

# COVID-19 Shock: The Necessity of Rethinking about Strategic Management for Global Energy

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The COVID-19 pandemic has had a drastic impact on the energy sector around the world. People worldwide are facing lockdowns, curfews, restricted travel, and drastic changes in consumer behaviour as a result of the pandemic. The implications of the energy sector's long-term effects remain unresolved and difficult to estimate. It is likely that reduced energy use will lead to lower costs for energy supplies, which will also lead to increased costs for consumers who have not paid their bills. Because of the importance of these issues to national and international policymakers and regulators, the topic of reassessing the country's energy strategy is inseparable from this issue. More global energy planning can be done with strategic management concepts and techniques. This study seeks to bring attention to the necessity of revising the strategic management plans for global energy. This study will provide a wide range of stakeholders, such as government officials and energy stakeholders, with an in-depth understanding of how strategic management concepts and tools have widespread use in addressing the risk of new strategic problems in the global energy sector, including the risk of unfair competition for natural resources, rapid price increases for select energy supplies, and the exploitation of a specific country or region's energy production.

## 1. Introduction

There is no denying the vital function energy plays in human life. It serves to foster growth in several industry areas, including manufacturing, agriculture, transportation, and telecommunications. Because of social and lifestyle changes, new buildings and urban planning that are not ecologically friendly, and the increase in population in a country, energy usage in most countries increases over time (Chofreh et al., 2019). A rise in quality of life causes people to want better products, and since more people have more money, there is a higher energy demand, which results in an increase in carbon emissions (Zeinalnezhad et al., 2020). An almost infinite number of things, such as economic, political, technological, environmental, and social factors, can influence global energy production and consumption (Chofreh et al., 2020a). The unprecedented impact of the COVID-19 pandemic on the energy system means that in 2020 the world's largest energy demand shock occurred (International Energy Agency, 2020). Projected global energy demand decreased by 6 % between 2019 and 2020, which was seven times bigger than the magnitude of the financial crisis in 2009 (International Energy Agency, 2020). This fact is in line with the British Petroleum analysis, which mentioned that 2020 saw a sharp decline in global energy demand and energy-related CO<sub>2</sub> emissions (Finley, 2021).

The IEA Sustainable Recovery Plan (2021) estimated that if international and local governments mobilised USD 1 trillion in clean energy investments each year from 2021-2023, they would boost the global economy, create millions of jobs, and put emissions onto a Paris-compliant trajectory. However, this recovery tracker relies on new and extensive policy analysis, which should be identified in the new strategic management for global energy (International Energy Agency, 2021). Overall, energy demand is falling, but it is somewhat complicated to make sense of all the varied aspects of the issue, as well as a range of consumption habits and global economic and

geopolitical issues. The reduction in energy consumption, particularly electricity consumption, among different sectors has been noticed by many researchers. Nevertheless, current researches mostly explained the general decrease in energy consumption within an industry or a nation from a macro perspective (Zhang et al., 2021). Significant steps will have to be taken in global energy strategic management planning and policies.

Deciding where the global energy transition has to go, explaining why this transition has to go there, and giving the how-to directions are all parts of the strategic management process for global energy (Chofreh et al., 2020a). It is imperative that global, regional, national, state, municipal, district, and sector decision-making processes be incorporated into long-term policy planning (Chofreh et al., 2020b). A long-term strategy is needed that integrates the various aspects of planning for global energy, from design to execution. Current efforts are intensely focused on strategic management for a country (Alizadeh et al., 2016), while each state may have a different objective, mission, and strategy concerning energy management (Azuma and Magnani, 2017). The amount of embedded sustainability in global energy strategy is low in actuality. To supply the energy demands of the community, a strategy for global-level strategic management that integrates the vision, mission, and strategies of all countries is necessary.

From a theoretical point of view, research on strategic management concepts for global energy is still limited in number. According to Prasad et al. (2014), there is no worldwide energy planning due to a lack of countries with the ability to exercise strategic planning. Some other research in this field examined a specific industry, such as the power sector (Breyer et al., 2018), and a strategic management aspect, such as politics and resources (Ibrahim and Younes, 2018). To bridge these knowledge gaps, this research aims to provide a broad view to policymakers and all energy stakeholders about the prominence of strategic management concepts and tools to reduce the emergence of strategic problems in the global energy sector.

## 2. Strategic management concept for global energy

One of the fundamental functions of strategic management is to handle global energy management. Policymakers use this notion to improve energy efficiency and conservation over the long run assisting in the reduction of energy usage (Arababadi et al., 2017). The technique boosts the long-term demand and reduces demand costs, energy costs, reliability, and greenhouse gas emissions. To help practitioners create long-term energy planning and anticipate future trends, strategic management concepts and methods are applied in global energy management. Krog and Sperling (2019) noted that successful strategic energy planning needs to look to the future and use an energy-efficient and flexible energy system. All parts of the global energy plan, cooperation with stakeholders, and security of supply are involved in strategic energy planning. International governments must conduct strategic energy planning in order to implement optimal linkages between energy demand and energy supply.

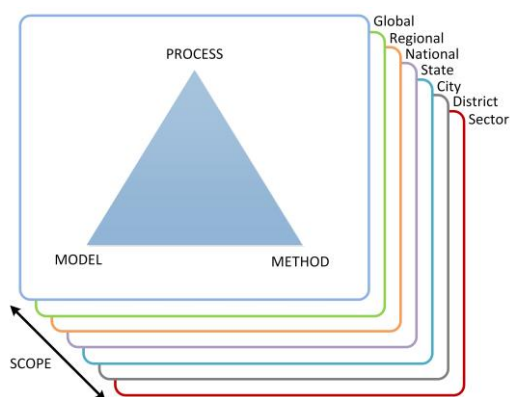


Figure 1: Strategic management paradigm for global energy

This study proposes a new paradigm of strategic management concept for global energy. This paradigm is adopted from the strategic management concept. It interlocks four components, including strategic management scope, process, model, and method, as shown in Figure 1. Strategic management scope refers to the range or area of the policymaker plans to offer the strategy. The strategic management process shows a coherent method used by policymakers to achieve strategic competitiveness and get above-average revenues. The strategic management model highlights the vital aspects to consider in strategic management for global energy. The strategic management method demonstrates a systematic procedure for investigating the strategic management process. The explanation of each component is provided in the following sub-sections.

## 2.1 Strategic management scope

Policymakers require a strategic management concept that shows how to manage long-term energy to attain sustainable improvements in global energy management for the long term. One of the components of a successful strategic management concept is a broader scope of strategy covering global, regional, national, state, city, district, and sector (Prasad et al., 2014) to evade some strategic issues such as planning and implementing energy strategies that only focus on the benefits of a nation or region, unfair competition for resources, unequal increases in certain energy prices, and exploitation of energy production in certain countries or regions (Chofreh et al., 2020b). Having a long-term view on energy conservation and energy management internationally enables continued progress in operational energy management. The process of managing global energy involving all key energy stakeholders. Policymakers need to meet customer requirements concerning energy exploitation, analysis, and communication advancement and accomplishment in energy innovation to all internal and external energy stakeholders.

Global energy planning requires suppliers and customers to classify energy resources, and the data collected and analysed have to be comprehensive and reliably integrated into a global energy system. The policymakers need to grasp the implications and the influence on the development formation and viability of selected energy, environmental and economic programs, policies and plans. It is more than just energy statistics because it offers a broader understanding of the energy, the environment, and economic linkages.

Prasad et al. (2014) emphasised that a nation's need for domestic and foreign power sources must be completely understood. To foresee risk and opportunity, a country has to study the energy supply chain. A country must also identify, monitor and analyse energy suppliers because this affects people and businesses' everyday lives. Countries with energy sources as their economic backbone require a comprehensive strategic approach to management to foresee and control their rivals and energy costs. Therefore, the spatial level of globals, nationals, regions, cities and districts should be taken into consideration in energy planning. Sperling and Krog (2019) proposed that all levels in the energy system should be covered in a strategic energy strategy. They felt sustainable, appropriate, and affordable, sustainable development to meet human energy demands without negative social and ambient repercussions would be encouraged in long-term energy planning.

## 2.2 Strategic management process

A logical method for defining strategies is the strategic management process. This approach allows policymakers to analyse and evaluate future directions to improve their performance.



Figure 2: Strategic management process

The strategic management process encompasses several processes, including analysing present conditions, strategy development, strategy implementation and evaluation of strategies (Hitt et al., 2019). There are various crucial components in each step that must be considered in the strategic management process. The strategic management method for the management of global energy is illustrated in Figure 2.

- Scan and analyse the current and future condition of global energy  
In order to determine the evolution and forecast of elements that will influence an organisation's success, the outside and internal environment should be inspected. Olamide et al. (2011) stated that environmental scan refers to data ownership and use in the internal and external environment of a company for events, patterns, trends and linkages. It assists policymakers to decide the organisation's future route. In the scanning phase, the strengths, weaknesses, chances and risks that affect the new system deployment must be identified. Strengths, weaknesses, opportunities, and threats (SWOT), as well as political, economic,

social, technological, legal, environmental (PESTLE) analysis, are the methodologies commonly employed to scan the environment.

- Formulate strategies

Strategy formulation refers to the process of strategic development and the selection of actions to implement the strategy and achieve the goals and aims of the organisation as per the vision.

- Implement strategies

Implementing the strategy means implementing the chosen approach to attain strategic goals. The implementation of strategies is also characterised as the process by which practitioners design, use and combine structure, control systems, and culture to follow strategies that improve performance and improve the competitive advantage (Management Study Guide, 2020).

- Evaluate and control strategies

The final element of the strategy management process is strategic review. In this phase, practitioners must review and monitor the strategy's implementation. Some essential aspects of the plan's evaluation include the adequacy of the approach for the identified goals. The practitioner must also assess whether the plan meets the stakeholders' expectations.

### 2.3 Strategic management model

The strategy's strategic management model consisted of an over average industrial organisation model (I/O) and a resource-based model (Hitt et al., 2019). This I/O model includes an assessment of the external environment (economic, sociocultural, global, technological, policy/legal, population and environmental variables) and the industry (suppliers, customers and competitors) (Management Study Guide, 2020). The resource-based approach comprises internal environment identification and analysis of resources such as liquid fuels, natural gas, coal, nuclear energy and renewable sources, abilities, core competencies and competitive advantages (Management Study Guide, 2020). The I/O model and resource-based paradigm are illustrated in Figures 3a and 3b.

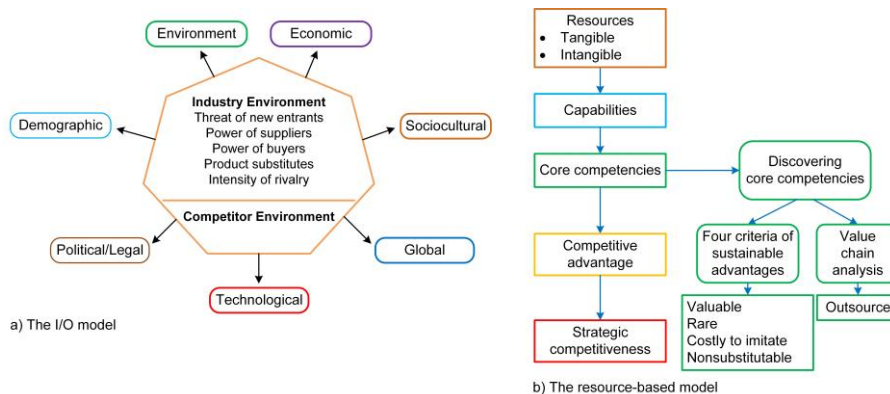


Figure 3: The strategic management model

In strategic management, the I/O model is believed to be the main component to evaluate to develop an effective strategy (Hitt et al., 2019). The model has a decisive impact on policymakers' efforts to identify threats and opportunities from all parts of the external environment. Management is challenged because most companies have important resources and can improve their performance if they are able to employ resources properly to accomplish the strategy. The resource model helps policymakers analyse an organisation's internal environment (Management Study Guide, 2020). Hitt et al. (2019) emphasised that resources, capabilities, and core competencies are the principal components of this approach. Tangible and immaterial manufacturing inputs such as capital, skills, and raw materials are related to resources. A capable of carrying out an integrated activity refers to a group of resources. Core skills are resources and talents that serve as the basis for an organisation's competitive advantage over its competitors. The resource-based model depends on the resources and capabilities of an organisation.

### 2.4 Strategic management method

Various methods are used in strategic management concepts, including SWOT analysis, PESTLE analysis, portfolio analysis, scenario planning, and Porter's five forces framework. They are models of business analysis that are useful for environmental understanding. Forecasting techniques in strategic management to predict

future business are another helpful strategy. The forecast tools include quantitative and qualitative methods. The qualitative method is appropriate where no hard data is available. It employs a subjective approach to the industry, market research and industry experts' perspectives. The quantitative method predicts the future by reviewing previous data. This quantifiable, methodological and analysis mode is suitable for various statistical demands, including short-term objectives and planning.

### **3. Significance of strategic management for future global energy**

The global energy strategic management approach is important to guide policymakers in their understanding and development of energy policies to achieve sustained global strategic competition. It is a fundamental idea to develop and implement the objectives and activities involved in energy plans in policymakers such as international organisations and government agencies. To create prudent decision making, and energy strategy needs to be put in place to support company functions and operations. The strategy management concept may also serve to understand the fundamental aspects in developing energy strategies in international and national spheres for energy producers, suppliers and customers (international institutions, national governments, machinery and retailers, power supply companies, facility management companies, energy services business and energy production companies).

The problem caused by the COVID-19 epidemic has led to emergency measures implemented by international and national governments all over the world. Economic activities and household wellbeing throughout the crisis have highlighted the importance of establishing universal energy access. The energy sector has played an important role in supporting healthcare, remote operations and many other necessities in this scenario. However, as in many other industries, the COVID-19 crisis has greatly disrupted operations in the energy sector (Klemeš et al., 2020). In these circumstances, governments must examine and reconsider their energy strategy and long-term strategies for addressing and surviving pandemic difficulties during and following a pandemic. The proposed strategy for the global energy management concept will assist them review strategies and measures that require improvements to achieve improved performance and competitive advantage.

The policymakers need to revise numerous energy measures in the long-term recovery plans, consisting typically of electricity, transport, industry, buildings, fuel supplies and key technology innovation chances (International Energy Agency, 2020). The short- and long-term consequences for employment, economic growth, energy security, resilience and emissions of these actions are to be examined. Depending on the national circumstances, certain measures may be more appropriate for certain countries. Assuming that governments around the world synchronise their plans and activities, more integrated energy value chains and lowering costs linked to cumulative adoption and policy coordination across markets can produce synergistic benefits. Such collaboration can make rehabilitation for everyone more cost-effective and faster. There are three parts of the strategic Energy Plan necessitating a modification of the COVID-19 crisis, but not limited to energy needs, requirements and competitive positioning, marketing and supply strategies and operations of the customer. The policymakers need the existing and future circumstances, including internal and external analyses, to be reassessed and updated. They should go through all the strategic management processes and update the energy strategy and actions involved.

A holistic view to comprehend and manage energy initiatives is provided by the proposed strategic management concept. The results of this study differ from prior studies because the building concept includes all the key elements to be considered in the creation and management of the energy strategy process. In comparison, earlier studies are specific to a single perspective, such as scanning or scenario planning. This study, therefore, provides new insights into the topic of strategic management, especially in the energy sector. The proposed approach would make it possible for policymakers to focus on managing energy strategy internationally concerning the COVID-19 pandemic.

### **4. Conclusions**

Global and national policymakers need to have an adequate notion of strategic management for global energy management. This concept should incorporate key strategic management features into a unified shape and provide a sequence on how global strategic energy management might be developed. A strategy concept for global energy management is built on the basis of these notions. This essential notion would allow practitioners to understand some important aspects that need to be taken into account in global energy strategic management. The study suggested a new paradigm in the global energy strategic management concept. The paradigm is made up of four components, including the strategy, process, model and technique of management. These investigations would advance research development in the area of global energy strategic management. In order to tackle the current research gap, the notion created is offered. A hypothetical study could analyse internal environments such as physical and intangible resources, abilities or fundamental skills of global energy

deployment and exterior surroundings. This study is vital for demonstrating existing threats which can impede the execution of the global energy strategy and opportunities.

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