

Digital Policy Hub – Working Paper

Do Not Disclose: Trade Secrets and Nigeria's Energy Transition

Clarence Sokolambe Lakpini

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About the Author

Clarence Lakpini is a Digital Policy Hub doctoral fellow pursuing a Ph.D. in intellectual property (IP) law at the University of Ottawa. During his Digital Policy Hub fellowship, he will examine how Nigeria can foster an equitable energy transition by leveraging digital technologies and reforming its IP to accelerate the adoption of solar energy. His research focuses on the intersection of digital technologies, IP law and energy justice in the Nigerian context, with the goal of providing policy recommendations for a just transition that supports underserved populations.

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67 Erb Street West
Waterloo, ON, Canada N2L 6C2
cigionline.org

Do Not Disclose: Trade Secrets and Nigeria's Energy Transition

Clarence Sokolambe Lakpini

Bottom Line Up Front

Nigeria's trade secret regime is based on the common law system and is administered by its judiciary. There have been calls to raise the standard of protection, including proposals to criminalize trade secret theft. This paper argues that the trend toward tightening intellectual property (IP) regimes to mirror higher standards than those set by the Agreement on Trade-Related Aspects of Intellectual Property Rights could have negative long-term impacts on innovation and technology transfer. Rather than copying trade secret standards of developed countries, Nigeria ought to focus on optimizing its current system to enable knowledge spillovers that could aid the development of its energy sector. Such an approach could improve Nigeria's chances of meeting its carbon-neutral targets by 2060.

Key Points

- Nigeria's power sector is one of the priority areas that the country has identified as a potential driver of carbon neutrality by 2060.
- There is a tension between the government's desire to boost local solar energy manufacturing and its continued reliance on imports to meet local demand.
- The modern energy system's incorporation of digital technologies to maximize energy efficiency and affordability makes trade secrets increasingly relevant to the solar energy sector.
- The National Intellectual Property Policy and Strategy highlights the need to enact legislation protecting trade secrets as part of Nigeria's innovation drive through IP reform.
- Nigeria's trade secret reform process should focus on optimizing its framework rather than resorting to extreme measures such as criminalizing trade secret theft.

Recommendation

- **Exercise regulatory temperance:** As a developing country, Nigeria faces the temptation to over-regulate its trade secret regime to mirror those of developed countries. An example of this is the call to criminalize trade secret theft. The addition of a criminal dimension to its regulation risks making the adjudication of trade secrets more complex, with much higher stakes for the judiciary and the public. Legislating statutory standards that harmonize the disparate elements currently governing trade secrets will create a more stable environment for litigants, and Nigeria is well within its rights to do so. However, law makers should ensure that in optimizing the framework, they do so in a way that does not obscure Nigeria's development goals and national prospects. Countries such as the United States have taken a tougher stance than necessary because of their comparative advantage. Until Nigeria sufficiently builds its innovation capacity, it is more advantageous to adopt a less-regulated trade secret regime that will encourage the necessary knowledge spillovers.

Introduction

At the twenty-sixth Conference of the Parties (COP26) to the United Nations Framework Convention on Climate Change in 2021, Nigeria committed to transitioning its economy to carbon neutrality by 2060.¹ Following COP26, the government published its energy transition plan, outlining oil, power, transportation, cooking and gas as five essential sectors that require attention to support a successful transition.² To achieve its transition objectives, both the transfer of green technology and the local innovation that supplement imports through manufacturing, as well as the adaptation of technologies to local realities using digital tools, are important. This paper examines trade secrets as a form of intellectual property (IP) that can either stimulate or stifle innovation in Nigeria's energy sector.

Despite its immense potential, Nigeria continues to underperform in several key areas, stunting its development (Ogunde 2019). The power sector is one example that demonstrates the country's protracted struggle for development (Igbino 2025). Diesel- and petrol-powered generators have become a part of daily life due to the country's frequent power outages, driven by its failing grid infrastructure (Ogundepo 2023; Jeremiah 2022; Olawin 2026). Furthermore, the government's removal of the subsidy on premium motor spirit has led to record fuel price increases, positioning solar energy as a viable solution to the erratic power supply (Majeed 2023; Adebayo 2023).

On the surface, it would appear that solar energy technologies are better protected under the patent system than under trade secrets. For instance, traditionally, solar companies have been more likely to apply for patents to protect hardware, such as solar panels, rather than to rely on trade secret protection, due to the relative ease of reverse engineering (Henry 2023; Radauer et al. 2025, 123). However, a more holistic perspective that views solar technologies within the broader context of the modern energy system, incorporating disruptive technologies such as artificial intelligence (AI), digital financial solutions and smart grid integration, extends the value of trade secrets beyond manufactured hardware (Rokonuzzaman et al. 2026; Lakpini 2026). These data-centric processes and technologies often take the form of service innovation and are generally a better fit for trade secret protection (Radauer et al. 2025, 123).

Nigeria is in the midst of its IP reform process, and trade secrets have emerged as one of the areas earmarked for legislative attention (The Federal Republic of Nigeria 2022). The paper argues that, as a developing country with a budding digital innovation system (Zandt 2022), Nigeria will continue to benefit from its trade secrets regime, remaining flexible enough to facilitate knowledge spillovers within its technology sector and potentially boost its long-term innovation prospects. The paper recommends that policy makers take a balanced approach to trade secret reform and exercise regulatory restraint.

¹ See www.energytransition.gov.ng/.

² *Ibid.*

Mitigating Nigeria's Electricity Deficit

In view of Nigeria's soaring population and well-documented electricity challenges, its energy transition must be efficiently implemented if the country is to fulfill its ambition to become carbon neutral by 2060. Widespread power cuts due to load shedding and frequent grid collapses, driven by a grossly limited power infrastructure, highlight the need for clean, reliable energy alternatives such as solar (Olawin 2025). The country's population is projected to almost double to roughly 400 million by 2050, underscoring the need to significantly increase power generation capacity in its energy mix, with solar energy expected to play a prominent role (United Nations Population Fund 2023, 2).³ To contextualize Nigeria's solar energy aspirations, the government has set an ambitious target of installing 209,000 megawatts (MW) of solar photovoltaic capacity by 2050, a significant increase from its cumulative installed solar capacity of 386 MW as of 2024, and more than 16 times its installed grid capacity from all sources (Solar Financed 2025; Chibuife 2026).⁴

Nigeria is Africa's second-largest solar panel importer, behind only South Africa, with approximately 2.9 million panels imported in 2025 alone (Jones 2025, 9; Aina 2026). Furthermore, the country relies heavily on Chinese imports to meet local demand for solar energy technology, with more than 70 percent of its solar panel shipments in the first half of 2025 coming from China (Oladipo 2025). As demand has continued to grow, questions about Nigeria's industrial strategy for balancing the urgent need for affordable, scalable solar solutions through importation with the desire to build local manufacturing capacity have gained prominence (Hakeenah 2025).

The Nigerian government's intent to promote local solar manufacturing informed its decision to place a short-lived ban on solar imports in 2025 (Jowett 2025; Hakeenah 2025). Nevertheless, it is ironic that despite the rhetoric around spurring growth in local solar manufacturing, the few local players with manufacturing capacity are forced to pay import duties on raw materials such as "aluminium frames, tempered glass, and other essential components, while foreign competitors can import fully assembled panels without any duty" (Innerkonsult Ltd. 2025; see also Alli 2025). The failure to provide trade incentives for the country's nascent solar manufacturing industry discourages growth due to very high manufacturing costs.

In addition to internal trade barriers, the lack of innovation capacity in the solar manufacturing sector is another challenge. The government has made moves to improve the situation, but scaling has proved a formidable challenge. An example of government intervention is the partnership between the National Agency for Science and Engineering Infrastructure and the China Great Wall Industry Corporation (Jacobo 2023). When completed, it "would allow Nigeria to locally produce the full supply chain of solar panels" (ibid.). Aside from gaining access to the manufacturing technology, technical know-how is required to run operations sustainably (Cross 1990). Therefore,

³ See www.energytransition.gov.ng/power/.

⁴ *Ibid.*

knowledge spillovers from such collaborations are essential if Nigeria is to successfully boost its local solar manufacturing sector and reduce its reliance on imports.

While the importation and local manufacturing or assembling of solar energy technologies are essential, digital solutions are providing a pathway to amplify the impact of solar energy hardware. The adoption of technologies such as the Internet of Things, advanced analytics, digital management systems and software-as-a-service could drive the evolution of Nigeria's energy sector (Daniel 2026). In modernizing Nigeria's energy sector, these digital solutions can improve efficiency and increase affordability, as seen with the fintech-powered pay-as-you-go model (Lakpini 2026). Owing to the fast-paced and ever-changing landscape of the digital technology industry, trade secrets are relied upon to safeguard underlying information and know-how. The next section will briefly examine the role of trade secrets in the innovation system.

The Role of Trade Secrets in the Innovation System

The Meaning and Nature of Trade Secret Protection

Trade secrets refer to commercially valuable information, known within a closed group of persons and for which reasonable steps are taken to preserve secrecy (World Intellectual Property Organization [WIPO] 2024, 17). They are distinct from patents because they thrive on non-disclosure and could potentially be protected indefinitely (Lewis 2018, 41, 48).⁵ It should be noted that although all trade secrets are a subset of confidential information, not all confidential information meets the threshold for protection as trade secrets (Thawe et al. 2023).

The Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) provides for the protection of undisclosed information, granting member states flexibility in its administration.⁶ Hence, while World Trade Organization (WTO) members must protect trade secrets, they have greater discretion over their governance than other forms of IP, such as patents or copyrights, which are typically statutorily guaranteed within local frameworks (Schultz and Lippoldt 2014, 8). Consequently, the flexibility in the mode of protection means that countries rely on various legal tools, ranging from common law administered through the judicial system, as seen in Nigeria, to outright statutory protection or a mix of both approaches, as is obtainable in the United States (Schultz and Lippoldt 2014, 8; Evans 2020; Gervais 2025, 13).

Trade secrets play an important role in the innovation ecosystem, as they allow individuals and companies to protect commercially valuable information that may not meet the requirements for patent protection (WIPO 2024, 13). Furthermore, regardless of patentability, in some cases, trade secrets are preferred over patents because they can maintain a competitive advantage for much longer than the 20-year patent term (ibid., 14). The trade-off is that trade secret protection will not cover legitimate disclosure

⁵ See www.wipo.int/en/web/trade-secrets.

⁶ WTO, *Agreement on Trade-Related Aspects of Intellectual Property Rights* (unamended), Annex 1C of the Marrakesh Agreement Establishing the World Trade Organization, 15 April 1994, 1867 UNTS 154, 33 ILM 1144 (1994) (entered into force 1 January 1995), art 39 [*TRIPS Agreement*]; online: WTO <www.wto.org/english/docs_e/legal_e/27-trips_01_e.htm>.

arising from publication by the trade secrets holder, independent discovery or reverse engineering (Bently and Aplin 2023, 74-75). Essentially, once a trade secret is disclosed by either legitimate or illegitimate means, for instance, through breach of confidence, it loses its value (ibid., 74).⁷

A core rationale for IP protection is the balancing of holders' rights with the public's need to enjoy the protected products.⁸ There is a quid pro quo that generally comes with IP rights, but that is not present with trade secrets (Jeevetha 2025, 115; Searle 2021). In the case of patents, for example, the law grants a 20-year monopoly in exchange for disclosure of the invention, enabling others to build on the knowledge upon expiration (Jeevetha 2025, 113).⁹

Regarding how trade secrets are used, they can represent a distinct pathway firms use to protect their innovations, either prior to or as an alternative to patents (Bently and Aplin 2023, 83). They can also be used alongside patents as part of firms' IP strategies (ibid., 89). Thus, a company may patent its product innovations while relying on trade secrets to protect its process innovations, or aspects of its holdings, such as data and know-how, that may not be adequately protected by the patent system (Radauer et al. 2025, 123). In some cases, firms make patent disclosures that contain technical and vague descriptions with limited utility beyond the presence of the requisite know-how, which they keep secret (Ireland, Schuster and Samples 2024, 125).

As disruptive digital technologies such as AI and digital finance converge to improve solar efficiency and access, trade secrets will remain increasingly relevant. One issue with trade secrets in this sense is the challenge of defining their scope amid concerns about algorithmic transparency: "Recently, it has become simpler to assert trade secrets protection claims but more challenging to dispute them, leading to overly broad protection of data, data sets, training materials, source code and algorithms" (Kilic 2024, 2).

Additionally, competition law and policy concerns can arise from the use of non-compete and non-disclosure agreements — a staple of companies that hold trade secrets (Radauer, Searle and Bader 2023, 3; Varadarajan 2018, 1571-73). For instance, it is plausible that a foreign energy company could enter into a partnership with local Nigerian business entities or hire local employees to meet local content requirements. However, the company could use the aforementioned types of agreements to limit the mobility and competitiveness of local entities, thereby hindering knowledge spillovers that could facilitate industrial development (Varadarajan 2018, 1573).

The Trend Toward Stricter Protection

Given its prominent position as one of the world's largest exporters of IP, the United States' approach to trade secrets aligns with its broader protectionist stance on IP (Akhtar, Fergusson and Wong 2020, 6). It should be noted, however, that some developed countries, including the United States, did not always hold such strong views on protecting IP, and the trend toward stricter enforcement coincided with their improved status within the international community (Gibbons 2011, 936). The global reach of US IP

⁷ See www.uspto.gov/ip-policy/trade-secret-policy.

⁸ See www.wipo.int/about-ip/en/index.html.

⁹ *TRIPS Agreement*, *supra* note 6, art 33.

means that it serves the interest of its companies and ultimately its economy to promote a tougher stance on all forms of IP with its trade partners, regardless of their level of development (Ezell 2023, 4; United States Trade Representative 2025, 23-25).

Consequently, the Global North, steered by the United States, has tended toward stricter, more statute-based protection of trade secrets in national and multilateral settings (Malone 2021). For instance, the Canada-United States-Mexico Agreement has led Canada to provide significantly stronger protection for trade secrets by criminalizing trade secret theft, mirroring US standards.¹⁰ As a result of this change, Canada's Criminal Code now provides a jail term of up to 14 years where a person obtains trade secrets through "deceit, falsehood or other fraudulent means."¹¹

The United States historically protected trade secrets through common law and tort principles, adding a statutory layer of protection in 1979 with the Uniform Trade Secrets Act (UTSA) (Ciuriak and Ptashkina 2021, 1-2).¹² The UTSA provides a model law for trade secret protection for US states, and it has been adopted by every state except New York, which still relies on common law.¹³ The focus on codification coincided with the increasing prominence of the knowledge-based economy, which gave rise to the data-driven economy, with trade secrets now playing a pivotal role (ibid., 5).¹⁴

At the federal level, two pieces of legislation illustrate the country's stance on trade secret protection — the Economic Espionage Act (EEA)¹⁵ and the Defend Trade Secrets Act (DTSA).¹⁶ The EEA contains criminal provisions, with penalties of up to 15 years in prison, a US\$500,000 fine or both for individuals, and a US\$10,000,000 fine for organizations that engage in economic espionage.¹⁷ In cases of trade secret theft, individuals may face up to 10 years in prison.¹⁸ Likewise, the DTSA, though primarily focused on civil aspects of trade secret misappropriation, amends the EEA to increase the criminal penalties for organizations in cases of trade secret theft from US\$5,000,000 to US\$5,000,000 or three times the value of the stolen trade secret, whichever is greater.¹⁹ After this brief examination of the general significance of trade secrets to the innovation system, the next section will focus on the landscape of trade secret protection in Nigeria.

The Landscape of Trade Secret Protection in Nigeria

As a WTO member that has ratified the TRIPS Agreement, Nigeria is mandated to protect trade secrets as undisclosed information, though this protection need not be statutory.²⁰ It is important to note, however, that Nigeria has yet to domesticate the

¹⁰ *Criminal Code*, RSC 1985, c C-46, s 391.

¹¹ *Ibid*, s 391(1), (3)(a).

¹² *Uniform Trade Secrets Act* (amended 1985) 14 ULA 437 (1979) [UTSA].

¹³ *Ibid*; see www.nycbar.org/get-legal-help/article/intellectual-property/trade-secrets/.

¹⁴ *UTSA*, *supra* note 12.

¹⁵ *Economic Espionage Act*, Pub L No. 104-294, 110 Stat 3488 (1996) [EEA].

¹⁶ *Defend Trade Secrets Act*, Pub L No 114-153, 130 Stat 376 (2016) [DTSA].

¹⁷ *EEA*, *supra* note 15, s 1831(5).

¹⁸ *Ibid*, s 1832(5).

¹⁹ *DTSA*, *supra* note 16, s 3(a)(1).

²⁰ *TRIPS Agreement*, *supra* note 6, art 39.2.

TRIPS Agreement, and, according to its Constitution, unless the legislature domesticates a treaty, it does not have the force of law within the country.²¹ The failure to domesticate the TRIPS Agreement is significant, as it creates uncertainty around IP enforcement and could negatively impact the country's ability to protect the public's interests, especially where domestic IP laws do not align with the Agreement (The Federal Republic of Nigeria 2022, 4). In the case of trade secrets, however, the failure to domesticate the TRIPS Agreement is less problematic than with other forms of IP, such as patents. This is because the framework in place does not go against the general provisions of the TRIPS Agreement.

Despite Nigeria not having dedicated trade secret legislation, it offers protection through common law doctrines such as breach of confidence and contract, which are administered by the judicial system (Chikezie 2024, 147; The Federal Republic of Nigeria 2022, 2; Justice, Danjuma and Nifemi 2026). The Freedom of Information Act also prevents the disclosure of trade secrets in response to a freedom of information request.²² The standard practice is for organizations to protect their trade secrets through non-disclosure agreements and non-compete contractual clauses (Justice, Danjuma and Nifemi 2026; Atoyebi 2024).

To prove trade secret infringement, three preconditions must be met. First, the plaintiff's information must meet the criteria for trade secret protection. Next, the information acquired by the defendant must have been wrongfully obtained. Thirdly, given the circumstances, the plaintiff must show that reasonable steps were taken to keep the information secret (Atoyebi 2024; Justice, Danjuma and Nifemi 2026). Although the Nigerian Constitution confers exclusive jurisdiction on the Federal High Court in IP matters, it makes no mention of trade secrets, leaving state high courts in charge of overseeing their administration (Okpalaobi and Georgewill 2024, 92).²³

The approval of the National Intellectual Property Policy and Strategy (NIPPS) by the Federal Executive Council in 2025 signals an intention to modernize Nigeria's IP framework and to provide statutory protection for trade secrets (WIPO Nigeria Office 2025; The Federal Republic of Nigeria 2022). The NIPPS' proposal to legislate on trade secrets is in line with its broader objective to codify various "emerging areas," including integrated circuits, geographical indications, utility models and animal breeders' rights (The Federal Republic of Nigeria 2022, 50–52). Statutory protection for trade secrets is one of the long-term objectives set out by the drafters of the NIPPS, with a five-year horizon to achieve it (*ibid.*, 46).

The calls for trade secret legislation are not limited to the NIPPS; there has been a growing trend in academia toward pushing for much stronger protection of trade secrets in line with US standards, going as far as recommending the criminalization of trade secret theft (Osunyikanmi 2024, 27; Saredau, Gupar and Chalawa 2020, 11; Pam and Mantu 2019; Chikezie 2024, 149). Criminalization is a delicate issue and may impede the diffusion of knowledge due to employees' fears of criminal sanctions, even when it is unclear whether the information constitutes a trade secret (Radauer et al. 2025, 136). Furthermore, beyond curtailing the circulation of ideas, criminalization could limit

21 Constitution of the Federal Republic of Nigeria (1999), s 12, online: <www.wipo.int/wipolex/en/legislation/details/5412>.

22 Freedom of Information Act (2011), s 15.

23 Constitution of the Federal Republic of Nigeria, *supra* note 21, s 251(1)(f).

employee mobility due to apprehension about facing criminal charges for using their expertise with another employer (Malone 2021, 920). Lastly, from an administrative standpoint, the state will be responsible for investigating and prosecuting trade secrets theft. This is particularly concerning because of the scope of powers it will give the state to prosecute individuals for trade secret theft. Under the current system, a plaintiff successful in a breach of confidence suit may be entitled to damages and an injunction (Pam and Mantu 2019, 28), but criminal remedies may “encourage employers to turn to the state over minor or even unmeritorious claims” (Malone 2021, 920).

Recommendation

Exercise Regulatory Temperance

There have been criticisms that the TRIPS Agreement made IP significantly less flexible than in the pre-TRIPS era (Olatunji 2022, 392). While there is truth to this, WTO countries can use safeguards and flexibilities to promote a context-based application of its rules (Pandey and Saha 2011). In the case of trade secrets, while TRIPS mandates protection, it leaves it to each member state to determine the means for their protection (Schultz and Lippoldt 2014, 8). Countries such as the United States have taken a tougher stance than is required because of their comparative advantage. In exercising its discretion, Nigeria must maintain a measured approach that avoids over-regulating trade secrets, thereby shrinking its policy space and potentially limiting knowledge spillovers.

While trade secrets remain an important part of the IP ecosystem and Nigeria is within its rights to strengthen protection via statute, law makers must avoid the trap of seeing IP as a “one size fits all” system that should always mirror developed countries’ standards (Carroll 2009, 1364). Hence, it is expedient that policy makers proceed with caution and avoid adopting US-style trade secret standards that criminalize trade secret theft. The addition of a criminal dimension to Nigeria’s regulation risks making the adjudication of trade secrets more complex, with much higher stakes for the judiciary and the public. Legislating statutory standards that harmonize the disparate elements currently governing trade secrets will create a more stable environment for litigants, and Nigeria is well within its rights to do so without obscuring its development goals and national prospects.

Conclusion

There is no silver bullet that will guarantee Nigeria’s status as a net-zero economy by 2060, nor is there an easy route to replacing its reliance on fossil fuels with renewable energy sources such as solar. A successful transition will require several moving parts to work synchronously. Although trade secrets do not get as much attention as patents, they are an important part of the innovation system. Hence, with a drive by Nigerian policy makers to place greater emphasis on their protection amid broader IP reform objectives, it is essential to prioritize a more temperate approach over adopting much stricter standards as seen in the United States and Canada. In Nigeria’s development journey, decision making must be grounded in its context as a developing country,

recognizing that it requires as much policy space as the TRIPS affords to build an IP system centred on the interests of its people and their collective aspirations.

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AI Tools: Zotero and Grammarly. *Information Collection:* I used a Zotero library to aid research flow and ease the citation process. *Writing—Review & Editing:* I used Grammarly for proofreading and clarity in conveying ideas.

Acronyms and Abbreviations

AI	artificial intelligence
COP26	twenty-sixth Conference of the Parties
DTSA	Defend Trade Secrets Act
EEA	Economic Espionage Act
IP	intellectual property
MW	megawatts
NIPPS	National Intellectual Property Policy and Strategy
TRIPS	Trade-Related Aspects of Intellectual Property Rights
UTSA	Uniform Trade Secrets Act
WIPO	World Intellectual Property Organization
WTO	World Trade Organization

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