

Morocco's Energy Transition before the Transition: A Legal and Institutional Genealogy of a State Choice (1982–2009)

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Abstract.

Morocco's renewable energy transition is often associated with the reforms introduced in 2009, notably the National Energy Strategy, the Moroccan Solar Plan, Law No. 13–09, and the creation of MASEN. However, this article argues that the foundations of this transition were established much earlier. Using a historical institutionalist approach, it examines the legal and institutional developments that shaped the sector between 1982 and 2009, including the creation of the CDER, the opening of electricity generation to private operators, the Jorf Lasfar concession, the PERG programme, and the EnergiPro scheme. The study shows that Morocco's high dependence on energy imports and growing electricity demand led to a gradual accumulation of reforms that paved the way for the 2009 strategy. Rather than representing a complete break with the past, the 2009 reforms built upon existing institutions and governance mechanisms, helping to explain the centralised and state-led nature of Morocco's renewable energy model.

Keywords: Morocco; energy transition; renewable energy law; path dependence; historical institutionalism; critical juncture; rural electrification; independent power production; Law 13–09; energy security.

Résumé :

La transition énergétique marocaine est généralement associée aux réformes de 2009, notamment à travers la Stratégie Énergétique Nationale, le Plan Solaire Marocain, la loi n° 13-09 et la création de MASEN. Cet article montre toutefois que les fondements de cette transition ont été posés bien avant cette date. En s'appuyant sur l'approche de l'institutionnalisme historique, il analyse les évolutions juridiques et institutionnelles intervenues entre 1982 et 2009, telles que la création du CDER, l'ouverture de la production électrique aux opérateurs privés, la concession de Jorf Lasfar, le programme PERG et le dispositif EnergiPro. L'étude met en évidence que la forte dépendance énergétique du Maroc et la croissance soutenue de la demande en électricité ont favorisé une accumulation progressive de réformes ayant préparé le tournant de 2009.

1. Introduction

In November 2009, before an audience of investors, lenders and foreign partners gathered in Ouarzazate, Morocco announced a solar programme of unprecedented scale for the region, embedded in a National Energy Strategy targeting 42 per cent of installed electricity capacity from renewable sources by 2020. Within eighteen months, the legal architecture followed: Law No. 13–09 on renewable energies, Law No. 57–09 creating the Moroccan Agency for Solar Energy (MASEN), and Law No. 16–09 transforming the historic renewable energy centre into a national efficiency agency. The sequence was celebrated internationally as the birth of an African clean-energy champion, and most legal scholarship on Moroccan energy law has adopted the same chronology, treating 2009–2010 as the founding moment of the country's energy transition and confining everything earlier to a background paragraph (Kousksou et al., 2015; El-Katiri, 2016).

This article defends a different reading. The 2009 moment was not a big bang but the visible crest of a much longer institutional wave. The legal and organisational materials from which the Moroccan renewable model was built — a state agency dedicated to renewable energy, the concession technique for mobilising private capital in generation, programmatic planning under royal arbitration, and the framing of energy policy as a matter of national security — were all assembled between 1982 and 2009, in response to a structural condition that predates any climate concern: Morocco's position as one of the most energy-dependent economies of its size in the world, importing around 97 per cent of its primary energy supply on the eve of the 2009 strategy (Ministry of Energy, 2009; IEA, 2014). What 2009 added was not new institutional matter but a new purpose assigned to inherited matter.

The research question is therefore twofold: why did the Moroccan state engage with renewable energy as early as the beginning of the 1980s, decades before the global renewable boom; and how did the instruments accumulated between 1982 and 2009 shape — and constrain — the design of the post-2009 transition? The argument proceeds in the vocabulary of historical institutionalism. The founding

sequence of the 1980s created a reactive path (Mahoney, 2000) organised around energy security; the 1990s constituted a critical juncture in which liberalisation instruments — independent power production, concession contracts, programmatic electrification — were adopted for fiscal and developmental rather than environmental reasons; the 2000s saw incremental layering of new instruments upon old ones; and 2009 operated as a conversion, in Thelen's sense, of this inherited toolkit to a new purpose, green industrial policy (Streeck and Thelen, 2005; Mahoney and Thelen, 2010; Pierson, 2000; North, 1990).

Three clarifications delimit the claim. First, the argument is not that nothing changed in 2009: the scale of ambition, the mobilisation of international climate finance and the industrial dimension of the solar plan were genuinely new. The claim is that the form of the response — its institutional carriers, its contractual technology, its mode of governance and its discursive justification — was inherited, and that this inheritance is what best explains the distinctive physiognomy of the Moroccan model. Secondly, the argument is not teleological: the actors of 1982 or 1994 did not intend a renewable transition, and the genealogy reconstructs enabling conditions, not a master plan. Thirdly, the argument is legal–institutional rather than purely political: while the role of the monarchy and of regime dynamics is fully acknowledged (Rignall, 2016; Cantoni and Rignall, 2019), the explanatory weight is placed on the accumulated stock of legal instruments and organisational capabilities available to decision-makers in 2009.

The article contributes to three literatures. To Moroccan and comparative energy law scholarship, it offers the first systematic legal genealogy of the pre-2009 period, ordinarily compressed into a few introductory lines. To the political economy of Middle East and North African energy transitions (El-Katiri, 2016; Amegroud, 2015; Cantoni and Rignall, 2019; Steinbacher, 2015), it adds a specifically legal–institutional layer of explanation, showing how doctrinal micro-choices — a decree-law amending a 1963 dahir, a levy financing rural electrification — aggregate into macro-institutional trajectories. To the theory of institutional change, and in particular to its recent application to energy transitions (Unruh,

2000; Lockwood et al., 2017; Aklin and Urpelainen, 2018), it provides a case in which a developing state converted security-driven institutions into transition-driven ones without significant institutional displacement — a pattern, the conclusion suggests, likely to be found in other import-dependent economies of the Global South.

The article proceeds as follows. Section 2 sets out the analytical framework, the method of legal process tracing and the sources. Section 3 reconstructs the founding sequence from the 1963 electricity monopoly to the creation of the Centre de Développement des Énergies Renouvelables (CDER) in 1982. Section 4 analyses the critical juncture of the 1990s: the opening of generation to independent producers, the Jorf Lasfar concession, the Global Rural Electrification Programme (PERG) and the regional interconnection turn. Section 5 examines the layering of the 2000s, from EnergiPro to the first utility-scale renewable assets. Section 6 rereads the 2009 strategy as a conversion of the inherited toolkit and asks why the feed-in-tariff route was not taken. Section 7 places the Moroccan model in the comparative mirror of the German Energiewende. Section 8 discusses what the genealogy explains, what it costs, and how the post-2009 record tests the argument. Section 9 concludes.

2. Analytical Framework, Method and Sources

2.1. Historical institutionalism and the legal analysis of energy transitions

The analysis rests on the conceptual apparatus of historical institutionalism, one of the three canonical 'new institutionalisms' (Hall and Taylor, 1996; Thelen, 1999). Three concepts carry the argument. Path dependence designates processes in which early institutional choices generate increasing returns — learning effects, coordination effects, adaptive expectations — that render alternatives progressively more costly, so that history 'locks in' particular arrangements even when superior options exist in the abstract (David, 1985; Arthur, 1989; North, 1990; Pierson, 2000). Critical junctures are relatively short moments of institutional openness in which the choice among viable alternatives durably sets the subsequent path; their

identification requires showing both that alternatives were available and that the choice made became self-reinforcing (Collier and Collier, 1991; Capoccia and Kelemen, 2007). Gradual institutional change, finally, captures transformations that occur without formal rupture. Streeck and Thelen (2005) and Mahoney and Thelen (2010) distinguish five modalities, of which two are central here: layering, the addition of new rules alongside old ones that continue to operate, and conversion, the redirection of existing rules and organisations towards goals different from those for which they were created.

Energy systems are a privileged terrain for this apparatus. Unruh (2000) showed that carbon-based energy systems exhibit 'carbon lock-in': the co-evolution of technologies, infrastructures, institutions and expectations creates systemic increasing returns that obstruct decarbonisation even when its desirability is acknowledged. Lockwood et al. (2017) have argued, symmetrically, that the politics of sustainable energy transitions cannot be understood without attention to the institutional inheritance of each national energy sector — market structures, regulatory traditions, state-utility relations — which filters which transition instruments are adoptable. The present article applies this insight to a legal corpus: it asks what the law of the Moroccan energy sector, sedimented over five decades, made possible, probable and improbable in 2009. Table 1 summarises the five mechanisms of gradual change and their Moroccan illustrations, anticipating the empirical sections.

Mechanism	Definition	Moroccan illustration
Displacement	Removal of existing rules, introduction of new ones	Largely absent: the 1963 monopoly framework was never abolished, only derogated from
Layering	New rules attached alongside existing ones	Decree–Law 2–94–503 (1994) and EnergiPro (2006) added to the 1963 dahir without repealing it
Drift	Changed impact of rules due to shifts in the environment	Erosion of ONE's financial model under demand growth and administered tariffs (2000s)
Conversion	Existing rules redirected to new goals	2009–2010: agency model, IPP template and programme method redeployed for renewables
Exhaustion	Gradual breakdown of rules over time	Progressive obsolescence of the pure monopoly model after 1994

Table 1. Mechanisms of gradual institutional change (Streeck and Thelen, 2005; Mahoney and Thelen, 2010) and their manifestations in the Moroccan energy sector. Source: author's elaboration.

2.2. Method: legal process tracing

The method is a process tracing of the legal corpus — dahirs, laws, decree–laws, implementing decrees and programme documents adopted between 1963 and 2010 — read in sequence and in context. For each instrument, the analysis reconstructs the problem to which it responded, the alternatives discussed or available at the time, the institutional form chosen, and the traces this form left in subsequent instruments. The approach treats legal texts not as isolated normative events but as sedimentary layers: each new instrument is drafted by actors socialised in the previous ones, negotiated with organisations created by them, and constrained by the commitments — contractual, financial, symbolic — they generated. Process

tracing of this kind is standard in historical–institutionalist political science (Capoccia and Kelemen, 2007); its application to a body of energy legislation is the article's methodological contribution. Table 2 presents the corpus in chronological order, with the institutional mechanism each instrument exemplifies.

Instrument (year)	Object	Institutional mechanism
Dahir No. 1-63-226 (1963)	Creation of ONE; state monopoly on generation and transmission	Founding framework
Law No. 26-80 (1982)	Creation of the CDER, first renewable energy agency	Foundation of the agency model
Decree-Law No. 2-94-503 (1994)	Opening of generation to independent producers selling to ONE	Layering on the 1963 monopoly
PERG (1996, programme)	Global rural electrification programme	Programmatic method; layering
Jorf Lasfar concession (1997)	First large IPP (1,356 MW, coal), 30-year PPA	Operationalisation of the IPP template
EnergiPro (2006, ONE scheme)	Industrial self-generation up to 50 MW; surplus purchase	Layering; first renewable remuneration
National Energy Strategy (2009)	42% renewable capacity target for 2020; four pillars	Integrating framework; conversion
Law No. 13-09 (2010)	Open access regime for private renewable generation	Conversion of the authorisation-plus-PPA logic
Law No. 57-09 (2010)	Creation of MASEN	Conversion/duplication of the agency model
Law No. 16-09 (2010)	CDER converted into ADEREE	Conversion of the historic agency

Table 2. The legal corpus, 1963–2010: principal instruments, object and institutional mechanism. Source: author's elaboration from the Bulletin Officiel of the Kingdom of Morocco.

2.3. Sources and data

The empirical material combines this legal corpus with existing statistical series drawn from the annual reports of the Office National de l'Électricité (ONE), the Moroccan Ministry of Energy, the International Energy Agency's in-depth reviews of Morocco (IEA, 2014; IEA, 2019), World Bank project and evaluation documentation on rural electrification and independent power production (World Bank, 2011), and the secondary academic literature. No new data are produced: the article's empirical claim is precisely that the publicly available series, read in sequence, suffice to establish the genealogical thesis. Table 3 assembles the key indicators of the Moroccan energy system on the eve of the 2009 strategy, with their sources; they quantify the structural condition — extreme import dependence, rapid demand growth, negligible renewable share — that the genealogy takes as its explanandum's context. Where figures differ marginally across sources, the order of magnitude is what matters for the argument, and approximate values are flagged as such.

Indicator	Value (year)	Source
Energy import dependence (share of primary energy supply)	≈ 97% (2008)	Ministry of Energy (2009); IEA (2014)
National energy import bill	≈ MAD 71 billion (2008), roughly 10% of GDP at the peak of the 2008 oil price cycle	Ministry of Energy (2009); Amegroud (2015)
Average annual growth of electricity demand	≈ 7% per year (2002–2008)	ONE annual reports; IEA (2014)
Rural electrification rate	18% (1995) → ≈ 96.8% (2009)	ONE, PERG programme reports; World Bank (2011)
Cumulative PERG investment	> MAD 20 billion (1996–2009)	ONE, PERG programme reports
First large IPP concession (Jorf Lasfar, JLEC)	1,356 MW (units 1– 4, concession signed 1997)	World Bank / IFC project documentation; Amegroud (2015)
First commercial wind farm (Koudia Al Baida)	50 MW (commissioned 2000)	ONE; IEA (2014)
Renewables in primary energy supply (excl. biomass)	< 1% (2008)	IEA (2014)
2009 strategy target	42% of installed capacity renewable by 2020 (solar, wind,	Ministry of Energy (2009)

Indicator	Value (year)	Source
	hydro: 2,000 MW each)	

Table 3. Key indicators of the Moroccan energy system on the eve of the 2009 strategy, with sources. Figures are as reported in the cited official series; $\approx$ indicates rounded values.

3. The Founding Sequence: Scarcity, Security and the First Renewable Institution (1963–1982)

3.1. The 1963 dahir and the state productive monopoly

The deep structure of Moroccan energy law was laid down at independence. The dahir of 5 August 1963 (No. 1-63-226) created the Office National de l'Électricité and conferred on it a monopoly over the generation and transmission of electricity, absorbing the concessions inherited from the Protectorate-era private operator Énergie Électrique du Maroc. The choice was in no way idiosyncratic: the state productive monopoly, vertically integrated and financed on the public balance sheet, was the dominant organisational model of the era across both developed and developing economies (Gratwick and Eberhard, 2008). What the 1963 dahir naturalised in Morocco, however, would prove remarkably durable: the idea that electricity is a matter of sovereign provision, organised by a national office under governmental tutelage, with private participation conceivable only as an exception to be authorised, framed and contracted by the state. Every subsequent opening of the sector — in 1994, in 2010, in 2023 — would take the legal form of a derogation from, or a controlled breach in, the 1963 monopoly, rather than its abolition.

Morocco's specificity lay not in its institutional model but in its resource endowment. Unlike Algeria, whose hydrocarbon wealth financed a rentier trajectory, Morocco possesses no significant oil or gas reserves; its coal production at Jerada was modest and declining. The energy system was therefore built, from the outset, on imported coal and petroleum products, refined domestically by SAMIR from 1962, supplemented by hydropower whose expansion — a legacy of

the Protectorate's dam policy continued after independence — was constrained by the country's hydrology and by competing agricultural uses of water. Electricity generation itself depended overwhelmingly on imported fuels. This structural exposure defined the problem space of Moroccan energy policy for the following half-century: the relevant question was never whether to depend on external supply, but how to finance, secure and diversify that dependence.

3.2. Oil shocks, adjustment and the fiscalisation of energy

The 1973 and 1979 oil shocks converted structural exposure into fiscal emergency. The energy import bill became one of the principal burdens on the balance of payments during the very years in which the phosphate boom collapsed and Morocco slid towards the debt crisis and the structural adjustment programmes of the early 1980s. Energy thus entered the Moroccan policy agenda not as an environmental or even primarily industrial question, but as a fiscal one: a line in the balance of payments to be compressed. Two durable consequences followed. First, energy policy was captured by the language of security and scarcity — diversification of suppliers, reduction of the bill, protection against price cycles — a framing that has remained the sector's discursive matrix ever since, including in the 2009 strategy documents (Ministry of Energy, 2009; El-Katiri, 2016). Secondly, the state's fiscal exhaustion under adjustment meant that any future expansion of the energy system would have to be financed, in one way or another, off the public balance sheet — a constraint that prepared the ground for the contractual innovations of the 1990s examined in Section 4.

3.3. Law No. 26–80 and the CDER: institutionalising renewables avant la lettre

It is in this context — balance-of-payments distress, not environmental concern — that Law No. 26–80 created the Centre de Développement des Énergies Renouvelables (CDER) in 1982, headquartered in Marrakesh. The CDER was conceived as a research, demonstration and promotion body for solar, wind and biomass technologies, targeting primarily decentralised and rural applications: solar water heaters, photovoltaic kits for dispersed dwellings, micro-hydro, improved

biomass stoves. Its creation, remarkably early by developing-country standards — it predates by years most European renewable agencies — was a direct institutional response to the oil shocks: renewables were understood as indigenous resources capable, at the margin, of substituting imported fuels in uses where the grid did not reach.

The creation of the CDER had two consequences that would prove path-setting. First, it institutionalised renewable energy as a permanent object of state administration. However modest its budgets and however marginal its technologies in the energy balance, the CDER ensured continuity of expertise, of data collection — the first systematic wind and solar resource assessments of the national territory — and of administrative advocacy across three decades. Institutional memory of this kind is precisely what path-dependence theory identifies as a carrier of increasing returns: when renewable energy became strategically central after 2008, Morocco already possessed a cadre of engineers and administrators for whom it was familiar terrain. The organisation itself proved convertible rather than disposable: the CDER would be transformed into the Agence Nationale pour le Développement des Énergies Renouvelables et de l'Efficacité Énergétique (ADEREE) by Law No. 16-09 in 2010, and then into the Moroccan Agency for Energy Efficiency (AMEE) by Law No. 39-16 in 2016 — a forty-year organisational lineage without displacement.

Secondly, and more consequentially, Law No. 26-80 established the agency model — a specialised public establishment operating alongside the ministerial administration, endowed with legal personality and a targeted mandate — as the default institutional form for renewable energy policy. When, in 2009–2010, the state needed an institutional carrier for the solar plan, it did not create a ministry directorate, a regulatory commission or a state-owned utility subsidiary: it created another specialised agency, MASEN, whose form is the direct heir of the 1982 choice, upgraded from a research mandate to a transactional and industrial one. Figure 1 situates this founding sequence within the overall institutional chronology that the following sections unfold.

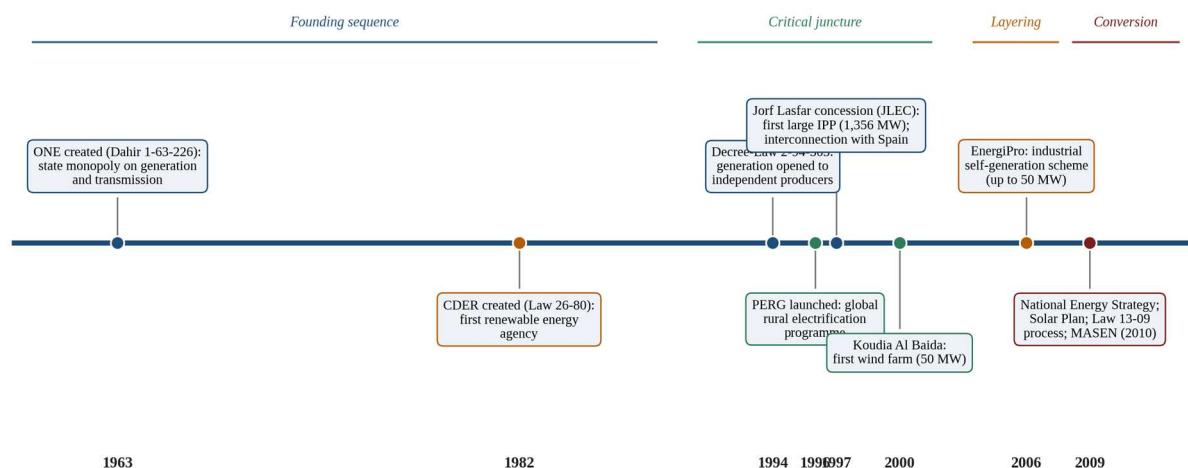


Figure 1. Institutional and legal chronology of the Moroccan energy system, 1963–2009, with the periodisation used in this article. Source: author's elaboration from the legal corpus.

4. Liberalisation without Transition: The Critical Juncture of the 1990s

The 1990s constitute, in the strict sense of Capoccia and Kelemen (2007), the critical juncture of the Moroccan energy trajectory: a compressed period in which several institutional alternatives were genuinely available, in which choices were made under acute constraint, and in which the arrangements chosen generated the increasing returns that would channel all subsequent development. Three innovations define the juncture: the opening of generation to independent producers (1994), the Jorf Lasfar concession that operationalised it (1997), and the Global Rural Electrification Programme (1996). A fourth, less noticed, completes the picture: the physical integration of Morocco into regional energy networks.

4.1. Decree–Law No. 2–94–503 and the concession technique

The first formative act came in September 1994, when Decree–Law No. 2–94–503 amended the 1963 dahir to allow ONE to conclude agreements with private producers for capacity above 10 MW, with the output sold exclusively to ONE under long–term power purchase agreements (PPAs). The legal technique deserves attention. The reform did not abolish the monopoly, create a market or establish third–party access to the grid; it authorised a contractual exception to the

monopoly, entirely intermediated by the incumbent: the private producer exists legally only through and for its contract with ONE. Morocco thereby joined, in its own manner, the first wave of independent power projects (IPPs) then sweeping the developing world under the encouragement of the international financial institutions (Levy and Spiller, 1994; Guasch, 2004; Gratwick and Eberhard, 2008).

The motivation was once again fiscal. ONE, financially exhausted by the investment effort of the previous decades and by tariffs held below cost, could not finance on its balance sheet the generation capacity required by demand growing at 6–7 per cent a year; the Treasury, under post-adjustment discipline, could not do so either; and the World Bank and bilateral lenders were conditioning support on private participation in infrastructure (Guasch, 2004; World Bank, 2017, retrospectively codifying the doctrine). Environmental considerations were entirely absent: the capacity to be contracted was coal-fired. The 1994 decree-law is thus a textbook case of an institutional innovation adopted for reasons unrelated to the function it would later serve — the availability heuristic of path dependence.

4.2. Jorf Lasfar and the naturalisation of the IPP template

The first application was the Jorf Lasfar concession of 1997: the transfer to a private consortium (ABB and CMS Energy, constituting the Jorf Lasfar Energy Company, JLEC) of two existing 330 MW coal units and the construction of two more, for a contracted capacity of 1,356 MW — at the time the largest independent power project in Africa — under a thirty-year power purchase arrangement with ONE, structured on a project-finance basis with sovereign comfort instruments. The legal significance of this episode for the later transition is easily missed precisely because Jorf Lasfar was a coal plant. What the 1990s installed was not renewable capacity but a contractual technology: the long-term concession-cum-PPA between a state offtaker and a private special-purpose company, with limited-recourse finance, bankability requirements, risk matrices negotiated project by project, and the accompanying administrative know-how — tender design, PPA drafting, negotiation with international lenders — accumulated inside ONE and the ministries.

When Morocco later sought private capital for solar and wind at scale, it did not need to invent a legal instrument; it converted the IPP template. The Noor projects tendered by MASEN after 2010 are, in their contractual skeleton, descendants of Jorf Lasfar: competitive tender, long-term PPA with a state offtaker, special-purpose vehicle, project finance, sovereign support. In path-dependence terms, the 1990s created increasing returns to the concession technique — learning effects within the administration, credibility effects vis-à-vis international lenders for whom Morocco became a known and bankable jurisdiction — that made alternative routes to renewable deployment, notably the feed-in tariff then emerging in Europe, comparatively costly, administratively foreign and politically unattractive (Pierson, 2000; Levy and Spiller, 1994). Section 6.3 returns to this suppressed alternative.

4.3. PERG: electrification as state legitimization

The third component of the juncture was the Global Rural Electrification Programme (Programme d'Électrification Rurale Global, PERG), launched in 1996 when barely 18 per cent of rural households had access to electricity — one of the lowest rates in the region, and a figure increasingly perceived as politically untenable in the final years of Hassan II's reign and the opening years of Mohammed VI's. Financed by a combination of ONE resources, a levy on electricity sales and contributions from municipalities and beneficiary households, PERG raised the rural electrification rate to roughly 97 per cent by 2009, connecting tens of thousands of villages by grid extension and equipping remote douars with individual photovoltaic kits under a fee-for-service scheme where connection was uneconomic (World Bank, 2011). Figure 2 charts the trajectory — one of the fastest electrification drives recorded in a developing country.

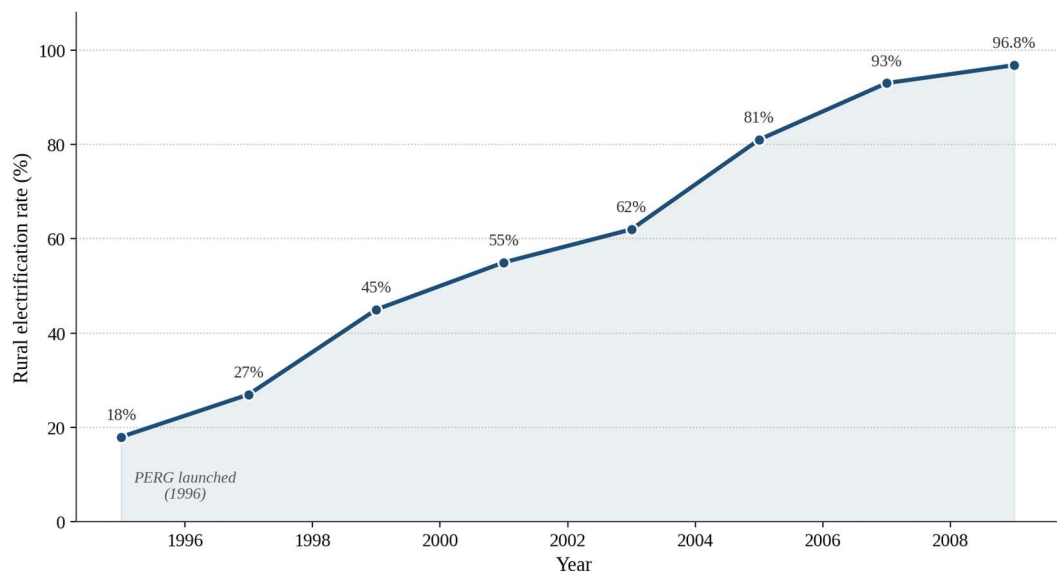


Figure 2. Rural electrification rate under PERG, 1995–2009 (per cent of rural households). Source: author's elaboration from ONE/PERG programme data as reported in ONE annual reports and World Bank (2011); intermediate values are as published in programme reviews.

PERG matters to the genealogy in four ways. Materially, it created the distribution infrastructure and the demand base upon which any subsequent generation programme would rest — and, by its very success, contributed to the demand growth that made new capacity urgent. Institutionally, it demonstrated that ONE could execute a decade-long national programme under close governmental steering, with quantified targets, annual tranches and monitored delivery: the programmatic, target-driven mode of action later replicated, at higher capital intensity, by the solar and wind plans. Symbolically, it fused energy policy with state legitimization and territorial integration, embedding the sector within the monarchy's developmental narrative; the solar programme of 2009, announced under direct royal patronage at Ouarzazate, inherited this register (Rignall, 2016). Technologically, finally, PERG gave Morocco its first mass experience of solar equipment: the tens of thousands of photovoltaic home systems installed in remote villages constituted a modest but real domestication of the technology, its supply chains and its maintenance economics, a decade before Ouarzazate.

4.4. The regional turn: interconnection and the pipeline

A fourth strand of the 1990s is usually narrated separately but belongs to the same juncture: the physical integration of Morocco into regional energy networks. In 1996, the Maghreb–Europe gas pipeline linking Algeria to Spain through Moroccan territory was commissioned, giving Morocco transit royalties in kind that fed its first gas-fired plants; in 1997, the first submarine electricity interconnection with Spain entered service, later doubled, making Morocco the only African electricity system synchronously connected to the European grid. The interconnection functioned in the 2000s chiefly as an import lifeline during peak stress; but it also created, silently, the material precondition for the export-oriented imagination of the 2009 solar plan and its successors — the idea that Moroccan sun could one day feed European demand, later reformulated in the Desertec debates and the green-hydrogen 'Offre Maroc'. Here again, an infrastructure built for security reasons proved convertible to transition purposes.

4.5. A juncture, not a transition

By 2000, the Moroccan energy sector had thus been reshaped: private capital produced a growing share of electricity under long-term contracts; a national programme was electrifying the countryside partly with solar kits; the system was physically tied to Europe. Yet nothing in this decade was conceived as an energy transition. The IPP reform was fiscal, PERG was developmental and legitimacy, the interconnection was security-driven; renewables figured only at the decentralised margin. This is precisely what makes the decade a critical juncture in the technical sense: choices made for reasons exogenous to decarbonisation — the concession rather than the market, the programme rather than the regulator, the national office rather than unbundled utilities — durably fixed the institutional grammar in which, fifteen years later, decarbonisation itself would have to be conjugated.

5. Accumulating Pressures and Instrument Layering (2000–2008)

5.1. The tightening constraint

The 2000s tightened the structural constraint on every dimension. Electricity demand grew at close to 7 per cent annually between 2002 and 2008, driven by urbanisation, industrialisation, tourism development and the very success of PERG, which had turned millions of rural inhabitants into consumers; peak demand repeatedly tested available capacity, and the system's reserve margin thinned to uncomfortable levels, with the interconnection with Spain increasingly mobilised as a structural import channel rather than an emergency backup (IEA, 2014). On the supply side, dependence remained near-total: on the eve of the 2009 strategy, imports covered around 97 per cent of primary energy supply, and renewables other than large hydro and traditional biomass contributed less than 1 per cent (IEA, 2014). The oil price cycle culminating in the summer of 2008 pushed the national energy import bill to around MAD 71 billion — on the order of a tenth of GDP at the peak — while consumer price subsidies on petroleum products, channelled through the compensation fund, transformed every increment of the world oil price into a direct budgetary haemorrhage (Ministry of Energy, 2009; Amegroud, 2015). Energy security, in the strictest sense, returned to the top of the governmental agenda — now with a fiscal urgency exceeding even that of the early 1980s.

5.2. EnergiPro and the invention of private renewable remuneration

The regulatory response of the decade was incremental layering rather than structural reform. Its most consequential piece was the EnergiPro initiative launched by ONE in 2006: large industrial consumers were allowed to develop self-generation capacity — in practice, wind projects, given the quality of the northern and Atlantic wind resource — up to 50 MW, with guaranteed access to the grid to wheel the power to their own sites and a commitment by ONE to purchase surplus output at an attractive tariff. Legally, EnergiPro was minor: a commercial programme of the incumbent resting on the self-generation allowance of the existing framework, not a legislative reform. Genealogically, it was decisive: it was

the first Moroccan instrument specifically designed to remunerate private renewable generation, it acclimatised industrial groups (cement, mining, sugar) to wind investment, and it tested in miniature the combination — private generation, guaranteed grid access, offtake by the incumbent — that Law No. 13–09 would generalise four years later. The open-access regime of the 2010 law is EnergiPro written into legislation and extended from self-generators to merchant producers.

5.3. First assets: Koudia Al Baida and Aïn Beni Mathar

The first utility-scale renewable assets appeared in the same period, each instructive in its institutional form. The 50 MW Koudia Al Baida wind farm near Tétouan, commissioned in 2000, was developed not under a market scheme but under an early build-operate-transfer arrangement with ONE as offtaker — the IPP template at small scale, applied to wind a decade before the wind programme. The Aïn Beni Mathar plant, decided in the mid-2000s with Global Environment Facility and African Development Bank support and commissioned in 2010–2011, was an integrated solar combined-cycle installation: a 472 MW gas plant incorporating a 20 MW parabolic-trough solar field. Its hybrid design is emblematic of the decade: solar entered the Moroccan system as an appendage to conventional capacity, financed by climate instruments grafted onto a security-driven project. Both assets confirmed the pattern: renewable electrons, when they came, came through the contractual and organisational channels built in the 1990s, not through any new market architecture.

5.4. Climate diplomacy as positioning

Internationally, Morocco hosted COP7 in Marrakesh in 2001 — the conference that finalised the implementation rules of the Kyoto Protocol — and began aligning its diplomacy with the emerging climate regime, a positioning pursued through the 2000s and later capitalised at COP22, again in Marrakesh, in 2016. The alignment was, at this stage, largely declaratory: domestic energy policy remained governed by security and cost. But it built diplomatic capital and familiarity with climate finance institutions that would substantially lower the transaction costs of assembling the

international funding coalition — World Bank, European Investment Bank, KfW, African Development Bank, Agence Française de Développement — behind the post-2009 solar programme. The genealogy of the transition thus includes a diplomatic layer: the 2009 strategy could be financed because Morocco had spent a decade becoming legible to climate lenders (Steinbacher, 2015).

5.5. 2008: components without a framework

By 2008, then, all the components of the later model existed separately: a permanent agency dedicated to renewables (CDER), a proven concession/IPP technique and the administrative know-how to run it, a programmatic delivery capacity demonstrated by PERG, a first remuneration scheme for private renewable generation (EnergiPro), pilot assets in wind and hybrid solar, physical interconnection with the European market, diplomatic capital in the climate regime, and an acute, quantified security rationale sharpened by the 2008 price shock. What was missing was an integrating framework that would assemble these components, scale them and assign them a common purpose. This is precisely what 2009 supplied — and, the next section argues, essentially all that it supplied.

6. 2009 as Conversion, Not Rupture

6.1. The strategy and the legislative package

The National Energy Strategy adopted in 2009 rested on four declared pillars — security of supply, generalised access at optimised cost, demand management, and environmental preservation — and set the emblematic target of 42 per cent of installed electricity capacity from renewable sources by 2020, divided equally between solar, wind and hydro at 2,000 MW each, alongside energy-efficiency objectives (Ministry of Energy, 2009). Figure 3 depicts the targeted capacity mix. The Moroccan Solar Plan announced at Ouarzazate in November 2009 gave the solar pillar its programmatic vehicle; the integrated wind programme followed for the second pillar. The legislative package of 2010 completed the edifice: Law No. 13-09 opened the generation and commercialisation of renewable electricity to private operators with a right of access to the grid, graduated by voltage level and

subject to authorisation or declaration according to capacity; Law No. 57–09 created MASEN as the dedicated solar agency with a transactional mandate covering development, tendering and co-investment; Law No. 16–09 converted the CDER into ADEREE, specialising the historic agency in efficiency and support functions.

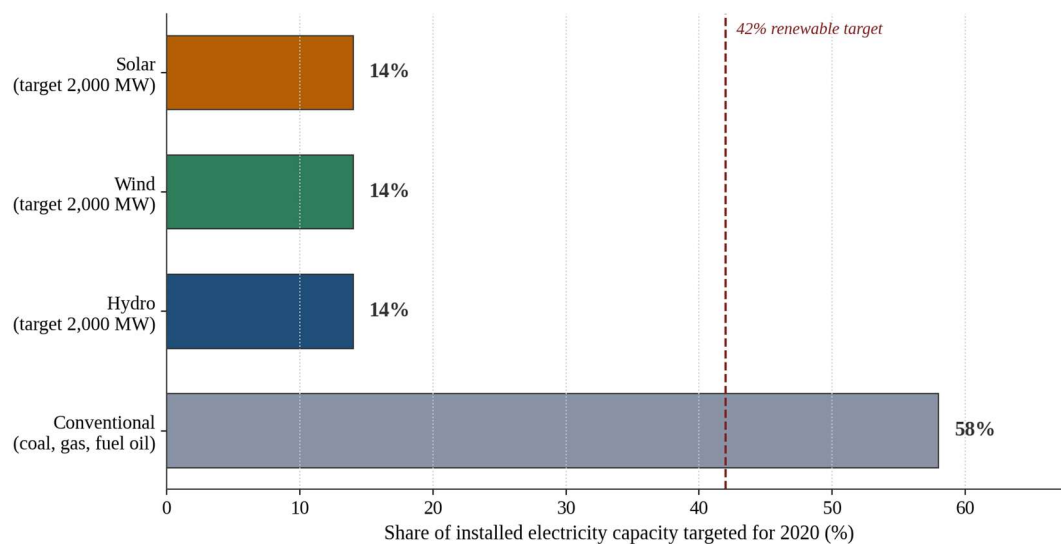


Figure 3. Installed-capacity mix targeted by the 2009 National Energy Strategy for 2020. Source: author's elaboration from Ministry of Energy (2009).

6.2. A genealogical reading, element by element

Read genealogically, each element of the 2009–2010 package is a conversion of an inherited instrument, in the precise sense of Streeck and Thelen (2005): existing rules and organisations redirected to purposes different from those of their creation. MASEN reproduces — at industrial scale, with a transactional rather than research mandate — the specialised-agency form pioneered by the CDER in 1982; the simultaneous conversion of the CDER itself into ADEREE completes the pattern of duplication-cum-specialisation without displacement. The delivery model chosen for the Noor projects — competitive tendering of long-term concessions to private consortia selling to a state offtaker under project finance — is the Jorf Lasfar template redirected from coal to solar. Law No. 13–09 generalises the authorisation-plus-PPA logic tested under Decree-Law No. 2–94–503 and EnergiPro, rather than importing the feed-in-tariff architecture then dominant in

Europe. The programmatic, target-driven governance under royal arbitration — quantified national objectives, annual delivery tranches, direct monarchical patronage — extends the PERG method to generation. Even the strategy's discursive core prolongs the 1982 rationale: the 2009 documents justify the renewable targets first by import dependence and price exposure, with decarbonisation and industrial development as co-benefits (Ministry of Energy, 2009; El-Katiri, 2016). Table 4 and Figure 4 systematise this mapping.

Inherited instrument (period)	Mechanism	2009–2010 expression and beyond
Specialised state agency — CDER (Law 26–80, 1982)	Reproduction / duplication	MASEN (Law 57–09) with a transactional mandate; CDER converted into ADEREE (Law 16–09), later AMEE (Law 39–16)
Concession / IPP technique — Decree-Law 2–94–503 (1994); Jorf Lasfar (1997)	Redirection (coal → solar/wind)	Noor and wind tenders: competitive tendering, long-term PPAs with a state offtaker, project finance
Programmatic delivery under royal arbitration — PERG (1996)	Extension of method	National Energy Strategy: quantified targets, annual tranches, royal patronage of the Solar Plan
Private renewable remuneration — EnergiPro (2006)	Generalisation	Law 13–09 open access regime; later Laws 58–15, 40–19 and 82–21 extending access and self-production
Energy-security framing (1973–1982 oil shocks)	Prolongation of rationale	Strategy justified by import dependence and price exposure; decarbonisation as co-benefit
Regional interconnection (1996–1997)	Reorientation (import lifeline)	Export dimension of the solar plan; later green-hydrogen 'Offre Maroc'

Inherited (period)	instrument	Mechanism	2009–2010 expression and beyond
		→ export imagination)	

Table 4. The 2009–2010 package as conversion: inherited instruments, mechanism and post–2009 expression. Source: author's elaboration.

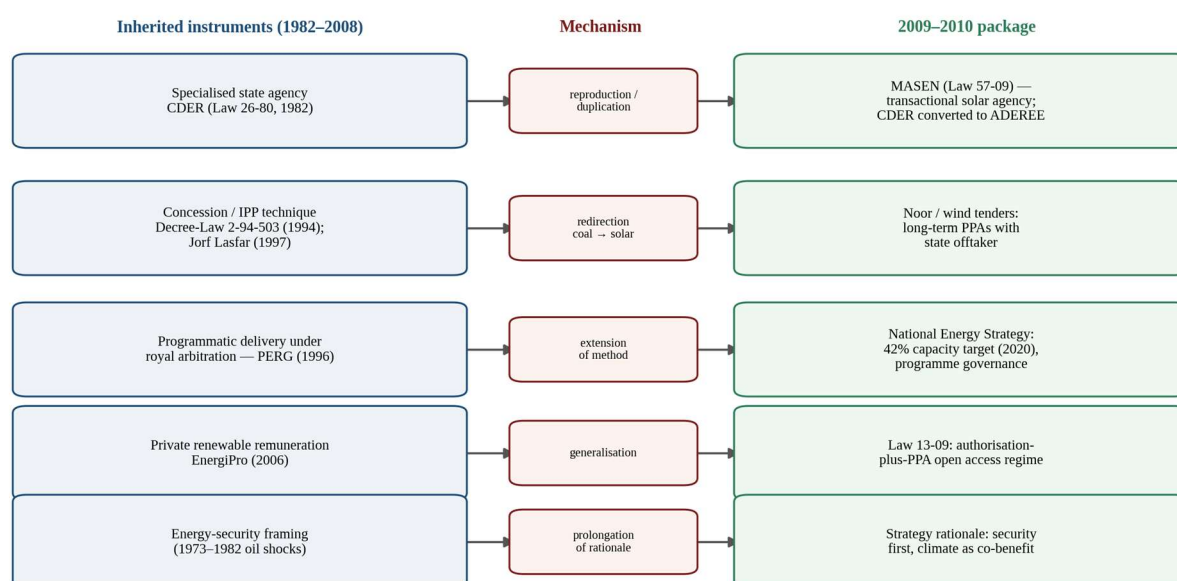


Figure 4. The conversion mechanism: inherited instruments (1982–2008) and their redirection in the 2009–2010 package. Source: author's elaboration.

6.3. The road not taken: why no feed-in tariff

The counterfactual sharpens the argument. In 2009, the internationally dominant instrument for renewable deployment was the feed-in tariff (FiT): a legislated purchase price, open to any producer, remunerating decentralised as well as utility-scale generation, of which the German Erneuerbare-Energien-Gesetz was the canonical model (Jacobsson and Lauber, 2006). Morocco knew the model well — German cooperation actively promoted it within the bilateral energy partnership — and deliberately declined it. Steinbacher (2015), on the basis of extensive interviews with Moroccan decision-makers, documents explicit 'negative lesson-drawing': Moroccan officials judged the FiT fiscally uncontrollable and misaligned

with objectives centred on system cost, security and industrial scale rather than on citizen participation. The genealogical reading adds the institutional substrate of that judgement. A FiT presupposes what Morocco did not have — a retail market, a cost-reflective tariff structure, an independent regulator to administer the price, a constituency of potential small producers — and ignores what Morocco had in abundance: agency-led programme delivery and concession contracting. Given that endowment, the tender-plus-PPA route was the lowest-transaction-cost use of existing institutional capital (Williamson, 1985; North, 1990). Path dependence, not preference alone, selected the instrument.

6.4. The window: why 2009

Why, finally, did the conversion occur in 2009 and not earlier or later? The timing is well captured by Kingdon's (2011) image of the policy window: three streams aligned. The problem stream peaked with the 2008 oil price shock, which turned the import bill and the compensation fund into first-order fiscal threats. The policy stream had matured: concentrated solar power and wind had reached costs at which international climate finance could bridge the remaining gap, and the instruments described above stood ready. The politics stream supplied a project matching the monarchy's appetite for emblematic national programmes with international resonance, in the lineage of PERG and the Tanger-Med port (Rignall, 2016; Cantoni and Rignall, 2019). The window made the moment; the inheritance made the model.

7. Comparative Epilogue: The Moroccan Model in the Mirror of the Energiewende

The inheritance explains the most debated feature of the Moroccan model: its centralised, state-led, generation-focused character, regularly contrasted in the comparative literature with decentralised, market-based transitions, of which Germany's Energiewende is the paradigm (Cantoni and Rignall, 2019; Haas, 2019). The contrast is frequently attributed to political regime type — authoritarian centralisation versus democratic pluralism. Without denying the relevance of

regime variables, the genealogy supports a more institutional explanation, consistent with the comparative findings of Lockwood et al. (2017): each country converted the energy institutions it had.

Germany entered its transition with a liberalised, unbundled electricity market, a dense ecology of municipal utilities and cooperatives, a strong tradition of administrative price-setting, and an anti-nuclear social movement seeking an ownership stake in generation; the FiT was the instrument that converted that endowment, empowering millions of small investors against incumbent utilities (Jacobsson and Lauber, 2006; Steinbacher, 2019). Morocco entered 2009 with a vertically intermediated system organised around a state offtaker, strong capabilities in exactly two things — agency-led programme delivery and concession contracting — and with no retail market, no distributed-generation constituency and no tariff regulator: the national electricity regulator (ANRE) would only be created by Law No. 48-15 in 2016, and its remit remains narrow. Each transition design is the image of its institutional inheritance; the comparison of outcomes — German strength in distributed capacity and participation, Moroccan strength in rapid utility-scale delivery at competitive prices — reflects the respective endowments more than any hierarchy of models. Table 5 summarises the contrast.

Dimension	Morocco	Germany
Market structure at the outset	Vertically intermediated system; state offtaker (ONE); no retail market	Liberalised, unbundled market; multiple suppliers and grid operators
Key inherited capabilities	Agency-led programme delivery; concession/IPP contracting	Administrative price-setting; dense municipal and cooperative utility ecology
Social carrier of the transition	State and monarchy; international lenders	Anti-nuclear movement; households, farmers, cooperatives

Dimension	Morocco	Germany
Principal instrument	Competitive tenders with long-term PPAs (Law 13–09; MASEN)	Feed-in tariff (EEG), later auctions
Regulator	Late and narrow (ANRE, Law 48–15, 2016)	Established (Bundesnetzagentur), broad remit
Comparative strength	Rapid utility-scale delivery at competitive prices	Distributed capacity, citizen participation and ownership
Characteristic blind spot	Weak decentralised segment; offtaker risk concentration	System costs, grid tensions, incumbent resistance

Table 5. Institutional endowments and transition designs: Morocco and Germany compared. Source: author's elaboration from Jacobsson and Lauber (2006), Steinbacher (2015; 2019), Lockwood et al. (2017) and the Moroccan legal corpus.

8. Discussion: What the Genealogy Explains — and What It Costs

8.1. Three payoffs

The genealogical reading has three payoffs. First, it corrects the periodisation of Moroccan energy law: the relevant founding act is Law No. 26–80 of 1982, and the 1994 decree-law is at least as consequential for the transition's legal form as Law No. 13–09 itself — a claim with practical implications for how the field is taught and how reform proposals are framed. Secondly, it reframes the question of why Morocco moved early. The country was not an environmental pioneer; it was a security-constrained importer whose institutions, built to manage scarcity, proved convertible to green industrial policy when technology costs, oil prices and international finance aligned after 2008. Thirdly, it identifies the mechanism of change: conversion and layering without displacement. No incumbent institution

was dismantled in 2009: ONE (ONEE after its 2011 merger with the water office) retained its offtaker centrality, the agency model was duplicated rather than replaced, the concession technique was redeployed rather than superseded. For the theory of institutional change, the case shows a developing state achieving rapid, large-scale policy reorientation precisely because it did not attempt institutional displacement — an inversion of the common assumption that ambitious transitions require prior structural reform.

8.2. The costs of inheritance

The same inheritance, however, carries costs that the post-2009 record has made visible. The concession/PPA model concentrates market and price risk on the state offtaker: every megawatt contracted is a long-term liability on the balance sheet of an operator whose financial fragility — a legacy of the PERG investment effort and of politically administered tariffs — has repeatedly constrained the pace of tendering and required state support. The absence of a sectoral regulator until 2016, and the narrowness of ANRE's remit since, reflect a system historically governed by programme and contract rather than by regulation — a trait against which current debates on distributed generation, on Law No. 82-21 on electricity self-production (2023) and on the opening of the medium-voltage segment are still working. The weakness of the decentralised, citizen-scale renewable segment is the mirror image of the model's utility-scale strength: the institutional channels through which European transitions recruited households and municipalities as producers simply do not exist in the inherited Moroccan architecture (Haas, 2019). And the land-mobilisation practices underpinning large projects have generated documented local contestation, managed through administrative and developmental channels rather than through participatory ones (Rignall, 2016). Path dependence explains the model's strengths and its blind spots alike — they are the same inheritance seen from two sides.

8.3. The post–2009 record as a test

If the genealogical thesis is correct, post–2009 legal development should itself display the same grammar — layering and conversion around a preserved core — rather than displacement. The record conforms. The amendments to Law No. 13–09 by Laws No. 58–15 (2015) and No. 40–19 (2021) successively widened access — opening the low-voltage segment, adjusting authorisation procedures, organising surplus sales — without touching the offtaker-centred architecture. Law No. 48–15 added a regulator alongside, not above, the historical governance of the sector. Law No. 82–21 finally organised self-production across voltage levels, generalising to all consumers what EnergiPro had piloted for industry in 2006 — a conversion of a conversion. Most strikingly, the green-hydrogen 'Offre Maroc' circular of 2024 and the preliminary land-reservation contracts it deploys reproduce, for a new vector, the familiar sequence: a national programme under royal patronage, a dedicated state structure, land assembled by the state, private consortia selected to contract long-term with public counterparts. The forty-year-old institutional matrix is not merely a historical explanation of 2009; it remains the generative grammar of Moroccan energy law.

8.4. Scope conditions and generalisation

Two scope conditions delimit the argument's generalisation. First, conversion presupposes an inheritance worth converting: states without a pre-existing agency tradition, contractual know-how or delivery capability cannot take this route, which may explain why IPP-based renewable programmes have travelled better to countries with prior IPP experience (Gratwick and Eberhard, 2008; Eberhard and Gratwick, 2011). Secondly, conversion presupposes centralised authority capable of reassigning institutional purposes quickly; polities with fragmented veto points may find layering easier than conversion (Mahoney and Thelen, 2010). Within these conditions, the Moroccan case suggests a hypothesis worth testing across the Global South: where energy transitions succeed in import-dependent developing states, they do so by converting security institutions, not by replacing them. Comparative candidates — Jordan's renewable programme, Senegal's IPP-based expansion,

Egypt's oscillation between FiT and tender models — offer a natural research agenda.

9. Conclusion

Morocco's energy transition did not begin in 2009. It began, in institutional terms, in 1982, when a fiscally besieged importer created a permanent administrative home for renewable energy; it took its contractual form in 1994–1997, when the concession technique was naturalised for fiscal reasons in a coal project; it acquired its programmatic method and its legitimating narrative with PERG after 1996; it was physically tied to the European market in the same years; and it assembled its first remuneration scheme for private renewables in 2006. The celebrated 2009 strategy converted this accumulated endowment to a new purpose — and its instrument choices, including the deliberate rejection of the feed-in tariff, are unintelligible without that endowment.

Recognising this genealogy is not an antiquarian exercise. It explains why the Moroccan model is state-led and concession-based; why its regulator came late and remains narrow; why its utility-scale achievements coexist with a stunted distributed segment; and why current reform debates — from Law No. 82–21 on self-production to the green-hydrogen 'Offre Maroc', itself a fresh conversion of the same toolkit — unfold within, rather than against, a forty-year-old institutional matrix. For legal scholarship, the case demonstrates the value of reading energy legislation genealogically, as sedimented layers rather than discrete reforms. For comparative transition studies, it displaces the question from 'which model is best?' to 'which inheritance is being converted?'. And for the theory of institutional change, it documents, in a Global South setting, the paradoxical efficiency of transformation without displacement: the Moroccan state changed its energy future by refusing to change its energy institutions — it changed what they were for.

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