

Navigating Conflict: The Impact of Sudan Civil War on China's

Energy Security Strategies (2023-2025)

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This study examines China's strategic response to the disruption of its energy interests following the outbreak of Sudan's civil war in 2023. As a key African partner in China's external energy portfolio, Sudan's instability posed direct risks to Chinese state-owned enterprises (SOEs) such as CNPC and Sinopec. Employing a qualitative single-case study and grounded in Neorealism and Resource Dependence Theory (RDT), the research analyzes China's adaptive strategies using triangulated documentary data and NVivo-assisted thematic coding. Three core responses are identified: diversification of energy sources, informal political engagement with Sudanese actors, and technical-institutional adaptation by SOEs. The study finds that China's SOEs act as semi-autonomous agents balancing state policy and pragmatic adaptation. This hybrid posture allows them to navigate political fragmentation and operational uncertainty through infrastructural relocation, security corridor formation, and decentralized decision-making. This paper contributes to international relations scholarship by highlighting how great powers manage resource dependency amid geopolitical volatility. It challenges conventional assumptions about the rigidity of China's foreign policy, showing its evolving flexibility under fragmented state conditions. The study recommends comparative research across other conflict-affected regions to test the generalizability of this adaptive model.

Keywords: China, civil conflict, energy security, strategic adaptation, Sudan

Introduction

Sudan is an important pillar of China's energy security strategy in the African region, especially since the end of the 1990s. Bilateral relations between China and Sudan have developed intensively through economic cooperation, particularly in the oil and gas sector. The state-owned Chinese oil company China National Petroleum Corporation (CNPC) played a central role in oil exploration and production in Sudan

and built important infrastructure such as pipelines and the Al Jaili refinery (Large, 2008; Shinn, 2009). However, in April 2023, a civil war broke out between the Sudan Armed Forces (SAF) and the Rapid Support Forces (RSF), severely disrupting the stability of the state. The conflict not only damaged strategic energy facilities such as the Al-Jaili refinery and the Petrodar pipeline, but also led to a sharp decline in Sudan's oil export capacity, which plummeted by over 60% within the first

While there are numerous studies on China-Africa economic relations in general (Brautigam, 2009), the literature has increasingly begun to address the political complexities of these engagements. Scholars such as Barber (2014) and Alden & Large (2011) have extensively documented China's 'adaptive learning' in post-conflict reconstruction or stable authoritarian contexts. However, a critical gap remains regarding real-time strategic adaptation during active warfare, where state institutions collapse and standard diplomatic protections are rendered ineffective. Consequently, few studies specifically examine how China navigates this high-intensity instability in resource-producing countries such as Sudan. This study attempts to fill this gap by examining how China might adapt its external energy strategy in a politically unstable environment after 2023.

From a theoretical perspective, this study combines the approaches of neorealism and resource dependence theory (RDT). Neorealism emphasizes that states are rational actors acting within an unregulated international system to secure their national interests, including strategic resources (Waltz, 1979). RDT, on the other hand, describes how states and non-state actors adapt to external uncertainty in order to maintain access to key resources (Pfeffer & Salancik, 1979). This dual approach allows for a more comprehensive analysis of how China deals with threats to investment in conflict zones.

The aim of this study is therefore to analyze the impact of the armed conflict in Sudan after 2023 on China's energy security strategy, particularly through an examina-

tion of China's oil investments and infrastructure projects in Sudan. The analysis focuses on China's response to the disruption of oil production, its strategy to diversify energy sources, and the forms of negotiation and adaptation with actors within Sudan. With these analyses, the study not only makes an empirical contribution to the study of relations between China and Africa, but also deepens the theoretical understanding of major powers' strategies for overcoming geopolitical challenges and dealing with resource dependency in conflict zones.

Previous Studies

The literature about China's involvement in the African energy sector consistently emphasizes the principles of non-interference, infrastructure diplomacy, and the growth of energy investments driven by long-term objectives (Alden, 2007; Taylor, 2006). Since the late 1990s, China's strategy in Africa has centered on economic collaboration devoid of political prerequisites, granting state-owned firms such as CNPC access to vital resources, especially in Sudan (Large, 2008; Shinn, 2009). As the geopolitical environment evolves and wars escalate in resource-rich areas, scholarly literature has started to assess the efficacy of this method. Numerous studies suggest that violent conflicts and the disintegration of national entities might threaten the viability of energy projects, even when the foreign state's participation is economic and legal (Huang et al., 2024; Shen, 2020). In Nigeria, for example, CNPC's participation in the oil sector encountered significant challenges owing to

armed conflict and local political instability, leading the business to adopt community-oriented adaptation tactics and engage in informal discussions (Obi, 2009).

On the other hand, a more structural perspective situates China's engagement within the framework of geopolitical rivalry over energy resources. From this viewpoint, great powers often extend their influence in resource-rich areas to ensure supply stability and diminish reliance on more competitive markets. In sub-Saharan Africa, this trend is becoming increasingly apparent via China's endeavors to sustain its pivotal role in the region's political economy, especially under instability such as that in Sudan (Lendzoumbou, 2024). The research now starts to differentiate between prospective and active kinds of geopolitical risk. In scenarios where conflicts have erupted, such as in Sudan in 2023, the measures utilized are not just preventative but also focused on immediate reduction through realistic engagements with diverse local stakeholders. Nevertheless, current research remains limited regarding China's adaptive conduct during active warfare. Unlike existing studies that largely focus on 'preventative diplomacy' before a crisis (Alden, 2007) or 'post-conflict reconstruction' after the dust settles (Barber, 2014), this research addresses the critical gap of 'real-time adaptation.' It specifically contributes a micro-level analysis of how State-Owned Enterprises (SOEs) operationalize survival strategies while violence is unfolding, challenging the assumption that China simply withdraws when security guarantees collapse.

Neo-realism and Resource Dependence Theory

According to neorealism, the state is the primary protagonist in an anarchic international system, operating to protect its national interests, which include the energy sector (Waltz, 1979). In the event of instability in a partner nation, the state will implement a self-help policy, either by diversifying its supply or by reinforcing its position in the strategically deemed partner country. In this context, China's energy ties with Sudan are integral to its aspirations to assert control over international energy channels and resources in response to global competition.

Subsequently, the resource dependence theory illustrates how economic entities, especially state-owned companies, adjust to an unpredictable external environment at the institutional level. This adaptation is accomplished by informal methods, including partnership with local people, talks with militias or non-state entities, and operational reorganization (Pfeffer & Salancik, 1979). In Sudan, this method enables Chinese businesses to persist in their operations despite the decline or disintegration of the host state's institutions.

The integration of these two theories facilitates an examination on two tiers: the macrostrategy of the state within the international system (neorealism) and the micro-response of institutions for resource security (RDT). This concept is crucial for analyzing how China sustains its energy interests amid open armed conflict, as seen in Sudan.

Methodology

Research Design

This study adopts a qualitative-descriptive approach utilizing a single-case study design to examine China's strategic response to disruptions in energy security caused by the civil conflict in Sudan (2023–2025). The selection of a single-case design is grounded in its capacity to explore complex and context-dependent dynamics in international politics, particularly within historically significant events, as recommended by George & Bennett (2005) and Yin (2009). This design enables the study to capture the nuance of China's foreign policy maneuvering in high-risk geopolitical contexts.

Case Selection and Justification

Sudan was selected as the case study because of its critical role in China's overseas energy portfolio, primarily through the investment and operations of China National Petroleum Corporation (CNPC) (Large, 2008; Shinn, 2009). The outbreak of conflict in 2023 disrupted major energy infrastructure, posing direct challenges to China's supply security. This scenario epitomizes a "high geopolitical risk but high resource value" environment (Pfeffer & Salancik, 1979; Waltz, 1979), making it an analytically rich context for testing theories of international relations and strategic resource management. Furthermore, Sudan's political instability offers a real-world laboratory to observe China's foreign policy adjustments in conflict-prone resource zones.

Data Collection Methods

The final dataset comprised 32 documents, including 12 official policy papers, 18 peer-reviewed academic articles, and 15 verified reports from international monitoring bodies (e.g., World Bank and Small Arms Survey) published between April 2023 and January 2025. Data saturation was reached when coding revealed no new strategic adaptation themes beyond the three core categories identified.

This multimodal data collection aligns with best practices in qualitative international relations research (Beach & Pedersen, 2013). There are several keywords in this data collection section, which are "China Energy Security", "CNPC Sudan", "China Sudan Oil Investment", "Energy Infrastructure Disruption", "Foreign Investment Political Risk", "China Strategic Response Sudan Conflict", and "state-owned enterprise conflict adaptation".

Data Analysis Techniques

The study employs a three-stage thematic coding process to systematically organize and interpret the data:

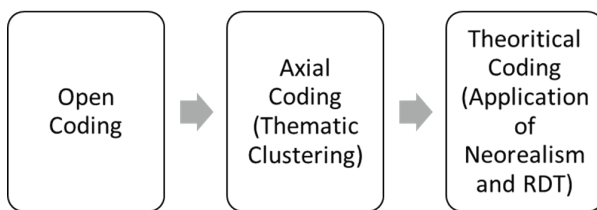
- a. Open Coding: Initial identification of keywords, phrases, and emerging themes from the collected documents.
- b. Axial Coding: Grouping related codes into primary thematic categories, specifically:
 1. Energy Diversification Strategies,
 2. Political Negotiation with Sudanese Domestic Actors, and
 3. Adaptive Strategies of Chi-

nese State-Owned Enterprises (SOEs) in conflict zones.

- c. Theoretical Coding: Aligning empirical findings with established frameworks of Neorealism (security-driven actions in an anarchic international system) and Resource Dependence Theory (strategic adaptation to environmental uncertainty).

Figure 2 illustrates the three-stage coding workflow used to distill raw documentary data into theoretical constructs.

Figure 2. NVivo data analysis Process



NVivo software was employed to manage and organize coding processes, ensuring transparency and replicability.

Research Limitations

The main limitation of this study is the limited access to confidential government and company-level data in China and Sudan, which is a common constraint in conflict-related field research (King et al., 1994). In addition, as a single case qualitative study, the generalizability of the findings to other conflict contexts is limited. However, depth of analysis, rigorous triangulation, and theory-driven interpretation were prioritized to increase internal validity. Future research could expand the comparative framework by including additional cases of Chinese ener-

gy engagement in other conflict-prone countries, such as South Sudan, Libya, or Venezuela and expand its keyword research for the data collection.

Result and Discussion

Disruption of China's Energy Infrastructure

The outbreak of civil war in Sudan in April 2023 undermined the operational basis of Chinese investment in energy infrastructure in the country. The escalating armed conflict between the Sudan Armed Forces (SAF) and the Rapid Support Forces (RSF) has made the oil industry a casualty of the war, with implications that go far beyond the battlefield. China, mainly through the China National Petroleum Corporation (CNPC), has maintained a strategic presence for nearly three decades since 1996, particularly in Sudan's upstream and downstream oil sectors. However, growing insecurity has challenged the production and transportation infrastructure critical to maintaining the flow of oil to China.

One of the most obvious manifestations of this disruption is the direct attack and occupation of strategic oil nodes, particularly pipeline pumping stations. As highlighted in the Small Arms Survey Situation Update (Liptrot, 2024), in October 2023 the RSF took control of the Al-Aylafoun pumping station, located southeast of Khartoum, effectively gaining the ability to block the flow of crude oil to the Khartoum refinery. This military control allows the RSF to use energy infrastructure as a bargaining chip and deny the SAF access to critical energy resources

(Liptrot, 2024). The pipeline system itself is highly vulnerable. Sudan's dual pipeline infrastructure—the Greater Nile Oil Pipeline and the Petrodar Pipeline—spans more than 3,700 kilometers and is designed to transport oil from Sudanese and South Sudanese oil fields to Khartoum and Port Sudan. However, these pipelines cross several areas of active conflict. The Petrodar system is of greatest concern because it relies on six heating stations to maintain flow viscosity. These stations are located in RSF occupied Khartoum State and the disputed White Nile area (stations 2, 3, and 4) (Liptrot, 2024).

As a result, the disruption or partial abandonment of these pumping stations led to inefficiencies, shutdowns, and degradation of the system-wide infrastructure. In addition, the Al-Jaili refinery, the main processing center, would be increasingly vulnerable and at risk of permanent damage due to neglect and proximity to the battlefield. The breakdown of mutual deterrence norms between RSF and SAF was also observed, as both factions began deliberately damaging oil infrastructure to deny the other a strategic advantage (Liptrot, 2024).

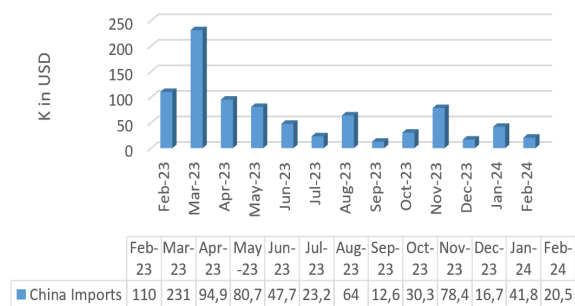
The economic consequences of this operational collapse have been profound. The World Bank's Sudan Economic Report points out that the conflict has caused "severe and long-term damage to the economy and industrial base," as well as fuel shortages and erosion of state capacity (World Bank, 2023a). At the same time, the Macro Poverty Outlook for Sudan reports widespread infrastructure damage, economic paralysis, and mass displacement, all of which have

disrupted energy logistics and made maintenance of CNPC assets virtually impossible (World Bank, 2023b). Public and private infrastructure, including oil facilities, have been "looted, burned, destroyed, or forced to close," particularly in energy corridors such as Khartoum, Wad Madani, and the White Nile (National Urban Household Survey & UNDP, 2024).

Moreover, trade statistics confirm this collapse. As analysed above, Chinese imports from Sudan fell by more than 60 percent between mid-2023 and early 2024, according to UN COMTRADE data (Trading Economics, 2024).

Figure 3. Decline in China's Imports from Sudan (2023–2024)

Sources: (Trading Economics, 2024)



This decline reflects physical bottlenecks and non-fulfilment of contracts caused by logistical collapse. Sudan's use of force majeure clauses, as reported by Reuters (2025), further emphasized the severity of the disruption, making it impossible for CNPC to operate under pre-conflict bilateral terms (Reuters, 2025). Exacerbating China's vulnerability in this context are the restrictions imposed by the non-interference

doctrine. Despite the strategic importance of CNPC's assets, Beijing has remained diplomatically neutral, avoiding military or political involvement even as its infrastructure suffered damage and its investments deteriorated. As the conflict crosses critical thresholds, China's political posture has failed to translate into operational resilience, highlighting a central contradiction in its energy diplomacy: the desire to achieve stability without intervention.

The cumulative impact of these events highlights a clear pattern: targeted infrastructure seizures and environmental insecurity led to the paralysis of upstream and midstream oil operations vital to Chinese energy interests. This progression of events can be traced chronologically to better understand the turning points that forced China to recalibrate its strategic posture in Sudan.

Table 1 below outlines the key conflict-related developments that directly affected China's oil security interests between 2023 and early 2025.

Table 1. Chronology of Key Conflict Events and Their Impact on China's Energy Interests (2023–2024)

<i>Date</i>	<i>Event</i>	<i>Impact on China's Oil Interests</i>
April 2023	SAF–RSF conflict escalates	Security risks emerge in CNPC zones
11 Oct 2023	RSF captures Al-Aylafoun pump station	Flow to Al-Jaili refinery disrupted

Nov 2023–Jan 2024	Petrodar line loses pressure	Crude oil stuck mid-transit
Jan 2024	Sudan invokes force majeure	Beijing loses legal investment guarantees
Q1 2024	CNPC relocates logistics to Port Sudan	Adaptive restructuring begins

Source: Compiled by the author based on data from Liptrot (2024) and Reuters (2025).

In conclusion, the conflict in Sudan has systematically disrupted China's oil infrastructure by degrading extraction capacity, jeopardizing transportation logistics, and neutralizing processing facilities. The conflict also reveals the limits of China's strategic isolation from host-state instability, forcing a re-examination of how Beijing and its state-owned companies manage energy security in conflict zones. These disruptions require adaptation strategies from diversification to diplomatic recalibration, which will be examined in the next section.

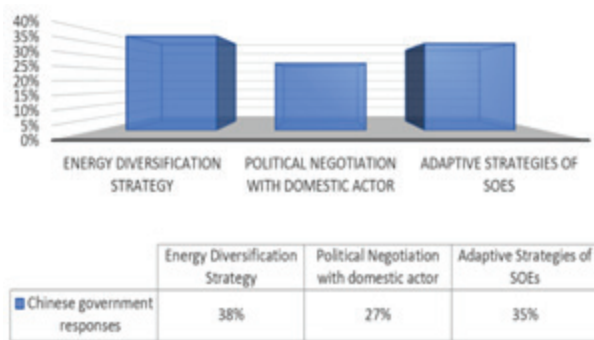
China's Strategic Responses

In the context of Sudan's civil conflict since 2023, the Chinese government's strategic response to geopolitical uncertainty shows patterns consistent with the theoretical assumptions of Neorealism and Resource Dependence Theory (RDT). Content analysis using NVivo software produced three main thematic nodes, which are Energy Diversification Strategies, Policy Negotiation with Domestic Actors, and Adaptation Strategies of State-Owned Enterprises that illustrate the spectrum of the state's strategic

response. Each strategy is not only reactive to external pressures, but also represents a strategic calculus in the face of an anarchic international environment and volatile resource dependence.

mechanisms of balancing, buffering, and bridging within a conflict environment.

Figure 4. Distribution of Strategic Responses: Highlighting the dominance of diversification (38%) and SOE adaptation (35%) over direct political negotiation.



Source: Output NVivo (Processed) (2025)

While Figure 4 illustrates the frequency of these strategic responses, it is critical to understand their theoretical functions. The analysis reveals that China's response is not a monolithic policy but a stratified engagement where different actors serve distinct theoretical imperatives. To clarify the analytical logic connecting the empirical data to the study's theoretical framework, Table 2 maps the identified thematic nodes to their corresponding Neorealist and Resource Dependence Theory (RDT) constructs. This mapping demonstrates how specific behaviors, from state-level diversification to corporate-level militia negotiation, function as coherent

Table 2. Theoretical Mapping of Strategic Responses

Thematic Node (NVivo)	Primary Theoretical Anchor	Strategic Mechanism	Observable Evidence in Sudan (2023–2025)
Energy Diversification (38%)	Neorealism (State Level)	Balancing / Hedging: Reducing systemic vulnerability by shifting reliance away from a single failing partner.	Expansion of contracts in Angola, Chad, and Iraq; strategic shift to South Sudan reserves (Xiang & Oluduro, 2023).
Political Negotiation (27%)	Defensive Realism & RDT	Relational Embeddedness: Maintaining minimum diplomatic channels with all factions to prevent resource monopolization.	Diplomatic engagement with both SAF and RSF; FOCAC forums; rehabilitation agreements with local ministries (Liptrot, 2024).
SOE Technical Adaptation (Technical)	Resource Dependence Theory (RDT)	Buffering: Sealing off the technical core from environmental turbulence to maintain output.	Relocation of logistics to Port Sudan (Resnick et al., 2025); use of mobile refineries; technician rotation cycles (Behrndt-Eriksen, 2024).
SOE Institutional Adaptation (Structural)	Resource Dependence Theory (RDT)	Bridging / Co-alignment: Modifying internal structures to align with external chaos.	Decentralized decision-making to field offices; informal security agreements with local militias (Shen, 2020).

Source: Processed by Output of NVivo, Xiang (2023), Resnick (2025), Behrndt (2024) and Shen (2020)

Energy Diversification Strategies

Of the total number of strategic references coded in NVivo, 38% focus on energy diversification, which represents the most important state response. From a neorealist perspective (Waltz, 1979), these measures reflect systemic responses to changes in the distribution of power and structural threats to national interests, particularly the stability of energy supply. When the conflict in Sudan led to disruptions in the flow of crude oil to China via the Petrodar and Greater Nile pipelines, Beijing strengthened national reserves and expanded energy contracts with alternative partners such as Angola, Chad, Iraq, and South Sudan. Moreover, in terms of South Sudan, the Chinese government has shifted significant attention and investment there, as several of Sudan's oil reserves are now located in South Sudan following its indepen-

dence (Knightbridge Strategic Group, 2024). The article by Xiang & Oluduro (2023) reinforces the thesis of diversification as a systemic response to geopolitical risk. The study shows how China's energy dependence has driven the expansion of its oil investments in Nigeria to offset disruptions from high-risk regions such as Sudan. The investments are considered an attempt to mitigate the risk of embargoes and global oil price volatility while expanding direct access to strategic energy resources in Africa (Xiang & Oluduro, 2023).

In the context of the resource dependence theory, diversification is understood as a conscious effort to reduce asymmetrical dependence on a single source of supply. By multiplying its sources of supply, a country not only strengthens its bargaining position in bilateral negotiations but also creates a

buffer zone against external uncertainties. This finding also supports the argument of (Huang et al., 2024) that the Global Political Risk Trigger (GPRT) drives the transformation of the energy supply structure as a form of capital hedging.

Political Negotiation with Domestic Actors

The second node, coded at 27%, shows China's political negotiation patterns with domestic actors in Sudan, both with the military (SAF), paramilitary groups (RSF), and locally influential civilian authorities. This approach is theoretically relevant to defensive realism, the state's attempt to maintain a minimum level of stability in strategic areas without having to expand directly (Waltz, 1979). Strategically, China tries to maintain a neutral position by maintaining active communication through diplomatic channels and multilateral forums such as the Forum on China-Africa Cooperation (FOCAC), but also by quietly supporting political reconciliation on the ground to ensure investment security. Specifically, On October 7th 2024, the minister of energy and oil, Muhyiddin Naeem, reached a new agreement with China to rehabilitate the Khartoum refinery, inspect and repair pipelines, and resume oil exploration (Sudan Tribune, 2024). From an RDT perspective, this relationship functions as a dependency management mechanism where the resource-using state (China) seeks to create relational embeddedness with all factions to avoid monopolization of control over resources by one party. In some cases, as revealed in the Small Arms Survey report

by Liptrot (2024), Chinese companies have also reportedly provided technical or logistical support to ensure access to energy assets, although without official recognition by the government (Liptrot, 2024). This points to an ambivalence between the principle of non-interference and strategic interests, which is a classic dilemma of Chinese foreign policy in Africa (Alden & Large, 2011).

Adaptation Strategies by SOEs

The third node refers to the adaptation strategies of state enterprises, which account for about 35% of the codified references. In the neorealist framework, SOEs such as CNPC and Sinopec act as proxies of the state, extending the reach of state power through economic instruments. However, reports indicate that these entities have moved beyond simple implementation of state directives, adopting localized survival strategies that pragmatically violate peaceful business norms to manage resource dependence (Shen, 2020; Verhoeven, 2023). This adaptation reflects RDT's organizational survival logic, where firms do not wait for stability but create the minimum ecosystem required to operate (Pfeffer & Salancik, 1979).

In the wake of the escalating civil war in Sudan, Chinese state-owned enterprises have made significant technical and institutional adjustments. These adjustments represent a broader shift in China's strategy for overseas resources in conflict zones, prioritizing operational resilience and institutional flexibility to deal with environmental volatility.

Technical Adaptation

CNPC and Sinopec have rapidly reorganized their infrastructure and logistics to ensure the continuous supply of electricity and energy despite territorial disruptions. An important action in this context was relocating key logistical centers to eastern Sudan, especially along the Port Sudan route. This action, as noted by Resnick et al. (2025), aims to reduce exposure to frontline conflict areas and aligns with a broader trend of decentralizing operational risk in unstable regions. Furthermore, rotation programs for technicians and short-term deployment cycles have been expanded to protect personnel and maintain operational continuity (Behrndt-Eriksen, 2024).

Technical teams often operate alongside local militias or groups linked to the SAF, resulting in a blurred line between commercial organizations and local security providers. These practices demonstrate CNPC's adaptive behavior in other high-risk regions, including the Niger Delta (Obi, 2009). The establishment of security corridors with local actors has enabled the secure transit of personnel, equipment, and fuel between operational nodes (Resnick et al., 2025). These corridors illustrate a methodical strategy for securing logistical operations, featuring infrastructure incorporated into militarized or semi-militarized safe zones. As an example of adaptive pragmatism, operations were integrated within militia-controlled areas, allowing state-owned enterprises to retain access to essential infrastructure despite governance challenges (Resnick et al., 2025).

Institutional Adaptation

Chinese state-owned enterprises have decentralized decision-making authority to regional and field offices. This measure aims to enhance responsiveness and decrease dependence on central command, especially in unstable situations where directives from Beijing may be delayed or inappropriate. This reconfiguration aligns with the principles of Resource Dependency Theory (RDT), emphasizing adaptability in the face of environmental uncertainty (Pfeffer & Salancik, 1979).

A significant change has been the establishment of embedded partnerships with tribal or local authorities, aimed at ensuring relational legitimacy and operational support (Pasquali & Deron, 2025). These partnerships operate as micro-political arrangements and are frequently established in the absence of formal agreements with the national government. Additionally, state-owned enterprises have implemented internal crisis-management frameworks, such as risk mapping, scenario planning, and contingency protocols, to improve strategic planning in uncertain conditions (Du, 2023). A final, more contentious adaptation includes semi-formal security agreements that circumvent the host state's monopoly on legitimate violence (Behrndt-Eriksen, 2024). This enables companies to maintain investments while avoiding explicit political alignment, thus facilitating operations in areas beyond central government control without directly breaching diplomatic norms.

Table 3. Summary of SOE Adaptation Strategies (2023–2025)

<i>Adaptation Type</i>	<i>Specific Measures</i>	<i>Purpose / Function</i>
Technical Adaptation	Relocation of logistical hubs to eastern Sudan (Resnick et al., 2025)	Reduce exposure to frontline conflict zones.
	Technician rotation and short-term deployment cycles (Behrndt-Eriksen, 2024)	Protect personnel; maintain operations.
	Creation of security corridors with local actors (Resnick et al., 2025)	Secure transit of personnel and materials.
	Mobile logistics and storage units (Resnick et al., 2025)	Emergency energy flow continuity.
	Embedded operations within militia-controlled zones (Resnick et al., 2025)	Maintain access to infrastructure despite contested sovereignty.
Institutional Adaptation	Decentralization of decision-making to field offices (Alves & Alden, 2024)	Increase responsiveness; reduce reliance on central command.
	Embedded partnerships with tribal or local authorities (Pasquali & Deron, 2025)	Ensure relational legitimacy and operational cover.
	Internal crisis-management frameworks (risk mapping, contingency planning) (Du, 2023)	Enhance strategic planning under uncertainty.
	Semi-formal security agreements bypassing host-state monopoly (Behrndt-Eriksen, 2024)	Sustain investment while avoiding overt political alignment.

Neorealist Perspective on China’s Strategy

From a neo-realist perspective, the actions of states, including China, are determined by the need to secure national interests in an anarchic international system, defined by Kenneth Waltz (1979) as a system without a central authority with a legitimate monopoly on the use of force. In such an environment, the principle of self-help becomes dominant: states must rely on their capabilities to survive, recognize threats, and protect strategic assets.

The outbreak of civil war in Sudan in 2023 is an example of this state of anarchy and its impact on state strategy. For China, the conflict not only meant political instability in a distant region, but also posed a material threat to its core national interest: energy security. As the

world’s largest oil importer, Sudan has long been one of China’s most important energy suppliers, with infrastructure such as the Al-Jaili refinery and key pipelines such as the Petrodar and Greater Nile pipelines playing an important role. The shutdown of these resources—particularly due to disruptions in conflict hotspots such as the Al-Aylafoun pumping station (Liptrot, 2024)—has turned Sudan from a strategic partner into an area of strategic vulnerability.

Viewed through the lens of structural realism, China’s subsequent actions correspond to a logic of calculated self-preservation. Its basic premise is not passive crisis management but active adaptation to a deteriorating external environment (Nunoo, 2024). One of the clearest manifestations of this adaptation is China’s energy

diversification strategy. After hostilities erupted in Sudan, Beijing moved decisively to deepen relations with alternative oil suppliers such as Angola, Iraq, Chad, and South Sudan. This move was not accidental but a deliberate attempt to reduce asymmetric dependence on a single unstable partner. From a neorealist perspective, diversification is not only a matter of economic flexibility but also a sovereign hedge against systemic shocks (Lendzoumbou, 2024).

Resource Dependence Perspective on Strategic Adjustment

RDT asserts that organizations are inherently non-autonomous, as they are perpetually linked to their environment through reliance on essential external resources. Organizations, like Chinese state-owned enterprises, operating in a volatile external environment, such as a conflict-affected nation, are compelled to devise adaptive methods to sustain control over their resources (Pfeffer & Salancik, 1979). In Sudan, the reliance of CNPC and Sinopec involves not only access to crude oil but also political stability, operational permits from local authorities, security networks, and distribution infrastructure, including pumps and oil pipelines that reach regions controlled by armed groups (Liptrot, 2024; Resnick et al., 2025). The dependency is multipolar. At first, there exists infrastructural dependence, where the sustainability of operations relies on primary distribution routes like Petrodar and the Greater Nile Oil Pipeline, which are affected by RSF militants and active conflict zones in 2023–2024. Secondly, political

reliance emerges from the lack of a singular authority capable of ensuring security or enduring contracts, compelling corporations to maneuver via informal power dynamics. Third, there exists a territorial and legitimacy-based reliance on non-state actors, including local militias and ethnic groups, who govern physical access to energy resources (Pasquali & Deron, 2025).

To mitigate this vulnerability, Chinese enterprises have used many technical and institutional adjustments aligned with buffering and bridging solutions in Resource Dependence Theory. Chinese enterprises execute buffering by logistically relocating and establishing security lanes within the relatively secure Port Sudan route. CNPC constructed temporary storage facilities and relocated technical operations from the dangerous city of Khartoum to the safer eastern coastline region, thereby reducing vulnerability to military turmoil (Resnick et al., 2025). This arrangement exemplifies a quintessential method of environmental buffering, specifically establishing operational limits to mitigate unpredictability. CNPC employs a bridge technique to establish ties with diverse local players, such as the SAF faction, RSF, and numerous ethnic groups and militias. CNPC has reportedly engaged in informal deals about security or transportation with local armed groups in exchange for operational continuity (Behrndt-Eriksen, 2024). This method, although seemingly opposing China's policy of non-interference, illustrates the reality of symbiotic ties under fragmented governance, where state legitimacy is supplanted by

entrenched micro-level relations (Shen, 2020).

The executed institutional adaptation is also noteworthy. CNPC and Sinopec adopt decentralized decision-making, providing field offices with increased authority to address local dynamics in real-time. This method corresponds with the notion of organizational co-alignment in Resource Dependence Theory, which seeks to synchronize the internal structure of the organization with external forces to improve adaptive responses. The corporation built an internal crisis management system, including asset risk mapping, contingency planning, and strategic communication protocols, exemplifying anticipatory adaptation to unforeseen conflict escalation (Du, 2023). These tactics demonstrate that Chinese SOEs do not simply passively withstand disagreements but actively restructure dependent relationships. They proactively reconfigure external ties and reallocate their risk exposure. This aligns with the findings of Huang et al. (2024), which indicate that in the realm of Global Political Risk Actions (GPRA), Chinese energy firms are disinclined to withdraw; instead, they pursue capital hedging and institutional diversification.

Moreover, the actions of CNPC and Sinopec in Sudan are not isolated. A comparable method is seen in the contexts of Venezuela and Nigeria. In Venezuela, amid a political crisis and international sanctions, CNPC established mobile refinery units and employed flexible contracts to sustain its long-term presence (Briceño-Ruiz & Molina Medina, 2020). In Nigeria, Chinese

enterprises partner with local organizations and vigilantes to safeguard their assets in the volatile Niger Delta region (Obi, 2009). Both instances demonstrate that embedded survivalism is not a mere ad hoc reaction but a systematic pattern of adaptive methods utilized by Chinese companies in high-risk areas.

Conclusion

This study demonstrates how the post-2023 Sudan crisis has led to substantial changes in China's approach to energy reliance in high-conflict areas. Utilizing a synthesis of neorealism and Resource Dependence Theory (RDT), it was determined that China's strategic responses extend beyond formal diplomacy and simple supply diversification, incorporating more intricate adaptive strategies, specifically a shift from state-centric diplomacy to a decentralized 'security corridor' model. This involves SOEs engaging in informal negotiations with non-state actors and decentralizing decision-making authority. The findings indicate a pattern of hybrid adaptation in which state-owned enterprises function as semi-autonomous entities within the framework of state mandates, integrating short-term survival measures (technical adaptation) with long-term institutional resilience (institutional adaptation). The application of a singular case study methodology alongside NVivo-based thematic coding facilitated a systematic delineation of state strategies, specifically energy diversification (38%), domestic political negotiations (27%), and SOE adaptation (35%) which

remain insufficiently explored in the current literature, especially regarding active warfare and authority fragmentation in allied nations.

This study, while offering substantial theoretical and empirical advances, is not devoid of considerable limitations. Restricted access to primary data from important institutions in China and Sudan hinders openness concerning internal decision-making processes, while reliance on a singular research design complicates cross-context generalization and risks reductionism. Furthermore, the emphasis on neorealism and RDT, although providing a synthesis of macro and micro-level research, nevertheless permits additional investigation into transnational network dynamics and institutional informality that arise beyond the framework of formal states. Consequently, additional research is advised to broaden the scope to include comparative studies, employ a network-based policy analysis methodology, and incorporate the roles of non-state actors and governance asymmetries that are increasingly influencing the formulation and sustainability of China's energy strategy within the volatile global geopolitical context.

Policy Implications

Beyond theoretical contributions, this study offers critical implications for Chinese foreign policy planning. The Sudan case demonstrates that in fragmented states, reliance on high-level diplomatic recognition is insufficient to protect strategic assets. Policymakers should consider formalizing the "security corridor" model utilized by

SOEs, creating a standardized protocol for engagement with non-state actors that does not violate the non-interference doctrine. Furthermore, the decoupling of state diplomacy from corporate security operations, where the state maintains neutrality while SOEs negotiate local survival, should be studied as a replicable model for future engagements in high-risk regions like the Sahel or the Horn of Africa. This approach allows Beijing to insulate its diplomatic reputation from the messy realities of local conflict while ensuring the continuity of vital energy supplies.

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