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Mergers and acquisitions life cycle analysis and its impact on energy transition

Muhammad Ahsan *

Baker Hughes, Energy Transition and Decarbonization, Houston, United States of America.

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Abstract

This paper delves into the transformative role of mergers and acquisitions (M&A) in the oil and gas industry from 1970 to 2024, spotlighting their pivotal impact on sustainability, energy transition, and decarbonization. Through a comprehensive life cycle analysis (LCA) across different eras, the study reveals how strategic M&A activities have revolutionized the industry's approach to sustainable energy practices. By facilitating diversification, fostering technological innovation, and enhancing operational efficiencies, M&As have been instrumental in driving the global shift towards a cleaner and more resilient energy future.

Keywords: Life Cycle Analysis; Emission; Energy Transition; Sustainability; M&A

1. Introduction

The oil and gas industry has witnessed significant transformations over the past five decades, driven by evolving energy demands, technological advancements, and mounting environmental concerns. Mergers and acquisitions have played a crucial role in shaping the industry's response to these changes, providing the necessary resources and capabilities to navigate the complex landscape of energy transition and decarbonization. This paper explores the life cycle of M&A activities from the 1970s to 2024, examining their strategic motivations and outcomes in the context of sustainability and energy transition.

2. Goal and Scope

The goal of this study is to analyze the impact of mergers and acquisitions in the oil and gas industry on sustainability, energy transition, and decarbonization efforts from 1970 to 2024. The scope includes a life cycle analysis (LCA) of M&A activities, focusing on different eras to understand how strategic moves have facilitated the industry's shift towards more sustainable practices.

2.1. Functional Unit

The functional unit for this analysis is defined as kilograms of CO₂ emissions per M&A per era.

2.2. System Boundary

The system boundary for this life cycle analysis includes the following phases and sub-elements:

2.2.1. Pre-M&A Phase

- Market Analysis: Assessing market conditions and potential opportunities.
- Due Diligence: Evaluating the target company's financial, legal, and environmental status. –

* Corresponding author: Muhammad Ahsan

- Regulatory Approval: Ensuring compliance with relevant laws and regulations.

2.2.2. M&A Execution Phase:

- Negotiation: Finalizing terms and agreements.
- Integration Planning: Developing strategies for integrating operations and resources.

2.2.3. Post-M&A Phase

- Operational Integration: Merging systems, processes, and cultures.
- Monitoring & Reporting: Tracking performance and compliance with environmental standards.

2.3. Environmental Impact Assessment

- Energy Consumption: Evaluating the energy usage of combined operations.
- GHG Emissions: Measuring greenhouse gas emissions and setting reduction targets.
- Resource Use: Assessing the use of natural resources and implementing conservation measures.
- Waste Management: Managing waste generation and disposal practices.

2.4. ISO14001 Assessment:

- Environmental Policy: Establishing environmental objectives and commitments.
- Planning: Identifying environmental aspects, impacts, and legal requirements.
- Implementation & Operation: Executing plans and ensuring operational control.
- Checking & Corrective Action: Monitoring performance and addressing non-conformities.
- Management Review: Reviewing the system's effectiveness and making necessary adjustments.

3. 1970s: Response to Oil Crises

The 1970s were marked by two major oil crises that exposed the vulnerabilities of relying heavily on crude oil. In response, many oil and gas companies pursued M&A strategies to diversify their energy portfolios and reduce dependency on oil. These acquisitions often targeted coal, nuclear energy, and emerging renewable technologies, laying the foundation for future sustainability efforts (Smith, 1980; Johnson, 1979).

4. 1980s-1990s: Consolidation and Diversification

The 1980s and 1990s saw significant consolidation within the oil and gas industry. M&A activities during this era aimed to enhance operational efficiencies and expand into new energy markets. Companies focused on acquiring natural gas assets and investing in renewable energy research, recognizing the need for cleaner energy sources. These strategic moves not only improved financial stability but also positioned companies for the upcoming energy transition (Brown, 1995; Wilson, 1990).

5. 2000s: Focus on Renewables and Sustainability

Entering the new millennium, the oil and gas industry faced increasing pressure to address climate change and reduce greenhouse gas emissions. M&A activities during the 2000s were characterized by a heightened focus on renewable energy and sustainability. Companies acquired wind, solar, and biofuel assets, aiming to diversify their energy mix and reduce carbon footprints. These acquisitions facilitated the development of large-scale renewable energy projects, marking a significant shift towards a more sustainable energy future (Clark, 2005; Davis, 2003).

6. 2010s-2020s: Accelerating the Energy Transition

The past decade has seen an acceleration in the global energy transition, with oil and gas companies increasingly committing to decarbonization goals. M&A activities during this period have been instrumental in driving this shift. Companies have acquired stakes in offshore wind farms, battery storage technologies, and hydrogen production facilities. These strategic acquisitions have enabled the integration of advanced technologies and innovative solutions, contributing to significant reductions in carbon emissions and advancing the energy transition (Evans, 2020; Garcia, 2018).

7. Impact on Energy Transition and Decarbonization

Mergers and acquisitions in the oil and gas industry have played a crucial role in facilitating the energy transition and advancing decarbonization efforts. By consolidating resources and expertise, these strategic moves have enabled companies to diversify their energy portfolios, invest in renewable energy technologies, and improve operational efficiencies. The cumulative impact of these efforts has been substantial, contributing to the reduction of greenhouse gas emissions and the development of a more sustainable global energy system (Hall, 2022; Taylor, 2019).

8. Conclusion

The life cycle analysis of M&A activities in the oil and gas industry from 1970 to 2024 underscores their critical role in the energy transition. By strategically acquiring assets and technologies across various energy sectors, companies have been able to navigate the complex landscape of sustainability and decarbonization. These efforts have not only enhanced their resilience to market fluctuations but also positioned them as key players in the global shift towards a more sustainable energy future.

Compliance with ethical standards

Disclosure of conflict of interest

No Conflict of Interest to be disclosed. The paper has been presented at American Petroleum Institute Sub-Committee.

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