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ENERGY TRANSITION AND TOURISM PROSPECTS IN INDONESIA

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ABSTRACT

The Energy Transition is an effort to shift the use of fossil-based energy to non-fossil energy. Fossil-based energy is proven to cause pollution to the human environment. Meanwhile, non-fossil energy does not only have a positive impact on natural life so that it can have an impact on the tourism aspects of a region or country. This paper attempts to describe how the energy transition process is carried out and its relation to tourism in a region. The type of research carried out is qualitative research which originates from various secondary data both in the general media and in certain journals. As a result, clean and healthy air conditions will have a positive impact on the world of tourism in general

Keywords: Energy transition, tourism, low carbon technology

ABSTRAK

Transisi Energi adalah upaya untuk mengalihkan penggunaan energi berbasis fosil ke energi non-fosil. Energi berbasis fosil terbukti menyebabkan pencemaran terhadap lingkungan manusia. Sementara itu, energi non fosil tidak hanya memberikan dampak positif bagi kehidupan alam sehingga dapat berdampak pada aspek pariwisata suatu daerah atau negara. Tulisan ini mencoba mendeskripsikan bagaimana proses transisi energi dilakukan dan kaitannya dengan pariwisata di suatu wilayah. Jenis penelitian yang dilakukan adalah penelitian kualitatif yang bersumber dari berbagai data sekunder baik di media umum maupun di jurnal tertentu. Alhasil, kondisi udara yang bersih dan sehat akan berdampak positif bagi dunia pariwisata secara umum

Kata kunci: Transisi energi, pariwisata, teknologi rendah karbon

INTRODUCTION

In recent times, Tourism and Travel are considered a flexible, dynamic, and ever-growing industry. The Smart Tourism Destinations concept arises from the advancement of smart cities. (Chun-Wei Lu ^a, Jui-Chan Huang ^b, Chen Chen ^a, Ming-Hung Shu ^{c,d}, Chih-Wei Hsu ^{c,*}, B. R. Tapas Babu ^e). The world of tourism is a field that has the potential to generate substantial foreign exchange or state revenue,

especially for Indonesia which has a large enough area with various kinds of scattered customs and attractive tourist areas to be visited by local and foreign tourists.

The number of foreign tourist visits to Indonesia through the main entry gate in August 2022 reached 510.25 thousand visits, a significant increase of 28,727.46 percent compared to conditions in August 2021. When compared to the previous month, the number of foreign tourist visits in August 2022 also

increased by 6.98 percent. (<https://www.bps.go.id/pressrelease/2022/10/03>).

This means that Indonesia has a high prospect of increasing tourism. Moreover, Indonesia is known as an area where the nature is still fresh, there are lots of trees and plants that are green and worth visiting. In addition, the government's efforts are trying to make low-carbon technology an alternative energy so that it can create a healthy and fresh environment for the surrounding community and natural environment. The use of low-carbon technology in an effort to produce energy will have a positive impact not only on the company, but also on the community and the surrounding environment. This is because the results of this low-carbon technology can cause the surrounding air to be healthier and better for life. This will directly or indirectly improve the quality of life and ultimately increase the tourism potential in the area. Beautiful nature and friendly people plus a healthy and fresh air environment will add to the tourist attraction of an area. One of the causes of a good air environment in the area is the cleanliness of the air in the area.

LITERATURE REVIEW

Some Research About Energy Transition

There are several studies and reports related to the energy transition as follows: The identification of key energy transition factors has attracted the attention of several researchers and practitioners. Traditional theory focuses on aspects of technological transformation, which refers to innovation based on traditional technologies and the emergence and application of new energy sources. Technological innovation, the theoretical framework of socio-technical transition states that energy transition involves long-term and radical social and technological systemic transformations through the use of technology, policies, markets, and business models (P. Guo, T. Wang, D. Li, et al., 2016). Report on a study conducted by JP Morgan (J.P. Morgan Equities Research Reports; New York, (Sep 26, 2022). Based on the report of the International Financial institution JP. Morgan, in relation to the success of the energy transition, there are several things that need to support the energy transition in a country, namely:

1. Supportive policy support and goals for achieving energy security are leading to a strong interest in the energy transition
2. Public-private partnerships are key to generating scale in clean technologies.
3. Infrastructure support in filling hydrogen and Electronic Vehicles (electric vehicles), driven by strong macro growth.
4. There is attention and support from industry experts and previous industry experts

Kinds of Tourism

1. Nature tourism

Nature tourism is tourism by visiting historic natural sites or places that have their own beauty. This natural tourism can be in the form of marine tourism (sea or beach), ecotourism or adventure. Examples of this tour in Indonesia are: visiting places full of beauty such as beach tourism on the island of Bali, Labuhan Bajo, Puncak, or other areas in Indonesia that have a variety of beauties, both beaches and other natural phenomena. Another form of nature tourism is rural tourism or referred to as rural tourism. Rural tourism is any form of tourism that showcases the rural life, art, culture and heritage in rural areas, thus benefiting the local economy and society, as well as enriching the tourism experience through the interaction between the tourists and the locals (Nagaraju & Chandrashekar, 2014; Pesonen & Kompula, 2010).

2. Artificial tourism

Artificial tourism is a place made specifically to lure tourists from various places. This artificial tourism can be in the form of places of recreation, entertainment, sports, works of art, culinary and others. An example of this tourism is a place for recreation and entertainment that is deliberately made to invite both local and foreign tourists. Some urban areas are designed to be attractive tourist destinations to visit, such as Yogyakarta, Jakarta or other interesting places to visit. Culinary tourism is also a form of artificial tourism that can invite many tourists, especially local tourists. One area that is well known for its culinary

tourism spots in West Java is the cities of Bogor and Bandung.

METHOD

This research uses descriptive qualitative method. Search literature reviews from various sources and use direct observation.

RESULT AND DISCUSSION

Tourism is about culture, customs, behavior and human habits. Cultural tourism is tourism in the context of visiting certain historical places, whether from the aspect of religion, customs, behavior. Many tourists like to visit places that have a certain history and cultural background. An example is a trip to the island of Bali, besides wanting to enjoy the beauty of the island and beaches, some people also visit the island of Bali to see certain religious rituals. Tours to the island of Bali are usually also in order to see the customs of the people there which are relatively different from the culture and customs of other people.

Whatever the type of tourism, the cleanliness and freshness of the air and environment will certainly be very influential. So that the state policy in terms of switching to other non-fossil-based (renewable) energy (Energy Transition) will greatly support tourism programs carried out by the regions because the air around the tourist environment is clean and healthy. One of the means that can be used to produce a healthy air environment is the application of low carbon technology in the national energy policy. Cultural tourism can also take the form of rural tourism.

Low Carbon Technology

Low carbon technology is an alternative technology that does not use a lot of energy sources that emit carbon dioxide, so that economically it emits a lot of greenhouse gases into the biosphere. Greenhouse gases are gases that are quite dangerous for life if there are enough of them in our biosphere. Greenhouse gases emitted by human activities are the main cause of global warming or climate change since the mid-20th century. If greenhouse gases are continuously emitted, world temperatures can increase and ecosystems, as well as human daily life can be

threatened. For this reason, issues related to the Energy Transition are a topic that is being widely discussed by various parties at this time.

The issue of energy transition today is an issue that has begun to be widely discussed by various parties, from the level of experts to the level of heads of state. Even the issue of energy transition is an important issue that needs to be campaigned by various countries that are aware of the balance of the earth to reduce the threat to ecosystem imbalances for mankind as a result of the existence of 'greenhouse gases'.

This is because the problem of energy transition is closely related to the survival of mankind on earth. The energy transition can reduce the amount of greenhouse gases produced by the earth. To overcome or reduce this 'greenhouse gas', various countries are encouraged to reduce carbon technology. Or in other words, make an energy transition from energy that produces a lot of 'greenhouse gases' (High Carbon Technology) to low carbon technology (Low Carbon Technology). Low-carbon energy transition requires an effective transition from fossil-based energy to non-fossil (renewable) based energy, which can increase energy efficiency and adapt to current energy consumption patterns. (Yin, S. Shi, 2020). In the meeting of the G20 countries that was just held in Bali, the issue of energy transition was one that was discussed/discussed. Especially after the Indonesian G20 Presidency included the energy transition as one of the topics discussed at the event, the issue of energy transition is an issue that is important enough to make a separate discussion agenda.

The Role of Hydrogen as an alternative energy

Hydrogen is basically one of the beneficial energy for mankind. Hydrogen can be used as an energy source, energy storage, energy carrier, to be used for infrastructure purposes. Hydrogen has considerable potential as an unlimited source of clean, sustainable energy. The use of hydrogen as an alternative energy can be said to be relatively expensive because its use is common and its application is not possible in many countries. Nevertheless hydrogen is considered as one of the most important alternative energy for the future. In the automotive industry, hydrogen has been used as

an energy source but it can be said that the cost is relatively expensive.

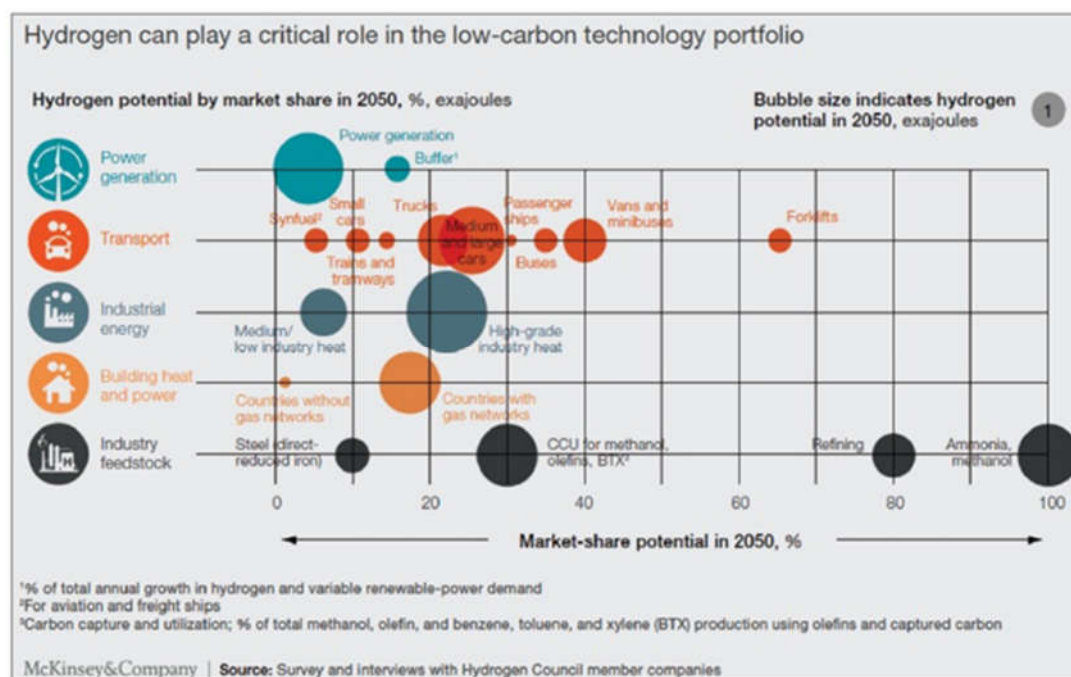


Figure 1. The Role of Hydrogen

From Figure 1 above, we can see the growing role of Hydrogen as a source of energy power in an industry in 2050. Hydrogen can play an important role in a portfolio of low-carbon technologies.

Energy Transition and Tourism in Indonesia

In order to help realize the concrete action of the commitment to the Paris Agreement, the Institute of Essential Services Reform (IESR) has announced that Indonesia will carry out deep decarbonization of its energy system (deep decarbonization). The hope is that from carrying out deep decarbonization, Indonesia can reduce carbon dioxide emissions by 0% in 2050. Clean carbon dioxide emissions certainly supports climate crisis mitigation such as extreme weather (in the long term) and also contributes positively from an environmental, health and welfare point of view. as well as the economy. Based on periodic reports from

the Ministry of Energy and Mineral Resources of the Republic of Indonesia on its website it states that Indonesia has a New and Renewable Energy (EBT) target of 23% in the National energy mix in 2025. This policy, combined with Indonesia's commitment to reduce emissions by up to 29% per year in 2030, is a clear efforts towards a cleaner and more sustainable energy system (The 9th INDONESIA EBTKE Virtual Conference and Exhibition 2020 / EBTKE Conex 2020).

The trend in supplying power plants in the last 10 years shows the government's commitment to providing cleaner electricity, starting from providing power plants sourced from EBT, introducing Clean Coal Technology (CCT) technology, to introducing Variable Renewable Energy (VRE) generators which have intermittent characteristics, with the operation of

the Wind Power Plant (PLTB) and the Solar Power Plant (PLTS).

The development of EBT-based power plants in Indonesia has several challenges, one of which is the potential for EBT which is quite large but the locations are spread out. Systemic and continuous outreach and education is needed to minimize community resistance to EBT-based power projects. In addition, another challenge is the limited availability of domestic soft loans, the limited availability of supporting infrastructure, especially in the Eastern Indonesia region, the high dependence on EBT technology and equipment from abroad, and not all EBT power plants can be integrated and connected to local electricity system, especially for power plants that have intermittent characteristics.

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EBT development will be gradually increased by taking into account the readiness of the local electricity system, especially related to VRE which has intermittent characteristics, to achieve the target of the EBT energy mix of 23% in 2025. "Collaboration between the government and relevant stakeholders is needed for the successful transformation of the electricity sector, especially in facing the energy transition era," concluded Jisman. (AT)

In another report it was said that in Indonesia itself, in order to make hydrogen an alternative energy, there are a number of challenges that must be faced. Among them is how to make hydrogen economically feasible, financially and beneficial to society. In Indonesia, hydrogen is included as one of the Government's main

strategies towards carbon neutral in 2060. The main strategy that will be carried out, among others, is through massive development of renewable energy, with a focus on solar, hydro and geothermal and hydrogen power plants (Ministry of Energy and Mineral Resources press release , 22 February 2022).

This is supported by a study conducted by Budya and Arofat (2011) studying the Indonesian megaproject in converting cooking fuel from kerosene to LPG. This program is considered successful because it reduces the fiscal burden of kerosene subsidies, benefits the business world and end users, and reduces air pollutant and greenhouse emissions. So that the writer can say that in time Indonesia can be said to be ready to make an energy transition if some of the above prerequisites can be met.

With serious efforts in carrying out the energy transition, it is hoped that in the future the world of tourism in Indonesia will develop even more. In particular healthy and clean tourism with the support of efficient low-carbon technology as an embodiment of the energy transitionan dukungan teknologi rendah karbon yang efisien sebagai perwujudan dari transisi energy

CONCLUSION

On the basis of the above, it can be concluded that the phenomena mentioned above can be said to be the energy transition process with the application of New and Renewable Energy (EBT) in Indonesia, in the short and long term, it is expected to have a significant impact on the development of tourism in Indonesia. Especially healthy natural tourism which relies a lot on the freshness and cleanliness of natural air which in turn has a health impact on tourists, both local and foreign tourists.

The government and the business world play a role in the success of the Energy Transition (Government Policy)

- Supportive public discipline in the energy transition
- Stable level of community welfare
- Transfer of Technology that is oriented towards the use of sustainable low-carbon technologies

Sooner or later the energy transition policy will affect the development of tourism in the country. This is because the energy transition through low-carbon technology can make the human environment healthier and cleaner so that it has an impact on the level of human, animal and plant health.

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