International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 07 Issue 06 June 2024
DOI: 10.47191/ijcsrr/V7-i6-89, Impact Factor: 7.943
IJCSRR @ 2024
www.ijcsrr.org

Modular and Phased Approach: Innovative Transition Approach in Developing the First Indonesia's Green Energy Terminal

Dian Vita Alpha Suandi[1], Yudo Anggoro[2], Widhyawan Prawiraatmadja[3]
[1,2,3] School of Business Management, Institut Teknologi Bandung, Indonesia

ABSTRACT: This paper explores the modular and phased approach to developing Indonesia's first green energy terminal by EHS, a company with extensive experience in energy distribution and logistics. The study emphasizes the benefits of this strategy in managing high capital requirements and uncertain revenue streams. Through qualitative research employing Soft Systems Methodology (SSM), this study identifies the advantages of incremental development and stakeholder engagement in achieving sustainable and practical outcomes. The findings provide valuable insights for policymakers and practitioners in developing countries facing similar challenges in the energy transition.

KEYWORDS: Energy Transition, Green Energy Terminal, Soft System Methodology, Stakeholder engagement.

INTRODUCTION

A. Background

Indonesia stands at a critical juncture in its energy trajectory, characterized by a high dependence on fossil fuels and the accompanying environmental challenges. As the largest energy consumer in ASEAN, Indonesia's energy landscape is dominated by coal, oil, and gas, which constitute nearly 90% of its primary energy supply (International Energy Agency [IEA], 2022). The Government of Indonesia (GoI) has set ambitious targets to reduce greenhouse gas (GHG) emissions by 29% by 2030 and achieve net-zero emissions by 2060 (World Bank, 2023). However, achieving these goals requires significant changes in the country's energy infrastructure, which is currently under strain.

In response to these challenges, EHS (not a real name to maintain anonymity), a company with extensive experience in energy distribution and logistics, is making concerted efforts to support Indonesia's transition towards renewable energy sources. EHS operates 140 ports, a fleet of over 400 ships, and six fuel and LPG storage stations across Indonesia (EHS Company Profile, 2023). The company's strategic initiative involves developing an Integrated Green Energy Terminal (IGET) in Jakarta to align with national energy transition goals.

The development of this green energy terminal is crucial for EHS to maintain its leadership in the energy sector while contributing to the national energy transition agenda. However, the high capital requirements and uncertain revenue streams associated with the green energy terminal pose significant financial risks. This necessitates a strategic approach to project implementation, focusing on modular and phased development to mitigate risks. Furthermore, partnerships can provide the following benefits:

1. Financial Support: Partnering with financial institutions and investors can help secure the necessary funding for different phases of the project. This reduces the financial burden on EHS and allows for incremental investment, aligning with the phased development approach.
2. Technological Expertise: Collaborating with technology companies can facilitate the integration of advanced technologies for renewable energy storage, carbon capture, and efficient operations. These partnerships ensure that the terminal remains at the forefront of technological advancements, enhancing its operational efficiency and sustainability.
3. Operational Synergies: Partnering with other companies in the energy sector can create synergies in operations, such as shared infrastructure, joint ventures in renewable energy projects, and coordinated logistics. These synergies can enhance the overall efficiency and cost-effectiveness of the project.

By leveraging these partnerships, EHS can mitigate the risks associated with the green energy terminal project, ensuring its successful implementation and long-term sustainability.

B. Significance of the Study

Given the high capital requirements and uncertain revenue streams associated with the green energy terminal, EHS has adopted a modular and phased approach to mitigate risks. This approach allows for incremental development, aligning with budget constraints while gradually integrating renewable energy sources. By focusing on modular and phased development, this study aims to provide a feasible strategy for EHS and similar companies in the energy sector.

A modular approach involves constructing the terminal in self-contained units or modules that can operate independently but are also designed to integrate seamlessly into a larger system as the project expands. This allows for scalability and flexibility, essential for adapting to changing technological advancements and market conditions. Phased development, on the other hand, involves implementing the project in stages, allowing for adjustments based on evolving needs and technological progress. Combined with partnerships structure which align with modular and phased approaches, the strategy is expected to provide successful development of IGET.

LITERATURE REVIEW

A. Energy Transition and Infrastructure Development

Transition to renewable energy in developing countries is fraught with challenges, including financial constraints, technological gaps, and the need for capacity building. Previous studies highlight the importance of sustainable infrastructure development to meet these challenges. For instance, the International Energy Agency (2022) emphasizes the critical role of infrastructure in facilitating the transition to renewable energy. Companies like EHS need to adopt innovative approaches to infrastructure development that can accommodate budget constraints and ensure long-term sustainability.

A modular approach to infrastructure development offers several advantages. It allows for incremental investment, reducing the financial burden on the company and other stakeholders. Modular development also enables the integration of new technologies as they become available, ensuring that the infrastructure remains up-to-date and efficient. This flexibility is particularly important in the context of renewable energy, where technological advancements are rapid and continuous (Witz & Oehmen, 2018).

Phased development, on the other hand, provides a structured approach to project implementation. By dividing the project into manageable phases, stakeholders can monitor progress, make necessary adjustments, and ensure that each phase is completed successfully before moving on to the next. This approach helps in managing risks and uncertainties associated with large-scale infrastructure projects (Locatelli, Mancini, & Romano, 2014).

B. Modular and Phased Development

Modular development involves creating self-contained units that can function independently or as part of a larger system. This approach offers flexibility and reduces initial capital expenditure, making it ideal for projects with high capital requirements and uncertain revenue streams. For instance, in the context of green energy terminals, a modular approach would allow for the initial construction of a few key units, such as storage facilities for renewable energy sources like solar or wind power. As additional funding becomes available, more modules can be added, expanding the terminal's capacity and capabilities (Bisset, Venter, & Coetzer, 2023).

Phased development involves implementing projects in stages, allowing for adjustments based on evolving needs and technological advancements. This approach provides flexibility and allows for continuous improvement. For example, the development of a green energy terminal could be divided into several phases, starting with the construction of basic infrastructure and gradually adding more advanced features such as automated loading and unloading systems, intelligent planning technologies, and green transportation solutions (Keshavarz et al., 2021).

The combination of modular and phased development offers a robust strategy for infrastructure projects, particularly in the renewable energy sector. This approach not only ensures efficient use of resources but also enhances the project's adaptability to changing conditions. By incorporating new technologies and responding to market demands, the project can remain relevant and sustainable in the long term (Chen, Saraji, & McLaughlin, 2023).

C. Green Energy Terminal

Green Energy Terminals are advanced port and energy storage infrastructures that are designed to enhance environmental sustainability. These terminals are characterized by six principal indicators that drive their sustainability efforts (Figure 1). The first

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 07 Issue 06 June 2024
DOI: 10.47191/ijcsrr/V7-i6-89, Impact Factor: 7.943
IJCSRR @ 2024
www.ijcsrr.org

three indicators—Renewable Energy Generation, High-Efficiency Machinery & Reduced Emissions, and Carbon Sequestration & Storage—are centred on the efficient use of energy and minimization of emissions. These indicators stress the importance of utilizing renewable energy sources, employing machinery that operates with high efficiency and low emissions, and implementing technologies for capturing and storing carbon dioxide (Bisset et al., 2023; Chen et al., 2023; Ghosh et al., 2022).

In addition to energy utilization and emissions reduction, other critical indicators include Operational Efficiency and Technological Innovation, which encompass Efficient Operational Planning, Intelligent System Integration, and Eco-Friendly Transport Solutions. These elements promote optimized operational processes, the incorporation of cutting-edge technologies, and the adoption of sustainable transport methods within the terminals (Blandino, 2023; Keshavarz et al., 2021). Collectively, these features enhance productivity and safety while significantly lowering the environmental footprint of terminal operations. Consequently, Green Energy Terminals serve as benchmark models for sustainable development within the maritime industry.

The large-scale and innovative nature of these terminals categorizes them as Mega Projects, which are notable for their substantial investment requirements and high complexity (Brookes & Locatelli, 2015; Locatelli et al., 2014; "Megaprojects and Risk: An Anatomy of Ambition," 2004).

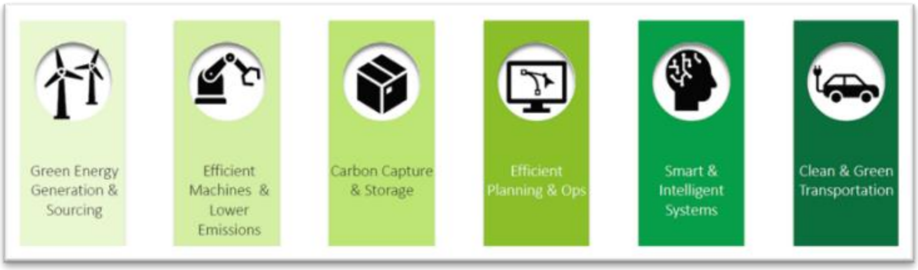

Figure 1. Key Strategies for Green Energy Terminal

D. Stakeholder Management in Green Energy Projects

Effective stakeholder management is crucial for the success of green energy projects. Engaging stakeholders early in the project helps align their interests and expertise, ensuring long-term sustainability. Stakeholders in a green energy terminal project may include government agencies, private sector partners, local communities, environmental organizations, and financial institutions. Each of these stakeholders has unique interests and concerns that must be addressed to ensure their support and participation (sikh, 1984).

The Soft Systems Methodology (SSM) provides a framework for understanding and addressing the diverse interests of stakeholders in complex projects. SSM involves a participatory approach, engaging stakeholders in the problem-solving process and incorporating their perspectives into the project design. This approach helps in building consensus, identifying potential conflicts, and developing solutions that are acceptable to all stakeholders (Checkland, 2000).

By using SSM, project managers can create a partnership model that effectively balances the interests of different stakeholders. This model can guide the project's implementation, ensuring that it remains aligned with the stakeholders' goals and expectations. Moreover, SSM facilitates continuous learning and improvement, enabling the project to adapt to changing conditions and stakeholder needs (Wilson & Van Haperen, 2015).

METHODOLOGY

A. Research Design

This study employs a qualitative research design, using data collection methods such as interviews, document analysis, and market studies. The focus is on understanding the perspectives of various stakeholders involved in the development of EHS's green energy terminal. The qualitative approach is particularly suitable for exploring complex issues and capturing the nuances of stakeholder interactions and interests.

The research design includes the following steps:

(i) Conducting interviews with key stakeholders, focusing on potential collaborators within the IGET project.

(ii) Analyzing relevant documents, such as policy reports, project proposals, and feasibility studies.

(iii) Conducting market studies to assess the demand for green energy and the potential for scaling up the project.

B. Soft Systems Methodology (SSM)

SSM is applied to develop a comprehensive understanding of the problem situation and to design a robust partnership model. This methodology involves iterative steps, including expressing the problem situation through rich pictures, formulating root definitions, building conceptual models, and comparing these models with the real world.

The SSM process involves the following stages:

(i) Entering the problem situation: This involves gathering information about the current state of the project and identifying key issues and stakeholders (i.e: potential collaborators).
(ii) Expressing the problem situation: Using rich pictures to visualize the problem situation and capture different perspectives.
(iii) Formulating root definitions: Developing concise statements of the system's purpose, focusing on the desired transformation.
(iv) Building conceptual models: Creating models that represent the activities needed to achieve the desired transformation.
(v) Comparing models with the real world: Identifying discrepancies between the models and the real-world situation and discussing potential changes.
(vi) Defining changes: Proposing actionable changes that are both desirable and feasible.
(vii) Taking action: Implementing the proposed changes and monitoring progress.

RESEARCH RESULTS

Utilizing Soft Systems Methodology (SSM) enables the identification and structuring of complex problems, making it possible to develop appropriate solutions. By providing a structured approach, SSM helps to understand the intricate dynamics of the problem situation, facilitating the creation of effective and feasible solutions tailored to address the identified issues.

A. Modular Approach

The research findings indicate that a modular approach allows for incremental development, which is crucial in managing high capital requirements and uncertain revenue streams. This approach enables the gradual expansion of the terminal, accommodating different fuel types and integrating new technologies over time. The modular strategy also allows for accommodating the diverse requirements of potential partners. Certain partners may have specific concerns that cannot be combined with other partners within a single entity or partnership. For instance, partners with strict green principles can only invest in or be involved with projects that comply with their definition of green. Meanwhile, other partners might be open to supporting conventional energy development under certain conditions.

The modular approach provides more flexibility, enabling adjustments to be made only to specific parts of the project rather than the entire project. This flexibility in project management allows each module to be developed independently, providing better control over the project's timeline and budget. Moreover, this approach facilitates risk management by isolating potential issues within individual modules, preventing them from affecting the entire project (Brookes & Locatelli, 2015).

B. Phased Development

Phased development provides flexibility, allowing the project to adapt to changing technological and market conditions. It facilitates continuous improvement and helps in managing risks associated with large-scale investments. The phased approach allows for step-by-step implementation of the project, which can be aligned with the demand trend. Given the necessity to prioritize energy security, the initial phase will focus on energy types that are currently in high demand while also preparing for the energy transition. Subsequent phases can be adjusted based on shifts in energy trends. For example, while phase two might currently plan for ammonia and UCO (used cooking oil), it can be diverted to other energy types if there is an indication of demand towards those alternatives. This phased approach ensures that each stage of the project can respond to market demands, reducing the risk of delays and cost overruns, and making the project more adaptable to future changes in energy needs (Dong, Yu, & Zhou, 2023).

C. Stakeholder Engagement

Engaging stakeholders early in the project ensures that their interests and expertise are aligned with the project's goals. The study highlights the importance of inclusive participation, with stakeholders such as landowners and environmental health and safety

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 07 Issue 06 June 2024
DOI: 10.47191/ijcsrr/V7-i6-89, Impact Factor: 7.943
IJCSRR @ 2024
www.ijcsrr.org

(EHS) experts playing key roles in all phases of development. By involving stakeholders in the decision-making process, project managers can build trust and secure their support, which is essential for the project's success (Rosendo, 2004).

The research findings emphasize the need for transparent communication and collaboration among stakeholders. Regular meetings and workshops can provide a platform for stakeholders to share their views, address concerns, and contribute to the project's design and implementation. This collaborative approach helps in identifying potential issues early and developing solutions that are acceptable to all parties involved (Buur, Ankenbrand, & Mitchell, 2013).

D. Soft Systems Methodology (SSM) Analysis

The application of SSM in this study provided a structured approach to understanding the complexities and stakeholder dynamics involved in the green energy terminal project. The following key insights emerged from the SSM analysis:

1. *Problematic Situation*: The development of the Integrated Green Energy Terminal (IGET) involves addressing several complex challenges. Table 1 provides a summary of the key aspects of the problematic situation at IGET.

Table 1. Problematic Aspects of IGET

Aspect	Explanation
Transition Energy	- There are regulations from the Indonesian government and possibly from global entities regarding energy transition, but the implementation depends on customers' readiness and demand to shift. - It is necessary to consider the balance between the push for transition to green energy and the need for energy security in Indonesia.
Evolving Technology	- The emergence of new technologies in storage terminals requires advancement because the existing EHS terminal is old. - Technology investment is not cheap and has risks, but some have already implemented it elsewhere.
Ambitious Target	- The company has ambitious profit target, as well as commitment to energy transition. - Safety, reliability, quality and sustainability must be maintained all the time in operation, including for the new terminal to be built.
Investment Trend	- Investment trends are starting to lean towards green investment, possibly potential partners are likely to choose green investments. - However, energy needs in Indonesia have not fully shifted to green energy, so it is necessary to balance this with the need for energy security. - The government cannot force people to completely switch to green energy, such as electric cars, due to the lack of funds for conversion.
Partnership Complexity	- Possible location is limited due to availability of land for the construction of new terminals is very limited due to the need for large areas of land and several other requirements to support terminal operations, for example: access to water locations and land road access for energy distribution to final consumers. - EHS must act immediately to avoid losing opportunity in securing land. - The project may require multi partners, with possibility of potential partners may have different concerns.

2. *Structuring the problems*: The 7S McKinsey Framework is utilized to understand the organization’s situation and aligning its element to improve performance. By analyzing the project's strategy, structure, systems, shared values, skills, style, and staff, the framework guides the selection of the most effective partnership model, such as a joint venture or strategic alliance (Suwanda & Nugroho, 2022; Komurcu et al., 2017).

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 07 Issue 06 June 2024
DOI: 10.47191/ijcsrr/V7-i6-89, Impact Factor: 7.943
IJCSRR @ 2024
www.ijcsrr.org

Table 2. McKinsey 7S Analysis of IGET

7S Aspect	Description
Strategy	IGET's strategy should emphasize balancing profitability with sustainability, incorporating specific goals for integrating diverse types of partnerships, and dynamically accommodating shifts in energy sources with a commitment to environmental stewardship in expansion plans.
Structure	The structure should support the complexity of transitioning energy sources with dedicated divisions focusing on managing profit-oriented, green-oriented, and land management partnerships, each with clear roles and responsibilities within the SPV structure.
Systems	Enhanced systems should support not only new technologies and operational efficiencies but also able to adapt to market changes or regulation compliance.
Shared Values	Deepen the commitment to ESG principles by explicitly aligning profit motives with environmental and social goals, emphasizing ethical partnerships, community engagement, and transparency in resource management.
Style	Evolve the management style to emphasize adaptive leadership capable of managing economic and environmental/social trade-offs, promoting a culture of innovation, openness to change, and proactive stakeholder engagement.
Staff	Staffing strategies should include training in sustainable practices and partnership management, ensuring staff is well-versed in technical, ethical, and sustainable business practices.
Skills	Develop skills in developing integrated green energy terminal along with partnerships management, conflict resolution, and strategic compromise, alongside technical expertise to better navigate the complex stakeholder landscape and align diverse interests with strategic goals.

3. *Root Definition:* To build the root definition of the systems, this study employs CATWOE framework (Checkland & Tsouvalis, 1997). CATWOE analysis allows identification of the Customers, Actors, desired changes, Worldviews, Owners, and Environmental Constraints that are important to each of the identified strategic and operational aspects.

   Main Root Definition of the study is develop Indonesia's first green energy terminal with a varied group of partners (both profit-driven and environmentally conscious). Balance economic, environmental, and social objectives while including partner interests, and integrate EHS controls with sustainability commitments. Furthermore, there are four subsystems root definition as follows: (1) Profit-Oriented Collaborators subsystem, representing potential partners who prioritize profitability returns over green principle; (2) Green-Only Collaborators subsystem, portrays potential collaborators who must adhere to green investment principle; (3) Land-owner subsystem, illustrates the interests of land providers of the project who want to maximize their income beyond rental fee; and (4) Project owner as control and balance subsystem, depicts subsystem of EHS, the project initiator who should be able to play controlling role as well as balancing the various parties interests.

4. *Conceptual Models and Comparison:* Conceptual models were built to represent the desired activities and processes for the project. These models included modules for renewable energy storage, carbon capture, and efficient operations, aligning with the modular approach. These models include:

- Phased Development Plan: Structuring the project in phases to manage risks and adapt to changing market conditions.
- Modular Design: Developing self-contained modules for different energy types and technologies to allow flexibility and scalability.

The division of the core terminal into SPVs by product caters to the diverse interests of the partners. Partners can be categorized into profit-oriented investors, investors who only care about the environment, landowners who seek more benefits, and EHS who want control over green aspects. This structure attracts more partners, allows landowners to gain additional benefits, and balances control among partners. Ensuring landowners and EHS have a stake in all SPVs will align interests and promote stability. The IGET project's conceptual partnership model features a phased approach, initially building core infrastructure and integrating traditional and cleaner fuels from 2027 to 2035, expanding to include ammonia and responding to cleaner energy demand from 2035 to 2040, and fully implementing green technologies such as hydrogen-based fuels and CO_2 capture from 2040 onwards.

International Journal of Current Science Research and Review
ISSN: 2581-8341
Volume 07 Issue 06 June 2024
DOI: 10.47191/ijcsrr/V7-i6-89, Impact Factor: 7.943
IJCSRR @ 2024
www.ijcsrr.org

The phased development was represented through stages of infrastructure development, technology integration, and capacity expansion. Comparing these models with real-world scenarios revealed gaps and areas for improvement, leading to actionable changes.

5. *Actionable Changes and Implementation:* Based on further input from potential partners gathered from interviews, several concerns were identified and enhancements were suggested. These changes were incorporated into the model to improve its feasibility and effectiveness in implementation.

By integrating the insights from the SSM analysis, the project structure for the green energy terminal is designed to be both phased and modular, ensuring flexibility, scalability, and effective stakeholder engagement. This approach not only addresses the financial and technological challenges but also aligns with the broader goals of Indonesia's energy transition.

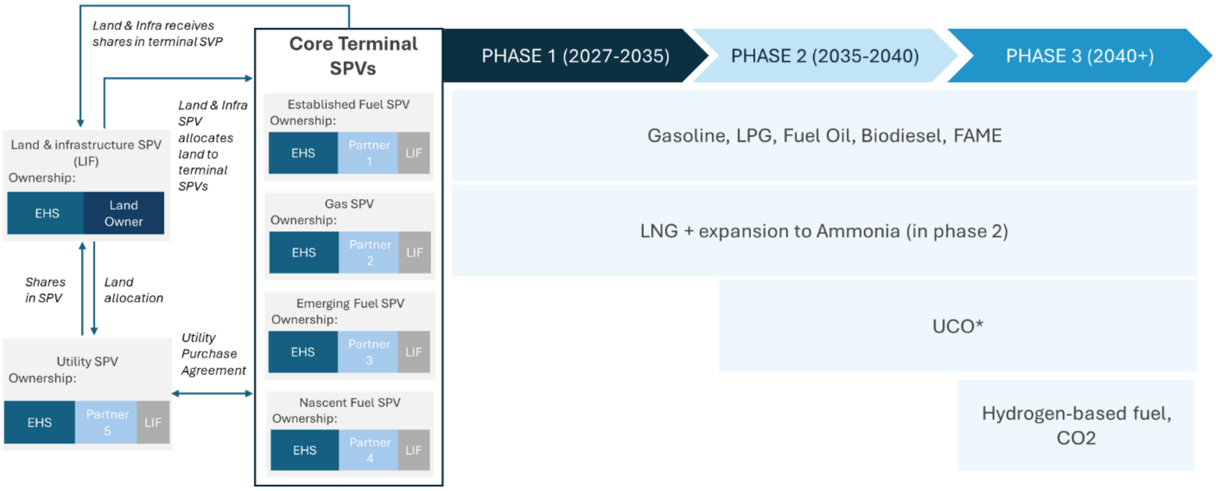

Figure 2. Revised Model as Proposed Solution for IGET project

CONCLUSION

A. Summary of Key Findings

This study demonstrates the benefits of a modular and phased approach in building green energy terminals, particularly in managing high capital requirements and uncertain revenue streams. Stakeholder engagement is crucial for the project's success, aligning diverse interests and expertise. The findings provide valuable insights for policymakers and practitioners in developing countries facing similar challenges in the energy transition.

The modular and phased approach offers practical implications for policymakers and practitioners in the energy sector. It provides a viable strategy for companies like EHS to transition towards renewable energy while managing high capital requirements and uncertain revenue streams. By adopting this approach, policymakers can promote sustainable development and attract investment in green energy projects (Locatelli et al., 2014).

For practitioners, the modular and phased approach offers a flexible and efficient way to manage large-scale infrastructure projects. It allows for better control over the project's timeline and budget, reducing the risk of delays and cost overruns. Moreover, this approach facilitates continuous improvement, enabling practitioners to incorporate new technologies and adapt to changing market conditions (Hermanto et al., 2023).

Potential challenges include coordinating multiple phases and managing stakeholder expectations. The study proposes solutions such as establishing clear communication channels and involving stakeholders in decision-making processes to address these challenges effectively. By maintaining open and transparent communication, project managers can build trust and ensure that all stakeholders are aligned with the project's goals.

Another challenge is securing funding for the project's different phases. To address this, project managers can explore various financing options, such as public-private partnerships, government grants, and international funding. By diversifying the funding sources, the project can reduce its dependence on any single source and ensure a steady flow of capital (Capri, 2017).

B. Recommendations for Future Research

Future research should explore the long-term impacts of modular development on energy security and sustainability. Additionally, studies can examine the application of this approach in other developing countries to validate its effectiveness. Further research can also investigate the role of advanced technologies, such as automation and digitalization, in enhancing the efficiency and sustainability of green energy terminals.

REFERENCES

1. Bappenas. 2024. Energy Transition Report
2. Bisset, M., Venter, C., and Coetzer, T. 2023. Efficient Machines and Lower Emissions in Green Energy Terminals. Journal of Sustainable Energy.
3. Blandino, G. 2023. Advances in Sustainable Maritime Operations. Maritime Technology Review.
4. Brookes, N., and Locatelli, G. 2015. Mega Projects and Risk: An Anatomy of Ambition. Palgrave Macmillan.Tavel, P. 2007 Modeling and Simulation Design. AK Peters Ltd.
5. Buur, J., Ankenbrand, B., and Mitchell, R. 2013. Participatory Approach in Infrastructure Development. Journal of Infrastructure Development.
6. Capri, M. 2017. Public-Private Partnerships in Developing Countries. Development Policy Review.
7. Checkland, P., and Tsouvalis, C.. 1997. Reflecting on SSM: The Link between Root Definitions and Conceptual Models. Systems Research and Behavioral Science 14 (3). https://doi.org/10.1002/(SICI)1099-1743(199705/06)14:3<153::AID-SRES134>3.0.CO;2-H.
8. Checkland, P. 2000. Soft Systems Methodology in Action. Wiley.
9. Chen, J., Saraji, S., and McLaughlin, M. 2023. Carbon Capture and Storage in Green Energy Terminals. Environmental Science and Technology.
10. Dong, J., Yu, X., and Zhou, L. 2023. Strategic Partnerships in Renewable Energy Projects. Energy Policy.
11. Freeman, R. E. 1984. Strategic Management: A Stakeholder Approach. Cambridge University Press.
12. Ghosh, S., Parida, B., and Sharma, H. 2022. Innovations in Carbon Sequestration. Environmental Progress & Sustainable Energy.
13. Goerzen, A. 2007. Multinational Corporations and Repeated Equity-Based Partnerships. Journal of International Business Studies.
14. Gokdeniz, I., Kartal, C., Komurcu, K. 2017. Strategic Assessment based on 7S McKinsey Model for a Business by Using Analytic Network Process (ANP). International Journal of Academic Research in Business and Social Sciences.
15. Hermanto, A., et al. 2023. Enhancing the Participatory Model-Building Process within the SSM Framework. Journal of Systems Research.
16. International Energy Agency (IEA). 2022. Indonesia's Energy Landscape. IEA Publications.
17. Keshavarz, N., et al. 2021. Efficient Planning and Operations in Green Energy Terminals. Renewable Energy Journal.
18. Locatelli, G., Mancini, M., and Romano, E. 2014. The Role of Infrastructure in Energy Transition. Energy Policy Journal.
19. Pavlic, et al. 2014. Indicators of Green Energy Terminals. International Journal of Sustainable Development.
20. Rosendo, S. 2004. Stakeholder Management in Energy Projects. Energy Policy Review.
21. Suwanda, Suwanda, and Bernardus Yuliarto Nugroho. 2022. "Literature Reviews: McKinsey 7S Model to Support Organizational Performance." Technium Social Sciences Journal 38. https://doi.org/10.47577/tssj.v38i1.7744.
22. Wilson, B., and Van Haperen, K. 2015. Soft Systems Methodology: An Interpretive Approach. Springer.
23. Witz, P., and Oehmen, J. 2018. Open System Design for Infrastructure Projects. Journal of Infrastructure Systems.
24. EHS Company Profile. 2023. Company Profile and Operational Overview.

Cite this Article: Dian Vita Alpha Suandi, Yudo Anggoro, Widhyawan Prawiraatmadja (2024). Modular and Phased Approach: Innovative Transition Approach in Developing the First Indonesia's Green Energy Terminal. International Journal of Current Science Research and Review, 7(6), 4372-4379