REVIEW OF INTERNATIONAL GEOGRAPHICAL EDUCATION

ISSN: 2146-0353 • © RIGEO • 11(4), WINTER, 2021

www.rigeo.org

Research Article

Climate Change Communication in Energy Sector Towards Sustainable Development Goals

Tria Patrianti[1]
University of Muhammadiyah Jakarta
triapadmadisastra@gmail.com

Herlina Agustin[3]
Faculty of Communication Science, Universitas Padjadjaran
h.agustin@unpad.ac.id

Atwar Bajari[2]
Faculty of Communication Science, Universitas Padjadjaran
atwarbajari@gmail.com

Iriana Bakti[4]
Faculty of Communication Science, Universitas Padjadjaran
irianabaktipr@gmail.com

Abstract

After the 2015 Paris Agreement, the world agreed to prevent the process of increasing global warming by not burning fossil reserves. The world energy development trend driven by the issue of climate change to Sustainable Development Goals (SDGs) points to the world's imperative to reduce the use of fossil fuels, and on the other hand increase the use of new and renewable energy. The Sustainable Development Goal (SDGs) 7 gives credence to ensuring the accessibility of clean, affordable, reliable modern energy. As a country that has ratified the Paris Agreement, Indonesia is committed to reducing Greenhouse Gas emissions (GHG) in order to mitigate climate change through energy sector. In Indonesia, energy-based policies have their own challenges ranging from regulation to communications. There is also limited research on the role of communication in driving the reduction of greenhouse gas emissions to tackle climate change and sustainable development goals. This study aims to identify energy sectors related to climate change mitigation, and to explore relationship between stakeholders in communicating energy policies for climate change mitigation actions in Indonesia. Through in-depth interviews with government officials, participant-observation, literature study, and government documents review, this study concludes that there has been no strategic government communication to glue scientific messages for climate change mitigation action and SDGs goals in energy sector. The highest leadership commitment is needed to communicate the urgency of climate change related to energy sector and to build a sustainable messaging development for reducing GHG emissions and tackling climate change.

Keywords

climate mitigation; ghg emission; energy sector; climate change communication; strategic government communication.

To cite this article: Patrianti, I ,; Bajari, A,; Agustin, H,; Bakti, I . (2021) Climate Change Communication in Energy Sector Towards Sustainable Development Goals. *Review of International Geographical Education (RIGEO), 11(4), 1112-1119. doi: 10.48047/rigeo.11.04.105*

Submitted: 01-04-2021 • **Revised:** 17-04-2021 • **Accepted:** 26-05-2021

Introduction

International Energy Agency reported that carbon dioxide (CO2) emissions from energy use always increasing. Given that global economy is likely to grow over the next couple of years. The probability to reach the growth is small, since the ability of every nations to keep the average global temperature rise below 2oC hardly implemented. The atmosphere is overloaded with carbon dioxide, which traps heat and steadily drives up the planet's temperature. This carbon frequently comes from the fossil fuels we burn for energy—coal, natural gas, and oil. (Allen, 2016) . The rise in GHG emissions results in global warming and climate change, until eventually catastrophic events occur. The disasters which occurred in Indonesia within the last 10 years are mostly hydrometeorological (caused by climate change) such as floods, landslides and tornadoes.(BNPB, 2016)

Indonesia is committed to reducing Greenhouse Gas emissions in tackling climate change. There are at least two concepts with regard to controlling climate change and achieving sustainable development goals. The first point relates to reducing GHG emissions in NDC (National Determined Contribution). NDC is submissions by countries that have ratified the Paris Agreement which presents their national efforts to reach the Paris Agreement's long-term temperature goal of limiting warming to well below 2°C. The next point relates to the achievement of Sustainable Development Goals (SDGs). Indonesia's efforts to reduce GHG emissions related to climate change and sustainable development, provide an overview of Indonesia's post-2020 contribution to efforts to maintain global temperatures. (Mumbunan, 2016) ,

However, in the latest United Nations Environment Program (UNEP) reports that countries are obliged to limit global warming to 1.5°C by reducing GHG emissions over the next decades. (United Nations Environment Programme, 2019) . This has an impact on Indonesia's efforts to be even more ambitious in curbing global warming and climate change. Since Indonesia voluntarily pledged to reduce emissions by 26% on its own efforts, and up to 41% with international support, against the business as usual (BAU) scenario by 2020, Indonesia has promulgated relevant legal and policy instruments, including the national action plan on GHG emissions reduction as stipulated in Presidential Regulation (PERPRES) No. 61/2011 and GHG inventory through Presidential Regulation (PERPRES) No. 71/2011. Post 2020, Indonesia envisions a progression beyond its existing commitment to emission reductions. Based on the country's most recent emissions level assessment, Indonesia has set unconditional reduction target of 29% and conditional reduction target up to 41 % of the business as usual scenario by 2030. (Masripatin, 2017). The NDC explained five sector categories and the proportion of their contribution by 29% from BAU 2030, namely: forestry (17.2%), energy (11%), agriculture (0.32%), IPPU (Industrial Processes and Product Use: 0.10%), and waste (0.38%). Emission reduction by sector can be seen in Table 1 as outlined in the NDC Implementation Strategy.

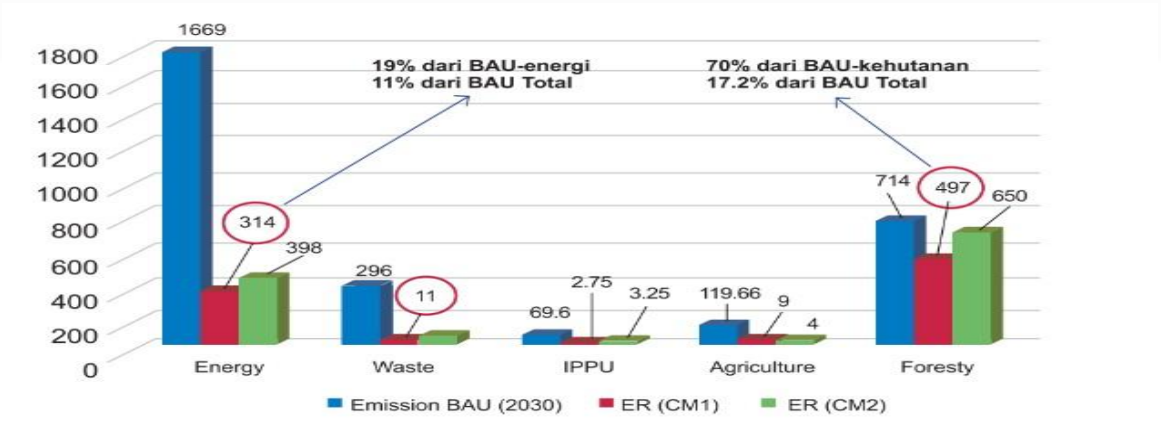

Table 1.
Emission Reduction by sector
Source: (Masripatin, 2017)

The energy sector is one of the important sectors in the commitment to reduce emissions in Indonesia's NDC. In energy sector, Indonesia has embarked on a mixed energy use policy.

Indonesia has also established the development of clean energy sources as a national policy directive. Collectively, these policies will eventually put Indonesia on the path to de-carbonization. Government Regulation No. 79/2014 on National Energy Policy, set out the ambition to transform, by 2025 and 2050, the primary energy supply mix with shares as follows: a) new and renewable energy at least 23% in 2025 and at least 31% in 2050; b) oil should be less than 25% in 2025 and less than 20% in 2050; c) coal should be minimum 30% in 2025 and minimum 25% in 2050; and d) gas should be minimum 22% in 2025 and minimum 24% in 2050. For the waste management sector, the Government of Indonesia (GOI) is committed to develop a comprehensive strategy to improve policy and institutional capacity at the local level, enhance management capacity of urban waste water, reduce landfill waste by promoting the "Reduce, Reuse, Recycle" approach, and the utilization of waste and garbage into energy production.

The importance of the energy sector in reducing GHG emissions and climate change mitigation is reversely with the current condition of the energy sector as follows; a) Indonesia is currently still relying on energy fossil, b) energy utilization is not yet efficient, c) energy distribution should be optimized to increase the electrification ratio and ensure energy equality and d) renewable energy potential is abundant but not yet optimally utilized. Climate change mitigation is basically an active action to prevent or slow the occurrence of climate change or global warming and reduce the impact of climate change by stabilizing the concentration of greenhouse gas volumes In the context of Sustainable Development Goal (SDGs), the 7th target of SDGs gives credence to ensuring the accessibility of clean, affordable, reliable modern energy. Moreover, climate change forms the basis of Sustainable Development Goal 13, 'take urgent action to combat climate change and its impacts', but is heavily entangled with most, if not all, of the other goals, such as the said 7th goal. One of Indonesia's high commitment to implement SDGs is manifested by the enactment of Presidential Regulation No. 59 of 2017 concerning the Implementation of Achieving Sustainable Development Goals. This regulation emphasizes the importance of implementing SDG principles, no one is left behind and inclusiveness. (Brodjonegoro, 2018)

To comprehend the energy sector, its policy, and the relations to to climate change mitigation, the role of communication is needed. The communication messages containing energy sectors related to climate change mitigation have not been widely exposed in any communication channels in Indonesia, nor having been developed by the energy leading sector. Communication about energy, renewable energy, energy efficiency, clean energy, low-carbon development is still very limited in public spaces. Moreover, few evidence to be connected to communicating energy literature. Despite the increasing of researched writings on climate change in the last five years, there is little evidence on communication research on energy sectors related to climate change and SDGs in Indonesia. This is a big challenge for communication scholars.

A study shows that energy and water sectors must be communicated clearly to fill in the gap between what's in media and government reports (Kenway et al., 2019). Energy and Government policy are always related. There is a relationship between concentrated or distributed renewable energy and political power (Burke & Stephens, 2018). Burke and Stephens explain further that renewable energy transition is fundamentally a political struggle, efforts to shift from fossil fuels and decarbonize societies. Focusing on energy literature review in Indonesia, studies have explored only on energy policy and SDGs such as Yudha & Tjahjono's study regarding stakeholder mapping for renewable energy sectors in Indonesia (Yudha & Tjahjono, 2019). Another study talks about the SDGs' implications on energy in Indonesia (Santika et al., 2020). There is also one that explores the climate finance in relation to energy poverty (Setyowati, 2020). However, there has yet to be a literature review regarding the entire system on communication, let alone climate change communication.

Climate Change are characterized by high levels of complexity and uncertainty, to include NRE. Thus, communication plays a key role to deliver the information on specific energy terminology. Communication for sustainability must be included in this type of character (Genç, 2017).

Communication is needed to create and implement an energy future. Focusing on climate change and the role of energy will examines how communication structures' understandings of energy policy enable and constrain past, current, and future energy deployment and function as a perceptual filter for larger social processes, such as how energy discourses are embedded within a set of national values. (Endres, Cozen, Trey Barnett, O'Byrne, & Rai Peterson, 2016).

Therefore, this study intends to identify energy policy related to climate change communication and to explore relationship between stakeholders in climate change communication in energy sector towards Sustainable Development Goals (SDGs).

Method

A participant-observation is used as a qualitative case study to understand how energy sector is essential for climate change communication and SDGs. This method is a special mode of observation for active observer and having roles within a fieldwork situation and may actually participate in the actions being studied. (Yin, 2018). The qualitative nature of the case study allowed for the main researcher to be part of the case as an observer and a participant to explore and investigate the potential energy sector for communicating climate change towards low-carbon transition and SDGs in implementation in Indonesia. The data and information relevant to the case study collected through different methods, including participation in several discussions held by Indonesia's Low Emission Network, Yayasan Mitra Hijau, and Pojok Iklim (Climate Corner) , a weekly discussion run by Ministry of Environment and Forestry / MOEF).
In addition, in-depth interviews with government officials were conducted (Head of Sub-Directorate of Energy Conservation Technology Application-and Communication Officer at Bureau of Communication and Public Information in the Ministry of Energy and Mineral Resources (MEMR) respectively. Other informants interviewed outside the energy sector and closely related to this research, are Head of Energy and Water Management, Center for Green Industry and Environment Research and Development and Head of Green Industry in the Ministry of Industry. A Senior Official to the Minister of Environment and Forestry, Deputy Assistant for Environmental Conservation, Coordinating Ministry for Economic Affairs in Coordinating Ministry of Economic) to identify communication process used among relevant sectors and to explore the mitigation policy in energy sector towards SDGs.
The technique of data collecting is done through a number of interviews with government officials from various ministries concerning this research. The result of the interviews is then compiled with facts retrieved from the field, which consist of direct observation at workshops, meetings, and discussions held by the related ministries.

Result And Discussion

The results are organized into areas of identifying energy sectors related to climate change mitigation; understanding the communication process among relevant stakeholders in energy sectors and exploring relationship between stakeholders in communicating energy policies for climate change mitigation actions in Indonesia towards SDGs.
Energy Sector on Climate Change Mitigation in Indonesia, can be seen into three main commitments; globally, countries have to keep global temperature rise not exceed 2oC and strive to reach 1.5oC. Nationally, in accordance with the mandate of Law No. 16 of 2016 on the Ratification of the Paris Agreement Reduce GHG emissions according to NDC by 2030 (. 29% from BaU (National Effort), and 41% from BaU (International Support). Climate change mitigation actions can easily be aligned to potential government strategies in energy sectors. The importance of energy sectors to be closely related to mitigation actions is a big challenge (Hoppe, van den Berg, & Coenen, 2014).
Therefore, the Government of Indonesia has mapped the potential sectors as regulated by the MEMR. The energy sector and sub sector stated in NDC illustrated in the following table.

Table 2.
NDC Energy Sector

Sub sector	Reduction Emission Target (Million Ton CO2e)		
	2017	2020	2025
Renewable Energy	9,39	28,79	108,69
Energy Efficiency	20,78	33,01	57,27
Clean Technology for Power Plant	3,02	8,19	15,74
Fuel Switching	10,02	10,02	10,02
Reclamation of Post Mining Areas	1,94	2,72	4,08
Total	45,14	82,74	195,80

Source: (Ministry of Energy and Mineral Resources, 2019)

Principally, as stated in NDC The Ministry of Energy and Mineral Resources (MEMR) must work together with other sectors where energy consumed; The Ministry of Industry, Ministry of Transportation, Ministry of Public Works and Housing, and the Ministry of Agriculture. In relations to climate change, the role of the energy sector is basically moving towards mitigation action. The Ministry encourages the amplification of New and Renewable Energy (NRE). The minister's directive was that coal plants be replaced with NRE generators. Replacement coal with co-firing, coal with bio-mass made by PLN (State Electricity Company), and wind power plants. Since a period of Coal use limit to around 40 years, so it must be shutdown.

However, it's not the main task of the MEMR to reduce GHG emission let alone mitigating climate change. The latter one is a co-benefits concept. The so-called "co-benefits" in energy sector comes from the dirty fossil replacement to fuel-generated power with much cleaner sources of energy, including the use of more efficient technologies. (Lee et al., 2018). Actions to reduce energy expenditures, enhance the security of energy supply, to include the amplification to new and renewable energy as regulated in energy policy, can also reduce GHG emissions and tangible potential of tackling climate change.(Beck, 2017). Co-benefits refers to the positive side effects, or associated benefits from a particular energy policy. GHG emissions reductions is co-benefit from any policy energy to include NRE, Energy Efficiency. (Sovacool, 2016)

The ministry's main task concerning National Energy Policy has nothing to do with reducing GHG emissions nor mitigating climate change since the regulation is as follows; 1) Maximizing renewable energy utilization, 2) Minimizing oil utilization, 3) Optimizing natural gas and new energy utilization, 4) Utilizing coal as a reliable national energy supply, 5) Utilizing nuclear as the last option.(Government of Indonesia, 2014). The ministry must comply to Government regulation no 79 / 2014 which states that they have to fulfil first the New and Renewable Energy needs.

In accordance to communication context, it is found that the messaging development in energy sector hardly related to reduction of GHG emissions and climate change mitigation. The interviewees explained the messages developed which have been adjusted to energy policy are NRE potentials such as electricity and non electricity (bio-diesel, bio-gas), energy efficiency & conservation (electricity and water savings). The various messages of energy can not be merged and delivered to the public since they have their own characteristics. Therefore, grand message of the climate change mitigation and SDGs has not been developed yet. One interviewee from the Bureau of Communication and Public Information recalls the importance of communicating energy savings a simple message to be comprehend by Indonesian. There's a need to elevate the awareness of energy information and knowledge sharing throughout different channels of communication. NRE communications are not geared towards climate change as knowledge about energy saving takes precedence. Therefore, many communication programs are created to increase public knowledge on energy saving such as; school roadshows for energy-saving competitions and energy ambassadors; meet netizens in several cities about B30 and invite them to see the palm oil mill in Medan, the speed refinery in South Sumatra, the B30 Blending Refinery in Balikpapan. For Indonesia, B30 means a lot. Having done a series of trials and get positive results, a B30 (a blend of 30% biodiesel and 70% solar diesel oil), launched in the last year of 2019. Indonesia has a strong projected increase in the use of liquid biofuels as a result of mandated biodiesel (B30) and ethanol (E20) blending from 2025 onwards. Today, biodiesel in Indonesia is produced from palm oil, a crop for which the government recently renewed a moratorium to prevent additional plantations.(International Renewable Energy Agency, 2017). Indonesia is said to be the first country to use B30. (Bureau of Communication and Public Information Service, 2019). The biggest communication campaign entitled "Cut 10%" was conducted in 2017. It was aimed to reduce energy consumption by 10% from daily use, the amount of savings obtained is useful for supplying electricity availability in other remote areas across the nation. A mobilized public in several communication campaign to increase awareness for energy savings may not appear to be working in the case of energy policy and climate change for it is due to the public's alleged resistance to "technological solutions(Cox, 2010)

The said activities of Government Communication has actually fulfilled the main objective of reducing emissions to mitigate climate change. The evidence for strategic government communication has not been found for climate change communication. Thomas and Stephen in Patrianti (Patrianti, Bajari, Agustin, & Bakti, 2020) stated that to understand climate change communication in mitigation action, should put government in the strategic position as it is legitimate to execute the reduction of GHG emissions policy. It means that when communicating energy, MEMR must legitimate to develop and disseminating messages to be understood by the

audience or people. Strategic communication lives at the intersection of management strategy and communication (Thomas & Stephens, 2015). In fact, the Communication Bureau which plays a role to disseminate ministry's program and policy must follow its communication policy of the ministry. It is very technical in function. Whilst, strategic communication must have strategic positioning (Aggerholm & Thomsen, 2016). Other Government Officials which had been interviewed before gave similar statements related to climate change communication. Aoyagi in Patrianti defined that climate change communication is key to enhance public understanding of the science, social aspects (impact on everyday lives), and policies (reduction targets and actions needed to meet goals) related to climate change. (Patrianti et al., 2020)They said that Government has done many significant tasks to communicate mitigation policy but not yet in a strategic communication function. Communication is considered strategic if the communication policy itself is important, and the grand message is developed as well. For example, the communication policy to disseminate climate change messages from energy sector stand alone as energy itself. It has to be a message with emergency elements, from GHG emissions, global warming, climate change, or even the catastrophic events resulted from climate change. However, the concept of climate change communication in energy sector does not actually need to have a grand message since it has no legal basis.

The next result of this paper tries to understand the communication process among relevant stakeholders in energy sectors and exploring relationship between stakeholders in communicating energy policies for climate change mitigation actions in Indonesia. In the first stage, state actors organized as stated in NDC ; 1) Ministry of Environment and Forestry; 2) Ministry of Industry; 3) Ministry of Public Works and Public Housing; 4)Ministry of Agriculture; 5)Ministry of Transportation and 6) the Ministry of National Development Planning. Internal Communication between institutions has not well been implemented. Data from each ministry is different in terms of energy sectors. MEMR have to go through data reconciliation from the Ministry's Data and Information Center (Pusdatin).

In order to communicate a single narrative of energy programs and policies, MEMR requires the Ministry of Communication and Information Technology as an extension because they have a government buzzer. This single narrative is disseminated to all government agencies throughout Indonesia. A government official from a Communicaton Public Bureau explains that The MEMR will always be listened and be a center of attention as long as the message about energy saving (electricity prices or fuel prices) well handled through the coordination of MEMR and Communication and Informatic Ministry. Communicating public information strategically by coordinating with relevant agency is better way to reach public understanding that the government is doing properly. This relates to Johnston, Taylor, and Ryan as explaining that Government communication is considered a form of argumentation that positions leaders and agencies as expert (Johnston, Taylor, & Ryan, 2020).

This study of how government communicate the climate change issue in energy sector towards SDGs creates a simple mechanism as in figure below.

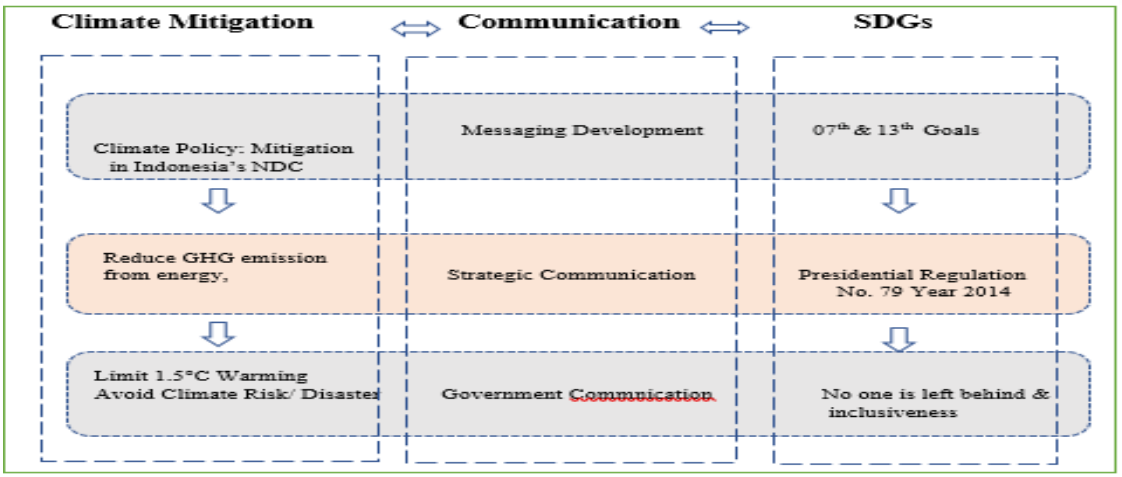

Fig. 1 : Climate – Communication – SDGs dynamic (by Author)

Fig 1.
Climate Mitigation – Communication & SDGs dynamic

Source: Author data

The figure is a summary resulted and organized after conducting the research. The SDGs concept is a truly integrated among each target from the whole 17 goals. Climate Change Change (goal number 13) has to be integrated with the energy sector (goal number 7) to mitigate its risk. Communication to include strategic communication is essential for sustainability.

Conclusion

Climate Change is characterized by high levels of complexity and uncertainty that people hardy to simplify its messages. Thus, communication plays a key role in delivering information and government is the important agent to disseminate the scientific messages of climate change.

Climate change communication in the energy sector is an activity within the scope of government policy communication to reduce GHG emissions and tackling climate change itself. The whole series of messages towards mitigating climate change are still being disseminated partly and separately in the context of new and renewable energy, energy efficiency, to move towards clean energy. A grand message for climate change communication has not yet been developed because communication at the government level is not yet strategic. Communication program planning and evaluation have not been carried out optimally because they are still directive in nature, according to the direction of the highest leader.

Various communication campaigns have been carried out in the energy sector. They are conducted and adjusted with their regulations and leader instruction. The messages is not under a grand message entitled Climate Change nor GHG Emissions. Therefore, strategic communication function is mandatory for the The Ministry of Energy and Mineral Resources to strategically implement climate change communication with its elements of messages through research, planning program, and program evaluation. The sustainability of communication program will last. Communication indicators work as a medium to increase knowledge about scientific messages such as climate change, and change people's attitudes to believe that climate change is real, as well as changing people's behavior to protect the environment.

Limitation And Study Forward

This study may have a number of potential shortcomings restricting its validity. In particular, the current study investigates government communication and its messaging development in only one public sector organiza tion. However, additional empirical studies, investigating strategic communication in other types of public sector organizations with the broader messages of climate change mitigation and adaptation could bring this research a step forward.

Acknowledgements

This research is supported by Faculty of Social and Political Science, Universitas Muhammadiyah Jakarta. Throughout the research, I am indebted to Doddy Sukadri, a former negotiator for United Nation Framework Convention on Climate Change (UNFCCC) . His abundant knowledge of climate change and government sector analysis related to climate policy are irreplaceable.

References

Aggerholm, H. K., & Thomsen, C. (2016). Legitimation as a Particular Mode of Strategic Communication in the Public Sector. International Journal of Strategic Communication, 10(3), 195–206. https://doi.org/10.1080/1553118X.2016.1176570

Allen, M. (2016). Strategic Communication for Sustainable Organizations : Theory and Practice. Switzerland: Springer International Publishing. Retrieved from http://www.springer.com/series/11565

Beck, D. T. (2017). INTERNATIONAL CLIMATE CHANGE: POLICY AND ACTION. The APPEA Journal, 34(2), 18. https://doi.org/10.1071/aj93088

BNPB. (2016, April). Ancaman Hidrometeorologi Semakin Meningkat. Gema BNPB.

Brodjonegoro, B. P. . (2018). SDGs Annual Conference 2018. Jakarta.

Bureau of Communication and Public Information Service. (2019). First Time in the World, Indonesia to Implement 30% Biodiesel (B30). Retrieved August 20, 2020, from

https://www.esdm.go.id/en/media-center/news-archives/narasi-tunggal-pertama-di-dunia-indonesia-terapkan-biodiesel-30-persen-b30

Burke, M. J., & Stephens, J. C. (2018). Political power and renewable energy futures: A critical review. Energy Research and Social Science, 35, 78–93. https://doi.org/10.1016/j.erss.2017.10.018

Cox, J. R. (2010). Beyond frames: Recovering the strategic in climate communication. Environmental Communication, 4(1), 122–133. https://doi.org/10.1080/17524030903516555

Endres, D. E., Cozen, B., Trey Barnett, J., O'Byrne, M., & Rai Peterson, T. (2016). Communicating Energy in a Climate (of) Crisis. Annals of the International Communication Association, 40(1), 419–447. https://doi.org/10.1080/23808985.2015.11735267

Genç, R. (2017). The Importance of Communication in Sustainability & Sustainable Strategies. Procedia Manufacturing, 8, 511–516. https://doi.org/10.1016/j.promfg.2017.02.065

Government of Indonesia. Government Regulations No 79/2014 (2014).

Hoppe, T., van den Berg, M. M., & Coenen, F. H. J. M. (2014). Reflections on the uptake of climate change policies by local governments: Facing the challenges of mitigation and adaptation. Energy, Sustainability and Society, 4(1). https://doi.org/10.1186/2192-0567-4-8

International Renewable Energy Agency. (2017). Renewable energy prospects : Indonesia. Abu Dhabi.

Johnston, K. A., Taylor, M., & Ryan, B. (2020). Emergency management communication: The paradox of the positive in public communication for preparedness. Public Relations Review, 46(2). https://doi.org/10.1016/j.pubrev.2020.101903

Kenway, S. J., Lam, K. L., Stokes-Draut, J., Sanders, K. T., Binks, A. N., Bors, J., … McMahon, J. E. (2019). Defining water-related energy for global comparison, clearer communication, and sharper policy. Journal of Cleaner Production, 236. https://doi.org/10.1016/j.jclepro.2019.06.333

Lee, C. T., Lim, J. S., Fan, Y. Van, Liu, X., Fujiwara, T., & Klemeš, J. J. (2018). Enabling low-carbon emissions for sustainable development in Asia and beyond. Journal of Cleaner Production, 6. https://doi.org/10.1016/j.jclepro.2017.12.110

Masripatin, N. (2017). Strategi Implementasi Nationally Determined Contribution (NDC). (N. Masripatin, Ed.). Jakarta: Ditjen PPI Kementerian KLHK.

Ministry of Energy and Mineral Resources. (2019). Low Carbon Development on Energy Sector. Jakarta.

Mumbunan, S. (2016). INDC Indonesia_Produksi Pengetahuan dan Kebijakan Publik untuk Perubahan Iklim dan Pembangunan Berkelanjutan. Prisma, 35(2), 54–55.

Patrianti, T., Bajari, A., Agustin, H., & Bakti, I. (2020). Climate change communication on mitigation policy and its challenges towards sustainable development goals (SDGS). International Journal of Advanced Science and Technology, 29(6).

Santika, W. G., Anisuzzaman, M., Simsek, Y., Bahri, P. A., Shafiullah, G. M., & Urmee, T. (2020). Implications of the Sustainable Development Goals on national energy demand: The case of Indonesia. Energy, 196. https://doi.org/10.1016/j.energy.2020.117100

Setyowati, A. B. (2020). Mitigating energy poverty: Mobilizing climate finance to manage the energy trilemma in Indonesia. Sustainability (Switzerland), 12(4). https://doi.org/10.3390/su12041603

Sovacool, B. K. (2016). Co-benefit and Trade offs of Green and Clean Energy from Literature and Asian Case studies. Retrieved from www.adb.org

Thomas, G. F., & Stephens, K. J. (2015). An introduction to strategic communication. International Journal of Business Communication, 52(1), 3–11. https://doi.org/10.1177/2329488414560469

United Nations Environment Programme. (2019). The Emissions Gap Report.

Yin, R. K. (2018). Case Study Research and Applications. Sixth Edition (6th ed.). SAGE Publications Inc.

Yudha, S. W., & Tjahjono, B. (2019, February 14). Stakeholder mapping and analysis of the renewable energy industry in Indonesia. Energies. MDPI AG. https://doi.org/10.3390/en12040602