

Magnus Bengtsson, Patrick Schröder and Michael Siegner

# Building back better through circular economy - opportunities for ASEAN countries

The vision of a circular economy, requiring fewer natural resources and generating less waste, is attracting growing attention, from both governments and the private sector. This article introduces the circular economy concept and explains its role in wider sustainable development, in particular its relevance for low- and middle-income countries. It shows how circular economy approaches could help ease some of the tensions that exist between different sustainable development objectives, such as between different goals and targets of the Sustainable Development Goals (SDGs). The article then looks at Southeast Asia by reviewing how the member states of the Association of Southeast Asian Nations (ASEAN) have incorporated circular economy approaches into national policies and how the concept is gradually being mainstreamed into the ASEAN regional cooperation framework. Finally, it shows why circular economy practices should be part of the ASEAN region's recovery from the COVID-19 pandemic, helping to build economies that are both more inclusive and more resilient.

**Keywords:**

Climate change - ASEAN- circular economy - CEAP - Sustainable Consumption and Production (SCP) - Sustainable Development Goals - SDGs - COVID-19 Pandemic - Recovery - Building Back Better

# Building back better through circular economy – Opportunities for ASEAN countries

|| Magnus Bengtsson, Patrick Schröder and Michael Siegner

## 1. The role of circular economy in sustainable development

In recent years, the concept of the circular economy (see box below) has gained increasing attention in sustainable development discussions. For high-income countries, it offers opportunities to shrink their outsized consumption footprints while maintaining households' access to services and the wellbeing this enables. For low- and middle-income countries,

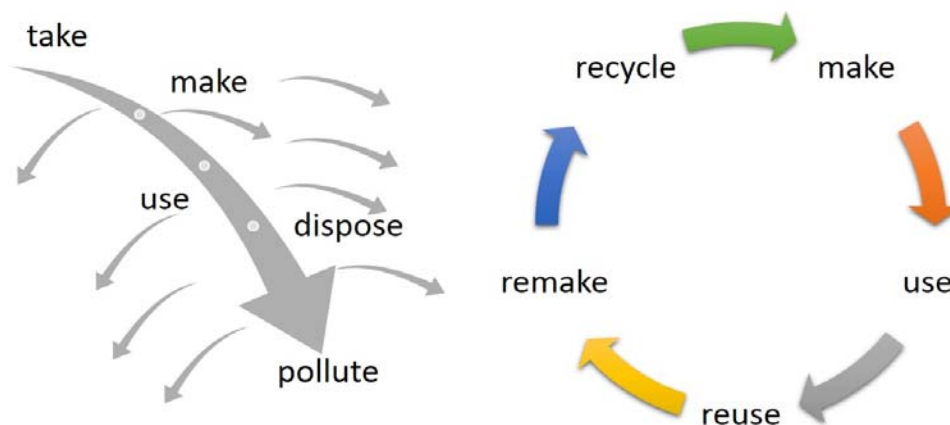
it can be part of an alternative development model that reduces the tensions between lifting people out of poverty and protecting the planet, thereby increasing the scope for meeting the SDGs.

### 1.1 The contribution of circular economy practices to achieving the SDGs

Numerous studies have shown that circular economy practices, such as repair of electronic

#### Box 1: What is the circular economy?

The current prevailing economic model is based on a 'linear' logic and therefore highly wasteful – resources are extracted, processed and manufactured into products which are used and then thrown away – often after a short service-life. In contrast, the circular economy is an economic model that saves natural resources, minimises waste generation, and keeps materials and products 'in the loop' for as long as possible. A circular economy also maximises the use value of products by making them available to multiple users through product sharing and collaborative consumption. The circular economy is applicable to many sectors of the economy. It is commonly associated with the 3Rs – reduce, reuse, recycle, but also includes a wide range of other practices such as maintenance, repair, refurbishment, remanufacturing, and repurposing. The effective adoption of such circular practices often requires changes in product design so that products and their parts are made for staying in the loop for a long time. In some industries, shifting from physical products to immaterial services can also be part of the circular economy agenda.



CC 3.0 Catherine Weetman 2016

Source: Wikimedia Commons

products, refurbishment of buildings, reduction of food waste, upcycling and recycling of plastic packaging, to name a few, can generate multiple sustainability benefits, including employment/livelihood opportunities and reduced environmental impacts. Such practices can also provide new business opportunities, making the concept interesting to the private sector. Circular economy practices can create synergies and reduce trade-offs between several SDGs and the associated targets.

Circular economy practices can be regarded as a “toolbox,” which can contribute to the achievement of a large number of SDG targets. The strongest relationships exist between circular economy practices and the targets of SDG 6 (Clean Water and Sanitation), SDG 7 (Affordable and Clean Energy), SDG 8 (Decent Work and Economic Growth), SDG 12 (Sustainable Consumption and Production), and SDG 15 (Life on Land). If implemented in a socially inclusive manner, the circular economy

will also contribute to poverty reduction, reducing inequalities and gender equality.<sup>1</sup> A shift to a circular economy can also play a significant role in climate change mitigation (SDG 13), thereby helping countries meet their commitments under the Paris Agreement.<sup>2</sup>

## 1.2 Strengths and weaknesses of circular economy as a development model

The circular economy has many environmental, economic and social benefits compared to the wasteful ‘linear’ economy that dominates today. However, the circular economy approach is not a silver bullet solution and not a replacement for sustainable development. Policy makers and other practitioners need to be aware of its strengths and weaknesses in order to see how it can be usefully applied. In addition, circular economy is not a fixed and well-defined concept; there are various interpretations and schools of thought on circular economy. There

### The Hanns Seidel Foundation’s Regional Project on Sustainable Consumption and Production (SCP) in ASEAN

HSF has been working on sustainable consumption and production patterns in ASEAN countries at both the national and the regional levels since 2014. The concept of circular economy naturally is a key approach in the implementation of this project. HSF’s work follows a two-fold approach: facilitating an inter-regional dialogue platform between Asia and Europe on SCP mainly through the partnership with the Asia-Europe Foundation (AEF) and the annual Asia-Europe Environment Forum while also providing technical support to selected ASEAN member states to develop their national policies on SCP. The project is implemented by HSF’s Representative Office in Vietnam.



Source: HSS

are currently lively discussions on its significance as an approach to sustainable development and on how it can best be utilised. Table 1 summarises some key features of the circular economy approach.

### 1.3 Adapting other policy approaches to ASEAN countries

While China was one of the pioneers in developing circular economy policies, most of the existing policy experiences are from high-income countries. When ASEAN countries are now developing policy frameworks to steer their socioeconomic development in a more sustainable and resilient direction, other countries' experiences and lessons learnt can be useful. However, each country working towards a circular economy applies the concept slightly differently - tailored to its major needs and capacities and reflecting its economic structure, trade patterns, and other national features.

Some of the main partners of ASEAN – the EU, China and Japan – have developed circular economy policies. The recent updates of the policies give an indication of the relevance for these countries' development pathways.

**EU:** In March 2020 the European Commission adopted the new Circular Economy Action Plan (CEAP)<sup>3</sup>. It is one of the main building blocks of the European Green Deal, the agenda for sustainable growth. The EU's transition to a circular economy is expected to reduce pressure on natural resources and create sustainable growth and jobs. The CEAP has announced initiatives along the entire life cycle of products, such as the Sustainable Product Initiative, which targets how products are designed, promotes circular economy processes, encourages sustainable consumption, and aims to ensure that waste is prevented and the resources used are kept in the EU economy for as long as possible. In addition, European

**Table 1. Strengths, weaknesses, opportunities, and threats of a circular economy approach to sustainable development.**

<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>● Circular principles can be applied across many sectors of the economy</li> <li>● Enhanced material efficiency through creating loops - potential for “doing more with less”</li> <li>● High technology innovation potential</li> <li>● Linked to digital transformation of the economy</li> </ul>	<p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>● Limited focus on social equity issues, e.g. informal sector working conditions and fair access to resources</li> <li>● So far, CE solutions have mainly resulted in relative decoupling from economic growth, but not absolute reductions in resource use, pollution, and waste</li> <li>● Coordination challenges - Implementation often requires coordinated action by multiple actors at different stages of value chains</li> <li>● Limited focus on sustainable consumption and sufficiency, e.g. ‘living well with less’</li> </ul>
<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>● Many new initiatives on the international level that offer cooperation opportunities</li> <li>● New business models and job creation opportunities</li> <li>● Many low and middle income countries have vibrant repair sectors and reuse models, which can be upgraded and professionalised</li> <li>● Opportunity for low and middle income countries to adopt a resource efficient alternative development model</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>● Valuable secondary materials are captured by dominant actors in value chains</li> <li>● Low and middle income countries are used as dumping grounds for low-value waste</li> </ul>

Member States have developed circular economy roadmaps; an example is the "Circular Economy Roadmap for Germany".<sup>4</sup> The roadmap includes a common target vision for a circular economy in 2030 and formulates concrete recommendations for action. It is a science-based framework for action that systemically describes the necessary steps for Germany's transition to a circular economy.

**China:** has been promoting the circular economy since 2008 through the Circular Economy Promotion Law. Under the new 14th Five Year Plan for the period from 2021-2025, China is prioritizing the development of the circular economy for the country. It includes planned goals to maximize resource use and the lifecycle of products with the expectation of increasing resource efficiency, spurring innovation, and meeting climate commitments. These will have direct consequences for businesses engaged in the manufacturing sector and create new market opportunities for green enterprises.

**Japan:** Since the early 2000s, the Japanese government has been advancing the 3Rs (Reduce, Reuse, Recycle) through a wide range of policies aimed at reducing the amount of final waste disposal and improving the recycling rates. Building on the 3R framework, in May 2020, Japan's Ministry of Economy, Trade and Industry (METI) published the 'Circular Economy Vision 2020' with three different viewpoints in mind: (1) shift to new business models with higher circularity, (2) acquiring appropriate evaluation from the market and society, and (3) early establishment of a resilient resource circulation system to present Japan's basic policy directions for a circular economy.<sup>5</sup>

Taking such international policy experiences into account, the London-based Think-Tank Chatham House has identified a set of policies that benefits circular business models and drives the uptake of circular practices by industry:

**National circular economy roadmaps and strategies:** Many governments around the world have included circular economy elements in their national development plans, as well as

their policy frameworks for environment and climate, including Nationally Determined Contributions (NDCs), submitted in accordance with the Paris Agreement. These strategies include targets for the recycling and reuse of waste materials as well as plans for linking the circular economy and climate action, and plans to stimulate innovation and job creation through the shift to a circular economy. Circular economy roadmaps often include stakeholder processes to bring together important national players, including the finance sector.

**Material resource efficiency and recycling targets for industrial activity:** Resource efficiency covers a range of resources, including materials, water, energy, biodiversity and land. It refers to the sustainable use of these resources through reduced use, optimization and recycling to reduce material intensity – with the focus on producing the same level of output with fewer material inputs. Resource efficiency can be supported through adopting practices such as 'lean' manufacturing and product lifetime optimization, which in many industrial sectors are not being used at anywhere near their full potential.

**Extended producer responsibility:** EPR is a financial and/or operational instrument that aims to internalize environmental externalities related to end-of-life management. Under this policy approach, producers of goods are given a significant responsibility for the recovery, treatment or disposal of post-consumer products and waste. This approach shifts responsibility away from national, subnational or local authorities. The aim is to incentivize waste minimization at source, promote more environmentally conscious product design and support the management of waste by the public sector. EPR is considered a key cornerstone for the circular economy.

**Table 2. ASEAN circular economy policy overview**

Country	Circular economy strategy/ roadmaps	Waste management/ recycling	Product policies	Extended producer responsibility (EPR)	Fiscal policies	Description
Brunei					X	The government introduced a 3 percent tax on imports of plastic products in 2017.
Cambodia	X	X	X			National Strategic Plan on Green Growth 2013-30; policies towards waste management, recycling and pollution control; regulations on charges for plastic bags and types of materials allowed.
Indonesia	X	X				Multi-stakeholder Action Plan on plastic pollution; policies to provide infrastructure for integrated waste management, including hazardous materials.
Laos	X				X	The National Strategic Plan on Green Growth 2013-30, including payment for ecosystem services, environmental tax and fuel tax mechanisms.
Malaysia	X					Roadmap towards zero single use plastics 2018-30.
Myanmar		X				Target to achieve a zero waste, resource-efficient and sustainable society by 2030.
Philippines		X	X			Various policies to regulate the use of plastic bags and other packaging materials
Singapore	X			X		Zero Waste Masterplan; Resource Sustainability Act (RSA) from 2020 creates a framework whereby producers bear the cost of collecting and treating products.
Thailand			X		X	Roadmap on Plastic Waste Management 2018-30; tax breaks and incentives for investors for bio-circular-green economy.
Vietnam		X	X	X		Revised Law on Environmental Protection of 2020 identifying CE as a priority approach. New EPR law entering into effect in 2022: companies will be held responsible for collecting and recycling used plastic packaging; taxes on plastic bags for companies; fines for not classifying waste.

 Source: Chatham House Policy Tracker [circulareconomy.earth](https://www.chathamhouse.org/policy-tracker/circulareconomy.earth)

**Product policies (including eco-design, bans on single-use products and product lifetime extensions):** Eco-design is an approach to products that considers environmental impacts during a product's whole life cycle. Eco-design can also facilitate easier repair and optimize remanufacturing processes. For new products, the design process needs to include principles such as designing for energy efficiency, reparability, recyclability, the minimization of packaging, and chemical safety. Product design policies – as they currently exist – need to change considerably in order to enable a circular economy.

**Fiscal policies and taxation regimes** are considered key policy tools that can help create markets for circular business models, address social and environmental externalities and generate public funds to finance the transitions. The transformation of taxation systems on both international and national levels is key to shifting to an inclusive circular economy. Tax regimes are a way for national governments to attract companies to establish circular operations in their country. Countries can reap an economic advantage by structuring their tax incentives according to their national resource priorities. The alignment of tax incentives makes sense for countries lacking within their territory certain critical resources crucial for their economic development or for solving environmental issues related to waste streams, as in the case of plastics. Specific measures include cutting taxes on labour and long-term investment returns, as well as increasing the tax burden on primary resource extraction and polluting energy generation.

#### **1.4 Circular economy as a development strategy for low and middle-income countries**

An increasing number of low- and middle-income countries across Asia, Latin America and Africa are beginning to apply circular economy approaches as part of their long-term development strategies. For example, the African Circular Economy Alliance (ACEA) brings together countries with the ambition to accelerate Africa's transition to a circular economy. Member countries currently include Nigeria,

South Africa, Rwanda, Ghana and the Ivory Coast. Several others have indicated interest in joining including Niger, Senegal, Malawi and the Democratic Republic of Congo.

Similarly, in February 2021, the Latin-American and the Caribbean Circular Economy Coalition was officially launched as a new multi-stakeholder initiative to promote the circular economy. It has the aim of supporting the region to advance and invest in the circular economy transition as part of the COVID-19 recovery. Several countries including Colombia, Chile, Costa Rica and Uruguay have developed national strategies and roadmaps for the circular economy.<sup>6</sup> Initiatives like the LAC Circular Economy Coalition bring to evidence the region's commitment to the implementation of the 2030 Agenda.

Many ASEAN countries are already actively developing circular economy policies. For example, in Indonesia the new national action plan from 2021 'Radically Reducing Plastic Pollution in Indonesia: A Multi-Stakeholder Action Plan', lays out an evidence-based roadmap to reduce the amount of plastic leakage into Indonesia's oceans by 70% by 2025, as well as achieving near-zero plastic pollution by 2040 through transitioning to a circular economy for plastics.<sup>7</sup> The country has also conducted a study on the positive impacts of circular economy practices in five major economic sectors.<sup>8</sup> On the basis of this study, the Planning Ministry is currently developing a national circular economy roadmap.

The circular economy is expected to be important for the future of manufacturing in ASEAN. The COVID-19 pandemic has seen an acceleration of digitisation and automation. The fourth wave of technological advancement in manufacturing, referred to as Industry 4.0, has been linked to the development of the circular economy.<sup>9</sup> In the ASEAN context, combining these two approaches can help to reduce material intensity of manufacturing, waste reduction from industry, and improve industrial innovation. In ASEAN countries, a large fraction of municipal solid waste is organic. There are also significant amounts of

## HSF's work in Vietnam related to Circular Economy

The Hanns Seidel Foundation has been working on sustainable development in Vietnam for over a decade. Since 2020, this work has focused on two major policies adopted by the Government of Vietnam: The Law on Environmental Protection which was revised in 2020 (LEP) and the 2020 National Action Plan (NAP) on Sustainable Consumption and Production. As both define various targets and priorities, HSF's activities facilitate international expertise into the implementation process. This includes for instance, the development of a roadmap on Circular Economy which was identified as a priority in the LEP together with the Institute of Strategy, Policy on Natural Resources and Environment (ISPONRE) and the Ministry



Source: HSS

of Natural Resources and Environment (MoNRE). HSF also cooperates with the Ministry of Industry and Trade (MoIT) to develop guidelines for Vietnam's provinces to develop their own tailor-made Provincial Action Plans on Sustainable Consumption and Production.

agricultural residues and growing amounts of by-products from food processing. These material streams have great potential for circularity and can, when properly managed, contribute to improved agricultural productivity and reduced dependence on costly synthetic fertilizers, among other benefits. To unlock this potential, governments should revise existing policies that inhibit circular business models for organic waste unnecessarily (such as free landfill disposal or unmotivated restrictions on treatment of human waste). Circular models for organic waste promote wider provision of sanitation to poor communities and can also reduce carbon emissions

## 2. Current status of circular economy policies in ASEAN and its member states

### 2.1 Overview of circular economy policies in ASEAN member states

Policies for the circular economy are not new to ASEAN countries, which have already

adopted a range of policies of various kinds, including Extended Producer Responsibility policies, recycling mandates, sustainable product policies for several years. However, in most cases, these policies have not been part of any broader policy frameworks or roadmaps. In several countries, the recent strong attention to plastics issues has led to the development of national strategies or similar comprehensive plans. These strategies are often explicitly based on a circular economy approach and have helped spread awareness around the concept. Table 2 provides a snapshot of the current situation of circular economy based on the set of policies presented above.

### 2.2 Status of mainstreaming circular economy into ASEAN regional cooperation frameworks

Circular economy is not well reflected in the three ASEAN Blueprints – the key documents guiding the region's cooperation until 2025. When these plans were drafted in the mid-2010s, the circular economy concept had not



yet entered the mainstream of policy making. However, as noted above, the circular economy has recently gained more attention and is now explicitly referred to in several ASEAN high-level documents, including the ASEAN Comprehensive Recovery Framework<sup>10</sup> (ACRF, adopted at the ASEAN Summit in November 2020), and the ASEAN Regional Action Plan for Combating Marine Debris<sup>11</sup> (adopted in May 2021). The recognition of circular economy in the ACRF is especially noteworthy given that this is a cross-cutting plan adopted at the highest political level. For example, the ACRF highlights the need for human resource development and skills upgrading, including with a focus on SMEs. Such capacity building programmes offer great opportunities to include the topic of circular economy, to build understanding of the need for a shift to circular economy and the benefits this can have, and to provide participants with related skills. Similarly, the Framework includes activities to prepare the region for Industry 4.0 and to accelerate the adoption of digital technologies. Circular economy practices can often be facilitated by the use of such technologies so this provides an opportunity to include circular economy as one key area of application.

Two new ASEAN Frameworks relevant to circular economy are under development at the time of writing (August 2021). The ASEAN Economic Community is developing a Circular Economy Framework, which is expected to be a general framework with guiding principles and strategic priorities without providing details on specific initiatives. Meanwhile, an ASEAN Framework on Sustainable Consumption and Production (SCP) is under development as part of the ASEAN Socio-Cultural Community, which is the part of ASEAN that deals with environmental protection. This process is supported by UNEP and the EU, and the document is expected to include circular economy practices within the broader concept of SCP. ASEAN is now in the second half of the implementation of its three Blueprints and discussions on the post-2025 framework have already started. The Mid-Term Review of the ASEAN Economic Community Blueprint 2025, conducted in early

2021, generated a number of recommendations that would provide opportunities to promote circular economy practices through regional initiatives. This includes, for example, strengthened science and technology cooperation, deepened economic integration through harmonised rules and standards (which could be designed to favour circular and resource saving practices), and strengthened capacity to handle cross-cutting issues (which would make it easier to advance a circular economy as a multi-dimensional policy concept).

### **3. Building Back Better - Key opportunities to incorporate circular economy in COVID-19 recovery strategies**

According to the Asian Development Bank (ADB), the COVID-19 pandemic led to an economic contraction in developing Asia in 2020 for the first time in 6 decades, including \$163 billion to \$253 billion in projected losses in gross domestic product across Southeast Asia.<sup>12</sup>

Governments around the world, including ASEAN, have pledged to “build back better,” using the recovery from the pandemic as an opportunity to accelerate sustainable development. However, in reality, most governments seem to be prioritising quick economic bounce-back over a sustainable recovery. Only \$341bn or 18.0% of governments’ recovery spending is considered to be “green”, mostly accounted for by a small group of high-income countries.<sup>13</sup> Recovery spending has so far missed the opportunity for greening investment and the economy. It is therefore critical to direct funding towards green and circular solutions and create bankable green projects for the recovery.

Many studies have highlighted that the flawed linear model is no longer fit for ASEAN development. In contrast, the circular economy offers several opportunities to build back better from the pandemic for the long-term. The following are some of the main reasons why ASEAN Member State governments should make the promotion of circular economy practices a key pillar of their recovery efforts.

Circular economy practices can provide **more jobs and more resilient livelihood opportunities**, less vulnerable to shocks such as the COVID-19 pandemic. In Indonesia, it has been estimated that over 4 million new jobs could be created by 2030 through the adoption of circular economy practices in five major sectors.<sup>14</sup> In Bali, where the virus crisis caused a sharp decline in tourism, seaweed farming has expanded significantly.<sup>15</sup> This growth is part of an international boom in sustainably sourced ocean-based food products. Compared to other major industries in Bali, such as fishing and tourism, seaweed farming is much more resilient to supply-chain disruptions and economic crises.

People with livelihoods in the informal sector have been severely impacted by the COVID-19 crisis. According to ILO, around 80% of those engaged in the informal sector in lower-middle income countries were hurt economically by the lockdowns and declines in economic activities

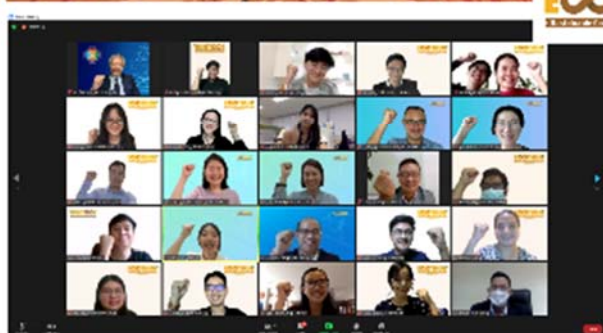
related to the pandemic.<sup>16</sup> Many of these informal workers are engaged in waste collection and materials recovery - activities that have been significantly disrupted by the pandemic. Providing better support for these groups and involving them in emerging formalised recycling systems could both have social benefits and make recycling systems more stable.

Circular economy practices can help **retain value that would otherwise be lost** when materials are discarded as waste. For example, the value of plastic packaging that is discarded each year in Malaysia, the Philippines, and Thailand has been estimated to US\$6 billion.<sup>17</sup> Another example is agricultural residues where there is a great potential for conversion into raw materials, such as fibres for textile production.<sup>18</sup>

Circular economy practices can **reduce the generation of waste and thereby reduce costs for local governments** with strained budgets.

### Facilitating sustainable recovery by supporting innovative Start-ups

HSF's Regional Project on Sustainable Consumption and Production provides support to innovative Start-ups with green and sustainable business ideas in various ASEAN member states. In collaboration with the Korean-based ASEM Eco-Innovation Center (ASEIC), HSF facilitates Green Start-up competitions that include extensive trainings on sustainable production techniques, circular economy approaches and management skills. By including the relevant governmental stakeholders in the activities, the programme also facilitates dialogue on regulatory challenges between young eco-entrepreneurs and policy maker



Source: HSS

Costs of waste collection, transport, and disposal take up a large share of local budgets across the ASEAN region. A recent study in Indonesia suggested that circular economy could help reduce waste generation in some major sectors such as food and packaging by more than one third.<sup>19</sup>

Circular economy practices can **make companies in ASEAN better prepared** to be part of international production networks. Global brands are increasingly trying to shift to circular practices, not only in their own operations but also across their supply chains. This means that parts manufacturers and other suppliers that do not apply circular economy principles are becoming less competitive. In this context, it is important to note that **international cooperation beyond ASEAN** will be an important element for success. Other regions like the EU and its member states actively seek cooperation with ASEAN to accelerate the transition to a circular economy.

Circular economy practices can help **make countries and sub-national regions more self-sufficient and thereby less vulnerable** to geopolitical risks and price fluctuations in international markets. With an emphasis on meeting local needs with locally available resources and on keeping products and materials in use, circular economy can reduce the reliance on long-distance trade and the associated risks. One example is food production in peri-urban areas where the use of wastewater and biofertilizers from human waste could improve yields and contribute to improved food security.<sup>20</sup>

Dato Lim Jock Hoi, Secretary General of ASEAN, said to build back better countries should continue to work together and strengthen cooperation. He stressed the need to embrace technologies and digitalization, innovation, sustainability initiatives, and inclusivity in plotting the region's recovery.<sup>21</sup> The circular economy can potentially deliver on all of these requirements, if designed and implemented in an inclusive and ambitious way. For example, the Indonesian Government aims to facilitate the shift to an innovation-based economy by granting up to 300 percent tax

reduction on research and technology expenditures to encourage industry to develop more innovative products. A circular economy approach to product innovation can ensure that products are sustainable, repairable, high-quality and non-toxic. Similarly, the Thai government had announced that the Bio-Circular-Green (BCG) economy model will be part of its effort to promote a green recovery after COVID-19.

As this article shows, in a world facing multiple ecological constraints, the resource-hungry and wasteful linear economy model is no longer viable. In contrast, the circular economy approach holds considerable potential to help countries' transition to sustainable development. For a number of years, the economically dynamic ASEAN member states have adopted various circular economy policies, often to address waste issues. More recently, several ASEAN countries are developing comprehensive strategies, making circular economy principles part of their socioeconomic development visions. However, as governments in the region try to lessen the impact of the COVID-19 crisis and plan for a recovery from the pandemic, there is a risk that funding will flow to conventional linear solutions rather than supporting the transformation to a circular economy. This would be a lost opportunity. The region's development partners have an important role to assist countries and various stakeholders in finding practical ways to implement circular economy practices, overcoming challenges to building back better.

---

#### || Magnus Bengtsson

Dr Magnus Bengtsson is an international sustainability expert advising governments and organisations on policies related to consumption and production and circular economy. He has lived and worked in Asia for close to 20 years and is based in Tokyo. In addition to a PhD in Environmental Systems Analysis, Magnus also holds degrees in Industrial Engineering and Management (MSc), and History (BA).

---

**|| Patrick Schröder**


---

Dr Patrick Schröder is a senior research fellow in the environment and society program at Chatham House. He specializes in research on the global transition to an inclusive circular economy, with a focus on closing the investment gap, international trade dynamics and the contribution of circular approaches to achieving the Sustainable Development Goals

---

**|| Michael Siegner**


---

Michael Siegner is the Resident Representative of the Hanns Seidel Foundation's Vietnam Office. In this capacity, he has recently started to link his extensive experience in multi-level governance with the implementation of sustainable development approaches. He holds Degrees in Peace and Conflict Studies (M.A.) as well as Political and Administrative Science (B.A.) and has lived and worked in Southeast Asia for almost 10 years.

---

**NOTES**


---

- 1 Schröder, P., Anggraeni, K. and Weber, U. (2018): The Relevance of Circular Economy Practices to the SDGs, in: *Journal of Industrial Ecology*, vol. 23(1), pp. 77-95.
- 2 United Nations Development Programme (2020): *A 1.5°C World Requires a Circular and Low Carbon Economy*, New York, p. 24.
- 3 The European Commission (n.d.): *Circular Economy Action Plan*, URL [https://ec.europa.eu/environment/strategy/circular-economy-action-plan\\_en](https://ec.europa.eu/environment/strategy/circular-economy-action-plan_en) [01.09.2021].
- 4 acatech – Deutsche Akademie der Technikwissenschaften e. V. (n.d.): *Circular Economy – A Way Forward*, URL <https://www.circular-economy-initiative.de/english> [01.09.2021].
- 5 The Ministry of Economy, Trade and Industry of Japan (2020): *Circular Economy Vision 2020 Compiled*, URL [https://www.meti.go.jp/english/press/2020/0522\\_003.html](https://www.meti.go.jp/english/press/2020/0522_003.html) [01.09.2021].
- 6 Schröder, P. et al (2020): *The Circular Economy in Latin America and the Caribbean - Opportunities for Building Resilience*, URL <https://www.chathamhouse.org/2020/09/circular-economy-latin-america-and-caribbean> [01.09.2021].
- 7 SYSTEMIQ (2020): *Indonesia Unveils Action Plan to Stop Ocean Plastic Pollution*, URL <https://www.systemiq.earth/npap-indonesia/> [01.09.2021].
- 8 See The Ministry of National Planning and Development of Indonesia (2021): *The Economic, Social and Environmental Benefits of a Circular Economy in Indonesia*, Jakarta.
- 9 See for example: Economic Research Institute for ASEAN and East Asia (ERIA) (2018): *Industry 4.0: Empowering ASEAN for the Circular Economy*, URL <https://www.eria.org/publications/industry-40-empowering-asean-for-the-circular-economy/> [02.09.2021].
- 10 ASEAN (2020): *ASEAN Comprehensive Recovery Framework*, Jakarta, pp. 44-45
- 11 ASEAN (2021): *ASEAN Regional Action Plan for Combating Marine Debris in the ASEAN Member States (2021 – 2025)*, Jakarta, pp. 12-33.
- 12 The Asian Development Bank (2021): *Q&A: Funding green recovery in Southeast Asia*, URL <https://www.adb.org/news/features/qa-funding-green-recovery-southeast-asia> [02.09.2021].
- 13 O'Callaghan, B.J., Murdock, E., and UNEP (2021): *Are We Building Back Better? Evidence from 2020 and Pathways for Inclusive Green Recovery Spending*, Nairobi, p. 40.
- 14 The Ministry of National Planning and Development of Indonesia (2021), p. 21.
- 15 Langford, A., Saleh, H., Wadron, S., and Sulfitri (2021): *One Indonesian industry has boomed during the pandemic: seaweed farming*, URL <https://theconversation.com/one-indonesian-industry-has-boomed-during-the-pandemic-seaweed-farming-156211> [02.09.2021].
- 16 ILO (2020): *COVID-19 Crisis and the Informal Economy: Immediate Responses and Policy Challenges*, Geneva.
- 17 The World Bank (2021): *Plastic Circularity Market Study Series: Thailand, Malaysia and the Philippines*, URL <https://www.worldbank.org/en/region/eap/publication/plastic-circularity-market-study-series-thailand-malaysia-and-the-philippines> [02.09.2021].
- 18 The Institute for Sustainable Communities, the World Resources Institute India, and Wagenigen University and Research (2021): *Spinning Future Threads – The Potential of Agricultural Residues as Textile Feedstock*, URL [https://laudes.h5mag.com/agri-waste\\_report\\_highlights/home](https://laudes.h5mag.com/agri-waste_report_highlights/home) [02.09.2021]
- 19 The Ministry of National Planning and Development of Indonesia (2021), p. 46.
- 20 The Consortium of International Agricultural Research Centers CGIAR (n.d.): *Innovation - Models to safely reuse wastewater and nutrients*, URL <https://www.cgiar.org/innovations/models-to-safely-reuse-wastewater-and-nutrients/> [02.09.2021].
- 21 The Southeast Asia Development Solutions SEAD (2021): *To Build Back Better, Southeast Asia Needs to Collaborate More, Be Inclusive, Green, and Digital*, URL <https://seads.adb.org/solutions/build-back-better-south-east-asia-needs-collaborate-more-be-inclusive-green-and-digital> [02.09.2021].
- 22 Bangkok Post (2021): *Government Banking on BCG Model to Propel Recovery*, URL <https://www.bangkokpost.com/business/2071455/government-banking-on-bcg-model-to-propel-recovery> [02.09.2021].

1 Schröder, P., Anggraeni, K. and Weber, U. (2018): The Relevance of Circular Economy Practices to the SDGs, in: *Journal of Industrial Ecology*, vol. 23(1), pp. 77-95.

2 United Nations Development Programme (2020): *A 1.5°C World Requires a Circular and Low Carbon Economy*, New York, p. 24.

3 The European Commission (n.d.): *Circular Economy Action Plan*, URL [https://ec.europa.eu/environment/strategy/circular-economy-action-plan\\_en](https://ec.europa.eu/environment/strategy/circular-economy-action-plan_en) [01.09.2021].

4 acatech – Deutsche Akademie der Technikwissenschaften e. V. (n.d.): *Circular Economy – A Way Forward*, URL <https://www.circular-economy-initiative.de/english> [01.09.2021].

5 The Ministry of Economy, Trade and Industry of Japan (2020): *Circular Economy Vision 2020 Compiled*, URL [https://www.meti.go.jp/english/press/2020/0522\\_003.html](https://www.meti.go.jp/english/press/2020/0522_003.html) [01.09.2021].

6 Schröder, P. et al (2020): *The Circular Economy in Latin America and the Caribbean - Opportunities for Building Resilience*, URL <https://www.chathamhouse.org/2020/09/circular-economy-latin-america-and-caribbean/summary> [01.09.2021].

7 SYSTEMIQ (2020): *Indonesia Unveils Action Plan to Stop Ocean Plastic Pollution*, URL <https://www.systemiq.earth/npap-indonesia/> [01.09.2021].

8 See The Ministry of National Planning and Development of Indonesia (2021): *The Economic, Social and Environmental Benefits of a Circular Economy in Indonesia*, Jakarta. **Fehler! Linkreferenz ungültig.**

9 See for example: Economic Research Institute for ASEAN and East Asia (ERIA) (2018): *Industry 4.0: Empowering ASEAN for the Circular Economy*, URL <https://www.eria.org/publications/industry-40-empowering-asean-for-the-circular-economy/>

10 ASEAN (2020): *ASEAN Comprehensive Recovery Framework*, Jakarta, pp. 44-45.

11 ASEAN (2021): *ASEAN Regional Action Plan for Combating Marine Debris in the ASEAN Member States (2021 – 2025)*, Jakarta, pp. 12-33.

12 The Asian Development Bank (2021): *Q&A: Funding green recovery in Southeast Asia*, URL

<https://www.adb.org/news/features/qa-funding-green-recovery-southeast-asia> [02.09.2021].

13 O’Callaghan, B.J., Murdock, E., and UNEP (2021): *Are We Building Back Better? Evidence From 2020 and Pathways for Inclusive Green Recovery Spending*, Nairobi, p. 40. **Fehler! Linkreferenz ungültig.**

14 The Ministry of National Planning and Development of Indonesia (2021), p. 21. **Fehler! Linkreferenz ungültig.**

15 Langford, A., Saleh, H., Wadron, S., and Sul-fahri (2021): *One Indonesian industry has boomed during the pandemic: seaweed farming*, URL <https://theconversation.com/one-indonesian-industry-has-boomed-during-the-pandemic-seaweed-farming-156211> [02.09.2021].

16 ILO (2020): *COVID-19 Crisis and the Informal Economy: Immediate Responses and Policy Challenges*, Geneva.

17 The World Bank (2021): *Plastic Circularity Market Study Series: Thailand, Malaysia and the Philippines*, URL <https://www.worldbank.org/en/region/eap/publication/plastic-circularity-market-study-series-thailand-malaysia-and-the-philippines> [02.09.2021].

18 The Institute for Sustainable Communities, the World Resources Institute India, and Wagenigen University and Research (2021): *Spinning Future Threads – The Potential of Agricultural Residues as Textile Feedstock*, URL [https://laudes.h5mag.com/agri-waste\\_report\\_highlights/home](https://laudes.h5mag.com/agri-waste_report_highlights/home) [02.09.2021]

19 The Ministry of National Planning and Development of Indonesia (2021), p. 46.

20 The Consortium of International Agricultural Research Centers CGIAR (n.d.): *Innovation - Models to safely reuse wastewater and nutrients*, URL <https://www.cgiar.org/innovations/models-to-safely-reuse-wastewater-and-nutrients/> [02.09.2021].

21 The Southeast Asia Development Solutions SEAD (2021): *To Build Back Better, Southeast Asia Needs to Collaborate More, Be Inclusive, Green, and Digital*, URL <https://seads.adb.org/solutions/build-back-better-southeast-asia-needs-collaborate-more-be-inclusive-green-and-digital> [02.09.2021].