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**Sustainable Development Goal 7 (SDG 7) - Affordable and Clean Energy:  
Sarawak scenario**

**Timoti Chundi\*, Tuan Nooriani Tuan Ismail, Asiyah Kassim**

*\* Corresponding Author*

Faculty of Administrative Science & Public Studies (FSPP),  
UiTM Shah Alam, Malaysia

[chunditimoti@gmail.com](mailto:chunditimoti@gmail.com), [tnsya800@uitm.edu.my](mailto:tnsya800@uitm.edu.my), [asiyah@uitm.edu.my](mailto:asiyah@uitm.edu.my)  
Tel: +60 17-723 9063

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**Abstract**

This research paper explores the significance of Sustainable Development Goal 7 (SDG 7) - Affordable and Clean Energy, with a specific focus on Sarawak, Malaysia. The paper examines the current state of renewable energy in Sarawak, its present goals and trajectories, and the potential implications for achieving SDG 7, and offers conclusions on the way forward. In analysing the efforts and challenges faced in transitioning to renewable energy sources, this study aims to shed light on the broader implications for global sustainable development. Hence, it underscores the importance of a context-specific approach if SDG 7 is to succeed.

**Keywords:** Affordable & Clean Energy; Hydropower; Energy, Economic Growth & Economic Development.

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**1.0 Introduction**

This conceptual paper will examine the progress and challenges of SDG7 implementation, with a specific focus on Sarawak. For this reason, the paper skips the usual problem statement, literature review, methodology, and findings approach. However, in general it offers insight into the strategies or policies that any country may wish to pursue according to its individual and unique development needs.

The United Nations' Sustainable Development Goal 7 (SDG7) aims to ensure universal access to affordable, reliable, sustainable, and modern energy for all by 2030. Achieving this goal is crucial in many countries, as energy is acknowledged as the backbone of socio-economic growth and development and environmental sustainability, particularly poverty eradication and environmental protection. Thus, energy is placed at the centre of environmental and economic issues. However, despite this significance, 20% of the world's population cannot access electricity in 2021 (Kufeoglu, 2022). In the case of Sarawak, a state rich in natural resources, it has failed to achieve the 100 per cent target of providing electricity to its population. The paper aims to highlight the present situation facing Sarawak as an example of SDG7 and the issues, challenges, and opportunities it can offer.

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No country would refuse "Affordable and Clean Energy". The positive relationship between energy and economic growth is clear: income and energy consumption are tightly correlated (Moss & Kincer, 2023). While it is generally accepted that energy plays a significant role in driving the socioeconomic development of a country (Jack, 2022), energy, however, is not the sole determinant of economic growth. Economic growth is influenced by a complex interplay of various factors (Elliot, 2020). From this, we notice an ambiguous concept – Economic Growth and Economic Development. However, some nations have shrewdly intertwined this concept with economic progress, a strategic ambiguity move that allows them to deflect untoward accusations.

Clean energy may not be affordable; Affordable energy may not be clean. Energy from Hydro Electric Power (HEP) or solar is clean, but poor nations may find it too expensive to construct. This scenario varies from country to country. In this context, the term "affordable and clean" theoretically, may not be mutually inclusive, although that is the preferred and desired intention. Electricity,

from its source, needs to reach its targetted end-users. SDG's goals are essentially a Western concept. SDG7 is about affordable and clean energy, and with the addition of extra targets such as reliable, sustainable, and modern energy, it becomes incompatible. It is worth noting that the SDGs are a universal framework that contains many potentially diverging policy goals in the economic, social, and environmental spheres (Kroll, Warchold & Pradhan, 2019). Hence, this paper explores the anomalies linked to concepts and theories, and how state policies regarding the construction of mega-dams may or may not produce the desired goals. Despite the ample evidence linking energy to economic growth, empirical evidence of the causal effect of electricity on economic growth and development is weak (Payne, 2010., Bruns, Gross, & Stern, 2014). Even a review of existing literature reveals mixed and inconclusive results (Ayana and Degaga, 2022).

According to Stern, Burke, & Bruns (2017): "Theory also suggests that electricity access is likely to be an important enabler of economic growth", but they also found limited empirical research of high methodological quality, especially in terms of establishing causal effects. They found numerous literatures on electricity use and economic growth, though large, was mostly inconclusive. Therefore, there remains a huge knowledge gap between energy and economic growth. In Sarawak, there has been no reliable data made to the public on how far electricity has contributed to the state's economic progress. The general predisposition is to conclude that energy is the sole determinant of a country's economic progress. Many nations have taken for granted that energy is the impetus for economic growth. From here, we can see that the knowledge gap is still wide. The availability of "affordable and clean energy" is no panacea for a nation's economic prosperity. To manoeuvre through this intricate web, each nation or region has to formulate a solution (using the prescribed UN SDGs as a guideline) to suit the local characteristics. In other words, the Global Community must be made to understand and accept that SDGs, despite their good intention, are not mutually inclusive.

### 1.1 SCORE and SDG7: Friends or Foe?

As a developing state, Sarawak strives for economic progress. When it established the Sarawak Corridor of Renewable Energy (SCORE) in 2008, it planned to provide cheap power to attract investments by building mega-dams. At this juncture, it's quite appropriate to recall (Eisenmenger, Pichler, Krenmayr, et al. 2020) when they said, "The Sustainable Development Goals prioritize economic growth over sustainable resource use," and "What's Good For Business Is Good For The People" (SCORE).

The importance of SDG7, which seeks to ensure access to reliable, sustainable, and modern energy for all is indisputable. The principle behind SDGs: "Make SDGs relevant for all so no one gets left behind" (Nazran, 2021), is indeed worthy. Sarawak intends to reduce its poverty level and improve the livelihood of its rural population. However, to implement these goals and help achieve SDGs aspirations, the state government faced numerous issues and challenges (Alamgir. et al. 2020). Despite global efforts to achieve SDG7, the realisation of this goal remains a complex challenge, particularly in regions like Sarawak. The lack of access to affordable and clean energy sources, along with existing energy infrastructure and policy limitations, presents pressing issues that require in-depth examination and targeted interventions. To summarise, SCORE's objectives of renewable energy through constructing more hydroelectric dams, and SDGs' agenda on sustainability contradict one another (Frame et.al., 2022; Hickel, 2019). This leads to strong opposition from many affected groups, especially the indigenous people in the affected areas. Hence, SCORE and SDGs are not friendly at all.

## 2.0 Sarawak Development Goals and Trajectories

Since the establishment of SCORE in 2008, Sarawak has set its focus on rapid economic progress. "SCORE leverages on abundant and clean renewable energy (hydro-electric power) to drive energy-intensive industries and attract investments into the area" (Recoda, 2021). For this, Sarawak comes up with several justifications to pursue its hydroelectric power construction. First, Sarawak realises that its oil and gas resources are finite. Therefore, it must diversify its energy source, especially its hydropower resources. This further strengthens its goals to exploit its vast natural rivers and to provide cheap and clean renewable energy by constructing HEP (Recoda, 2018). Second, Sarawak believes that energy from hydropower is clean. "Hydropower is better for the environment than other major sources of electrical power, which use fossil fuels" (IWR, 2021). Hence, Sarawak agrees that investing in hydropower aligns with global efforts to combat climate change. Third, Sarawak is focused on economic development and industrialisation. The construction of mega-dams and the development of HEP would stimulate economic growth and industrialisation within the state. In short, it can generate more revenue and funding for its infrastructure and bring development and job opportunities to its vast interior that will reduce the poverty level. Fourth, Constructing mega-dams allows Sarawak to gain valuable access to technology transfer and skills development. Despite the strong argument supporting the construction of HEP, the state government and SCORE seem to ignore some facts. The pros and cons of constructing HEP must be evaluated unbiasedly. First, having affordable energy does not guarantee economic prosperity. Few methodologically strong studies established causal effects on an economy-wide basis (Stern, Burke, & Bruns. 2017). On its own, energy will not lead to economic growth and development. "It appears that electricity availability is best viewed as something that can

be scaled up as economies grow rather than something that imposes binding constraints on subsequent economic growth" (Best & Burke. 2018). In simple term, as an economy grows, energy can be increased, but energy can't be construed as "no energy, therefore no economic growth". Second, Sarawak displays strategic ambiguity with the terms "economic growth" and "economic development" to its advantage while portraying its economic success. For example, Sarawak was not happy when a few districts in Sarawak were identified as the poorest districts in Malaysia, yet it was enthusiastic when the World Bank on July 6, 2023, mentioned Sarawak attained a high-income status. Third, numerous issues and challenges have been identified with Sarawak constructing mega-dams, from environmental (Aeria, A. 2016) to deforestation (Alamgir, M. et. al. 2020). Recently, Jeffry Sachs went on to say that "Halfway to 2030, Sustainable Development Goals are seriously off track" (Bangkok Tribune, 2023). "The Sustainable Development Goals prioritize economic growth over sustainable resource use" (Eisenmenger, Pichler, Krenmayr. et al. 2020). Before going further, three important questions should be revisited, which include whether energy can drive a country's economy, whether energy is the sole determinant of economic growth, and the issue of how much development impacts the energy infrastructure. A country's economic progress and prosperity simply cannot be attributed to the availability of energy alone. There are other mitigating factors at play, and they differ from country to country.

### 3.0 Sarawak, SCORE and SDG7

Sarawak and SCORE are prioritising economic growth over economic development, in the way they like to portray economic progress. Economic Growth refers to the increase in a country's or region's production of goods and services over time, measured by the Gross Domestic Product (GDP) or Gross National Product (GNP). Economic Growth is a quantitative indicator, focusing on increasing the size of the economy. Economic Development is a broader concept that encompasses economic growth but also includes social, political, and environmental factors. Economic Development seeks to improve the overall well-being and standard of living of the population by creating an inclusive economy that benefits all segments of society, like reducing poverty and promoting sustainable practices. From the numerous literature available supporting the positive linkage of energy and economic growth, and the benefits of hydropower, Sarawak opts for "prefer and choose" articles that are aligned with its goals and give credence to its pursuit of constructing mega-dams. As indicated by Yap (2021) in their research, the economic aspect was of primary importance in hydropower construction. As SCORE said, "What's Good For Business Is Good For The People."

Poverty is always a contested problem. To attest to its economic progress and success, on July 6, 2023, Sarawak attained a high-income status according to the new World Bank country classifications by income level for 2022-2023 (Sim, 2023). In contrast, the late Sarawak Deputy Chief Minister questioned findings on the poorest districts in Malaysia, which found that 13 districts in Sarawak were the poorest in Malaysia (Edward, 2019). In a later finding by the Department of Statistics Malaysia (DOSM), 2 more districts having the lowest levels of household income were found in Sarawak (Pusa at RM2,758, Pekan at RM3,175) (Lim, 2020). Later, the Premier of Sarawak instructed the Economic Planning Unit (EPU) to come up with a mechanism for determining poverty status (DayakDaily, 2022). However, ascertaining whether energy really leads to economic growth, and therefore eradicates poverty is always contestable. Even with official statistics. While it is generally agreed that poverty is not at all desirable, the notion of inequality is more disputable and much a matter of subjective opinion.

The construction of more mega-dams in Sarawak is an example of prioritising economic growth over economic development. Mega-dam projects are often undertaken to generate large amounts of hydropower, which can contribute to increased economic activity and GDP growth. However, these projects can have significant social, environmental, economic, and even political implications that might not necessarily align with the broader economic development goals. This aspect is always downplayed. In its quest for rapid economic progress, Sarawak has decided to construct mega-dams, to make available affordable and clean energy, a move it believes will attract local and foreign investments. Energy is taken as the catalyst for economic growth. However, there is no solid causal proof to this move. On the one hand, there have been numerous pieces of literature that support the notion that energy will lead to economic growth, on the other hand, there are also numerous pieces of literature to quell this notion. In this context, Sarawak engages in counterfactual thinking. Whether it is engaged in upward or downward counterfactuals seems to be affected by the opportunities that are available to it.

From the state government's perspective, there is no problem with SDG7 and its targets. Energy does bring economic growth, as attested to by its achieving high-income status by the World Bank. Energy does attract investments. "SCORE has recorded public and private investments worth RM102. 36 billion as of 2022", said Deputy Economy Minister Datuk Hanifah Hajar Taib (MIDA, 2023). Hydropower is accepted as affordable and clean and therefore, SDG7 and its target are achievable and considered mutually inclusive. For Sarawak, they are compatible with the state development goals and trajectories while aligning themselves with the SDGs' aspirations. To sum up, the negative ramifications of constructing more mega-dams are conveniently ignored, in favour of economic growth. The result, the targetted groups that are supposed to receive the benefits remain ignored.

#### 3.1 SDG 7: Affordable and Clean Energy

SDG7 recognizes the pivotal role of energy in achieving sustainable development. Access to affordable and clean energy services can uplift marginalized communities, foster economic growth, and mitigate climate change. To meet the goals of SDG7, countries are encouraged to diversify their energy sources, increase the share of renewable energy in their energy mix, and improve energy efficiency.

#### 3.2 Renewable Energy: The Case of Sarawak

Sarawak is blessed with abundant renewable energy resources including hydroelectric and solar. Historically reliant on fossil fuels, Sarawak has undertaken significant efforts to tap into its renewable energy potential. Notably, the state's hydropower projects have contributed to a substantial share of its energy generation. These projects exemplify the state's ambition to transition towards clean energy and reduce carbon emissions. However, Sarawak also highlights challenges related to environmental and social concerns. Large-scale hydroelectric projects have faced opposition due to their impact on ecosystems and local communities. Balancing the need for clean energy with the preservation of biodiversity and indigenous rights remains a complex challenge. This was attested to by Bakun dam, whereby its construction was delayed many times. To circumvent the opposition to the construction of mega-dams, the State government has been actively proposing building cascading dams. Sarawak Premier, Abang Johari went on to say, "Sarawak will build three cascading dams at Sungai Gaat in Kapit, Sungai Tutoh in Baram and in Belaga after receiving support from local communities" (dayakdaily.com., 2023), and that "Sarawak gov't gets green light to build cascading dams" (Bernama, 2024). He further said, "he is going ahead with constructing the new dams because the communities wanted them". When pressed to reveal who gave consent to build the cascading dams, Abang Johari could not reply. Saved Rivers, an NGO in their protest said they never consented (Then, 2024). The controversy regarding these cascading dams will continue, adding further confusion to the prospect of constructing these dams.

Sarawak aims to generate 8 GW of energy by 2030 (Bernama 2023). At the moment it has more than enough for its domestic consumption, plus reserve. In this context, perhaps we need to delve into the mindset of the state gov't. Is it really about providing affordable and clean electricity? Or is there more to it? As the Premier said, "Hydropower Remains Focus of Sarawak's Energy Source" (sarawaktok, 2023). Interestingly, the Premier's vision includes making Sarawak becoming the 'powerhouse' of S-E Asia (MIDA, 2022), and Sarawak is set to be a renewable energy powerhouse (Jee, 2024). Not surprisingly, Sarawak is set to sell electricity to Singapore and gets the nod for an undersea power cable project to Singapore from the federal gov't (Bernama, 2023).

With this kind of scenario, the main objective of this research is to highlight what is happening regarding Sarawak's energy policies and goals and how it approaches SDG7. Most importantly, the concept of economic development as opposed to economic growth. Does constructing more dams assist Sarawak in its quest for economic progress? Is SDG7 merely a tool for certain stakeholders to enrich themselves? It is not the main objective of this research to provide a solution, but merely to point out the anomalies as a result of some of the trade-offs from the SDGs UN2030 Agenda.

#### 4.0 Implications

The Sarawak scenario offers several implications for the achievement of SDG7 and global sustainable development: First, it depends on understanding local contexts, including social, economic, and environmental factors. Sarawak's experience underscores the importance of engaging local communities and addressing their concerns in energy planning. Second, a holistic approach is necessary to ensure that renewable energy development aligns with broader sustainability goals. Third, the challenges faced by Sarawak are not unique; they resonate with global issues surrounding sustainable energy transition. Lessons from Sarawak can inform other regions striving to achieve SDG7 while addressing environmental and social concerns.

#### 5.0 Issues and Challenges

Sarawak's population is dispersed across urban centres and rural areas. Providing clean and affordable energy remains a challenge due to the high costs associated with infrastructure development and maintenance. Ensuring electricity access in rural areas is vital for poverty reduction, education, and healthcare. Sarawak is home to numerous indigenous communities, some of which reside in areas with limited access to modern energy sources. Improving energy access for these communities is not only a matter of development but also one of preserving cultural heritage and traditional ways of life. Constructing dams has its drawback, including negative environmental impact. Deforestation due to dam construction can disrupt the ecosystem. For these reasons, Sarawak needs to implement a comprehensive policy framework that aligns with SDG7 and the broader sustainability agenda. Clear policies can guide investment decisions, promote innovation, and ensure a smooth transition to cleaner energy sources. This is very important when it comes to energy pricing and affordability. Lastly, there must be a constant and genuine Community Engagement: Successful implementation of clean energy projects requires community engagement and participation. Local communities should be involved in the decision-making process to address concerns, ensure equitable distribution of benefits, and promote ownership of sustainable energy initiatives.

#### 6.0 Opportunities

There are ample opportunities for Sarawak to boast its renewable energy resources, particularly hydroelectric power and solar energy. The state's rivers and abundant sunlight provide a strong foundation for the development of clean energy sources. With these dams, Sarawak will have access to affordable and clean energy. This will attract local and foreign investors, hence increasing job opportunities to the people. Both hydro and solar can contribute to reducing carbon emissions and promoting sustainable development.

#### 7.0 Conclusion and Recommendations

The case of Sarawak demonstrates both the progress and challenges in achieving SDG7 - Affordable and Clean Energy. It provides valuable insights into the complexities of sustainable energy development, especially in regions with rich natural resources. While the journey towards sustainable energy is multifaceted, policy-makers, industry stakeholders, and communities must collaborate to strike a

balance between energy needs, environmental conservation, and social welfare. The lessons drawn from Sarawak's experience can contribute to global conversations on sustainable development, fostering a more inclusive and greener energy future. For future research, good governance must prevail. Although the State gov't can be involved in SCORE, the running must be left to the professional. Since the SDGs Agenda is not without problems, therefore, while pursuing SDG7, Sarawak ought to balance what is desirable and beneficial to the people of Sarawak. Future research must come out with statistical proof of the actual situation, especially on the targeted and affected indigenous people, and specifically on how far the clean energy vision brings prosperity to the people of Sarawak.

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