



**US-ASEAN**  
BUSINESS COUNCIL, INC.

US-ABC RECOMMENDATIONS PAPER TO THE 56TH ASEAN ECONOMIC MINISTERS MEETING

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## **TOWARDS ASEAN POST-2025:**

# **A Collaborative Digital and Sustainable Economic Agenda**



## Executive Summary

The ASEAN Economic Community (AEC) has made significant strides towards integration since its inception. It has also presented significant opportunities for businesses to expand their operations, access new markets, and capitalize on the region's growth potential. As we look beyond 2025, the region is poised to undergo a transformative evolution, shaped by global trends and technological advancements, overcoming demographic challenges and achieving regional aspirations. The AEC could see deeper economic integration and regional market development, with enhanced efforts to promote sustainable economic growth, eliminate trade barriers, harmonize regulations, and facilitate cross-border investments. This could lead to a more cohesive and resilient regional market. There are several areas where businesses feel ASEAN can act to achieve those aspirations:

### Digital Economy

- **Address the digital divide:** Promote inclusivity through decentralized digital platforms to ensure that technological advancements, including AI and AI-enabling technologies, benefit all segments of society, including marginalized and underserved communities. Implement programs to improve digital literacy among various demographics, including the elderly and low-income groups. This could be incorporated into the successor document of the Master Plan on ASEAN Connectivity (MPAC).
- **Promote digital infrastructure investment and development:** Invest in broadband infrastructure to ensure widespread access to high-speed internet, particularly in underserved and rural areas. Promote investments in digital infrastructure through lowering tariff and non-tariff barriers to trade. Strengthen digital trust measures, such as cybersecurity to protect digital infrastructure and strengthen trust in digital services in accordance with the ASEAN Digital Masterplan 2025.
- **Encourage adoption of digital technology such as AI across industries and the public sector:** Provide incentives for traditional industries to adopt new technologies, such as automation, AI, and data analytics, to improve productivity and competitiveness, building upon the existing ASEAN Guide on AI Governance and Ethics. Encourage decentralized solutions to ensure that technological advancements are accessible and beneficial to all stakeholders, reducing reliance on centralized entities. Implementation of digital solutions in government services can also enhance efficiency, transparency, and citizen engagement, while promoting decentralized platforms to foster greater trust and participation from citizens.
- **Develop a skilled workforce:** Encourage continuous professional development and reskilling programs to keep the workforce updated with the latest technological advancements. Additionally, incorporate industry input and consultation into school curricula at all levels—primary to university—to develop industry-ready workers. Continuous investment in reskilling and upskilling programs is essential to ensure the workforce remains adaptable to evolving industry demands.
- **Encourage public-private partnerships:** Involve industry leaders in shaping technology policies and strategies to ensure they meet practical needs and drive real-world impact. Foster partnerships between government agencies, tech companies, and academia to collaborate on joint projects and initiatives.
- **Promote growth through exports:** Catalyse the growth of local businesses, particularly SMEs, by developing their mindset and skills in seizing the opportunity to export globally via e-commerce. ASEAN exports to the world are already growing at a rate faster than global export growth. We urge AMS to continue to participate in both bilateral and plurilateral preferential trade, digital economy and

environmental trade agreements and frameworks, including through the upgraded ASEAN Trade in Goods Agreement (ATIGA) and the Regional Comprehensive Economic Partnership (RCEP).

- **Enhance regional collaboration:** Promote knowledge-sharing and best practices among ASEAN countries to address common technological challenges and opportunities. Work towards standardizing regulations and policies related to technology to facilitate cross-border tech ventures and trade, through conclusion of a high standards and commercially meaningful Digital Economy Framework Agreement (DEFA).
- **Encourage sustainable technology and technology for sustainability:** Invest in and promote technologies that are environmentally friendly and contribute to sustainable development goals, including those that support recycling, waste reduction and resource efficiency. Also promote the use of digital technologies for sustainability promotion through data transparency.

### Circular Economy

- **Adopt standard harmonization and mutual recognition:** Develop unified standards, establishing mutual recognition agreements (MRAs), promoting regional cooperation, implementing supportive measures, and promoting public awareness and engagement through decentralized platforms to enhance transparency and stakeholder participation.
- **Promote sustainable financing and innovative investments:** Promote green finance, encouraging public-private partnerships, and establishing a regional green investment platform.
- **Advance efficient use of energy and other resources:** Support technology adoption, implement circular supply chains, support recycling infrastructure, including advanced waste recycling such as waste-to-energy capabilities, manage sustainable use of natural resource and promote best practices. Additionally, enhance and expand grid infrastructure to improve energy access, increase domestic energy capacity in clean energy and related technologies, and promote reduced-emission energy consumption, such as the use of electric vehicles (EVs) and other clean technologies.
- **Explore mechanisms to boost recycling within ASEAN:** Enable manufacturing waste import-export within the region to unlock sustainable manufacturing. Streamline customs procedures, removing non-tariff barriers, and promoting digital trade facilitation for remanufactured goods.
- **Science based initiatives:** Encourage comprehensive scientific analysis for circularity initiatives, evaluating societal benefits throughout the lifecycle, including material use, waste management, energy/water consumption, emissions, mass-attribute balance [what is that? Can't find on Google]and quality-of-life impacts. Focusing solely on material use and waste overlooks this broader perspective.



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## Envisioning ASEAN Economy Post-2025

### *Current economic landscape, unlocking opportunities*

A thriving ASEAN economy post-2025 should be identified as a highly integrated digital economy, offering seamless cross-border transactions and innovative digital services; as well as a sustainable and low-carbon economy with renewable energy powering industries and cities. The region can also continue to grow as an advanced manufacturing powerhouse, producing high-value-added products and leveraging advanced technologies. While the global economy and Asia's regional trade architecture will continue to evolve, over the next three years ASEAN has a strategic opportunity to leverage its current global economic competitive advantages into achieving tangible, sustainable and transformative industrial and socioeconomic development results. ASEAN is already perceived as one of the world's most global competitive commercial alternative locations for businesses seeking to enhance the resiliency of their supply chains and navigate the evolution of U.S.-China relations. Initiatives like the Regional Comprehensive Economic Partnership (RCEP) and upgrading of the ASEAN Trade in Goods Agreement (ATIGA) can help sustain ASEAN's capacity to enhance trade and investment flows among ASEAN countries and their partners.

In parallel, ASEAN can strengthen its strategic position in the global economy by leveraging other emerging trade corridors, including through the ASEAN Digital Economy Framework Agreement (DEFA). Strong collaboration will also be crucial in implementing the ASEAN Circular Economy Framework and Carbon Neutrality Strategy ensuring that sustainability remains at the forefront of ASEAN's economic strategy.

Therefore, the U.S. private sector believes that the following should be the key pillars for the ASEAN Economic Community (AEC) Post-2025 to achieve cohesive integration, innovation, and sustainability:

### Technological Advancements

- 1. Integrated Digital Market:** ASEAN can evolve into a seamless digital market with harmonized regulations and decentralized digital platforms, enabling the free flow of digital goods, services, and data across member states, enhancing security and reducing single points of failure.
  - **Interoperable Digital Regulations:** Common standards or mutual recognition agreements for cross-border data flows, digital payments, data privacy, and data governance will reduce barriers to digital trade and improve interoperability. ASEAN Member States should adopt international standards where possible to reduce compliance costs, increase operational efficiencies and enhance data security management for companies operating across multiple markets.
  - **Unified E-commerce Markets:** Decentralized cross-border e-commerce platforms will facilitate transactions across ASEAN, simplifying market entry for businesses and providing consumers with a wide range of products and services, while ensuring data privacy and security.
- 2. Advanced Digital Infrastructure:** Robust digital infrastructure will support a thriving digital economy, characterized by high-speed internet, extensive 5G coverage, and widespread access to cloud services.
  - **High-Speed Connectivity:** Widespread adoption of 5G and fiber-optic networks will enhance connectivity and support the growth of digital services.
  - **Cloud Computing:** Expanded access to cloud computing will enable businesses to scale operations, improve efficiency, and foster innovation. This includes promoting and facilitating cross-border data flows to enable more inclusive access to cloud computing resources across the region based on availability and economies of scale for certain services.

- Data Quality and Integration: Ensuring the accuracy, completeness, and consistency of data from various sources is currently a significant challenge for building advanced digital infrastructure. Integrating data from different systems and formats requires significant effort and sophisticated tools.
3. **Innovative and Startups Hub**: ASEAN can be a vibrant hub for digital innovation, with a thriving ecosystem of startups and tech companies driving advancements in AI, fintech, and other emerging technologies.
- Innovation Hubs and Incubators: Supportive environments for startups, including innovation hubs, incubators, and accelerators, are needed to drive technological advancements and attract investment.
  - Cross-Border Collaboration: Regional partnerships and collaborative projects will also facilitate knowledge sharing and accelerate innovation.
4. **Digital Inclusion and Skills Development**: Efforts to bridge the digital divide will ensure widespread digital literacy and skills development, empowering individuals and businesses to participate fully in the digital economy.
- Access Initiatives: Programs to improve digital access and literacy, especially in underserved areas, are key to promote inclusive economic growth.
  - Training Programs: Comprehensive digital skills training programs should be made available, equipping individuals of all demographics (young and mature) with the skills needed for the digital workforce.
  - STEM Education: Ensure that all students, at every level of education, receive basic STEM (Science, Technology, Engineering, and Mathematics) knowledge to prepare them for future workforce demands and enhance digital readiness from an early age.
5. **Centralized Data Centers and De-Centralized Systems**: Centralized data centres handle large-scale, energy-efficient operations, while decentralized nodes provide localized processing and storage. This combination enhances resilience, security, and accessibility, supporting the development of decentralized applications (dApps) and promoting a more inclusive and resilient digital economy in ASEAN.
- Efficiency of Centralization: Deploying data centre operators saves significant amounts of energy, as it is more efficient to have computer, storage, and networking concentrated in purpose-built data centres designed to high operational standards, rather than in individual businesses' server rooms.
  - Access to Technology: Data centre platforms enable local firms to tap into the latest technology and facilitate their cross-border expansion into ASEAN and global markets.
  - Decentralized Regulatory Sandboxes: Implementing decentralized regulatory sandboxes allows for the safe testing and deployment of emerging technologies, ensuring regulatory compliance while fostering innovation.
6. **Enhanced Cyber Resilience and Data Protection**: Enhanced cybersecurity measures and data protection regulations will build trust in digital transactions and safeguard sensitive information.
- Advanced Security Protocols: Implementation of cutting-edge cybersecurity technologies and practices will be critical to protect digital assets and reduce risks.
  - Adopting Common Standards: Ensuring that requirements are based on common and accepted international standards will help to reduce compliance costs for companies and increase interoperability of systems across the region.

- **Enhancing Data Security Management:** Maintaining multiple storage locations complicates security management, leading to inconsistent measures and potential vulnerabilities. This fragmentation can compromise data integrity and confidentiality. Data transfers also increase the risk of breaches and cyberattacks.
  - **Regional Cooperation:** Collaborative efforts among ASEAN Member States with the support of the private sector will help to address cybersecurity threats and promote shared standards for data protection, while enabling the trusted use of data across borders for digital commerce. Establishing a regional cyber resilience task force can facilitate information sharing and coordinated responses to cyber threats, which can help identify and address vulnerabilities more effectively.
7. **Enabling Environment for Artificial Intelligence (AI):** An enabling regulatory environment that strikes a balance between encouraging innovation of new technologies and defining guardrails to ensure responsible development of AI will be crucial for ASEAN to harness the potential of AI. ASEAN should also encourage member states to pursue international alignment to avoid uneven and fragmented AI rollout, which would create business uncertainty and stifle innovation.

## Sustainability and Green Growth

1. **Integrated Circular Supply Chains:** ASEAN should develop integrated circular supply chains that emphasize resource efficiency, waste reduction, and closed-loop systems.
  - **Resource Efficiency:** Adoption of practices to maximize resource use and minimize waste by business will work well with supportive regional policies and incentives.
  - **Circular Design:** More products will be designed for durability, reparability, and recyclability, contributing to a closed-loop economy.
2. **Innovative Waste Management Systems:** Advanced waste management systems will enhance recycling, composting, and waste-to-energy technologies, reducing environmental impact.
  - **Smart Waste Management:** Adoption of smart technologies for waste collection, sorting, and recycling will improve efficiency and effectiveness.
  - **Public-Private Partnerships:** Collaborative efforts between governments and businesses will drive innovation in waste management and recycling. This includes Extended Producer Responsibility (EPR) policies, which complements waste management systems by ensuring that producers contribute to the costs of managing and recycling the waste generated by their products, thus incentivizing waste reduction and recycling.
3. **Energy Availability, Grid Infrastructure, and Competitiveness:** Ensuring affordable, reliable, and sustainable energy is crucial to the competitiveness of ASEAN and U.S. company operations in the region.
  - **Improved Grid Infrastructure:** Investments in improved and expanded grid infrastructure are essential to support increased energy demand and ensure energy reliability.
  - **Increased Domestic Generating Capacity:** ASEAN should prioritize expanding domestic energy generation capacity, focusing on zero-emission and low-emission technologies, to meet growing energy needs and reduce the risk of energy intermittency.
  - **Affordable and Reliable Energy:** Energy availability and pricing are critical for maintaining the region's economic competitiveness. Policies should aim to make energy more affordable and reliable, supporting a stable environment for business operations.

- Promotion of Low-Emission Energy Use: Encouraging the use of reduced-emission energy, including the promotion of electric vehicles (EVs) and energy-efficient technologies, is vital to reduce the carbon footprint of the region's growth.
4. **Sustainable Business Practices**: Businesses across ASEAN will look to integrate circular economy principles into their operations, leading to more sustainable and resilient economic models.
- Circular Business Models: Companies will adopt circular business models, such as product-as-a-service and take-back schemes, and manufacturing waste recycling to promote circularity and sustainability.
  - Green Certifications: Incentives and certifications for sustainable practices will encourage businesses to adopt circular economy principles.
  - Deploying social impact programs: Companies will commit towards driving social development through social impact programs aimed at advancing the lives of the people of the ASEAN economies in a wide range of fields from promoting healthcare to building employability skills.
5. **Policy and Regulatory Support**: Comprehensive policies and regulations will support the transition to a circular economy, providing clear guidelines and incentives for businesses and consumers.
- Circular Economy Roadmaps: National and regional roadmaps will outline strategies and targets for transitioning to a circular economy. Implementation of the ASEAN Circular Economy Framework is key to the region's success.
  - Incentives and Regulations: Policies will need to include incentives for circular practices, such as tax breaks for recycling initiatives and regulations to reduce single-use plastics. In addition, arbitrary bans on products that provide significant convenience and meet consumer demands do not effectively address the underlying issue of deficiencies in waste management and recycling infrastructure.
  - Extended Producer Responsibility: Implementation of EPR frameworks will encourage manufacturers to take responsibility for the entire lifecycle of their products, promoting the reuse, recycling, and responsible disposal of materials. This aligns closely with circular design and resource efficiency goals, ensuring products are designed with end-of-life considerations in mind.
6. **Consumer Awareness and Engagement**: Increased consumer awareness and engagement will drive demand for sustainable products and practices, supporting the transition to a circular economy.
- Educational Campaigns: Public awareness campaigns are needed to educate consumers about the benefits of circular economy practices and sustainable consumption.
  - Sustainable Products: Growing demand for eco-friendly products and services will also drive businesses to innovate and adopt circular practices.

## Challenges and Pain Points

*Infrastructure gap, regulatory barriers, financing and investment*

While ASEAN's economic growth and integration hold great potential, several challenges could impact the region's trajectory. The region will need to manage geopolitical risks and economic uncertainties, including trade tensions, natural disasters, and potential disruptions in global supply chains. Building strategic alliances and diversifying economic partnerships will be crucial for mitigating risks and enhancing regional stability.



## Digital infrastructure gap

The digital infrastructure gap in ASEAN is marked by significant disparities in connectivity, cloud computing capabilities, digital payment systems, and cyber resilience across the region. Urban areas often enjoy advanced high-speed internet and cloud services, while rural and underserved regions lag behind due to limited infrastructure investments and high costs. Additionally, varying levels of digital payment adoption and cybersecurity capabilities, coupled with a shortage of skilled professionals, further exacerbate these disparities. Bridging this gap requires targeted investments in expanding high-speed networks, developing data centres, enhancing digital payment systems, and improving cybersecurity measures, alongside regional efforts to standardize regulations and promote digital skills development.

## Regulatory barriers

There remain inconsistent data protection laws, cybersecurity standards, data governance classification frameworks, artificial intelligence governance frameworks, and critical information infrastructure guidelines which hinder cross-border data flows and digital trade, and fragmented regulations that create obstacles for harmonizing digital payment systems and e-commerce across member states. This also leads to increased cost of compliance for the industry and consumers. Additionally, restrictive policies and lack of standardization in sustainability practices impede the adoption of circular economy principles, while varying levels of support and enforcement for environmental regulations complicate efforts to promote green technologies. These barriers necessitate coordinated regional efforts to develop unified frameworks for data protection, digital trade, and sustainability to foster a more integrated and sustainable digital economy in ASEAN. More certainty and legal recourse for business would help to build trust and confidence among private sectors.

## Financing and investment

Currently, access to capital is limited, especially for startups and small businesses, which hinders their ability to innovate and scale digital and green technologies. Additionally, there is a disparity in investment levels across the region, with less developed countries struggling to attract sufficient funding for infrastructure projects and sustainability initiatives. High perceived risks and lack of clear regulatory frameworks further discourage both domestic and international investors. To address these challenges, ASEAN needs to enhance access to funding through public-private partnerships, attract catalytic funding, engage impact investors, create incentives for investors, and establish clearer regulatory guidelines to support and accelerate investments in digital and sustainable projects.

## Recommendations and Potential Collaborations

### Conclusion of a High Standard and Commercially Meaningful DEFA

For a high standard and commercially meaningful conclusion for the DEFA, ASEAN governments should consider a collaborative approach involving streamlined negotiations, leveraging existing regional trade agreements and frameworks. Prioritizing harmonization of digital standards, protection of intellectual property, ensuring a non-discriminatory regulatory environment, and facilitation of cross-border data flows can accelerate progress. Engaging with key stakeholders, including businesses and technology experts, will ensure that the DEFA addresses practical needs and fosters innovation. By focusing on mutual benefits, maintaining flexibility, and committing to transparent, inclusive discussions, ASEAN countries can achieve a robust and effective DEFA that enhances regional digital integration and economic growth.

US-ASEAN Business Council and its member companies have been working with the ASEAN Coordinating Committee on E-Commerce and Digital Economy, the DEFA Negotiating Committee as well as the ASEAN Secretariat to offer industry recommendations for DEFA, including through capacity building and thought leadership initiatives. The Council's [Whitepaper on Digital Trade Priorities for ASEAN](#) remains highly relevant for DEFA negotiators to consider. In addition, several key factors are provided below to complement the on-going process of DEFA negotiations.

## 1. Inclusive, Innovative, and Efficient Environment

DEFA should strive for an interoperable, clear and consistent rules to address the current domestic regulatory overlap between national-level regulation and sector-specific regulations, aiming to reduce costs domestically, which will align with the international standard-setting.

## 2. Interoperability

- Interoperability streamlines operations for businesses, eliminating the need for excessive resources to adapt to fragmented systems.
- Interoperability also decreases the risk of mistakes that can occur when adjustments need to be made for local systems particularly if it involves local workarounds and manual intervention.
- It also provides consumers access to a wider range of products, fuelling SME innovation and market expansion.
- Interoperability of government-deployed systems (e.g., digital ID verification systems, real-time payment rails) is crucial if cross-border trade is to be encouraged.
- Use of digital bills of lading (as provided for in UNCITRAL) also speeds up trade in goods and allows SMEs in the supply chain to be paid quicker so they can continue to build their business.

### 2.1. Payment Ecosystem

- Regulatory efficiency is essential for creating a seamless and cost-effective payment environment. Reducing domestic regulatory overlaps between national-level regulations and sector-specific regulations will not only lower costs domestically but also facilitate alignment with international standards. This alignment is critical for enabling cross-border transactions and fostering global trade.
- DEFA should recognize and accommodate the diverse payment ecosystem, including banks, Non-Bank Financial Intermediations (NBFIs), cards, QR codes and emerging digital currencies such as Central Bank Digital Currencies (CBDC). This will foster an environment that supports various types of payments, players, and innovations. Additionally, DEFA should promote greater interoperability between countries' QR payment systems (e.g., Indonesia's QRIS, Singapore's PayNow, Malaysia's DuitNow), enabling seamless cross-border payments across ASEAN. As part of a long-term vision, joint ASEAN efforts should drive the expansion of this interoperability beyond Southeast Asia, further strengthening the region's digital economy and integration into the global financial system.
- Payments encompass not only traditional batch payments, emerging instant payments, but also credit cards and QR codes, and digital currencies. These systems are used by consumers as well as for business-to-business and corporate transactions (e.g. international investors, pension funds, asset managers). It's crucial to include institutional and corporate payments in the discussion, not just consumer payments.  
A diverse ecosystem benefits all – including SMEs – enabling them to choose the best option for their business at home and abroad and scale their businesses across regions.

- Given the advancement of digital payments in ASEAN and the clear benefits that it brings, we encourage AMS to look to reference the amended agreement for the ASEAN-Australia-New Zealand Free Trade Area (AANZFTA). The amended includes language, which suggests adoption of internationally accepted standards for payments, drives interoperability and innovation and will enable the DEFA to be an inclusive and future forward looking agreement. We encourage AMS to facilitate the harmonization of e-payment regulatory frameworks across the region, including by fostering greater alignment and convergence in areas such as e-payment licensing, standards, and processes. We should also broaden the aperture of standards for enabling interoperable digital payments citing other examples beyond **ISO20022** Universal Financial Industry Message Scheme:
  - **ISO 8583** specifies a message format that describes credit card and debit card data that is exchanged between devices and card issuers.
  - **EMV Chip** is a standard for including dynamic digital data in every transaction. This makes chip transactions extremely secure and reduces the risk of counterfeit fraud.
  - **EMV QR provides a standardized template for the generation of QR codes that will work consistently everywhere to deliver convenient and reliable card and account-based payments.**
  - **PCI-3DS (3 Domain Server)** is a technical standard that adds a layer of security to online credit and debit card transactions. In order to complete an online purchase, the cardholder is asked to provide proof of identity by entering a unique password, an SMS code or a temporary PIN.
  - **PCI-DSS (Data Security Standard)** provides a baseline of technical and operational requirements designed to protect cardholder/account data and applies to merchants and service providers.
- Adherence to global standards and interoperability also ensure a system can scale and keep up with innovation by adopting new technologies. This encourages participation by consumers and businesses, helping economies digitize. Adherence to global standards and ensuring interoperability allows all provides to layer into and provide value on top of new, innovative systems, such as real-time payments.

### 3. Harmonization of Standards and Regulations

- Establishing an agreed taxonomy in the agreement and adopting international standards ensures alignment across ASEAN member states and between ASEAN and the rest of the world.
- Clear taxonomy encourages efficiency which reduces costs and promotes a level playing field for local and non-local businesses. It also helps ASEAN prepare for emerging technologies and cybersecurity challenges and access international markets.
- Unharmonized regulations create barriers and costs for everyone, particularly for SMEs.
- Adopting international standards within DEFA can create a more seamless payment system in Southeast Asia.
  - An example is ISO2022 which provides common standards for those engaging in payments which means diverse types of firms in a range of countries can transact with each other.

### 4. Cross-Border Data Flows

- Cross-border data flows, facilitated by decentralized data exchange frameworks, enhance innovation, cyber resilience, and technology utilization, allowing all organisations to participate in and thrive in the digital economy while maintaining data sovereignty. For new and emerging technologies like AI, cross-border data flows facilitate access to important training data and computing power that are critical to unlock the potential of such technologies.

- DEFA should prioritise the facilitation of cross border data flows and guard against unnecessary data transfer restrictions, and data and server localization requirements except in specific, narrow, and well-justified and internationally accepted circumstances (e.g., for national security).
- Data collection and information sharing across borders are indispensable for effective cross-border supervision, oversight and enhanced risk management for both regulators and cross-border payment services providers. Data localization requirements may restrict the transfer of data required for processing cross-border transactions or conducting Anti Money Laundering (AFT)/Combating the financing of terrorism (CFT) functions, leading to delays and increased costs for cross-border payments.
- Several AMS have policies that restrict the flow of data through various data localization requirements. Such restrictions have a dampening impact on the development of ASEAN's digital economy and could especially hurt ASEAN SMBs' prospects of engaging in digital trade and developing new products and services.
- Even for global businesses, localization requirements prevent them from accessing markets where they do not operate a data centre or from relying on global firmwide applications and capabilities. Data localization requirements on the grounds of national security can also be detrimental to national security goals as they would reveal the location of data to cybercriminals. Moreover, firms are not given the freedom to locate their customers' data based on security requirements.
- Data localization requirements repress innovation by placing burdens on new entrants and increasing barriers to entry, thus jeopardizing ASEAN's competitiveness in the long term. Cross-border data flow, however, allows for the sharing and exchange of ideas, which fosters innovation. Companies can learn from each other, compete and collaborate on a global scale, facilitating the creation of new products, services, and technologies. This can lead to economic growth and improved standards of living.
- Where data transfer restrictions or data flow requirements are permitted under the above-mentioned circumstances, a risk-based approach in regulating data transfers should be adopted, where the potential risks and benefits associated with cross-border data flows are both thoroughly assessed. This will help ensure that policies and regulation on data flows/transfers are evidence-based, effective, and proportionate.
  - i. AMS should avoid imposing blanket restrictions that may hinder legitimate data transfers and instead focus on targeted measures that address specific concerns is necessary while allowing for the seamless flow of data across borders.
  - ii. The development of a comprehensive and transparent data classification framework is essential to ensure seamless interoperability across sectors. Ideally, data should be classified using consistent tiers and standards across various sectors, with allowances for specific sectors that may require unique approaches. A coherent and standardised data classification system will strengthen data governance and facilitate effective data management practices, including cross-border transfers, throughout the region.

## 5. Public-Private Cooperation

- Strong collaboration between public and private sectors is vital for addressing key digital economy issues and enacting safe testing of emerging technologies like AI. It also improves internet infrastructure penetration and inclusive participation by all in the digital economy.

## 6. Promoting SME Internationalization and Growth

- DEFA could also serve to stimulate economic growth by setting a vision for ASEAN SMEs to export their products globally (e.g. through regional/international e-commerce services) and encouraging

ASEAN member states to develop policies which support SMEs in digitalization and internationalization.

## Framework for Circular Economy for the ASEAN Economic Community

As ASEAN Economic Ministers deliberate on the post-2025 agenda, the U.S. private sector recognizes the critical importance of establishing a circular and sustainable supply chain across ASEAN's key sectors. This approach is vital for driving economic growth, enhancing resource efficiency, and achieving long-term environmental sustainability in the region. The circular economy remains a relatively new area for ASEAN, particularly within the AEC. Therefore, it requires thoughtful and deliberate action in developing appropriate frameworks and mechanisms, while also spreading awareness and improving capacity throughout the region. A circular economy is an integral part of ASEAN's journey towards resilient, inclusive, and sustainable development. It is a long-term, multi-sectoral, and multi-stakeholder process that will necessitate strong support from the private sector and broader stakeholders. At the regional level, strategic measures must be broad and flexible to accommodate the diverse priorities and levels of development of member states, while also being practical for the private sector to adopt and relatable to the public. With these considerations in mind, this paper provides further recommendations from the U.S. private sector's perspective to support ASEAN's five Strategic Priorities under the Framework for Circular Economy for the AEC.

### 1. Standard harmonization and mutual recognition

To achieve a circular economy in ASEAN, harmonizing standards and establishing mutual recognition frameworks are essential. The U.S. private sector recommends a structured approach to achieving these goals, which include developing unified standards, establishing mutual recognition agreements (MRAs), promoting regional cooperation, implementing supportive measures, and promoting public awareness and engagement.

- a. Develop Unified Standards: Establish common standards and guidelines for key aspects of the circular economy, such as waste management, recycling processes, resource efficiency and mass-balance certification. These standards should define uniform criteria for product design, materials, and end-of-life processing, drawing from best practices in leading ASEAN countries and global benchmarks. Standards for product durability, repairability, and recyclability should also be incorporated into regional guidelines.
- b. Establish Mutual Recognition Agreements (MRAs): Develop clear criteria for the mutual recognition of circular economy certifications and compliance across member states. This includes setting benchmarks for environmental performance and product lifecycle management, as well as facilitating cross-border certification processes to reduce duplication and costs for businesses operating regionally.
- c. Promote Regional Cooperation and Adoption: Engage a diverse range of stakeholders, including industry experts, businesses, and environmental organizations, to ensure that standards are practical and aligned with regional needs. Active participation from the private sector should address industry-specific requirements within the standardization process. Collaboration can be strengthened through multi-stakeholder workshops, conferences, and knowledge-sharing platforms, allowing for the exchange of successful initiatives and innovations across member states. Technical assistance and capacity-building programs should be provided to support the development and implementation of these standards. Additionally, public awareness campaigns should be conducted to educate businesses and consumers about the benefits and requirements of circular economy practices. Businesses should be incentivized to adopt these practices through mechanisms such as tax breaks, grants, or certifications.

## 2. Trade openness and facilitation

ASEAN's circular economy agenda should be supported by policies that enhance trade openness and facilitate the movement of goods, services, and investments across borders. The U.S. private sector recommends focusing on streamlining customs procedures, removing non-tariff barriers, and promoting digital trade facilitation.

- a. Streamline Customs Procedures: Simplify customs procedures to reduce delays and associated costs in cross-border trade of circular economy products and materials. Digital solutions, such as electronic customs clearance and AI technology, should be implemented to improve transparency and operational efficiency, ensuring smoother and faster trade processes across ASEAN.
- b. Remove Non-Tariff Barriers: Conduct a comprehensive review of non-tariff barriers that hinder the trade of sustainable products and materials within ASEAN. Establish a platform for dialogue between member states to address and remove these barriers, ensuring a more integrated and open market.
- c. Promote Digital trade Facilitation: Encourage the adoption of electronic documentation for trade processes to reduce paperwork and improve transaction speed. Digital technologies, such as AI, should be utilized to manage the supply chain more efficiently, enhancing consumer confidence in sustainably sourced goods.

## 3. Innovation, digitalization, and emerging technologies

Innovation, digitalization, and emerging technologies are essential drivers for the transition to a circular economy in ASEAN. The following recommendations aim to foster these areas:

- a. Invest in Research and Development
  - **Adopt E-Documentation**: Encourage the adoption of electronic documentation for trade processes to reduce paperwork and improve the speed of transactions.
  - **Enhance Traceability**: Utilize digital technologies, such as blockchain or other emerging technologies, to ensure the traceability of products throughout the supply chain, enhancing consumer confidence in sustainably sourced goods.
  - **Invest in AI research**: With AI still in nascency, academia and research play particularly important roles in the responsible adoption of AI. In many areas such as benchmarking, explainability, and labelling of synthetic media, research is crucial to establishing the foundational knowledge, standards, and best practices that can then inform effective public policies and industry practices.
- b. Support Digital Transformation
  - **Promote Industry 4.0**: Encourage the adoption of Industry 4.0 technologies, such as IoT, AI, and big data analytics, to optimize resource efficiency and minimize waste in production processes.
  - **Enable Smart Manufacturing**: Support the transition to smart manufacturing practices that integrate circular economy principles into the entire lifecycle of products.
  - **Encourage and Support Digitization Efforts of the Financial service sector**: This will help them enhance internal control and risk management while improving customer experience by both in the sales process and after-sales service.
  - **Use Technology for Sustainability**: measure and manage corporate emissions at both the macro level down to the product or process level. This can help companies also report both domestically and abroad, while helping governments measure their progress on NDCs and other climate commitments.

#### 4. Sustainable financing and innovative investments

Access to sustainable financing is essential for advancing circular economy initiatives and establishing a strong foundation for economic prosperity across ASEAN. The U.S. private sector recommends promoting green and social finance, fostering public-private partnerships, and creating a regional green investment platform.

##### a. Promote Green and Social Finance

- **Encourage Green Bonds:** Promote the issuance of green bonds to finance circular economy projects, offering investors opportunities to support sustainable development in the region.
- **Incentivize Sustainable Loans:** Encourage financial institutions to offer sustainability-linked loans with favourable terms for companies that commit to circular economy practices.
- **Promote Social Impact Bonds:** Establish frameworks and policies that enable ASEAN governments to fund and engage in social impact financing instruments. These initiatives could focus on developing social impact bonds on specific employability skills, such as digital competencies like coding, or on promoting healthcare funding to support demographic resilience to enable future workforce readiness, future economic productivity outputs and maintaining pension system contributions.

##### b. Encourage Public-Private Partnerships (PPPs)

- **Facilitate PPPs:** Support the development of public-private partnerships to fund large-scale circular economy infrastructure, leveraging both public and private sector expertise and resources.
- **Share Risks and Benefits:** Structure PPP agreements to ensure that risks and benefits are fairly shared between public and private partners, promoting long-term sustainability.

##### c. Establish a Regional Green Investment Platform

- **Connect Conventional and Impact Investors and Projects:** Create a regional platform to connect investors with circular economy projects, facilitating the flow of capital to initiatives that contribute to ASEAN's sustainability goals, leveraging the growing sustainable and impact financing markets.
- **Promote Transparency:** Ensure that the platform promotes transparency in investment processes, providing clear information on the environmental and social impact of funded projects.

#### 5. Efficient use of energy and other resources

Resource efficiency is a key component of the circular economy. The following recommendations aim to optimize the use of energy and other resources across ASEAN:

##### a. Adopt Energy-Efficient Technologies

- **Support Technology Adoption:** Encourage industries to adopt energy-efficient technologies that reduce energy consumption and lower greenhouse gas emissions.
- **Provide Incentives:** Offer incentives, such as customs duties exemptions, tax breaks or subsidies, to companies that invest in energy-efficient equipment and processes.

##### b. Encourage Resource Recovery

- **Implement Circular Supply Chains:** Promote the development of circular supply chains where waste materials are recovered and reused as inputs for the same industry or other industries across ASEAN member states.

- **Support Recycling Infrastructure:** Invest in recycling infrastructure to ensure that materials can be effectively recovered and reprocessed within ASEAN.
- c. Promote Sustainable Resource Management
  - **Manage Natural Resources Sustainably:** Encourage the sustainable management of natural resources, including water, minerals, and forests, to ensure their long-term availability and reduce environmental impacts.
  - **Promote Best Practices:** Share best practices for sustainable resource management across ASEAN member states, fostering collaboration and knowledge exchange.

In addition to the five strategic priorities mentioned above, the US-ABC believes that the following additional strategies will significantly benefit the facilitation of the Circular Economy in ASEAN:

- **Implementation of Extended Producer Responsibility (EPR) Policy:**

To support ASEAN's transition to a circular economy, the U.S. private sector strongly encourages ASEAN member states to consider developing and implementing EPR frameworks. EPR policies are pivotal in advancing ASEAN's circular economy by driving better environmental performance and fostering more sustainable product life cycles. EPR is inherently aligned with the core principles of a circular economy, which focuses on maximizing the value and utility of resources while minimizing waste and environmental impact. As the environmental consequences of improper waste disposal become increasingly evident, the urgency to adopt sustainable practices like EPR has never been greater. By embedding these practices, ASEAN can significantly reduce its environmental footprint and promote a more resilient and sustainable economic model. The U.S. private sector is dedicated to assisting ASEAN in aligning with global best practices through EPR, offering support in capacity-building activities at both the regional and national levels.
- **Collaboration and Engagement with ASEAN Pillars, the Private Sector, and other Cross-Sectoral Stakeholders:**

Effective consultations and collaboration with the private sector are emphasized for scaling up and accelerating the region's transition to a low-carbon economy. ASEAN's environment and climate targets will not be met through government discussions alone; thus, collaboration across sectors is necessary. A dialogue at the ASEAN Senior Officials on Environment (ASOEN) level creates a critical channel for regular policy exchanges, where U.S. companies can share how they meet their sustainability targets and help ASEAN Member States achieve their own targets. Therefore, the plan to create an ASEAN task force on the circular economy under the AEM is a step in the right direction that the private sector strongly supports this initiative. A dedicated platform where ASEAN Member States and relevant stakeholders can collaborate, share resources, and align efforts is crucial for the successful implementation of circular economy principles across the region.

## Sectoral Use Cases

Applying circular economy principles across key sectors can significantly contribute to sustainable development in ASEAN. The following use cases highlight opportunities in specific sectors:

### *Energy Sector*

- **Promote Low Carbon Solutions:**
  - Advocate for policies promoting low and zero carbon solutions and transition fuels to diversify regional energy options, including hydrogen and CCS/CCUS policies.



- Support the development of carbon markets in ASEAN to enhance energy trade and decarbonization.
- Promote carbon pricing aligned with International Energy Agency's Net Zero recommendations.
- Facilitate dialogue on biofuels to utilize agricultural and municipal waste, reduce the costs of low-emission fuels (e.g., Sustainable Aviation Fuels), and encourage company adoption.
- **Renewable Energy Development and Grid Modernization:**
  - Highlight the growing importance of sustainable and low and zero carbon electricity in evaluating the global competitiveness of an economy to attract investment.
  - Ensure improvements in cross-border trade and energy delivery in ASEAN, leading to greater diversity in stable, affordable, low-carbon energy sources, routes, and suppliers, and the development of energy procurement frameworks.
    - This includes enhanced focus on the ASEAN Power Grid 2.0 project and other energy interconnection initiatives between ASEAN member states, facilitating the efficient sharing of energy resources and improving energy security across the region.
  - Improve regulatory frameworks for energy import and export, infrastructure planning, and regulatory transparency, including increased stakeholder input in energy policy formulation.
  - Promote sustainable energy as a source for corporate consumers in the region seeking to make their operations low-carbon, enhancing the reliability and efficiency of sustainable energy systems and ensuring a stable energy supply.
- **Energy Security:**
  - Ensure affordable, reliable (access at whims of market fluctuations and geopolitics), and low and zero emission energy to support energy supply and efficiency in ASEAN.
  - Promote the use of lower carbon emission options in lieu of higher carbon options when feasible; for example, natural gas in the region which can emit significantly fewer pollutants than coal power generation, including NO<sub>x</sub>, SO<sub>x</sub>, particulates, mercury, and up to 60 percent fewer GHGs. This also as part of energy transition effort.
  - Increase collaborative efforts across energy verticals through collaboration, integrated electrification projects, and competence and technology development.
- **Technology Adoption:**
  - Promote the adoption of innovative technologies (including cloud and emerging digital technologies) and practices to improve the development and management of energy systems and enhance the stability of energy supply. This will enable a faster transition to a low-carbon business model, including digital tools to manage business processes.

### *Food and Agriculture Sector*

- **Promote Sustainable Agriculture:**
  - Advocate for policies that enhance the resilience of agricultural systems to climate change impacts, including droughts, floods, and extreme weather events.
  - Implement educational programs and awareness campaigns to promote the benefits of sustainable agriculture practices among farmers, policymakers, and consumers, such as organic farming and agroforestry.
  - Support initiatives that provide resources for smallholder farmers to transition towards sustainable practices, ensuring their livelihoods while promoting
- **Improve Circularity Policies on Food and Beverages Packaging:** Improve policies on plastic recycling and circularity throughout the supply chain from production to consumption.
  - Encourage the development of extended producer responsibility models and support the growth of circular economy enterprises and infrastructure

- Facilitate knowledge sharing and best practice exchange on circular economy for materials including plastics between F&B companies and ASEAN member states
- **Food and Agriculture Supply Chains:**
  - Advocate for the adoption of sustainable sourcing practices by agribusinesses and food companies, promoting environmentally friendly and socially responsible supply chain management.
  - Promote policies and consumer awareness campaigns that encourage responsible consumption and production patterns, reducing food loss and waste throughout the agriculture supply chain.
  - Advocate for measures that enhance the efficiency and resilience of agriculture supply chains, reducing waste, mitigating risks, and improving access to markets for farmers.
  - Develop strategies to enhance the resilience of food and agriculture supply chains in ASEAN, addressing disruptions caused by events such as pandemics, geopolitical tensions, and climate-related disasters
- **Technology Adoption:** Promote the adoption of innovative agricultural technologies (including cloud and emerging digital technologies) and practices to increase productivity, improve efficiency, and mitigate the impact of environmental challenges, such as climate change and resource degradation.

#### *Manufacturing Sector*

- **Cross-border Import Export of Scrap Materials as Manufacturing Inputs:** To maximize the opportunity and position made-in-ASEAN products as sustainable, it is critical for ASEAN countries to unlock the huge potential in scrap materials resulted from various manufacturing processes. These scrap materials can be used as input materials to make the same finished products in the same supply chain or to serve as input materials for other industries. Currently, due to the lack of cross-border regulations and coordination, a significant part of these materials is sent to landfills, resulting in a big loss of resources and adding stress to the environment. Regional and national regulations should be set up to allow the scrap materials to flow from one country to another, with strict conditions to avoid those scrap materials going back to the landfills in any country involved.

#### *Transportation and Infrastructure Sector*

- **Sustainable Development and Maintenance:** Advocate for policies that endorse sustainable development and the maintenance of transportation and infrastructure in the ASEAN region. Encourage the integration of sustainability criteria into infrastructure planning, construction, and maintenance processes to ensure long-term resilience and environmental stewardship.
- **Investment Incentives:** Advocate for government incentives to bolster investment in the transportation and infrastructure sector, including tax incentives and grants. These should specifically support the adoption of advanced technologies, the expansion of sustainable infrastructure, and the development of resilient, low-carbon transport systems.
- **Climate-Resilient and Energy-Efficient Practices:** Highlight the importance of promoting climate-resilient and energy-efficient practices, technologies, and solutions, particularly in the planning, development, and management of smart cities. Encourage the incorporation of green infrastructure and low and zero emission technologies in urban planning to reduce environmental impact and enhance the quality of life for residents.
- **Invest in Sustainable Transport Infrastructure:** Prioritize investments in sustainable transport infrastructure, such as public transit systems, bicycle lanes, and pedestrian pathways. Encourage the development of intelligent and integrated transport networks that facilitate more energy-efficient traffic

flows (e.g. by reducing traffic congestion and start-stop traffic), reduce reliance on fossil fuels and promote the use of renewable energy sources.

- **Advanced Identity Authentication and Verifiable Credentials:** Enable advanced identity authentication and verifiable credentials to create a more secure and efficient process for transportation. This will enhance the security of transportation systems, streamline passenger verification, and improve overall operational efficiency.

#### *Information Technology (IT) Sector*

- **Digital Technology for Circular Economy:** Emphasize the importance of digital technology in accelerating the adoption of a circular economy, improving efficiency, and fostering innovative business models. Digital tools and platforms can enhance resource management, optimize supply chains, and facilitate the circular use of materials.
- **Standards Harmonization and Trade Facilitation:** Advocate for the harmonization of standards and best practices in the IT sector to facilitate trade in circular goods and services. Promote resource efficiency through the adoption of uniform regulations and the removal of trade barriers across ASEAN.
- **E-Waste Management:** Encourage the implementation and proper handling of e-waste management programs across ASEAN, ensuring that obsolete electronic devices are collected, recycled, and disposed of in an environmentally responsible manner. Support take-back schemes, extended producer responsibility (EPR) initiatives, and considerations of refurbished product importation that align with the Basel Convention.
- **Sustainable Network Infrastructure:** Advocate for and incentivize the adoption and deployment of energy-efficient equipment and systems, including the use of sustainable energy sources to power data centres and telecommunications networks. Promote the adoption of smart grid technologies and low-power consumption devices to reduce the carbon footprint of the sector.

#### *Healthcare Sector*

- **Affordable and Sustainable Healthcare Models:** Collaborate with ASEAN governments to promote the shift towards value-based and sustainable healthcare models. These models focus on improving patient outcomes while maintaining affordability. Private sector involvement is essential in developing evidence-based public health policies that support innovation and sustainability within a value-based framework.
- **Circular Healthcare Practices:** Promote the adoption of circular economy practices in the healthcare sector, such as reducing single-use plastics, optimizing the use of medical supplies, and improving waste segregation for recycling. Encourage the safe reprocessing and reuse of medical devices where applicable, and advocate for policies that support the recycling of medical products like insulin bags.
- **Sustainable Procurement in Healthcare:** Support sustainable procurement policies within healthcare institutions, prioritizing suppliers that offer eco-friendly products and services. Encourage the use of green building practices in the construction and renovation of healthcare facilities, incorporating energy-efficient systems and sustainable materials.
- **Sustainable Healthcare Financing:** Address the health financing challenges in the ASEAN region by developing policies that encourage sustainable healthcare financing and the issuance of sustainable financing instruments by ASEAN governments to advance healthcare public policy goals and advancement towards achieving the Sustainable Development Goals (SDGs). Work with key stakeholders, such as impact investors, development banks, governments and private sector participants, to establish sufficient and sustainable funding options, hedging against financial risks, and improving the efficiency of healthcare delivery in alignment with the Sustainable Development Goals (SDGs).

- **Technology Adoption:** Promote the adoption of innovative technologies (including cloud and emerging digital technologies) and practices to increase accuracy, productivity, and efficiency in healthcare delivery and management to improve overall patient outcomes.
- **Leveraging Cryptographic Technology:** Leverage privacy-preserving and tamper-proof cryptographic technology to enhance security, privacy, and build consent directly into healthcare data management. This will ensure that patient data is securely managed, access is controlled, and consent is transparently obtained and recorded.

#### *Banking And Financial Sector*

- **Green and Social Financing Facilitation:** Encourage banks and financial institutions to develop and offer green financing products, such as loans and investment funds targeted at supporting circular economy projects. These products should focus on areas like renewable energy, sustainable agriculture, and eco-friendly manufacturing, providing the necessary capital for businesses to transition to sustainable practices. Facilitate development funding sources from development banks such as the Asian Development Bank to be channelled through financial institutions across ASEAN to promote the funding of social impact instruments or social development projects.
- **Sustainable Investment Practices:** Advocate for the integration of environmental, social, and governance (ESG) criteria into investment decision-making processes. Encourage financial institutions to prioritize investments in companies committed to circular economy principles, thereby driving capital towards sustainable business practices and fostering a more resilient and inclusive economy.
- **Technology Adoption:** Promote the adoption of digital technologies and practices to increase productivity and efficiency within the banking and financial sector and to deliver innovative and secure financial services and apps for consumers.

The U.S. private sector stands ready to support ASEAN's efforts to transition to a circular economy. By implementing the recommendations outlined in this paper, ASEAN can enhance regional cooperation, promote innovation, and achieve sustainable development goals. We look forward to continued collaboration with ASEAN member states and other stakeholders to build a resilient and sustainable future for the region. By following these steps, ASEAN can create a coherent and effective approach to circular economy practices that supports sustainable development, reduces waste, and promotes resource efficiency across the region.



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