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Greetings from Purnomo Yusgiantoro Center,

The world is in the midst of an energy transition, shifting from fossil fuels to clean energy sources. This transition is driven by climate change, concerns about air pollution, the rising cost of fossil fuels, and many more. The acceleration of energy transition is the most important challenge and it becomes an opportunity to create a more sustainable and equitable energy future.

PYC as an organization that focuses on energy research is aware of this concern, thus, PYC facilitates deep and engaging discussions about it, and one of them is through PYC International Energy Conference 2023: "Collaboration in Action for Inclusive Energy Roadmap" on 15- 16 September 2023. Other than becoming a facilitator for energy enthusiasts to discuss this important topic, this conference also becoming a part of ASEAN Chairmanship 2023.

We are proud that the PYC International Energy Conference 2023: "Collaboration in Action for Inclusive Energy Roadmap" has provided many insights for our upcoming policy brief from our notable speakers. We are also grateful to the participants, who bring their enthusiasm to the conference. Congratulations also to all of the winners of Photo, Essay, Infographic, and Paper Competitions for their extraordinary work.

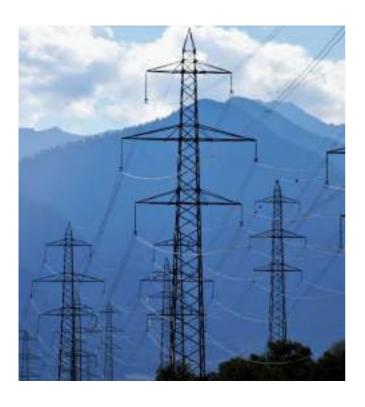
We hope this E-Newsletter will provide many to learn more about energy. Besides that, we hope that many will find out more about the rising energy issues that are written by our researchers.

Together, we can create a clean energy future for all.

Best Regards,

Filda Citra Yusgiantoro, Ph.D.

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# Indonesia's new capital of power can't afford the tangled wires of Jakarta

Hidayatul Mustafidah (Research Staff, Purnomo Yusgiantoro Center), Akhmad Hanan (Researcher, Purnomo Yusgiantoro Center).

A chaotic mess of cables dangling overhead is indeed a common scene along the streets in big cities across Indonesia. Regulations were <u>issued</u> in 2021 in a bid to untangle part of this problem. In part to resolve Jakarta's urban pains, the government has pledged to build a new Indonesian capital city, "Nusantara", in East Kalimantan. Nusantara will apply the "smart city" concept, using multiutility tunnels (MUT) for the installation of a host of public services.

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### Why Should GESI Issues Be Included in Energy Policy?

Vivid Amalia (Research Staff, Purnomo Yusgiantoro Center), Mayora Bunga Swastika (Research Assistant, Purnomo Yusgiantoro Center).

Women and vulnerable groups play key drivers of the innovative and inclusive energy sector for a successful clean energy transition. However, Indonesia's energy policy has not adequately addressed GESI issues despite previous agendas for gender mainstreaming. Consequently, women and vulnerable groups face difficulties accessing energy facilities and lack involvement in policymaking.

To address these challenges, Indonesia should assess and integrate GESI into its energy policy, promote equal participation, and provide targeted support to rural communities based on disaggregated data.



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### Indonesia needs a better power network for itself and ASEAN

Ahmad Munawir Siregar (Research Staff, Purnomo Yusgiantoro Center), Michael Suryaprawira (Researcher, Purnomo Yusgiantoro Center).

Indonesia's participation in the ASEAN Power Grid (APG) initiative is crucial for the country and the region. As Southeast experiences rapid economic growth and increased energy demand, the need for a robust power network becomes evident. Expanding access to reliable electricity in remote areas through projects like the Nusantara Grid and facilitating private investment can boost Indonesia's transformation, which is key to the success of APG, aligning with Indonesia's goal to increase renewable energy usage and promote clean and sustainable energy across ASEAN.



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# Indonesia's New Capital Must Learn from Jakarta's Hideous Pollution Problem

Michael Suryaprawira (Researcher, Purnomo Yusgiantoro Center), Vivid Amalia (Research Staff, Purnomo Yusgiantoro Center).

As the pollution problem in Jakarta escalates to no quick return, this article covered some multiple-stakeholder collaborative actions that the Indonesian government should take to design a sustainable and eco-friendly IKN. The government is committed to maintaining the environmental balance in the area once the city is complete. As the 2024 election is on the horizon, we hope the next president carries on these initiatives.

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### ASEAN digital connectivity under Indonesian chairmanship

Filda Citra Yusgiantoro (Chairperson, Purnomo Yusgiantoro Center), Nadira Asrifa Nasution (Research Assistant, Purnomo Yusgiantoro Center).

Indonesia's leadership within ASEAN in 2023 resulted in the successful adoption of the Digital Economy Framework Agreement (DEFA). Indonesia emphasizes the importance of digital innovation to support small and medium-sized enterprises and the creative economy. Nevertheless, challenges like geopolitical tensions, regulatory shortcomings, and unequal access to digital resources persist. To unlock ASEAN's digital potential, priorities should include enhancing digital literacy, aligning regulations, involving the private sector, and fostering regional cooperation.

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### **Belt and Road for Energy Transition in Southeast Asia**

Mayora Bunga Swastika (Research Assistant, Purnomo Yusgiantoro Center), Nadira Asrifa Nasution (Research Assistant, Purnomo Yusgiantoro Center).

The Belt and Road Initiative (BRI) is a global project introduced by the Chinese government in 2013, previously recognized as One Belt One Road (OBOR). In the context of transitioning to renewable energy, BRI holds the potential to positively influence the countries traversed by these routes, particularly in Southeast Asia. Nonetheless, a range of specific challenges could potentially confront countries in Southeast Asia, such as geopolitical issues and financial capital. Therefore, establishing a well-defined roadmap for collaboration is essential for countries in Southeast Asia and China to work together with the common objective of clean energy projects tied to its overseas development finance.



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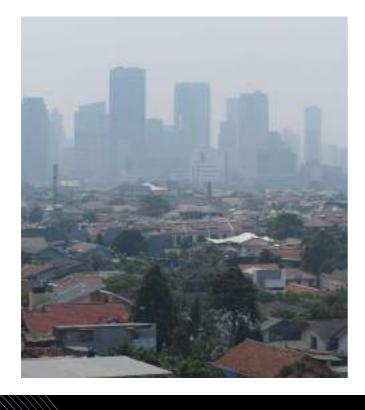
# Pipe dreams: Turning an interconnected ASEAN gas market into a reality

Massita Ayu Cindy (Researcher, Purnomo Yusgiantoro Center), Nadira Asrifa Nasution (Research Assistant, Purnomo Yusgiantoro Center).

Unlocking ASEAN's energy potential through the Trans-ASEAN Gas Pipeline (TAGP) faces complex challenges. Geopolitical disputes, differing gas usage philosophies, and declining reserves hinder progress. The surge in liquefied natural gas (LNG) imports, driven by flexibility and adaptability, competes with the pipeline vision. Economic constraints compound the complexity. To realize ASEAN's energy prospects, fostering dialogue, harmonizing energy policies, and strengthening institutional cooperation are crucial steps. These actions can pave the way for an integrated, competitive, and transparent regional natural gas market, ensuring energy security and sustainable growth.



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### Resolving Jakarta's Air Pollution Effectively: Learning from Beijing

Nadira Asrifa Nasution (Research Assistant, Purnomo Yusgiantoro Center), Akhmad Hanan (Researcher, Purnomo Yusgiantoro Center).

Since July 2023, Jakarta's air quality index based on the IQAir monitoring site has been categorized as unhealthy and exceeds the safe standards for human health as determined by the World Health Organization (WHO). The Indonesian government should learn from the Beijing government's handling of air pollution in China, which is aggressively controlling air pollution in the region. Beijing's pollution measures include: Retirement of coal-fired power plants, elimination and restriction of motor vehicles, and cutting industrial sector emissions.

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### The importance of renewable energy in manufacturing

Massita Ayu Cindy (Researcher, Purnomo Yusgiantoro Center), Vivi Fitriyanti (Researcher, Purnomo Yusgiantoro Center)

Indonesia's industrial sector is the second-largest energy consumer after transportation, with manufacturing industries accountable for 76% of this energy consumption. The increased emphasis on environmental standards by exporting countries and multinational companies has created an urgent need for the government to accelerate the energy transition in the manufacturing sector. Moreover, the EU will implement a carbon border adjustment mechanism (CBAM) to their trade partner and will be disadvantageous for Indonesia if the government of Indonesia did not take a measure on the transition in the energy intensive industry.



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# Mengenal lignin: kandidat potensial pengganti baja yang ramah lingkungan

Vivi Fitriyanti (Researcher, Purnomo Yusgiantoro Center), Vivid Amalia (Research Staff, Purnomo Yusgiantoro Center).

Global steel consumption shows no signs of decline, and by 2050, the demand for it is predicted to increase by up to 30%. Ultimately, this rise in consumption will have an impact on environmental degradation, particularly greenhouse gas emissions. In 2019 alone, the iron and steel sector directly contributed 2.6 gigatons of carbon dioxide emissions annually. This figure may continue to rise with increased steel consumption.

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### Pentingnya biogas kelurahan untuk mengatasi tumpukan masalah sampah dapur di perkotaan

M. Salman Hakim (Research Administrator, Purnomo Yusgiantoro Center), Vivi Fitriyanti (Researcher, Purnomo Yusgiantoro Center).

A fire incident at the Sarimukti Final Waste Disposal Site (TPA) has highlighted the serious issue of organic waste management in Indonesia. The situation, exacerbated by the accumulation of organic waste and methane gas, pushed the TPA Sarimukti sevenfold beyond its capacity. To address this problem, the author suggests implementing a biogas-based strategy from kitchen waste. By utilizing biogas technology at the community level, organic waste can be better managed and used for various daily needs. Despite all challenges, the author's recommendations include government support, community assistance, and reallocating LPG subsidies for biogas development in potential locations. It is hoped that Indonesia can address the increasingly pressing issue of organic waste management.

### Our **Publication**

**Energy Drink** 

is a podcast by PYC that brings together experts from the energy sector for casual discussions on the hottest topics.



### ENERGY DRINK by PYC #29 Program Konversi Motor BBM ke Motor Listrik di Indonesia Ft. Gigih Udi Atmo

In April 2023, the government through KESDM launched the Electric Motorcycle Conversion Program. This is regulated in the Minister of Energy and Mineral Resources Regulation No. 3 of 2023 which includes receipt of government assistance, types and forms of assistance, government governance, as well as implementation of monitoring and evaluation. This program is expected to create a more sustainable environment by reducing carbon emissions that in the end would positively contribute to climate change.

In this podcast episode, PYC Researcher, Nadira, together with Mr. Gigih Udi Atmo, ST, M.Eng., Ph.D, Director of Energy Conservation, Director General of EBTKE, KESDM, will review the opportunities and challenges related to the oil-fueled motorbike (BBM) conversion to electric motorbikes program in Indonesia and how it will relate to the acceleration of the energy transition in Indonesia.

Come on, check it out in full!





Purnomo Yusgiantoro Center | (1971) (1971)

### Our **Publication**

**Data Center** 

PYC understands the importance of reliable data in the energy sector.



### **New and Renewable Production**

Total renewable energy



Renewable energy development is rapidly gaining momentum in Asia, driven by the need to meet rising energy demands, reduce dependence on fossil fuels, and mitigate climate change. China leads the pack as the world's largest investor in renewable energy, India has been rapidly expanding its solar and wind sectors, and Japan has shifted its focus to renewable sources following the Fukushima nuclear disaster. South Korea and Southeast Asian nations are investing in renewable energy projects, which bring benefits such as reducing greenhouse gas emissions and improving air quality. However, challenges such as grid integration, intermittency, and land use conflicts must be addressed. The future of renewable energy in Asia is promising and has many opportunities, such as expanding solar and wind capacities, advancing energy storage technologies, and promoting cross-border energy trading. It sets an inspiring example for other regions and reinforces the urgency of a global clean energy transition.

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**Indonesian Journal of Energy** 

It is a multidisciplinary journal focused on energy research, aiming to provide authoritative information through analyses, reviews, andevaluations.



Indonesian Journal of Energy Vol. 6 No. 2 (August 2023) has been published with five manuscripts in the journal. The manuscripts are:

- China's Energy Diplomacy to Coal Imports from Indonesia After Restricting Coal Import from Australia in 2019 (Author(s)Gistyger Hasudungan Manullang, Rika)
- Solar Enhanced Oil Recovery As The Solution to Enhance Oil and Gas Production for Mature Fields in Indonesia (Author(s)Shafa Alifia Salsabila, Monika Putri Maharani, Ariyanti Putri Joestiawan)
- Application of Carbon Capture and Utilization (CCU) in Oil and Gas Industry to Produce Microalgae-Based Biofuels with Solvent-Captured Method (Author(s)Darwin Riyan Ramadhan, Asma Nadia, Alfira Maulidyah Rahmah)
- Evolving Well Stimulation Optimization Tool with OliFANT: A Pilot Machine Learning Project to Boost National Oil and Gas Production (Author(s)Williams Utaman, Indira Frida Gabriella, Seraphine Jeanetra Kitra)
- Geospatial Visualization for Second-Generation Renewable Diesel Feedstock from Palm Oil Value Chain in Indonesia (Author(s)Yori Bangun, Fadhil Azkarama, Raymond Adriel)

Please kindly check the journal through the link on our profile.



# ASEAN Energy Transition Policy Development Forum Sustainable Energy Financing and Mobilization of Energy Investment in ASEAN

This event was held by Climateworks Centre in June 2023 as a side event of ASEAN Chairmanship 2023, and it focused on financing for the energy transition, which is one of the six key priorities in ASEAN's energy cooperation agenda for 2023. The participants of this event are experts, academics, international organizations, and government representatives. The event aimed to secure sustainable finance and mobilize investments for energy development in ASEAN, making the region an attractive financial destination.



It emphasized the need for a well-structured approach to achieve decarbonization goals and explored the potential for an ASEAN Green Deal to support the Sustainable Energy Transition. Additionally, the event highlighted the importance of attracting energy investments and discussed the financial strategies of both governments and Financial Institutions (FIs) to facilitate it.



On 19 August 2023, PYC held The Ensight, or Energy Insight, one of many events routinely held by PYC. Through The Ensight, we provide a platform for discussions among experts, energy sector observers, and the community, especially the young generation who are the future leaders of the nation, to discuss issues in the energy sector. The Ensight has been held six times during the year 2023. For this discussion, we invited Mr. Robi Kurniawan, Energy Conservation Analyst - Directorate General of New and Renewable Energy and Energy Conservation (EBTKE), Ministry of Energy and Mineral Resources, Mr. Rizaldi Indra, Business Development Manager - Berkeley Energy Commercial Industrial Solutions (BECIS), and Mr. Bambang Heru Susanto - Lecturer in Chemical Engineering at the University of Indonesia. Vivi Fitriyanti, a researcher from PYC, moderated this discussion. The presentations and discussions yielded many interesting points, including The importance of energy transition in the manufacturing sector for economic growth, energy resilience, and climate change mitigation. Also the commitment from the government to enhance renewable energy and emissions reduction targets, with a focus on the Enhanced Nationally Determined.

Robi Kurniawan, representing the Ministry of Energy and Mineral Resources, emphasized the vital role of the industrial sector in Indonesia's economy, stressing energy efficiency for economic growth and emission reduction. Indonesia's commitment to reducing emissions and the NZE strategy were discussed. Energy consumption, led by coal and oil, was highlighted, along with Government Regulation No. 33/2023's stricter energy management requirements. Bambang Heru, a professor at the University of Indonesia, discussed the complexities of energy transition in manufacturing, emphasizing careful management, green products, and industry-specific roadmaps. Rizaldi Indra, from BECIS, addressed manufacturing's high energy consumption and the potential of solar and biomass. The Q&A session emphasized consumer involvement and policy flexibility.



On the exciting date of 15 August 2023, our researcher, Vivi Fitriyanti, had the privilege of stepping into the role of a guest teacher at Erudio Indonesia's Extensive Project Development program, catering to junior high and high school students who thrive on contextual and personalized learning experiences. In this engaging session, Vivi not only shared her rich research journey but also inspired these young minds to delve into the art of crafting thought-provoking questions that lead to profound answers. Erudio Indonesia's students, known for their autonomy in selecting research topics, found this class to be the cornerstone of their research endeavors.

At PYC, we take pride in being more than just a think tank; we wholeheartedly embrace our role as knowledge cultivators. We're exhilarated to impart valuable insights and spark a relentless curiosity for the research world.



In a noteworthy collaboration, PYC, as part of the Energy Transition Policy Dialogue Forum, recently conducted a parallel session seminar during the ASEAN Energy Business Forum (AEBF). The seminar's theme, "Investing in Energy Transition in Indonesia: Bridging the Gap Between Policy and Practice," underscored the critical need for cohesive strategies in Indonesia's energy transition journey. The spotlight shone brightly on the Energy Transition Policy Dialogue Forum, consisting of six prominent NGOs deeply committed to Indonesia's energy transition. These organizations, including the Center for Policy Development (CPD), Climateworks Center (CWC), International Institute for Sustainable Development (IISD), PYC, Institute for Essential Services Reform (IESR), and Indonesia Research Institute for Decarbonization (IRID), form a formidable collective dedicated to advancing clean and sustainable energy practices.

AEBF, a key event held under ASEAN Chairmanship, provided the ideal platform for this vital discussion. Over the course of 3 days from 24-26 August 2023, the Bali Nusa Dua Convention Center played host to diverse stakeholders, experts, and thought leaders committed to shaping the region's energy future. As the world grapples with the imperative to mitigate climate change and reduce carbon emissions, this forum serves as a beacon of hope, offering innovative solutions, and fostering collaboration among diverse stakeholders.





#### **Gerak Indonesia Net Zero**

On 26 August 2023, Vivi Fitriyanti, one of our researchers, was invited to speak in the Gerak Indonesia Talkshow on net zero emissions in Indonesia. It aims to increase energy literacy in the community, especially the younger generation, by facilitating energy enthusiasts to share experiences, insights, and knowledge related to net zero emissions. This talk show is an effort to support the 13th Sustainable Development Goals (SDGs) related to climate change and spurring efforts to achieve the 4th SDGs on quality education. Vivi Fitriyanti, along with Nailah Shabirah, energy and sustainable business engagement specialist, Rafiuddin Adyaksa, chairperson of Gerak Indonesia, talks about the importance of youth awareness and participation in climate change movement and engaging the net zero emission discussion-related issue.



### PYC International Energy Conference 2023 "Collaboration in Action for Inclusive Energy Roadmap"



Purnomo Yusgiantoro Center (PYC) organized the official side event for ASEAN Chairmanship 2023, the "PYC International Energy Conference (IEC) 2023" on 15-16 September 2023 at JS Luwansa Hotel in Jakarta. In this fourth conference, PYC highlighted the theme "Collaboration in Action for an Inclusive Energy Roadmap". PYC IEC 2023 spanned two days, with the first day dedicated to the opening and plenary session, and the second day focused on parallel sessions.

PYC IEC 2023 successfully featured distinguished speakers, including H.E. Arifin Tasrif, Minister of Energy and Mineral Resources of the Republic of Indonesia; H.E. Nadiem Makarim, Minister of Education, Culture, Research, and Technology of the Republic of Indonesia; H.E. Chan Chun Sing, Minister of Education of Singapore; H.E. Dato' Syed Md Hasrin Tengku Hussin, Ambassador of Malaysia for Indonesia; Prof. Bambang P. S. Brodjonegoro, Minister of Research and Technology of the Republic of Indonesia (2019-2021), and many other prominent speakers representing government, university, private, and non-governmental organizations.

Additionally, PYC organized the PYC IEC Competitions 2023, thus we received numerous exceptional submissions, including infographics, photos, essays, and papers.



# Perwatusi; National Gathering and Award Night 2023

The Indonesian Healthy Bones Citizens Association (Perwatusi) of West Java Province held a National Gathering and Award to close the 7th National Sports Festival (FORNAS) on Wednesday, 5 July 2023 at Sindang Reret Hotel Ciwidey, Bandung, West Java.

The gathering was attended by Lis Purnomo Yusgiantoro as a Perwatusi Supervisory Board, Anita A. Hutagalung as a Chairman of Perwatusi, Lina Marliana as a Chairman of DPP Perwatusi West Java, and participants of the National Sports Competition.

The event began with remarks from the general chairman of Perwatusi, continued with traditional dances, award presentation to competition participants, and ended with a performance of kolintang music presented by the Indonesian National Kolintang Association (PINKAN Indonesia).



Jakarta, 27 June 2023 – Purnomo Yusgiantoro Center (PYC) has signed a Memorandum of Understanding (MoU) for cooperation with the National Resilience Institute of the Republic of Indonesia (Lemhannas RI) regarding the development and improvement of the quality of human resources through education, training, and strengthening of national values. The memorandum of understanding was signed at the Panca Gatra Building, the National Resilience Institute of the Republic of Indonesia on Kebon Sirih Street No. 24-28, Gambir, Central Jakarta.

This event is part of a series of signing ceremonies of a Memorandum of Understanding between Lemhannas RI with state institutions and other institutions. This collaboration is expected to support the development and improvement of the quality of human resources through education, training, and strengthening of national values for the community.



# The Signing of Memorandum of Understanding—PYC, LKYSPP, and Lemhannas RI

Singapore, 8 July 2023 – Purnomo Yusgiantoro Center (PYC) has signed a Memorandum of Understanding (MoU) and Memorandum of Agreement (MoA) for collaboration with the National University of Singapore, Lee Kuan Yew School of Public Policy (LKYSPP) and the National Resilience Institute of the Republic of Indonesia (Lemhannas RI).

# **Knitting Togetherness in the Celebration of Independence Day**



Loyola College alumni celebrate Loyola Day and the theme of this event is knitting togetherness in celebration of Indonesian Independence Day in Canisius College, Menteng, Central Jakarta on Saturday, 26 August 2023. This event was attended by alumni of Loyola College from various generations residing in Jakarta.

The speakers in the sharing session included Purnomo Yusgiantoro, Erna Retnowati, Sedyana and Yohanes Haryanto. The speakers shared their experiences while studying at Loyola and the Ignatian values that have always been practiced in their life journey until now.



Jatinangor – Purnomo Yusgiantoro Center (PYC) participated in enlivening the ITB Jatifest event by opening an exhibition booth displaying every product that PYC made and books authored by Prof. Purnomo Yusgiantoro. Besides displaying PYC's products, the public that visited the booth could play a dart game that is free of charge and everyone, who could hit a score of 150 or above, would get snacks from PYC.

At this event, Pingkan Serafien and Felicia Grace as the representatives of PYC introduced PYC to the students and shared information about the National Energy University (UNITEN) Malaysia scholarship. Other representatives of PYC also promoted the International Energy Conference 2023, which was held on 15-16 September 2023.

This ITB Jatifest activity was to introduce lecturers, students, staff, alumni and their families to the new ITB campus in Jatinangor. ITB Jatifest 2023 was also the culmination of a series of welcoming events for students Tahap Persiapan Bersama (TPB) for the 2023/2024 Academic Year and introduced student activities on campus. (Source: itb.ac.id).



On 25 August 2023, the PYC team celebrated the 78th Independence Day of Indonesia with various games. The event was held at the PYC office, Melawai. For this year, the theme of PYC's celebration for Independence Day was "Amazing PYC" that was inspired by the "Amazing Race" show. There were five games that were played by teams. One team should race against the other team to win first place. After that, all members of PYC gathered to enjoy lunch together. The game was closed by a speech from PYC's Treasurer, Ibu Febria Oroh, and awarding prizes to the winners and taking photos together. After that, the PYC team gathered to watch a movie together and enjoyed their free time.



## MoU Signing for Research Collaboration between PYC and UNITEN

On Thursday, 21 September 2023, PYC visited Universiti Tenaga Nasional (UNITEN) in Malaysia to sign a research collaboration Memorandum of Understanding (MoU). Filda Yusgiantoro, ST, MBM, MBA, PhD, the Chairperson of PYC, and Prof. Dr. Ramesh Singh, the Academic and International Deputy Vice Chancellor of UNITEN, signed the MoU.

The collaboration was open to various research topics, mainly covering energy security issues on the border of Indonesia and Malaysia. The MoU signing was held at the UNITEN administration building at the Putrajaya campus complex.



## PRO MO TION BOOK

"Politik Energi: Teori dan Aplikasi"



