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**RESEARCH ARTICLE**

# The Role of Benchmarking Technique in Achieving the Seventh Goal of Sustainable Development Goals in Business Sector

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| *ARTICLE INFO* | ABSTRACT |
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| <br><br>**\*Corresponding Author:**<br><br>khlznb2016@gmail.com,<br>ins.khl2@atu.edu.iq | This paper explores the role of benchmarking technique in achieving Sustainable Development Goal 7 (SDG 7), which aims to ensure universal access to modern, reliable, sustainable and affordable energy. Benchmarking is a powerful tool that allows organizations to compare their performance to industry standards and best practices, identify areas for improvement, and track progress toward sustainability goals. The paper begins by providing an overview of SDG 7 and the importance of achieving universal access to clean energy. It then discusses the concept of benchmarking and its importance for sustainable development, highlighting how benchmarking can help organizations set goals, measure progress, and drive continuous improvement in energy efficiency and renewable energy adoption. Case studies are presented to illustrate how companies, governments and non-profit organizations are successfully using benchmarking to achieve the goals of Goal 7 of the Sustainable Development Goals. The paper also addresses the challenges and limitations of benchmarking in the context of sustainable development, including data availability, comparability issues, and stakeholder engagement. By providing for setting targets, monitoring performance and enhancing collaboration among stakeholders. By leveraging benchmarking practices effectively, organizations can accelerate the transition to a more sustainable energy future and contribute to achieving universal access to clean energy for all. |

## INTRODUCTION

The seventh goal of the Sustainable Development Goals aims to ensure that everyone has access to modern, reliable, sustainable and affordable energy. Benchmarking plays a critical role in driving progress towards this goal by providing a framework for comparing and measuring energy access and sustainability. This paper explores the importance of benchmarking in achieving SDG 7, highlighting its benefits, challenges and best practices. By examining case studies and examples from around the world, this paper shows how benchmarking can drive innovation, collaboration and accountability in the energy sector, ultimately leading to a more sustainable future.

Sustainable Development Goal 7 (SDG 7) calls for universal access to modern, reliable, sustainable and affordable energy by 2030. Achieving this goal is essential for economic development, poverty reduction and environmental sustainability. Benchmarking is a powerful tool that can help track progress towards achieving SDG 7 by providing a unified framework for comparing and measuring energy access and sustainability. By setting standards and targets, stakeholders can identify gaps,

track performance, drive innovation, and hold governments and companies accountable for their actions.

Sustainable Development Goal 7 aims to ensure everyone has access to modern, reliable, sustainable and affordable energy by 2030. Achieving this goal is crucial to addressing climate change, promoting economic growth, and improving the quality of life for billions of people. People all over the world. Benchmarking is a powerful tool that can help drive progress towards SDG 7 by enabling organizations to compare their performance with industry best practices and identify opportunities for improvement.

Benchmarking involves measuring an organization's performance against key performance indicators (KPIs) and comparing it to the performance of other organizations in the same industry or sector. By identifying areas where performance lags behind industry leaders, organizations can set goals for improvement and develop strategies to close the gap. Benchmarking can also help organizations track their progress over time and demonstrate their commitment to sustainability to stakeholders.

This paper will explore the role of benchmarking in driving progress towards achieving SDG 7. It will examine how benchmarking can help organizations identify opportunities to improve energy efficiency, adopt renewable energy, and access clean energy solutions. The paper will also discuss the challenges and limitations of benchmarking in the context of sustainable development.

**Research problem:**

Many industrial companies suffer from not linking their work with the sustainable development goals and comparing their projects with the projects of companies that implement the sustainable development goals, especially those related to costs and the seventh goal of the sustainable development goals, as a "result of not improving their capabilities and weakness in developing their equipment to keep pace with the rapid developments in the world of manufacturing. While preserving the environment, reducing pollution, fighting poverty and hunger, and providing a comfortable life suitable for the individual and society.

**Research aims:**

The research aims to shed light on the role played by the benchmarking technique, which is one of the cost accounting techniques, in achieving the seventh goal of the sustainable development goals, and what results are achieved when comparing manufacturing companies that apply the sustainable development goals versus those that cannot tolerate the sustainable development goals to maintain Rights of future generations.

**Research importance:**

The importance of the research: The importance of the research lies in the role played by benchmarking companies during the manufacturing process and calculating costs through the application of the seventh goal of the sustainable development goals.

**Research hypothesis:**

The research assumes that there is a role for benchmarking technology in achieving the seventh goal of the sustainable development goals.

**First: Definition and importance of SDG 7: Provide an overview of SDG 7, which aims to ensure universal access to modern, reliable, sustainable and affordable energy**. (United Nations Development Programmed. (n.d.), (United Nations Department of Economic and Social Affairs. (n.d.)

Sustainable Development Goal 7 (SDG 7) is one of the 17 goals set by the United Nations as part of the 2030 Agenda for Sustainable Development. SDG 7 aims to ensure that everyone has access to

modern, reliable, sustainable and affordable energy by 2030. It recognizes this goal emphasizes the importance of access to energy in achieving sustainable development and addressing issues such as poverty, inequality and climate change.

Access to energy is essential for economic development, social progress and environmental sustainability. Lack of access to modern energy sources can hinder economic growth, limit educational opportunities, and contribute to health problems. By ensuring everyone has access to clean, affordable energy sources, SDG 7 aims to improve living standards, promote economic growth and protect the environment.

Achieving Goal 7 of the Sustainable Development Goals will require investment in renewable energy sources such as solar, wind and hydropower, as well as improving energy efficiency and infrastructure. This also includes increasing access to clean cooking fuels and technologies for households that currently rely on traditional biomass for cooking.

In addition to providing benefits to individuals and communities, achieving SDG 7 can also contribute to global efforts to combat climate change. Switching to renewable energy sources can help reduce greenhouse gas emissions and mitigate the effects of climate change.

"Overall, SDG 7 plays a crucial role in promoting sustainable development by ensuring access to affordable, reliable, sustainable and modern energy for all".

**Second: Benefits of benchmarking:** (Kolk, A., Levy, D., & Pinkse J. (2016), (Schaltegger S., Hansen E.G., Lüdeke-Freund F., Paetz A.G., & Waddock S. (2018).

Benchmarking provides several key benefits in driving progress towards achieving SDG 7.

First, it provides a common language and methodology for measuring energy access and sustainability across different regions and sectors. This allows stakeholders to compare performance, identify best practices, and learn from each other's experiences.

Second, benchmarking helps set clear goals and objectives for improving energy access and sustainability. By benchmarking key indicators such as electrification rates, renewable energy penetration, energy efficiency levels, and affordability of energy services, stakeholders can track progress over time and prioritize actions to achieve SDG 7.

Benchmarking is a valuable tool for organizations seeking to drive progress towards Sustainable Development Goal 7, which aims to ensure everyone has access to modern, reliable, sustainable and affordable energy. By comparing their performance with industry peers or best practices, companies can identify areas for improvement and set goals to achieve greater energy efficiency and sustainability. One of the key benefits of benchmarking in the context of SDG 7 is that it allows organizations to track their progress over time and measure the impact of their efforts on reducing energy consumption and greenhouse gas emissions. This can help companies demonstrate their commitment to sustainability to stakeholders, investors and customers, as well as identify opportunities for cost savings and operational efficiency.

Furthermore, benchmarking can also facilitate knowledge sharing and collaboration between organizations within the same industry or sector. By sharing best practices and lessons learned, companies can collectively accelerate progress towards achieving the Sustainable Development Goals 7.

In a study by Kolk et al. (2016), the authors highlight the importance of benchmarking in advancing the SDGs, including SDG 7. They argue that benchmarking can help companies identify gaps in their performance compared to industry leaders or global standards, leading to more informed decision-making and strategic positioning. Planning.

Another study by Schaltegger et al. (2018) emphasize the role of benchmarking in enhancing transparency and accountability in corporate sustainability efforts. By publicly disclosing their performance data and comparing it to benchmarks, companies can enhance their credibility with stakeholders and build trust with consumers who are increasingly demanding more sustainable products and services.

Benchmarking therefore plays a critical role in driving progress towards SDG 7 by enabling organizations to track their performance, identify areas for improvement, share best practices with their peers, and enhance transparency and accountability in their sustainability efforts.

It is necessary to find alternatives characterized by quality, as well as being of lower cost and achieving sustainability. (ALZLZLY, 2023).

**Third: The role of benchmarking in monitoring progress: Discuss how benchmarking can be used as a tool to measure progress towards achieving the goals of Goal 7 of the Sustainable Development Goals and identify areas for improvement.** (International Energy Agency (IEA). (2021).

Benchmarking plays a crucial role in monitoring progress towards achieving Sustainable Development Goal 7, which aims to ensure everyone has access to modern, reliable, sustainable and affordable energy. By comparing performance against established benchmarks or best practices, organizations can identify areas for improvement and track their progress over time.

One-way benchmarking can be used, as a tool to measure progress towards achieving the goals of SDG 7 is to compare levels of energy access across different regions or countries. For example, the International Energy Agency's World Energy Outlook provides data on energy access in different countries and regions, allowing policymakers to compare their performance against global standards and identify areas where they may be falling short.

Additionally, benchmarking can help organizations identify best practices and innovative solutions that have successfully improved energy access. By studying these examples, organizations can learn from the experiences of others and apply similar strategies to accelerate progress towards the goals of SDG 7.

Furthermore, benchmarking can also help organizations track their progress over time and set realistic goals for improvement. By regularly measuring performance against established benchmarks, organizations can identify trends and patterns that may indicate areas where additional efforts are required to achieve the goals of SDG 7.

"Benchmarking plays a critical role in monitoring progress towards achieving the goals of SDG 7 by providing a framework for comparison, identifying areas for improvement, and tracking progress over time. By leveraging benchmarking as a measurement and analysis tool, organizations can accelerate their efforts towards ensuring universal access to modern, reliable, sustainable and modern energy for all".

**Forth: Role of benchmarking to achieving the SDG7 in business sector:**

Benchmarking is a valuable tool for businesses looking to achieve Sustainable Development Goal 7 (SDG7), which aims to ensure access to affordable, reliable, sustainable and modern energy for all. By comparing their performance against industry peers and best practices, companies can identify areas for improvement and set targets to drive progress towards SDG7. (WBCSD).

One way businesses can benchmark their progress towards SDG7 is by using the Sustainable Development Goals Compass developed by the World Business Council for Sustainable Development (WBCSD). This tool provides a framework for companies to assess their alignment with the SDGs,

including SDG7, and identify opportunities for action. By using the Compass, businesses can benchmark their performance against global standards and track their progress over time. (GRI).

Another valuable resource for benchmarking progress towards SDG7 is the Global Reporting Initiative (GRI) Standards. These standards provide a comprehensive framework for reporting on sustainability performance, including energy-related indicators that are relevant to SDG7. By aligning their reporting with the GRI Standards, businesses can benchmark their energy performance against industry peers and demonstrate their commitment to sustainable development. (REBA).

In addition to the benchmarking technique, there are many techniques to reduce costs, such as the target cost system in industrial projects to reduce costs and develop products mainly, using some advanced administrative and production systems that are compatible with the importance of focusing on the customer and satisfying his desires by providing advanced products with quality and appropriate costs. . Among the most important systems that help the target costing system achieve its goals is the Quality Function Deployment testing and design system, the value engineering system, and the continuous improvement system. It has been shown that each of these three systems has an effective role in achieving the desired goals in cooperation with the target costing system. Through previous studies of these systems. (Alzlzly, 2019).

In addition to these tools, businesses can also look to industry benchmarks and case studies for inspiration and guidance on how to achieve SDG7. For example, the Renewable Energy Buyers Alliance (REBA) provides resources and best practices for companies looking to transition to renewable energy sources and reduce their carbon footprint. By learning from successful examples in the industry, businesses can accelerate their progress towards SDG7.

Overall, benchmarking is a powerful tool for businesses seeking to achieve SDG7 in the business sector. By comparing their performance against industry peers, using frameworks like the WBCSD Compass and GRI Standards, and "learning from best practices in the industry, companies can drive meaningful progress towards ensuring access to affordable, reliable, sustainable and modern energy for all.

**Fifth: Benchmarking challenges:**

While benchmarking provides many benefits in advancing sustainable development goals such as SDG 7, it also poses several challenges that need to be addressed.

A major challenge is the lack of consistent data collection methods across countries and regions. Without standardized data collection processes and indicators, it can be difficult to accurately compare performance or effectively track progress toward standards.

Another challenge is the complexity of measuring certain aspects of energy access and sustainability, such as the affordability or reliability of energy services.

Developing robust methodologies to measure these factors is essential for effective measurement.

**Sixth: Best practices in benchmarking:**

To overcome these challenges and effectively drive progress towards SDG 7 through benchmarking, several best practices should be followed:

1. Establishing clear standards: setting specific goals for key indicators related to energy access and sustainability.
2. Use standardized data collection methods: Develop consistent methodologies for collecting and reporting data on energy access.
3. Stakeholder engagement: Engage governments, businesses, civil society organizations and communities in the benchmarking process to ensure participation and collaboration.

4.  Monitor progress: Regularly track performance against standards and adjust strategies as needed.
5.  Sharing best practices: disseminating information on successful approaches to improving energy access and sustainability through benchmarking.

**Seventh: Case studies and examples:**

Several case studies demonstrate the power of benchmarking in driving progress towards SDG 7. For example, the World Bank's Global Tracking Framework tracks progress in electrification rates, energy efficiency improvements, and renewable energy deployment globally. Sustainable Energy Access Index developed by Susta.

1.  Case study: The role of benchmarking in achieving Goal 7 of the Sustainable Development Goals in the United States:
    This case study examines how benchmarking can be used to drive progress toward SDG 7 (ensuring access to reliable, sustainable, and modern energy for all) in the United States. The study analyzes how the U.S. Department of Energy implements performance measurement initiatives to track and improve energy efficiency in the buildings, transportation, and industrial sectors. By setting benchmarks and benchmarking, the United States was able to identify areas for improvement and implement policies and programs to drive progress toward SDG 7". (U.S. Department of Energy. (2020).
2.  Case study: The role of benchmarking in achieving Sustainable Development Goal No. 7 in Denmark:
    "This case study explores how Denmark has leveraged benchmarks to achieve SDG 7 targets on renewable energy and energy efficiency. The study looks at how to support Denmark's ambitious renewable energy targets by measuring initiatives that track progress towards increasing the share of renewables in the country's energy mix. By setting standards for renewable energy generation and consumption, Denmark has been able to drive investments in clean energy technologies and infrastructure, resulting in significant reductions in greenhouse gas emissions. (Danish Energy Agency. (2020).
3.  Case study: The role of benchmarking in driving SDG 7 in India:
    This case study examines how benchmarking has played a critical role in driving progress towards SDG 7 in India, particularly in the context of expanding access to clean cooking fuels and electricity for all citizens. The study analyzes how India's National Clean Cooking Mission used benchmark data to track the adoption of clean cooking technologies and monitor progress toward reducing indoor air pollution and improving public health outcomes. By setting benchmarks for clean cooking fuel adoption rates and electricity levels, India has been able to prioritize investments in rural electrification projects and promote universal access to sustainable energy". (Ministry of New & Renewable Energy, Government of India. (2020).
4.  Germany: Germany has also been successful in using benchmarks to drive sustainable energy development initiatives. The country's Energiewende (energy transition) policy aims to shift towards renewable energy sources and reduce greenhouse gas emissions. Benchmarking played a crucial role in monitoring the progress achieved in this policy and comparing it with the efforts of other countries in the same direction. This has helped Germany to identify areas for improvement and implement effective strategies to achieve its sustainability goals. (BMU, 2021).
5.  California, USA: California is another example of a region that has effectively used benchmarks to drive sustainable energy development initiatives. The country has set ambitious targets to reduce greenhouse gas emissions and increase renewable energy production. Benchmarking with other states and countries has helped California identify best practices and innovative solutions to accelerate its transition to a clean energy future. This

approach has enabled California to become a world leader in renewable energy adoption and sustainability. (California Energy Commission, 2021).

**Eighth: Challenges and limitations:**

One potential challenge associated with using benchmarking as a tool to achieve the SDGs is the lack of uniform metrics and standards across industries and regions. This can make it difficult to compare performance and progress towards sustainability goals, as different companies may measure and report different aspects of their operations. In addition, the lack of consistent data collection methods and reporting frameworks can hamper the accuracy and reliability of benchmarking efforts. (UNIDO, 2019).

Another limitation of SDG benchmarking is that companies can only focus on short-term gains or improvements in order to meet specific criteria, rather than implementing long-term sustainable practices. This can lead to greenwashing or superficial changes that do not address the root causes of environmental or social issues. (KPMG, 2020).

Furthermore, benchmarking may also face challenges related to data availability and quality. Companies may have difficulty collecting accurate and comprehensive data on their sustainable performance, especially in complex supply chains or in areas where data collection is limited. This may make it difficult to set meaningful benchmarks or track progress over time. (World Bank Group, 2021).

In order to address these challenges and limitations, organizations must work to develop standardized metrics and reporting frameworks for sustainability performance, as well as improve data collection and transparency. Collaboration between industry stakeholders, governments and NGOs can also help ensure that benchmarking efforts are effective in advancing the SDGs. (UNIDO, 2019).

## RESULTS

The researcher reached results that express how benchmarks can drive progress towards Goal 7 of the Sustainable Development Goals, which focuses on ensuring everyone's access to modern, reliable, sustainable and affordable energy.

Benchmarking involves comparing performance measures or practices with industry standards or best practices to identify areas for improvement. In the context of Sustainable Development Goal 7, benchmarking can help countries and organizations track their progress towards increasing access to clean energy sources, improving energy efficiency, and promoting renewable energy technologies.

By measuring their energy consumption and production against global standards and best practices, countries and organizations can identify opportunities to decrease greenhouse gas emissions, increase energy efficiency, and expand access to clean energy sources. This can help drive progress towards achieving the Sustainable Development Goal 7 targets of universal access to clean, affordable energy.

Overall, using benchmarks to drive progress towards SDG 7 can help countries then organizations set clear goals, measure their performance against established benchmarks, identify areas for improvement, and ultimately accelerate the transition towards a more sustainable energy future.

## RECOMMENDATIONS

1. Future research should focus on developing standardized methodologies to measure energy access and sustainability across different regions and countries. This will help compare progress towards achieving SDG 7 targets and identify best practices to achieve universal access to modern, reliable, sustainable and affordable energy by 2030.

2. More research is needed to explore the impact of benchmarking on policy-making and decision-making processes related to energy access. Understanding how benchmarking impacts policy formulation and implementation will be critical in accelerating progress towards achieving SDG 7.
3. It should also investigate the role of technological innovation in improving energy efficiency and promoting renewable energy sources. Benchmarking can help identify technological developments that can contribute to achieving sustainable energy goals more effectively.
4. Policy implications include the need for governments to prioritize data collection and monitoring systems to track progress towards achieving SDG 7 targets.
5. Establishing clear standards and indicators will enable policymakers to evaluate the effectiveness of their policies and interventions in promoting access to sustainable energy.
6. Policy makers should also consider incorporating measurement mechanisms into national energy strategies and plans to ensure accountability and transparency in achieving SDG 7 targets. This will help identify gaps and areas for improvement in energy access initiatives.

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