social contracts.

Using a process tracing methodology (see Beach and Pedersen, 2016), the green transition schemes are treated as the cause and especially the EU demand on renewable energy sources and its schemes to implement and support many projects in North African countries. On the other hand, the various social contracts to implementing those schemes are alternative outcomes. The mechanisms by which the causality flows are provided by the activities of main collective state and social actors-acting as entities according to their own interests. The comparative power of these actors vis a vis one another and the power of the coalitions that they form provide important contextual conditions that would shape the impact of their activities, boosting the impact of the activities of powerful actors and coalitions and downplaying that of less powerful ones. This ultimately would lead to the realization of one of the two previously identified social contracts. Fig. 2 summarizes the above discussed process.

The way alternative social contracts are shaped could be anticipated as follows. When a major transformation (e.g.: green transition) takes

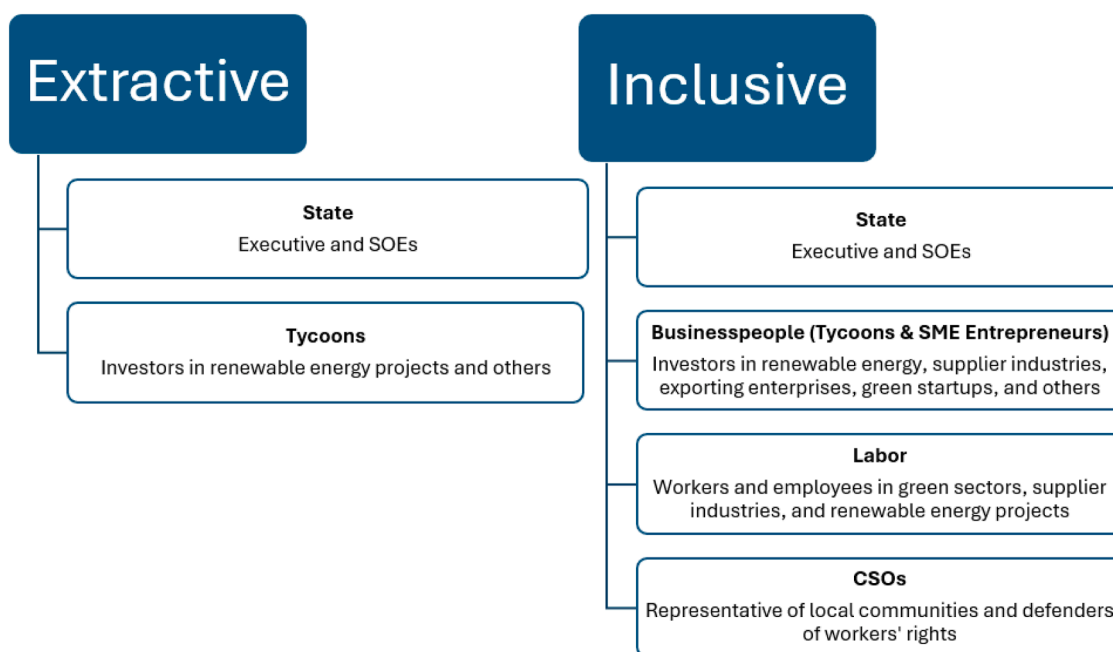


Fig. 1. Extractive and inclusive green transition social contracts and possible beneficiaries among various state and social actors.

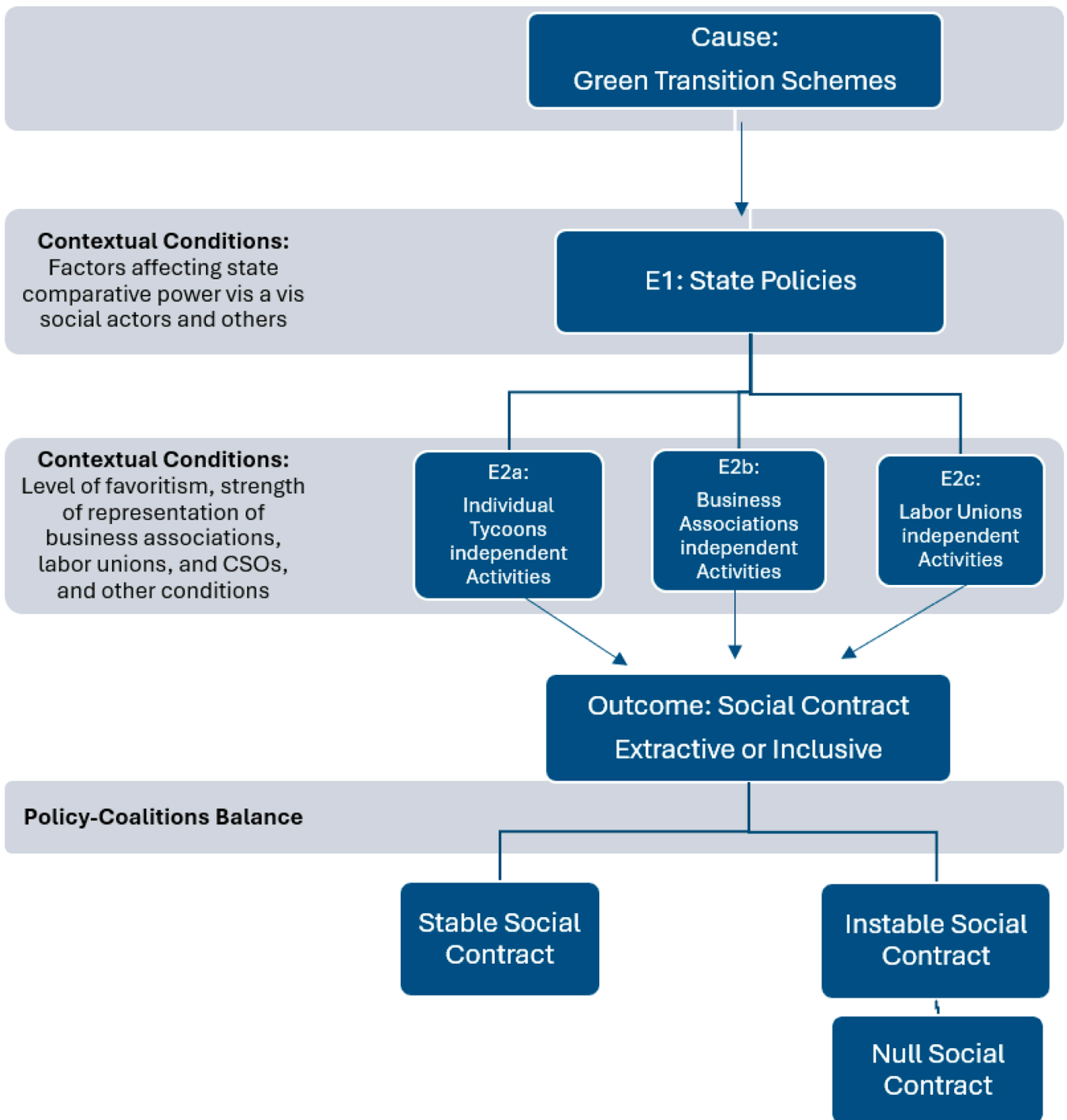


Fig. 2. A system understanding of mechanisms tracing the effect of green transition schemes on the social contract governing its implementation. (E) refers to entities or, as in the present context, actors, so, (E1): the state, (E2a): individual tycoons, (E2b): businesspeople, (E2c): labor.

place, it holds opportunities and threats to various actors. When the opportunities of only the elites are accounted for, while most of the other actors are either threatened or disinterested, then an extractive social contract is being developed. Such a contract would be likely shaped by contextual conditions characterized by a more dominant state and possibly as well closer state-tycoons relations through deep networks of favoritism. On the other hand, the independent organizational power of other actors (e.g.: labor unions, business associations, CSOs) would likely be insignificant. This would magnify the impact of the activities of the state and connected tycoons and diminish that of the other social actors. For instance, labor unions, CSOs, and SMEs’ entrepreneurs in

these contextual conditions are less capable of conducting significant protests or lobbying for policy changes. These conditions match (but are not necessarily confined to) those persisting in crony capitalist settings which are characterizing many MENA countries (see [Cammatt et al., 2018; Sabry, 2023](#)).

The inclusive social contract, however, would be more likely shaped by contextual conditions characterized by a more balanced state-society relations. These relations exist when social actors enjoy strong and independent interest representation and no collective actor is dominant ([Sabry, 2022a, 2023](#)). This would boost the impact of the activities of the various actors in shaping the social contract which would account for

the interests of most state and societal actors.

2.3. The stability of the social contract

Having an extractive or inclusive social contracts does not reveal much about contracts' stability. Assessing the stability of a social contract necessitates a deeper investigation of supportive actors' power vis a vis those against the transition, in other words, investigating policy coalitions on either side.

Coalitions are defined as groups of actors who share similar beliefs and coordinate their actions to influence policies (Fischer, 2015; Sabatier and Weible, 2007). Schmitz (2017) noted that while actors can either support or hinder the transition, no single actor is likely to have enough resources to accomplish the green transition alone. Extensive literature highlights the necessity of a supportive policy coalition for significant transformations to occur (Doner and Schneider, 2016; Hochstetler, 2020; Nem Singh and Camba, 2020). Coalitions may form due to an "alignment of interest" without the actors necessarily having identical interests, consciously acting together, developing formal mechanisms, or maintaining a long-term alliance (Schmitz, 2017). In the Moroccan context, for instance, a powerful policy coalition made up of state (the Ministry of Industry, Trade, Investment and Digital Economy and its various agencies) and business actors (organized around the Moroccan Industry Association for Automotive Producers- AMICA) helped in the establishment of a successful automobile industry in the country (Hahn and Auktor, 2017).

Similar to powerful actors, powerful coalitions are more likely to shape the social contract in a way that benefits them. The power of a policy coalition is unlikely to simply equal the sum of its constituent actors' power. Coordination is essential for creating a coalition (Fischer, 2015; Sabatier and Weible, 2007, p. 196), and insufficient coordination can reduce the coalition's power to levels below that enjoyed by each of its constituent individual actors. Conversely, effective coordination can amplify the coalition's power beyond the sum of its parts. For instance, according to Hahn and Auktor (2017, pp. 25–27), the collaboration between the Ministry of Industry and AMICA in Morocco through what was referred to as "Team Maroc" positively affected the development of the automotive industry in Morocco. However, coordination is costly (Doner and Schneider, 2016), requiring actors to invest in communication and compromise some of their interests for the common good (Fischer, 2015; Mahoney, 2007). Additionally, higher levels of historical rivalry or mistrust can undermine coordination efforts.

Thus the power of policy coalitions are dependent on three main factors:

- a)- the level of interest (utility) in (or against) the green transition of the constituent actors,
- b)- their individual comparative power, and
- c)- the ability of actors in the same coalition to coordinate.

Various actors' interests from the green transition depend on the expected gains or losses that the process would entail, based on promises and threats posed by the transition and the level of trust in those responsible for the transition schemes. The comparative power of actors vis a vis one another is dependent on broader state-society relations (Sabry, 2022a, 2023). Coordination also depends on state-society relations and the level of trust in other potential coalition partners.

If (W) represents the power of the pro (with) coalition, (A) represents the power of the contra (against) coalition, (Π) denotes the comparative power of each actor relative to other actors, (C) and (C') stand for the coordination among actors within the pro and contra coalitions, respectively, and subscripts (k) and (j) refer to the actors in the pro and contra coalitions, then:

$$\begin{aligned}
 W &= f(\Pi_k, C) = (1 + C) \sum_k \Pi_k; \text{ where } \Pi_k \in [0, 1] \text{ and } C \in [-1, 1] \\
 A &= f(\Pi_j, C') = (1 + C') \sum_j \Pi_j; \text{ where } \Pi_j \in [0, 1] \text{ and } C' \in [-1, 1]
 \end{aligned}
 \tag{1}$$

In the extractive social contract, the pro-coalition (W) is one that is likely made up of state and tycoons collective actors and would be strengthened by the presence of strong connections between these actors that would facilitate their coordination. The contra policy coalition (A) could have other social actors, some of them, or none, depending on the interests of these other actors in the transition. In the inclusive social contract, however, the pro-coalition (W) would have actors from different actor sets (e.g.: state, labor, businesspeople, and CSO actors), while a few would form the contra-coalition (A), if any (see Fig. 3).

Differentiating between the short, medium, and long run would be helpful in assessing the stability of the social contract. We could anticipate the following:

- *Short run*: The different actors are less informed about the green transition schemes and unable to accurately assess their benefits or losses from the transition.
- *Medium run*: More information is available for different actors. Yet, state-society relations are less likely to have changed since institutions are generally expected to be more sticky (see Boettke et al., 2008, 2015).
- *Long run*: More information are available based on experience and changes in state-society relations (e.g.: inter-actors power dynamics, coordination...etc.) are possible.

If for the short run policy coalitions might be less relevant, they are of greater importance in the medium and long runs. A stable green transition social contract, at least in the medium run, would be one which has a high probability of its success and vice versa, where this could be assessed by looking closely at the balance between the pro and contra policy coalitions.

If P(G) denotes the probability of the green transition while (U) refers to actors' utility (interest) from various policies, then:

$$P(G) = \sum_k WU_k - \sum_j AU_j
 \tag{2}$$

Thus:

$$P(G) = (1 + C) \sum_k \Pi_k U_k - (1 + C') \sum_j \Pi_j U_j
 \tag{3}$$

And generally:

$$P(G) = f(\Pi_k, \Pi_j, U_k, U_j, C, C')
 \tag{4}$$

In other words, the likelihood of a successful green transition in the medium run increases with the strength of the coalition supporting it and the weakness of the coalition opposing it. The success of the green transition depends positively on the supporting coalition's comparative power, interests (utility), and ability to coordinate actions, while it depends negatively on these same attributes within the opposing coalition.

The extractive and inclusive social contracts are stable if the probability of success is high enough or higher than a threshold (h) (i.e.: P(G) > h). This probability could be assessed by comparing the utility weighted by the comparative power of the pro- green transition policy coalition to that of the contra-policy coalition. If this condition is met, there would be no major deflections from the pace of the green transition fostered by these contracts on the medium run.

Unstable social contracts, however, will ultimately lead to a yet another social contract on the medium or long runs, one where the green transition would rather halt, in other words the *null social contract*. This would likely be the case whenever the weighted (by comparative power) utility of the contra coalition is too high that it is too close to the

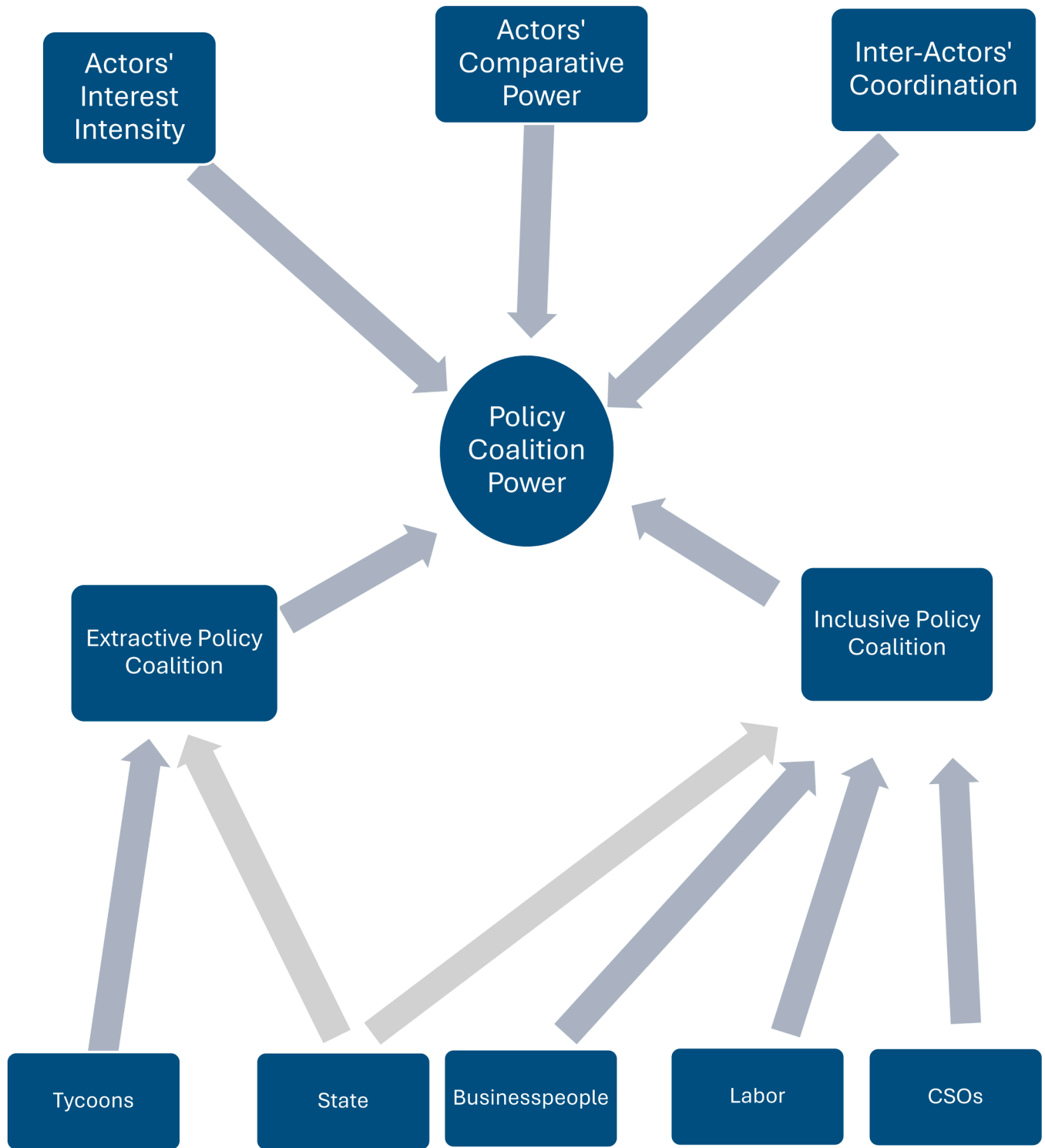


Fig. 3. Extractive and inclusive policy coalitions.

weighted utility of the pro coalition or even matches or overcomes it. This would diminish the probability of the green transition and lead it to approach the null value. This would be the case if, for instance:

- Low utility exists for the pro-coalition whether in the extractive or inclusive social contracts.
- Low coordination exists among the elites (state and tycoons actors) in an extractive social contract and the presence of sufficiently

powerful contra-coalition with relatively powerful actors with some level of coordination.

In this case, unless policy interventions are done to reshuffle interests, there would not be a reason to deflect from the null social contract; that is to say, it would be a stable social contract. The utility of the powerful actors (or coalition of actors) should be boosted to reach the extractive social contract or otherwise we would end up in the null social contract, where the transition halts. Alternatively, all or most actors'

utility should be boosted to reach an inclusive social contract or rather we would fall back to the null social contract. Moving away from an unstable extractive to a more stable and inclusive social contract could be done if policy incentives were provided for various social actors, rather than confining them to the elites.

3. Methodology

The analysis of the Moroccan case study relies on new qualitative data that was collected between 2023 and 2024 during several research visits. The data depends mainly on semi-structured interviews that were conducted with a wide range of state and societal actors and others. The questions varied according to the background of the interviewee but were mainly concentrated on the existing interest representation of the actor set to which he/she belongs. There was as well a focus on the actors' intensity of interest in the green transition and the power dynamics vis a vis and coordination with other actors.

A snowball sampling technique was used given the difficulty of reaching out to various actors' representatives in ways other than using personal contacts. In total, 14 interviews were conducted, one of which had several participants. The interviewees included a state official at the national level (a former official at the Ministry of Transition and Sustainable Development), members from key business associations (2 members of two different business associations), entrepreneurs (2 startup entrepreneurs), a big business employee (1 interviewee), several labor union members (yet from the same labor union), and members of environmentally and socially oriented CSOs (2 interviewees). Moreover, the list of interviewees includes experts from an academic thinktank (3 interviewees) and key employees at EU developmental organizations in Morocco (2 interviewees, one of them is the above referred to former ministry official). The interviewees were named according to the actor set that they belong to. So, the letter (S) was used for the state interviewee (i.e.: Interviewee-S1), (B) for businesspeople (i.e.: Interviewee-B1, Interviewee-B2...etc.), (C) for CSOs (Interviewee-C1, Interviewee-C2...etc.), (L) for labor (i.e.: Interviewee-L1, Interviewee-L2), and (O) for others (Interviewee-O1, Interviewee-O2...etc.). The full list of the interviewees is placed at the appendix.

The position of the different interviewees should also be taken into consideration and might provide a limitation to the conducted research, especially given the imbalance in the research sample in terms of the representation of various actor sets. That is why the input of the interviewees is largely treated as perceptions on the green transition process. The more the similarity in perceptions among several interviewees, the higher the provided evidence. This is also true whenever perceptions match the available literature. When the stated interviewee's perceptions are confirmed by the literature and available quantitative data, this would confirm that the perceptions reflect reality, and vice versa. Thus, the interview data is complemented with the available academic literature, CSO and developmental reports, and various statistical datasets.

Process tracing relying on a system understanding of mechanisms as presented in [Beach and Pedersen \(2016\)](#) provided an important analytical tool that is used in understanding the development of the green transition social contract in Morocco and how it is shaped. This helped in identifying the cause, which is the EU Green Deal and the growing demand on renewables and decarbonization. It also helped in identifying the actors acting as entities and the flow of their actions, where the state acted first (through policies) and the various societal actors (e.g.: businesspeople, labor, CSOs) acted in the next step. Identifying the contextual conditions that shaped the impact of these actions was also important in understanding the development of the social contract.

Another analytical tool is developed in this paper but is inspired by the literature on policy coalitions. As expressed in the previous mathematical equations, the assessment of policy coalitions is done through a mapping of interests, the power of constituent actors, and the ability of these actors sharing the same coalition to coordinate. This helped in assessing the stability of the social contract characterizing the green

transition in Morocco.

Finally, there are certainly some specificities for the Moroccan case that led to the witnessed outcome. While considering mainly state-society dynamics and treating them as endogenous factors, there are various other exogenous factors that the research accounted for. However, accounting for and deeply investigating all of these exogenous factors was a challenging task and beyond the scope of this paper.

4. The Moroccan case study

4.1. A general overview of the green transition in Morocco

Morocco is considered by many as a pioneer in the region in terms of the pace of its green transition. As early as 1995, the country ratified the United Nations Framework Convention on Climate Change (UNFCCC), signed the Kyoto Protocol two years later, hosted the Conference of Parties (COP) in 2001 and 2016, and set an ambitious target to use renewables in generating about 52 % of its electricity output by 2030 ([Bouyghrissi et al., 2022](#)).¹ The transition has been regarded as a national project that has been strongly supported by the monarchy (as asserted by many interviewees).² Accordingly, many schemes and institutional measures were developed to realize the objective of the transition (see [Tables 1 and 2](#)).

The country has one of the biggest solar power stations in the world in Ouarzazate, the Noor power station that currently consists of four parts. Morocco has also a remarkable wind energy generation infrastructure, which was responsible for around 75.87 % of the combined consumption of solar and wind energy in 2020–2022 ([Our World in](#)

Table 1

The developments in the institutional framework of the green transition in Morocco.

Year	Heading	Events and developments
2009	NES	The National Energy Strategy (NES) set the energy targets for 2020 where installed renewables capacity should have reached 42 %.
2010	Law No. 57-09	The establishment of the Moroccan Agency for Sustainable Energy (MASEN) to develop renewable energy projects in solar and (after 2016) as well wind and hydropower energy sources.
2010	Act No. 13-09	The act partly liberalized the energy market in Morocco. It allowed private firms to produce for their own consumption and buy renewable energy from the market.
2011	IRESEN	The creation of The Research Institute for Solar Energy and New Energy (IRESEN) focusing on research projects and their implementation.
2016	Updating Targets	At the United Nations Climate Change Conference (COP 22) in Marrakech, the targeted capacity for renewables was increased into 52 % by 2030 (20 % solar, 20 % wind, and 12 % hydroelectrical).
2016	Act No. 58-15	The act updated Act No. 13-09. It permitted selling surplus renewable energy produced by firms to the Moroccan National Office for Electricity and Potable Water (ONEE) (up to 20 % of their surplus production). It also introduced the market for low-voltage electricity which is important for small scale projects.
2020	Green hydrogen	Implementing the agreement with Germany on green hydrogen production. The creation of the "Hydrogen National Commission".

Source: Self-summarized and organized based on data from [Choukri et al. \(2017\)](#) and [Bentaibi et al. \(2021\)](#).

¹ The distribution of this 52% was planned to be 20% from each of the solar and wind energies and 12% from hydroelectrical facilities ([Choukri et al., 2017](#)).

² For instance, Interviewee-O2 and Interviewee-B4.

Table 2
Renewable energy projects in Morocco.

Site	Capacity of production (MW)	Investor	Year of commissioning	Comments
Solar				
Ain Beni Mathar - CSP	20	MASEN	2010	Moroccan Agency for Sustainable Energy S.A. (MASEN)
Noor Ouarzazate I - CSP	160	MASEN-ACWA	2016	ACWA power is a Saudi company
Noor Boujdour - PV	20	MASEN-ACWA	2018	
Noor Ouarzazate II - CSP	200	MASEN-ACWA	2018	
Noor Ouarzazate III - CSP	150	MASEN-ACWA	2018	
Noor Ouarzazate IV - PV	70	MASEN-ACWA	2018	
Noor Laayoune - PV	85	MASEN-ACWA	2019	
Noor Tafilalet	120	MASEN	2019	
Noor Midelt Phase I	800	MASEN	2021	Électricité de France (EDF) was involved in the Engineering, Procurement and Construction (EPC)
Amendis-Tanger	30	Green Power Morocco	2021	A Moroccan company
Noor Atlas	200	MASEN	2022	
Total (Solar)	1855			
Wind				
Abdelkhalek Torres	54	Théolia-ONEE	2000	Théolia is a French company
Amogdoul	60	MASEN	2007	
Tanger I	140	MASEN	2009	
Lafarge	32	Autoproduction	2011	
Cimar	5	Autoproduction	2012	
Tarfaya	301	PPA-ONEE	2014	Power purchase agreement (PPA) by the Office National de l'Electricité et de l'Eau Potable (ONEE)
Foum el Oued	50.6	NAREVA	2014	NAREVA is a subsidiary of the Moroccan Al MADA which is largely owned by the Royal Family
Haouma	50.6	NAREVA	2014	
Akhfennir I+II	203	NAREVA	2017	
Jbel Khalladi	120	ACWA Power	2017	
Aftissat	200	NAREVA	2019	
Boujdour	100	PPA-ONEE	2019	
Midelt (Pei)	210	PPA-ONEE	2020	NAREVA is involved
Safi	200	CME	2021	CME is a subsidiary of the Belgian-Dutch WinhdVision
Boujdour (Pei)	300	NAREVA	2021	
Jbel Lahdid (Pei)	270	PPA-ONEE	2021	NAREVA is involved
Taza	150	PPA-ONEE	2021	EDF is involved
Aftissat II	200	NAREVA	2022	
Tiskrad (Pei)	100	NAREVA	2022	
Tanger II	70	NAREVA	2022	
Koudiat Baida	200	MASEN	2025	EDF was involved in the EPC
Oualidia I	18	INNOVENT	-	INNOVENT is a French company
Oualidia II	18	INNOVENT	-	
Total (Wind)	3052.2			

Self-designed based on data collected from Interviewee-S1. Shaded in gray are projects that were still envisaged in 2020.

Data, 2023). Most of the investors in renewable energy public private partnerships (PPPs) are European firms. According to Interviewee-S1, Chinese involvement was confined to engineering, procurement, and construction agreement (done for the Saudi based ACWA Power), without being an independent power producer (IPP). Export schemes rely on the existing electricity connection with Spain that could be used, according to Interviewee-S1, to export energy produced in Morocco not only to Spain but as well to other European countries. Morocco has developed plans for the production of green hydrogen and is a regional pioneer in this field. As pointed out by Interviewee-O1, the pipelines linking Morocco to Spain that have been used to transport Algerian natural gas could now be used (after some adjustments) to transport Moroccan green hydrogen. Also harbors could be used for the shipment of hydrogen and its derivatives. A rather less stressed aspect of the energy transition is the replacement of highly polluting fossil fuels (such as coal) with cleaner fossil fuel alternatives such as natural gas. Interviewee-B2 emphasized this point while mentioning Morocco's plans for importing natural gas from Nigeria through pipelines extending throughout the west of the continent as well as other efforts for importing liquified natural gas (LNG).

The renewable sector has also strong potential forward linkages to

the Moroccan industrial sector. The green hydrogen will be used in producing green ammonia which is an important input for the huge fertilizers industry in Morocco. A green hydrogen cluster (GreenH2) was created in 2021 in order to stimulate the Moroccan private sector interest in hydrogen as a mean for decarbonization and to cut its costs through large scale production. A yet further forward linkage for the renewable energy sector is represented by the growing electrical vehicles industry. The growth of the auto industry would increase demand on the energy produced by renewable sources.

Backward linkages also exists. The expansion of the renewable energy sector could accelerate the demand on the mining sector and especially the extraction of rare earth minerals such as cobalt, which Morocco is one of the significant world producers of (the 9th in 2022) (Global Data, 2023). Many industries also provide inputs for the renewable energy sector, remarkably the electronics and cable and steel industries (see Table 3). However, Morocco's technology and innovation levels limit value-added creation of industries that are strongly linked to the renewable energy sector. Innovation in particular faces various challenges that could diminish the benefits from backward integration of the renewable energy sector.

Interviewee-O3 suggested that the problems facing innovation and

Table 3
Fields of high and very high local capabilities in the renewable energy value chain in Morocco.

Energy source	Present capabilities	Future possibilities	Presence of Active local enterprises and/or suppliers	R&D and/or Industry innovation	Availability of skilled labor
Solar PV	Electronics and cable, steel support structure, construction	Raw material, electronics and cable, steel support structure, construction	Electronics and cables, construction	Electronics and cable, steel support structure, construction	Electronics and cable, steel support structure
Solar CSP	Mounting structure, grid connection, construction	raw material, mirrors, mounting structure, construction	Raw material, storage system, grid connection, construction	Mounting structure, storage system, grid connection, construction	Mounting structure, grid connection
Wind	Wind tower, wind turbine blade, electronics and cable, construction	Raw material, wind tower, electronics and cable, construction	Wind tower, wind turbine blade, electronics and cable, construction	Raw material, wind tower, wind turbine blade, electronics and cable, construction	Wind tower, wind turbine blade, electronics and cable, construction

Source: Self-summarized and organized based on data from [EIB and IRENA \(2015\)](#).

Table 4
Characteristics of the industrial and manufacturing sectors in Morocco in a comparative sense.

Series name	Morocco	World	Morocco	World
High-technology exports (% of manufactured exports)	7.03	17.36	3.6	18.21
Medium and high-tech exports (% of manufactured exports)	37.09	..	51.25	..
Medium and high-tech Industry ^a (% of manufacturing value added)	26.03	..	27.75	..
Manufacturing, value added (% of GDP)	15.53	15.73	16.01	15.65
Industry, value added (% of GDP)	25.5	27.27	25.82	25.6
Industry, value added per worker (in thousands 2010 US\$)	10.31	26.23	12.55	29.63

Source: Self-calculation using data obtained from the World Development Indicators (WDI) ([World Bank, 2021](#)).

^a The construction sector is included in the measurement of this indicator, the “Industry, value added (% of GDP)” and the “Industry, value added per worker”.

R&D in Morocco affected the nature of the local content in Moroccan industries, even in the promising auto industry where, despite the remarkably high level of local content, the part relevant to R&D was still insignificant. Matching this perception, [Hahn and Auktor \(2017\)](#) pointed out that labor intensive activities with low or medium value added still dominated the auto industry in Morocco, even with later trials towards higher value added activities such as the production of engines. Generally speaking, Morocco had relatively low levels of labor productivity for the industrial sector and high technological exports are far below the world average (see [Table 4](#)). The Global Competitiveness Report categorized Morocco as an “efficiency driven” economy, an intermediate state between the higher “innovation-driven” and the lower “factor-driven” states and one in which the economy depends on the efficient use of existing technologies but does not actively engage in innovation and higher sophistication (see [Table A.1](#) at the appendix) ([Schwab and Sala-i-Martin, 2017](#), pp. 319–320). [Sabry \(2021\)](#) showed that Morocco was among a group of emerging economies that were characterized by having a comparatively low productivity to technology-availability ratio despite its high level of technological availability, which suggests that Morocco should focus more on fostering innovation.³

On the other hand, the green transition in Morocco is not without

³ The literature pointed to several factors that hinder innovation such as the insufficient, non-institutionalized, and irregular coordination between universities and research institutions and poor business-universities’ interactions. Moreover, programs that fund innovative projects obtained unsatisfactory results due to complicated administrative procedures, the inadequacy of information apparatuses ([Hamidi & Benabdeljalil, 2013](#), pp. 124–126), lack of coordination among different programs, or their lack of full implementation ([OECD, 2014](#)).

environmental costs, incurred or potential. The use of pastoral communal lands is specifically an important concern, where policy makers regarded these lands as unproductive despite their value for local communities ([Rignall, 2015](#)). Local communities consent was not adequately sought, neither did they obtain adequate compensation ([Hamouchene, 2016](#)). The pressure on already limited water resources is another major concern, where the Noor power stations, for instance, used potable water for cooling down and cleaning the concentrated solar panels of the station ([Amouzai and Haddioui, 2023](#), p. 15; [Hamouchene, 2016](#)). The intensification of mining (e.g.: phosphate and cobalt) because of the green transition might result in further environmental and social problems often associated with mining (see [Eyl-Mazzega and Mathieu, 2020](#), pp. 38–40). Other concerns include mitigating the environmental pollution caused by possible accidents from the project installations and the burden of recycling the metals used in these installations (according to Interviewee-O4). The production of green hydrogen brings further social and environmental concerns because of the extensive land and water needed for its production ([IRENA, 2020](#), pp. 40–41). Even if the needed water would come from desalinated seawater, the resulting brine would cause environmental problems because of the increase in the seawater salination and the expected negative effect on the marine ecosystem ([Amouzai and Haddioui, 2023](#); [Shehabi, 2024](#)), and thus possibly the fishing activities.

4.2. A mapping of interests and interested actors

4.2.1. The state

The state is clearly leading the process of the green transition regarding it as a great opportunity for reducing energy shortages and the unprecedented transformation into an energy exporter. In 2015, Morocco had a high dependency of about 94.5 % on fossil fuel imports to cover its energy demand and electricity was predominantly provided by fossil fuels which the country hardly produce ([Choukri et al., 2017](#)). Reversing the heavy trade burden into an exporting surplus will ease the state budget and even boost revenues. Being an energy major exporter to Europe leverages also the political power of the Moroccan state vis a vis European countries. This is especially important in light of the late diplomatic pressures that the state made on several EU countries to induce them to support its sovereignty claims on Western Sahara (see [Mendes Raouf, 2024](#)). Moreover, there is a potential for creating about 25,000 net jobs annually in the period extending between 2020 and 2050 or “8.5 % of the country’s annual job shortfall”, according to a World Bank report ([WB, 2024](#), p. ix), something that should help in further stabilizing the political system and fostering state survival.

The Ministry of Energy Transition and Sustainable Development was created to manage the important transformation together with several agencies, the most relevant of which are the Moroccan Agency for Sustainable Energy (MASEN) and the Institute for Research in Solar Energies (IRESEN). MASEN was created as a company that supports the development of renewable energy projects, while IRESEN targets

research projects and their implementation (Choukri et al., 2017).

Yet, a particularly important and strongly interested state actor is the OCP, the giant SOE that has become a big business group of worldwide presence with sizable international market shares in phosphate and fertilizers. The Ministry also controls the OCP, making all the stated players act under the control of the ministry. Other mining activities, including the mining of cobalt and other rare earth minerals, is also controlled by the ministry (Kingdom of Morocco Ministry of Energy Transition and Sustainable Development, 2024). In the field of green hydrogen, the OCP is the main player, according to Interviewee-C1. As pointed out by Interviewee-B2, the OCP has a great interest in the production of green hydrogen that could be used as an input for green ammonia which would then be used in fertilizers. The OCP created INNOVX (through the OCP controlled Mohammed VI Polytechnic University UM6P) as an R&D hub for renewable energy and as a mean for establishing the enabling ecosystem for renewables and other industries (Innovx, 2024).⁴

Another state actor of interest in the green transition is the ministry of industry and trade (Kingdom of Morocco Ministry of Industry and Trade, 2024a). The backward and forward linkages created by the renewable sector in Morocco increases the interest of the ministry in the transition, especially that the linkages are created with particularly important industries such as automotives, steel, and fertilizers. On the other hand, there is no special ministry for the environment.

4.2.2. Businesspeople

Several businesspeople groups are interested in the green transition, with varying degrees. Generally, these are investors in renewable energy IPPs or for self-consumption, industries having backward or forward linkages with the renewable energy sector, and exporters to the EU in energy intensive industries.

There are more than one Moroccan company that invest in renewable energy project. The most remarkable are NAREVA (a company largely owned by the royal family) and Green Power Morocco (see Table 2). Moreover, the energy transition offers various enterprises an opportunity to cut their energy costs through the installation of renewable energy power plants. The recent change in law permitted the production of low voltage solar energy and selling the excess energy to the *L'Office National de l'Électricité et de l'Eau potable* (ONEE). Many interviewees (Interviewee-B4, Interviewee-C2, Interviewee-S1) have regarded this as a major (positive) development. Particularly, this provided a major interest for SMEs. As Interviewee-B1 asserted, there was high willingness among companies to use renewables as a source of their needed energy. According to Interviewee-S1, the National Agency for the Promotion of Small and Medium-sized Enterprises (ANPME or "MOROCCO SMEs") supported SMEs in the industrial sector by subsidizing their production of their own energy through solar panels. However, Interviewee-B3 denied that energy transition has really reached small enterprises, pointing to the delay in implementation. Despite the public discourse and the stated support to SMEs, laws were still unsuitable for small enterprises and there was generally a lack of transparency about support receivers.

Morocco did not enforce local content requirements. However, bidders for renewable energy projects were encouraged by the state to integrate local contents to their bids. A successful case was ACWA power's reliance on 42 % local content in its NOOR project near Ouarzazate (European Investment Bank (EIB) & IRENA, 2015, p. 143). Many industrial sectors have a strong presence or potential as suppliers for the

renewable sector (see Table 3). The sectors with high or very high capabilities as local suppliers include electronics and cable, steel support structure, mounting structure, grid connection, wind tower, wind turbine blade, and construction. Interviewee-S1 estimated the local content in the solar plan to be about 30–35 % (including MNCs operating in Morocco). This local content was mainly in construction, which is of low value-added and with less technological content. The interviewee believed that solar panel production necessitates the presence of a big market, which would make Moroccan firms less competitive if they decided to produce (rather than assembly or directly import them). Moroccan firms also lack the necessary knowledge. In the wind energy sector, the local content is higher. For instance, Siemens-Gamsa produces wind turbine blades locally ("100 % made in Morocco") in its factory in Tangier (Siemens Gamesa, 2017).

The forward linkages created with the electric vehicles (EV) industry increase businesspeople interest in the green transition. The increase in renewable energy production decreased the cost of electricity and made charging EVs more affordable (Statista, 2023). Morocco's auto industry is a major one and the second largest in Africa, where Morocco has attracted substantial FDI from various stages of the supply chain including original equipment manufacturers (OEMs)- such as Renault - and first tier international suppliers. The industry created various important linkages, and was responsible in 2015 for about 20 % of the country's exports (Hahn and Auktor, 2017). The sales of electrical vehicles and hybrids more than tripled between 2021 and 2022, exceeding one million units (Statista, 2023). As pointed out by Interviewee-B4, the state induced gas stations to incorporate electrical charging facilities on the highway and even inside big cities. Charging stations more than doubled between 2020 and 2022 (Statista, 2023).

The application of the Carbon Border Adjustment Mechanism (CBAM) by the EU has created further interest in the green transition. The exporters to Europe in the six industries that the CBAM is applied to would soon be forced to apply greener production techniques if they want to remain competitive in the EU market. According to Table 5, other than the fertilizer sector which is significant in terms of its export share and reliance on European markets, the shares of Moroccan exports of the other sectors included in CBAM is relatively low (<1 %) and/or the share of EU major importers of those exports is limited. At any case, the state launched the "TATWIR Green Growth Program" which supports SMEs to engage in the green transition (Houssini and Geng, 2022), use renewable energies, adopt energy efficiency, establish "green industrial sectors" and industries with "a positive carbon footprint", and use cleaner technologies (Kingdom of Morocco Ministry of Industry and Trade, 2024b). Nevertheless, Interviewee-C1 believed that businesspeople still disregarded decarbonization commitments and generally did not have a clear stance towards public policy in this field.

Policies that target the development of startups and innovation were inadequate and generally did not encourage the emergence of a strong green startup businesses. Interviewee-B5 regarded the existing laws and regulations as impediments for the growth of startups, mentioning the restrictions placed on their importing activities as an example. Startups were at a legal disadvantage vis a vis big firms in financial disputes and obtaining loans could be too time costly for them. According to the interviewee, the administration seemed to be ill equipped and inefficient while dealing with startups. The programs designed to help entrepreneurs were rather less advanced, with low value added, and they lacked practical aspects. A positive development, however, was the acceleration of the digitalization process in the post-Covid period. Moreover, some green startups seemed to obtain strong encouragement. Interviewee-B4 spoke about an agreement reached between the interviewees' startup and Afriquia (part of the AKWA Group) on the domestic production of EV chargers, which had been mainly imported at soaring prices. The project had witnessed a collaboration as well between a state agency and UM6P.

On the other hand, there was hardly a business sector that regarded the transition as a challenge. As pointed out by Interviewee-B2, the state

⁴ The website of Innovx states that the objective is "investing and developing innovative, high-performing technological businesses and ecosystems with a strong environmental and social impact". It points to the renewable energy sector as one of the sectors the firm is active in, "we engage in the production, development, and storage of renewable energy sources, including hydrogen" (Innovx, n.d.).

Table 5

Moroccan exports of carbon border adjustment mechanism (CBAM)-related products in 2022 to the world and the major 4 EU export destinations for Morocco.

Product	Exports in Million USD\$	% of Total exports	Exports to Spain (Million USD\$)	Exports to France (Million USD\$)	Exports to Italy (Million USD\$)	Exports to Germany (Million USD\$)
Fertilizers	7690	18	184.32	147.87	82.92	7.35
Articles of iron & steel	228.21	0.54	21.75	119.66	0.7484	0.5451
Salt, sulfur, earth, stone, plaster, lime, and cement	1610	3.8	69.26	16.80	10.83	1.21
Iron & steel	106.50	0.25	25.33	2.81	4.35	0.32057
Aluminum	246.11	0.58	37.43	56.53	6.16	2.93
Stone, plaster, cement, asbestos, mica, or similar materials	45.16	0.11	5.93	7.13	1.27	1.37

Based on Data collected from [Trading Economics \(2024\)](#).

stopped subsidizing fossil fuels. Even enterprises currently operating in the fossil fuel sector were not largely alarmed by the transition. Interviewee-B2 believed that there was almost no possibility at all for lobbying between oil and gas companies to hinder the transition, especially that these companies were only distributors (in the Moroccan market) and there were no huge investments in the other parts of the value chain. Even the infrastructure that was currently used for natural gas could be readjusted and used in distributing renewables (e.g.: green hydrogen). Total Energies whose subsidiary in Morocco was among the big petrol distributors in the country also adopted the production of green hydrogen and invested in renewables; and in Morocco it created a division that targeted generating electricity from renewables (solar). Another company had already started using solar energy in its petrol stations (e.g.: for bureau uses), even if its current plan was focusing on shifting into the use of cleaner fossil fuels like liquified petroleum gas (LPG) which is easily transported and stored.

4.2.3. Labor

The renewable energy sector employed only around 25 thousand workers in 2021 ([WB, 2024](#), p. 16). Generally, the energy transition does not seem to pose a significant risk for Moroccan labor. As discussed earlier, the fossil fuel industry was limited to distributive activities and the readjustment to renewables should not make major disruption of employment in the sector, which is at any case more capital intensive. At least in the energy sector, most jobs would require only retraining to shift into renewables, according to the [WB \(2024, p. x\)](#).

A group of members of the Democratic Federation of Labor (CDT), Interviewee-L2s, acknowledged that the green transition is an inevitable process that the labor movement is not resisting. They believed that the transition would offer several opportunities to Morocco, even if there would be an imbalance in terms of gains to Europe's favor. The labor movement, according to the interviewees, is trying to improve the conditions and reach a more just transition, while being more included in the process of decision making. More precisely, the main sources of concern for labor unions were job loss/creation because of decarbonization and the general green transition schemes as well as the possible violations of labor laws in the renewable sector.

Interviewee-L1 asserted that decarbonization posed- somehow- a concern for labor, since past experiences with technological structural transformation in Morocco were not encouraging. This is despite the presence of individual successful cases with structural change. This was, for instance, the case with the OCP with regard to sustainability and structural training, where success was achieved basically because of strong relations between the management and labor unions. As Interviewee-L2s implied, adequate training and compensation remain dependent on enterprise practices. Confirming this perception is a World Bank study that pointed to the low levels of technical and vocational education and training (TVET) in Morocco and the extreme inadequacy

of the active labor market programs (ALMP) mainly provided by the National Agency for the Promotion of Employment and Competencies (ANAPEC) ([Lopez-Acevedo et al., 2021](#), pp. 25–26).⁵ This implies a general incapability of supporting a major structural transformation program.

According to Interviewee-L1, there is not currently EU programs for green transition-related structural labor training, rather than only talks. Interviewee-C1 mentioned that this was still a new topic for labor that was only recently gaining momentum, referring to some workshops that were organized for the labor in the transportation sector with the support of an international organization. Yet, as assessed by Interviewee-C1, labor were not too alarmed by the decarbonization process. This was attributed to the lack of commitment of the private sector towards the process, something that creates much unclarity concerning the scale of job loss and the suggested compensation.

Current labor laws violations bring further concerns on the transition. In “free industrial zones,” pointed Interviewee-L1, labor unions were almost prohibited and there was no adequate respect for labor rights, especially those on occupational health and safety hazards (OHS) whose application was generally extremely limited in Morocco. The renewable sector was feared to develop the same conditions. Affirmingly, Interviewee-L2s only hoped that the expected violations to labor laws would be minimized.

Overall, labor remained to a considerable extent neutral in terms of interests regarding the transition. As assessed by Interviewee-C1, labor unions were not yet setting the transition as a main concern or a priority, as they were more overwhelmed by the current economic problems.

4.2.4. Environmental and social-oriented CSOs

Distinguishing between CSOs which operate on the national level and those representing local communities is important. Local CSOs are more entangled with local communities and are stronger representatives of their interests. Arguably, however, national-based CSOs could have better access to various significant actors. Local CSOs evolved from tribal assemblies, *jema'a*, which regulate various communal issues (e.g.: settling conflicts, water usage...etc.) and which were induced to convert into official CSOs by the need to access government or foreign funds ([Haddad et al., 2022](#)).

Various environmental and social issues could concern CSOs. Many of these has been experienced in Morocco's active mining of important minerals, such as phosphate, cobalt, and silver. These concerns include local communities disenchantment with limited job creation, low development benefits of the conducted projects, and massive water use for cleaning solar panels (which is much higher than official estimates in Ouarzazate), as well as questioning the legal grounds used to transfer former collectively owned lands to the benefit of the state. Such transfers were justified by laws from the colonial times and there were fears that a new law enacted in 2019 on collective lands could further facilitate such

⁵ It was stated that only 1% of those registered at ANAPEC find jobs through this agency.

land transfers (Rignall, 2021). Agreeingly, Interviewee-C2 identified the major concerns on the green transition as being the excessive use of underground water in the cooling system of the solar panels of the Noor project and the low compensation offered for local communities to construct the power plants in their communal lands. Matching this assessment, Interviewee-O1 believed that the major possible resistance for the transition would come from local communities with claims on communal lands. On the other hand, the excessive use of water led local communities to protest (Hamouchene, 2016).

Nevertheless, Interviewee-C2 shared the common belief expressed in the accounts of other interviewees (Interviewee-S1, Interviewee-O1) that green hydrogen production would depend on desalinated seawater rather than freshwater sources. This belief was supported by the realization that the production would remain competitive even after accounting for desalination costs, that lots of attention and scrutiny would be given to the process, and that freshwater resources are limited in the country. As Interviewee-O1 also emphasized, the use of desalinated water was already a long-established practice by an industrial champion such as the OCP. There were not many concerns reported by any about the environmental problems of the resultant brine. This all indicated there is generally not much negative perceptions from CSOs towards green hydrogen production schemes.

4.2.5. Summary of the allocation of interests

Table 6 summarizes the mapping of interests and risks done in the whole section. The previous discussion suggested that, based on interests, there are many actors who are strongly supporting the transition. This includes different state and business actors. Labor, on the other hand, seemed to lean towards neutrality despite having some concerns, while social and environmentally oriented CSOs had more concerns that remain, however, modest.

4.3. Contextual conditions

Morocco has relatively an open political system in comparison to the

Table 6
Mapping of actors' interests (in or against) the green transition in Morocco.

Main actor	Sub-group	Interest/Threat
State	Ministry of Energy Transition and Sustainable Development	Energy self-sufficiency and minimization of fossil fuel imports
	Ministry of Industry and Trade	Energy exporting
	Office Chérifien des Phosphates (OCP)	Developing linkages with other industrial sectors
Businesspeople	Office Chérifien des Phosphates (OCP)	Benefiting from the linkages between green hydrogen and the fertilizers industry
	Investors in renewable projects	More investment opportunities
	Energy-intensive industries	Possible partnerships with foreign capital in public private partnerships (PPP) projects.
Labor	Exporters to the EU	Access to cheaper energy given the lack of subsidized fossil fuels
	Suppliers to the renewable energy sector	Decarbonization to meet CBAM regulations
	Green startups	Bigger market
Environmentally and socially oriented CSOs	Employed and unionized	Possible partnerships with multinational corporations (MNCs) in the field
	Unemployed	More business opportunities
Environmentally and socially oriented CSOs	Employed and unionized	Risk of violations of labor laws
	Unemployed	Risk of job loss and inadequate retraining and compensation
Environmentally and socially oriented CSOs	Employed and unionized	More (green) jobs
	Unemployed	Environmental and social risks to local communities.
Environmentally and socially oriented CSOs	Employed and unionized	Risks of an unjust distribution of benefits
	Unemployed	

MENA region, even in the pre-2011 period. The state identified itself as a constitutional monarchy; and although the King was the undisputed center of power, political parties were allowed a margin of independence and at times opposition parties formed the government. The adoption of the 1996 constitutional amendments that established two chambers for the parliament, permitted social actors representative bodies such as business associations and labor unions to elect their candidates to the Chamber of Counselors (upper chamber), while popular vote elected the members of the Chamber of Representatives (lower chamber) (Achy, 2013). This contributed to strengthening a more inclusive state-society relations in Morocco. There were also examples of state-society dialogues on important issues, as was the case on the dialogues held in 2012 on policy reforms targeting energy subsidies (Vidican Auktor and Loewe, 2022). A closer look on the dynamics governing the relation between the actors in state-society relations in Morocco would reveal more key details.

4.3.1. State-business relations

The colonial period was relatively short and the centuries-long strong business elite closely linked to the monarchy persisted and grew in the post-colonial period forming big business groups (e.g.: the Kettani and Lamrani groups) (Boussaid, 2010). Big business families benefited from controlling the abandoned French industrial establishments, the post-independence state's import substitution industrialization (ISI) policies, and the Moroccanization regulations necessitating Moroccan ownership of at least 50 % of enterprises operating in the country. The margin of independence enjoyed by these business tycoons enabled them to practice strong collective lobbying through regular and official state-business dialogues. Big business elites were also recruited to important public offices in the administration, national banks, and others (Cammatt, 2007, pp. 6–13, 80–103). Moreover, the royal family itself became a major business investor through the big holding company, *Omnium Nord Africain* (ONA), which had investments in various economic sectors (Boussaid, 2010). As mentioned earlier, NAREVA belongs to a business group which is active in many renewable energy projects is largely owned by the royal family.

In term of interest representation, the *La Confédération Générale des Entreprises du Maroc* (CGEM) is the biggest business association in the country and the only recognized business partner in dialogues with the state, according to Interviewee-B1. Another significant business association is the TPE-PME which focuses on representing the interests of SMEs' and some green startups, as asserted by Interviewee-B3.⁶ Other associations existed; for instance, the important automotive industry had its own association which is the AMICA (Hahn and Auktor, 2017).

Historically, the CGEM was regarded as an apolitical organization that was close to the state, where the association's members benefited economically from this relationship (Boussaid, 2010). The CGEM developed an independent role from the state since the 1990s (Achy, 2013; Boussaid, 2010). Nevertheless, the monarchy managed in the 2000s to foster the leadership candidacy of a loyalist business figure through the royalist company ONA (Boussaid, 2010). Moreover, the business association's leaders were likely to be former state officials and even former ministers (Benhaddou, 1997, p. 118; Saadi, 2016). There are other strong political connections between the CGEM and the state, pointed out by Interviewee-B3 to be the parliamentary seats reserved to the CGEM and the membership of most of the CGEM leadership in the current ruling party, the liberal "National Rally of Independents" (RNI).

Interviewee-B1 asserted that the CGEM represented the interests of all businesspeople without distinction, even MNCs operating in Morocco. When international and EU organizations sought to communicate with a representative of SMEs, the state likely suggested the CGEM as a partner, pointed out Interviewee-B3. There are reasons to

⁶ According to the interviewee, the association was focusing on post-creation companies, supporting them to survive and function.

support the claim that the CGEM was a broad-based organization that represented the interest of all businesspeople and a major partner in the green transition. According to Interviewee-B1, the association defended the interests of local input suppliers and supported the establishment of new opportunities for these industries.⁷ Most of the supplier industries to the renewable sector were medium and large enterprises, as assessed by Interviewee-B3, and were more likely to be represented by the CGEM. Support was provided as well for green startups (e.g.: the *Intaliq* program for all startups) where these startups are part of the association; and the association started to organize meetings to connect startups to enterprises. It formed the “Green Economy Commission” to encourage firms’ involvement in the green economy and cooperated as well with the “Moroccan Centre for Clean Manufacturing” (CMPP) which aims at promoting green industries and facilitating green technologies adoption (Ongoma et al., 2024; UNECA, 2024). The CGEM introduced as well a decarbonization label to certify committed firms (Berahab, 2024).

Nevertheless, different interviewees (e.g.: Interviewee-O2 and Interviewee-B3) shed strong doubts on the claim that the CGEM was a representative of the interests of SMEs. Interviewee-B5, as a representative of startups, believed that the interests of big business are more valued within the CGEM. Interviewee-B3 believed that big businesses had higher voting power inside the CGEM based on their size; and the power enjoyed by big businesspersons was one of the reasons that induced the emergence of the TPE-PME as a competitor on the representation of SMEs since the 1990s. Supporting these perceptions, Saadi (2016) asserted that big businesses controlled the CGEM.

Big business tycoons have other means of power. Businesspeople membership in the parliament increased in the 1990s and it was common for them to assume ministerial positions (Oubenal and Ben Hamouda, 2018). Interviewee-O2 believed that businesspeople sought to protect their interests through developing connections with the *Makhzan*, a term used to refer to the Monarchy and the elite circles around it. Political parties were regarded as rather weak. Even when the Islamists were ruling, they did not manage to bring their affiliated businesspersons to the *Makhzan*. It never goes unnoticed that the present head of the government, Aziz Akhannouch, is the CEO of the AKWA Group which is one of biggest conglomerate firms in the country and a major player in the energy sector. Although AKWA Group mainly operates in fossil fuels, it has expressed its interest in investing “in clean energies such as liquified natural gas (LNG)” (see AKWA Group, 2024), matching the rhetoric of and benefiting from the green transition schemes. The strong connections between big business tycoons and the state brought privileges to their connected firms, including favorable non-tariff trade protection and bank lending terms as well as discretionary implementation of regulations and policies (Saadi, 2016). This was arguably facilitated by the oligopolistic nature of the banking sector in Morocco and tycoons’ strength in the sector. The biggest bank in Morocco, *Atjarawafa Bank*, had the royal ONA and Kettani group as important shareholders (Boussaid, 2010). The case with Moroccan companies involved in the green transition should not be expected to be different with many politically connected companies operating in the renewable energy sector, as mentioned earlier.

On the other hand, SMEs connections with the state was comparatively much weaker. Interviewee-B3 criticized the inability of the TPE-PME to have an equal treatment to the CGEM in terms of reserved parliamentary seats despite the big share of SMEs in the economy. The interviewee and Interviewee-O2 as well believed that this meant that currently only the interests of big business tycoons were represented in the parliament. Yet, Interviewee-B3 asserted that the TPE-PME still had every now and then talks with government bodies and was also involved

⁷ The interviewee also pointed out that, generally speaking, CGEM provided support programs for SMEs, especially in terms of feasibility studies (but not financial support). R&D activities were also supported through providing enterprises with needed information.

in preparing studies and seminars. The role of the association was mainly informational and consultative. Despite having some successes in influencing some laws, Interviewee-B3 still believed that this was not enough. The dialogue between the association and the state seems to be dependent on the ministerial cabinet in office. For instance, the TPE-PME had a stronger dialogue with the previous (Islamist) Justice and Development (PJD) government.

4.3.2. State-labor relations

Morocco’s labor activism continued from the colonial era and there were direct connections between trade unions in Morocco and France. Generally, there has been high state tolerance towards labor unions. This was translated since the 1960s into the creation of more independent and competitive labor organizations which have been active in collective bargaining and had the legal, yet restricted, right to strike. Reflecting unions’ power, Morocco had before the Arab Spring the highest “du jura” as well as de facto labor standards in the whole MENA region (Cammatt and Posusney, 2010).

Labor unions were assigned seats in the parliament. The *Union marocaine du travail* - Moroccan Workers’ Union (UMT), which almost monopolized labor representation vis a vis the state in the 1950s, was represented in the Council of Government thanks to its unionists’ membership as well in ruling parties (e.g.: the *Istaqal* Party). Those members were included as well in other state organs and were directly consulted by the King, which all allowed the UMT to influence policies (Anderson, 2016, pp. 102–105). However, the strong link between political parties and labor unions has led to the fragmentation of the labor movement into competing labor unions and dismantled the dominant role of the UMT. At times, the monarchy encouraged such a process as it did as well when it adopted the strategy of the fragmentation and weakening of political parties (Anderson, 2016, pp. 106–112). Moreover, Interviewee-O2 believed that labor unions’ political affiliations sometimes discredited them in front of their labor constituencies, especially when these unions made concessions which did not meet workers’ expectations. Interviewee-O3 referred to the case when the leftists were incorporated into the government in the 1990s, and despite their long and harsh political struggle with the state, they started to make concessions. The unions linked to them could not then criticize them.

Nevertheless, labor unions were able at times to coordinate and work together, such as in the case of the *Koutla* that was created among many opposition labor unions and parties and was active in the 1990s (Anderson, 2016, pp. 228–231). According to Interviewee-L1, despite disagreements, independent labor unions managed to reach almost a consensus in key issues. For instance, Interviewee-L2s mentioned the current coordination among the big five labor unions in issues related to the public sector concerning employment and work contracts. They believed that the just transition was one of those issues in which there would be no room but to cooperate.

4.3.3. State-CSOs’ relations

According to Interviewee-C2, civil society activities increased in Morocco in the post-2011 period, where this process was institutionalized by the 2011 constitution and relevant laws. Coinciding with discrediting major political parties accused of political failure (a process sometimes deliberately done by the monarchy) CSOs appeared as the true defenders of social demands and the “driving force of social change”, yet in a very heterogenous way (Mouna, 2020).

Such heterogeneity should have negatively impacted coordination among CSOs. Interviewee-C2 suggested a number of factors hindering inter-CSOs coordination pointing to be the lack of information and an ecosystem that would enable the establishment of a wide CSO network. An example of such networks is the Moroccan Alliance for Climate and Sustainable Development (AMCDD), which is a large platform that brought together CSOs concerned about the energy transition. It organized a national congress every three years where the latest was

participated and inaugurated by the Minister of Energy Transition and Sustainable Development (AMCDD, 2024). The effectiveness of this platform in channeling CSOs' interest representation remains an open question.

In terms of the relation to the state, CSOs' power tended to be too weak. Generally, the state managed to depoliticize CSOs by infiltrating them and integrating them to its patronage (Atia and Herrold, 2018; Jacques, 2023). This was done mainly through the royal's National Initiative for Human Development (INDH) which provided funding for CSOs. It was controlled by the Ministry of Interior and seemed to direct CSOs' projects according to its priorities (Atia and Herrold, 2018). Interviewee-C2 noted, for instance, that big CSOs avoided sensitive issues. The margin that was given to CSOs according to the 2011 Constitution seems also to be diminishing, which would further weaken CSOs in their relation to the state. The state approved a bill in August 2024 (Bill 03.23) that denies CSOs from acting independently and initiating legal procedures tackling public property offences. Before approving this bill, some CSOs were successful in suing officials (even a former minister) with corruption charges (Al-Ashraf, 2024).

Further limits seem to be placed on Local CSOs. Interviewee-C2 pointed out that some local community collectives were not institutionalized as official CSOs, rendering it hard to make their voices heard. The Ministry controlled the daily activities of local CSOs which were monitored by state appointed officials, *Mqaddems*. State consultation with CSOs was confined to technical issues, they were excluded from politically related decisions, and only local CSOs closely linked to the state received various benefits (e.g.: project funding) (Haddad et al., 2022). Local CSOs' power is further diminished by the limits placed on their engagement in major protests or receiving support from other CSOs or other actors. Interviewee-C2 pointed out that local protests were usually quickly quelled, with little public dissemination of news on their occurrence. This could be largely attributed to the problems faced by the media and even critical media outlets. Growing prosecution of journalists, low tolerance to coverage of sensitive issues, and the control of major mass media outlets by the state induced journalists to practice self-restraint and denied critical media from playing any significant role (Issawi, 2021).

4.3.4. Inter-social actors' relations

Inter-societal actors' relations in Morocco represented another important contextual condition. Interviewee-L1 assessed the relations between labor unions (at least the interviewee's union) and the CGEM as being strong, despite the presence of some conflicts. For instance, and according to Interviewee-B3, CGEM supported the raise in minimum wages even when the TPE-PME (as apparently a more genuine representative of SMEs) tried to resist it. However, the strong relations between the unions and the CGEM did not apply generally to their relationship with businesspeople. Interviewee-L1 asserted that the general attitude in the private sector was to fight against the labor movement and discourage workers from joining them. The constitutional rights stressing unions' freedom were not respected in practice. Seemingly, there was a continuity to what Cammett and Posusney (2010) pointed out in the pre-2011 period, where it was reported how businesspeople arbitrarily dismissed and harassed union organizers, especially in certain areas such as the Sale free trade zone. Moreover, Interviewee-O3 pointed out how some firms established their own unions to overshadow the independent union movement and then engaged with their affiliated unions as the workers' representative bodies. Thus, the relations between labor unions and big business tycoons seemed to be confrontational and beyond the scope of the CGEM interest representation and mediation capacity.

The relations between labor unions and SMEs did not seem to be much better. According to Interviewee-B3, there was no dialogue between the TPE-PME and labor unions. The discussion on raising minimum wages seemed to have been a sensitive issue that burdened the relations between both sides, as the association was strongly against it,

arguing that SMEs were already burdened by the COVID 19 crisis and the rise in energy prices.

Some coordination existed between labor unions and CSOs, according to Interviewee-L1. Labor union interviewees (Interviewee-L1 and Interviewee-L2s) generally affirmed that there were partnerships even with foreign-based CSOs, and that there were no major reservations about mutual cooperation. Generally speaking, the CDT's strategy, for instance, was to forge alliances with diverse groups on social issues and this has increased in the post-COVID period, according to Interviewee-L2s. The strong relations between labor unions and political parties is to be noted here.

4.3.5. Contextual conditions: power and coordination

The previous discussion pointed to the presence of several contextual conditions that were likely to shape the social contract related to the green transition in Morocco. The most important condition was the presence of a crony capitalist mode, where the state is dominant and connected tycoons are obtaining various privileges (Adly, 2010; Enderwick, 2005; Sabry, 2019). However, and unlike many countries in the MENA region having such a state-society mode, social actors in Morocco enjoyed significant organizational power. There was, however, fragmentation of interest representation. This is true for labor unions, CSOs (where it is more expected), and business associations. For the latter, their interest representation was additionally overshadowed by the individual power of tycoons acting, most likely, independently from the broad-based CGEM.

4.4. The mechanism and the resultant social contract

The green transition schemes represented the cause that set various mechanisms into action, where the impact of each of these mechanisms on the resultant social contract was shaped by various contextual conditions. Fig. 4 summarizes the process that is discussed below in more detail.

As with other North African countries, the green transition was itself triggered by external factors that was largely exogenous in terms of their relationship with state-society relations. The EU's growing demand on renewable energy sources and its intensive international efforts through various developmental aid and diplomatic means to advocate the green transition set the process forward and provided the cause.

The first actor (entity) to react to this trigger was the state. Some exogenous (with respect to state-society relations) contextual conditions motivated it to react positively and endorse the transition; these included the insufficient fossil fuel resources of the country, the political tensions with the oil-rich neighboring Algeria which could have provided those resources with low costs, and the geographical proximity to Europe. A further exogenous factor was the prevalence of relatively low value-added activities and low levels of innovation despite the relatively strong integration of the Moroccan economy to global and especially European value chains. Endogenous factors that shaped state's actions were its strong relations with business tycoons and the relatively more open state-society relations in the country. These factors (exogenous and endogenous) shaped state policies that guided the green transition schemes in Morocco. On their turn these policies then provided various incentives to different societal actors. Each of these actors functioned as an entity and took actions according to their perceived interests; yet different contextual conditions shaped the impact of those social actors' actions on the outcome, the resulting social contract. These included tycoons power vis a vis the other societal actors, high coordination between the state and tycoons (mainly through the *Makhzan*), well organized but fragmented labor and entrepreneurs, and less coordination among both actors and CSOs. This strengthened the impact of tycoons' activities and downplayed the impact of the other social actors. Other contextual conditions shaped the interests of the various actors and influenced their activities. This included the experience of structural change and violations of labor laws that made labor a little concerned

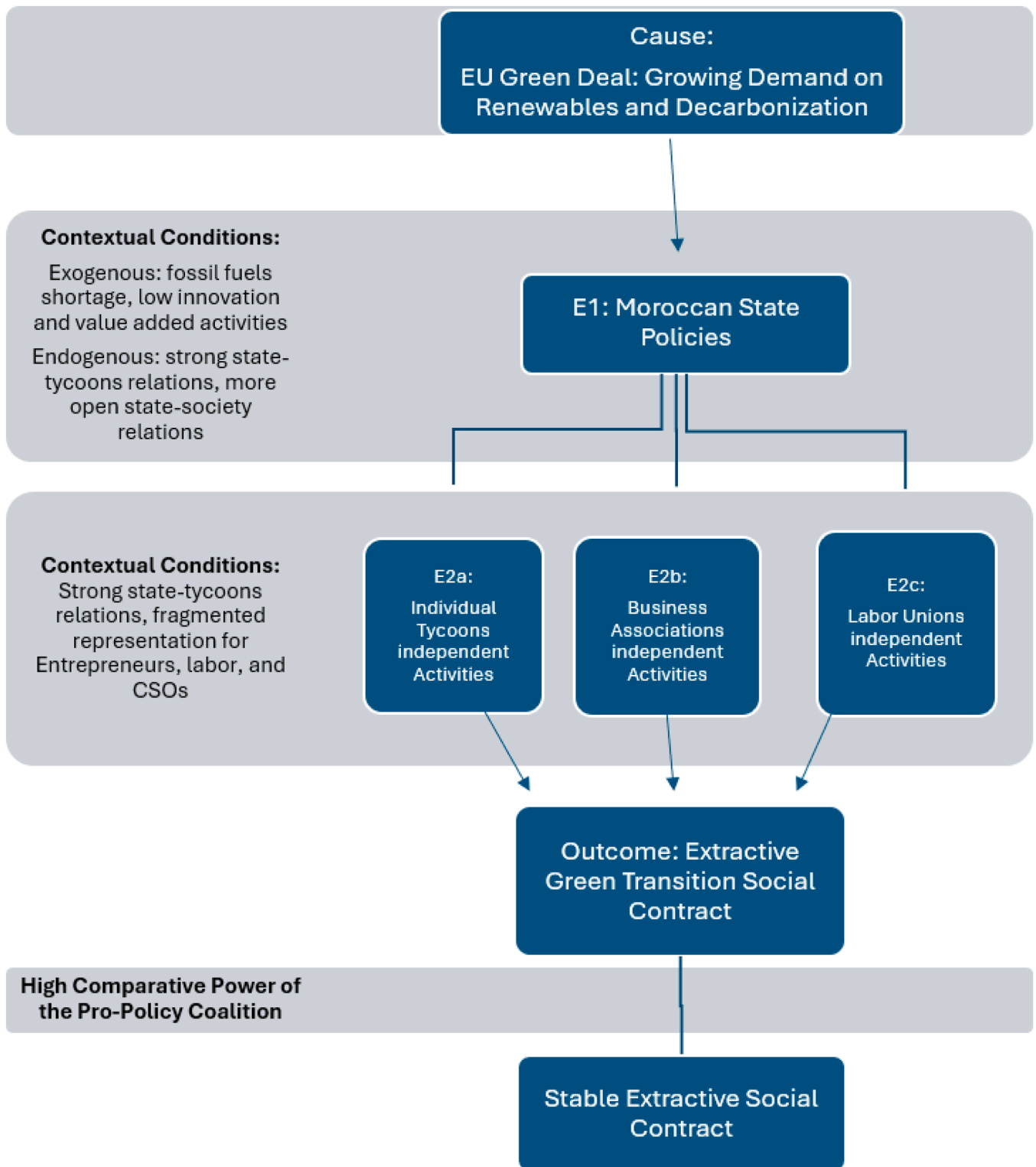


Fig. 4. Process tracing of the development of the green transition social contract in Morocco. (E) refers to entity or, as in the present context, actors, so, (E1): the state, (E2a): individual tycoons, (E2b): businesspeople, (E2c): labor.

about the potential challenges of the transition.

The transition schemes accrued benefits mainly for the state and tycoons, leaning more towards an extractive social contract. Other societal actors were largely excluded from the process, had little benefits, and might have been as well skeptical about the process. This is confirmed by the accounts of various interviewees. Interviewee-B1, for instance, pointed out that social dialogues on green issues were more

exclusively done between the CGEM and the government. Although they focused mainly on employment and there was a general realization that retraining was needed for the transition, unions were not present. Interviewee-B3 confirmed that the state discussed the green transition mainly with the CGEM without involving the TPE-PME. Both Interviewee-L2s and Interviewee-C2 expressed, respectively, their wishes that decision making in the green transition would involve labor

unions or CSOs. Consultation with CSOs, according to Interviewee-C2, at times was only conducted to appease donors, lacked transparency, and was often done at an extremely late stage after projects were already set. Interviewee-C1 pointed out that there was no multilateral framework to discuss the energy transition among labor unions and the CGEM. This also seemed to be missing between the CGEM and CSOs.

Is this contract stable? Fig. 5 summarizes the policy coalitions in the pro (with) and contra (against) sides and their comparative power and coordination among each coalition's actors. Three levels were identified for each of the dimensions considered: low, medium, and high. On the x-axis, the interest dimension is represented. Positive values, ranging from (1) for low to (3) for high, indicate positive interest, while negative values, from (-1) for low to (-3) for high, denote antagonism towards the transition. A value of 0 is assigned to actors who are neutral in terms of interests. The y-axis scales power with positive values only, ranging from (1) for low to (3) for high. Coordination is depicted by lines connecting the various actors within the same camp (pro or contra), with dotted lines indicating low, dashed lines medium, and solid lines high coordination.

As Fig. 5 shows, the pro-green transition coalition camp included the state and several businesspeople groups. The state faced little if any friction among its different constituents in terms of its support for the transition. The King is a rallying point and has dedicated much support for the transition (Haddad et al., 2022), which has boosted the process. For instance, Interviewee-O1 believed that the King's involvement would accelerate the adoption of a regulatory framework for the production of green hydrogen, a process that had been facing governance and coordination problems between the different interested state ministries and institutions. On the other hand, interested businesspeople are operating in industries with which the renewable energy industry had backward and forward linkages and those energy intensive industries that exported to the EU. These tend to be big businesses under the control of local tycoons or MNCs or medium businesses. Small and Micro firms are loosely a part of these coalitions but there is a potential for them to be an active part if more attention was given to the low voltage and self-consumption schemes and backward integration of the renewable industry is expanded to acquire more local content in various fields. The coordination between the state and these groups of interested businesspeople is extraordinarily strong, especially for the relation between the state and domestic business tycoons because of the Makhzan and the strong relations between the state and the CGEM. The pro-coalition is extraordinarily strong, has the most powerful actors in state-society relations in Morocco (the state and tycoons), is highly coordinated, and its constituent actors have a high interest in the transition given the opportunities that it provides.

On the other camp, there is hardly any solid resistance or concrete formulation of interests that identifies the green transition as a clear

threat. Labor unions have doubts based on past experiences, but these are not sharp enough to induce them to organize a resisting block. Interviewee-L2s stated that the unionists in CDT formed a committee for a just transition that dealt with labor concerns and that such committees were supposed to be formed in each of the main labor unions in Morocco. As Interviewee-L1 pointed out, the main concern was long-term and poorly compensated job losses. The unionists still, however, uttered their support for the transition regarding it as inevitable and beneficial. The concern was rather on obtaining better terms and being more involved in decision making. CSOs, on the other hand, are fragmented by nature and- as noted by Interviewee-L1- there were not many that set the environment as their main concern. They did not seem either to have access to the political system as tycoons and labor. In other words, there was hardly a significant contra policy coalition camp, and this is attributed especially to the lack of a clear interest identification. In terms of power, labor unions still had a significant power even if they were fragmented. The unions were also willing to coordinate with CSOs. Yet, even if the threat became clearer and a contra coalition started to shape, that coalition would hardly match the power of the pro-coalition and push the probability of the green transition below the threshold (h). It is very unlikely that a prospective contra coalition would make the process unstable and push it on the medium run towards the null social contract. Hence, the extractive social contract characterizing the green transition in Morocco is likely a stable one.

Considering the larger context of green transition in the MENA region, the Moroccan social contract and despite its extractivity could be the least extractive and more inclusive than in other countries of the region. It is also likely the most stable, at least in the medium run. Tunisia is perhaps the most comparable case in this regard, given its high geographical proximity to Europe and its current deficiency in the production of fossil fuels. Tunisia in the post 25th of July 2022, and contrary to the Moroccan case, has likely a more extractive social contract that focuses mainly on state actors. It is also an instable contract because of the surviving power or active role of various societal actors who feel more threatened by the transition such as the major labor union in the country and various CSOs defending the rights of local communities (see Sabry, 2024). In Algeria, Egypt, and the United Arab Emirates, interests again were most likely centered at state actors and these interests were overshadowed by these countries' high dependency on their fossil fuel resources, reducing the stability of their social contract even if threatened societal actors have no significant power to challenge the state elites.

5. Conclusion

The social contract governing the green transition in Morocco tends to be an extractive and stable one. Several contextual conditions, some exogenous and mostly endogenous, helped shape the impact of various actors' activities, leading to the realization of such an extractive social contract. The presence of a crony capitalist state-society relations mode was particularly an important contextual condition, setting the state as the most powerful actor and tycoons as the second powerful with strong relations between both sides. The interests in the transition was fostered by other exogenous contextual conditions but also by state policies. The social contract was stable given the power of the pro-policy coalition and the lack of a clear interest identification among potential candidates of a contra-policy coalition. Nevertheless, such a social contract would likely intensify the inequality of chances between big business tycoons and SME entrepreneurs and the deepen the marginalization of local communities and their exclusion from the benefits of the green transition as a sustainable developmental project. Labor might also suffer because of the inadequacy of structural transformation support.

Morocco is likely to proceed successfully in its remarkable path towards the green transition, at least in the medium run. As pointed out by Interviewee-S1, Morocco set extremely ambitious targets. Even if these were not yet met (as the interviewee assessed) or unlikely to be met, the

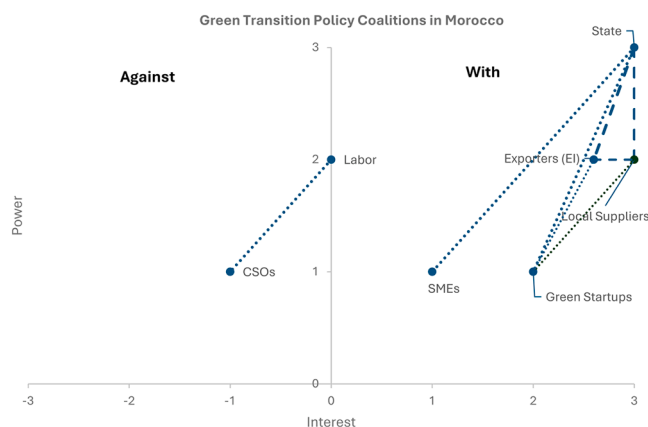


Fig. 5. Green transition policy coalitions in Morocco. EI refers to energy-intensive industries

progress in the transition process when compared with other MENA countries looks impressive. In the long run, however, a more inclusive social contract will arguably have a better chance of being stable. Such a social contract that would account for the interests of more actors would not likely necessitate many disruptions in the Moroccan case.

At the other end of the African continent, one of the most inspiring approaches towards the green transition is offered by South Africa, a worldwide major user and exporter of coal (Hägele et al., 2022). The country adopted a “Framework for a Just Transition” which set, as a decision-making priority, meeting human development goals when assessing the economic and social implications of transition policies. This framework was developed by the Presidential Climate Commission (PCC) that was set in December 2020 to engage in state-society dialogues and provide guidance on how to adopt a just transition in the country. In order to develop this framework the PCC sponsored various research works, conducted different events in which various state and societal actors’ perspectives were presented, and extensively consulted concerned societal actors (e.g.: labor, SMEs, local communities). The consultation proved to be crucial for designing a framework that fits South Africa and its specific conditions and helped in identifying various just-transition-related principles. Distributive justice, for instance, entailed labor skill development, sharing transition burdens, fostering corporate social and environmental responsibilities, and developing local capacities (Presidential Climate Commission, 2022). Agreeing with the set distributive justice objectives, the Renewable Energy Independent Power Producer Procurement Programme (REI4P), targeting the generation of 20 GW of renewable energy generation by 2030, assigned 20 % of the revenues of the projects to local communities. The Department of Environmental Affairs (DEA) took into consideration social, environmental, and economic factors while conducting a spatial planning for solar and wind projects in a way that meets the needs and potential of different areas of the country (Hägele et al., 2022). Even if problems such as inadequate job creation and the major challenge of phasing out of coal still exist, the various set mechanisms would arguably address these concerns in due time.

Morocco could also follow this approach and realize a more inclusive social contract. The country has already strong state-society dialogue mechanisms in which various social actors are integrated. Labor unions participate in these dialogues and there are some successful structural change retraining cases. The TPE-PME also take part in some dialogues as a more authentic representative of small enterprises and there is only a need to expand its representation in a way that matches the current representation of the CGEM. Integrating CSOs to the process should not be either a big challenge given that the EU is the most important investor in renewable energy projects and is normally committed to environmental and social impact assessment; and it additionally supports many CSO organizations. The EU could as well promote programs for energy communities that it already supports in European countries and where Denmark is a pioneer (European Commission, 2024; Nordic Energy Research, 2024). By engaging local communities as owners or shareholders in the renewable energy projects conducted in their lands, their interest in the transition would be maximized as they could benefit from a part of the generated energy, desalinated water, as well as from the energy export revenues. This will transcend the whole current discussion on what is the proper compensation for local communities and integrate them as partners. The EU could also support the successful implementation of these programs by training local CSOs to enable them to inform and organize local communities to facilitate the creation of those communities. The EU is capable of doing this thanks to its active presence in Morocco and its various initiatives dealing with Moroccan CSOs (e.g.: the German GIZ’s program of “Maghreb cities are adapting to climate change” and “Making social protection systems

gender-equitable” (GIZ, 2025)), besides the existence of some Moroccan CSOs that are branches of European ones (e.g.: Heinrich Böll Stiftung and Friedrich Ebert Stiftung).

Given the export-oriented nature of many activities impeded in the green transition schemes of Morocco, there is a prospect for many actors to benefit from an increase in efficiency, competition, human development, and upgrading of skills, in comparison to the case in which an inward-looking strategy prevails. Public Private Dialogues (PPDs) and various state-society dialogue platforms should target the development of better and widespread ALMPs and training programs that address the interests of both labor and businesspeople and assist in the major structural transformation that is taking place in the country. More resources should be channeled to ANAPEC and effective involvement of representatives of major labor unions and business associations in the country in TVET programs should be ensured and strengthened. Similarly, the state- with the help of international donors and especially the EU- should channel more resources to green startups and partner with business associations in promotional activities to link those startups with MNCs and Moroccan big firms in the renewable energy sector.

Reaching a more inclusive social contract through the suggested policies would increase most actors’ incentives and interests in the green transition. This would likely accelerate the pace of the green transition in Morocco that would hardly face any resistance. There would also be little reason for the various actors to deviate from the social contract even when any changes are witnessed in state-society relations; that is to say, it would be stable even in the long run. This would remain the case if unforeseeable unfavorable changes in EU policies happened or the global green transition drive received a (likely temporary) setback because of US President Donald Trump’s re-ascendancy to power. While maintaining a more inclusive social contract, actors’ interests in the transition might fall because of these international changes. However, it will be very unlikely to witness the development of substantial negative interests against the transition in a way that would destabilize the social contract, especially that Morocco has never been a fossil fuel producing country.

Finally, this paper opens the way for similar investigations of other countries in the MENA region and beyond. It also invites further investigation of the topic in ways that sharpen the assessment done on the Moroccan case and on other countries. This could be done, for instance, through empirical studies that explore in more depth the various economic, social, and environmental impacts of the green transition and model scenarios of future development of various risks and opportunities. This would help in assessing how the green transition social contract could evolve through time towards the long run. Accounting for the possible changes in EU policies and state-society relations could also help in sharpening such an assessment.

CRedit authorship contribution statement

Mohamed Ismail Sabry: Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.

Conflict of interest statement

I hereby confirm that there are not any actual or potential conflict of interest including any financial, personal or other relationships with other people or organizations that could inappropriately influence, or be perceived to influence, the submitted paper: “**The Green Transition in Morocco: Extractivity, Inclusivity, and the Stability of the Social Contract**”.

Appendix

The list of interviewees

- Interviewee-B1: A leading member at the *La Confédération Générale des Entreprises du Maroc* (CGEM) business association
 Interviewee-B2: An employee at a petrol company.
 Interviewee-B3: A leading figure at the *Confédération Marocaine de Très Petites Entreprises & Petites et Moyennes Entreprises* (TPE-PME)
 Interviewee-B4: A startup entrepreneur working in the green sector
 Interviewee-B5: A startup entrepreneur
 Interviewee-C1: A member of the *Friedrich Ebert Stiftung* in Morocco
 Interviewee-C2: A member of the *Heinrich Böll Stiftung* in Morocco
 Interviewee-L1: A leading member in the Democratic Federation of Labor (CDT), one of the major labor unions in Morocco.
 Interviewee-L2s: Several CDT members, who were interviewed during a union meeting.
 Interviewee-O1: An employee who is responsible for the green hydrogen project at the *Kreditanstalt für Wiederaufbau* (German Development Bank, KfW)
 Interviewee-O2: A leading researcher at the Rabat Social Studies Institute (RSSI)
 Interviewee-O3: A leading researcher at RSSI
 Interviewee-O4: A researcher at RSSI working on environmental issues
 Interviewee-S1: A former official at the Ministry of Transition and Sustainable Development and currently has a leading position at the *Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH* (GIZ) in Morocco.

Table A.1

Technology transfer and imitation versus innovation in Morocco and countries at the technological frontier.

	Mor	USA	Top 5 World econ ^a	Mor	USA	Top 5 World econ.
Technology imitation/transfer:						
Availability of latest technologies	5.02	6.44	5.95	5.05	6.52	5.94
Firm-level technology absorption	4.72	6.05	5.8	4.54	6.02	5.55
Foreign Direct Investment (FDI) and technology transfer	4.93	4.98	4.82	4.6	5.16	5.02
Technological adoption (composite)	4.92	5.74	5.49	4.73	5.9	5.5
Innovation:						
Capacity for innovation	2.64	5.32	5.18	3.76	5.96	5.33
Patents, applications/million population.				1.39	170.6	167.2
Technology imitation fostering factors:						
Technological readiness (composite)	3.53	5.31	5.04	3.71	6.04	5.65
ICT use (composite)	2.26	4.59	4.49	2.69	6.17	5.79
Innovation fostering factors:						
Innovation (composite)	2.96	5.66	5.02	3.11	5.68	5.15
Quality of scientific research institutions	3.18	5.99	5.5	3.13	6.04	5.65
Company spending on R&D	2.69	5.47	5.18	2.95	5.72	5.25
University-industry collaboration in R&D	3.03	5.8	5.2	3.12	5.71	5.15
Gov't procurement of advanced technical products	3.6	4.72	4.25	3.11	4.58	4.29
Availability of scientists and engineers	4.38	5.6	5.11	4.07	5.56	5.12
Venture capital availability ^b	3.01	4	3.3	2.63	4.83	4.13

Source: Global Competitiveness Indicators (GCI) (World Economic Forum, 2018). Following the theoretical suggestions of Aghion et al. (2009), the United States of America and the five leading economies of the world (the USA, China, Japan, Germany, and the UK) are taken as two references for the technological frontier.

^a Self-calculation of the average of the five leading economies of the World in terms of GDP: the USA, China, Japan, Germany and the UK.

^b The indicator "venture capital availability" is originally placed in the GCI among the efficiency-driven determinants (the 8th pillar) but here it is placed among the policies fostering innovation.

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