

OPINION • ACADEMIA

ASEAN must not leave climate behind in digital economy agreement



A concept illustration shows a special industrial zone for data centers and related industries designed by Deltamas developer PT Puradelta Lestari.

Felippa Amanta (The Jakarta Post)
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ASEAN leaders agreed at their 43rd summit meeting in Jakarta earlier this month to start and accelerate negotiations on the ASEAN Digital Economy Framework Agreement (DEFA). DEFA is expected to provide a coherent, harmonized, and rules-based approach to ASEAN's cooperation in the digital ecosystem to support digital transformation in the region.

While DEFA's focus is naturally on the enabling environments for digital economic integration, ASEAN leaders should not overlook the clear links between the digital transformation that they pursue and climate change. As strong climate action is urgently needed, it is important to build climate safeguards into the Agreement to ensure our collective digital future is sustainable and resilient.

The impacts of digitalization on climate change are increasingly a topic of debate. Despite the hype of digitalization as a solution to climate change, the Intergovernmental Panel on Climate Change (IPCC) 2022 report found that so far, digitalization has had limited contribution to mitigating climate change.

The IPCC scientists acknowledge that while digitalization has the potential to support energy efficiency, without policies and regulations, it may adversely increase energy consumption. The impacts are not limited to just the energy required to build, operate, and maintain the information and communication technologies (ICT) infrastructure, but also energy implications from the new product and service provision system driven by digital transformation.

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The energy impact of ICT infrastructure is clear. Data centers use a huge amount of energy, particularly in the warm ASEAN region that requires greater power for cooling systems. In 2020, data centers contributed 7 percent to Singapore's electricity consumption.

As demand for data centers in the region grows, with analysts estimating 10-15 percent demand growth across Southeast Asia, so will their electricity consumption and emissions.

To address the problem, Singapore's minister for communications and information announced a new energy efficiency standard for data centers.

Indonesia does not have such standards yet. According to a Kearney analysis, the level of carbon emissions from Indonesia's data centers is projected to nearly equal emissions from its aviation and shipping industries by 2026.

While energy consumption of ICT infrastructure is significant, it pales in comparison to the energy implications from provision systems that make up the digital economy's physical backbone.

E-commerce comprises the largest share of the digital economy in the region, and as the DEFA aims to facilitate cross-border e-commerce, it will drive the intraregional logistics sector, including air cargo, sea shipping, land freight and even last-mile delivery. As e-commerce and delivery companies race to provide faster delivery to consumers, logistics operations will be intensified with massive energy implications.

Meanwhile, efforts to electrify the transportation sector have been abysmal. The mismatch between increasing demand for logistics and lagging electrification will mean greater reliance on fossil fuels.

Last but not least, the digital economy will have energy implications at the systemic level due to changes in consumer behavior. Consumers tend to increase their consumption due to convenience and reduced cost, also known as a rebound effect.

Further, the growth of the digital economy is, by definition, contingent on more digital transactions, which companies encourage through data-driven marketing, promotions, incentives and buy now, pay later schemes. While cross-border data flows and data protection are already key elements in the DEFA's negotiation, the risk of wasteful, resource-intensive overconsumption via the digital economy has not been acknowledged.

Taking into account the range of climate impacts, Google, Temasek and Bain estimate that the greenhouse gas emissions of Southeast Asia's digital economy will reach 20 million tonnes of CO₂ equivalent by 2030, more than triple the estimate in 2022. At the same time, Southeast Asia is one of the regions most vulnerable to climate change. Not addressing the climate risks of digitalization is likely to cause environmental impacts that will threaten the region's development.

ASEAN's goal of a thriving digital economy can coincide with and complement its climate goals only if climate change is incorporated in its framework.

ASEAN leaders can consider supporting research and cooperation toward greening ICT infrastructure and electrifying the e-commerce logistics sector while accelerating the region's renewable energy transition, incorporating energy efficiency standards and encouraging sustainable consumption through innovative digital solutions, such as sharing or circular economy platforms.

As the DEFA includes negotiations on emerging topics such as artificial intelligence (AI), ASEAN leaders can go one step further and consider mechanisms to support the collaborative development of AI technologies toward solving climate change while minimizing its harmful effects.

Efforts toward enabling inclusive digital economy growth should be supported, but without leaving our environment behind.

The writer is a PhD student at the Environmental Change Institute at the University of Oxford.

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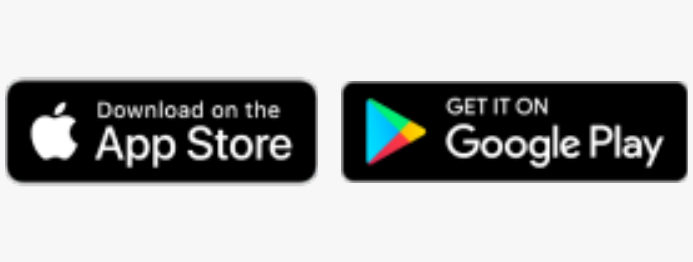
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