

An aerial photograph of a dense, green forest. A paved path winds through the trees, curving from the top right towards the bottom center. The trees are various shades of green, and the overall scene is vibrant and natural.

Regulatory landscape of the circular economy



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Contents

| | |
|---|----|
| Introduction | 01 |
| Geographical considerations | 02 |
| Sector-specific legislation | 05 |
| How companies can adapt to evolving policy trends | 07 |
| References | 08 |

Authors
Mark Weick, Nicole Ray

Contributors
Shubhra Verma, Marina Guajardo and Mayank Shekhar

1 Introduction

Historically, geographical limitations and scarcity of natural resources have been key drivers for implementing circular economy policies.

Early efforts to move toward a circular economy were started by Japan in the 1990s. The European Union (EU) and its member states are currently driving the global momentum with efforts focusing on reducing raw materials consumption or increasing resource efficiency. While waste management and recycling policies have been the cornerstone of the circular economy regulatory framework, the policies have gradually evolved toward Extended Producer Responsibility (EPR), eco-modulation and eco-design.¹

This trend indicates a general shift in circular economy thinking from end-of-pipe measures toward at-source or preventative measures. A shift toward eco-design was motivated by EU research indicating that 80% of a product's environmental impact was determined at the design phase.² In recent years, legislators are focusing on holistic material traceability efforts inclusive of digital tools, where we could potentially see a shift toward policy measures based on predictive analytics.³

Figure 1

Policy shift from end-of-pipe measures toward predictive measures

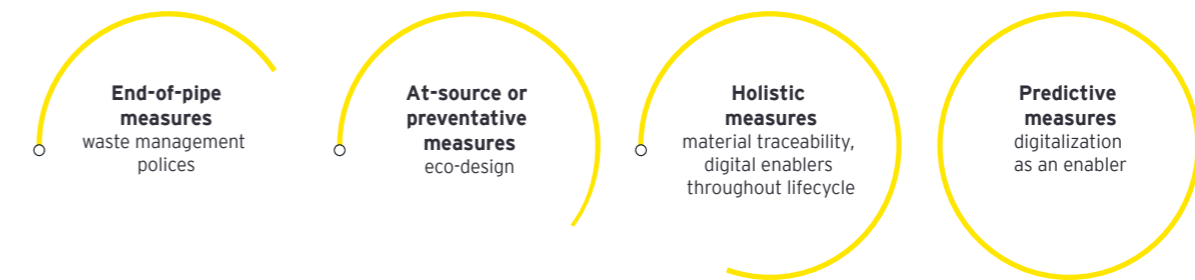
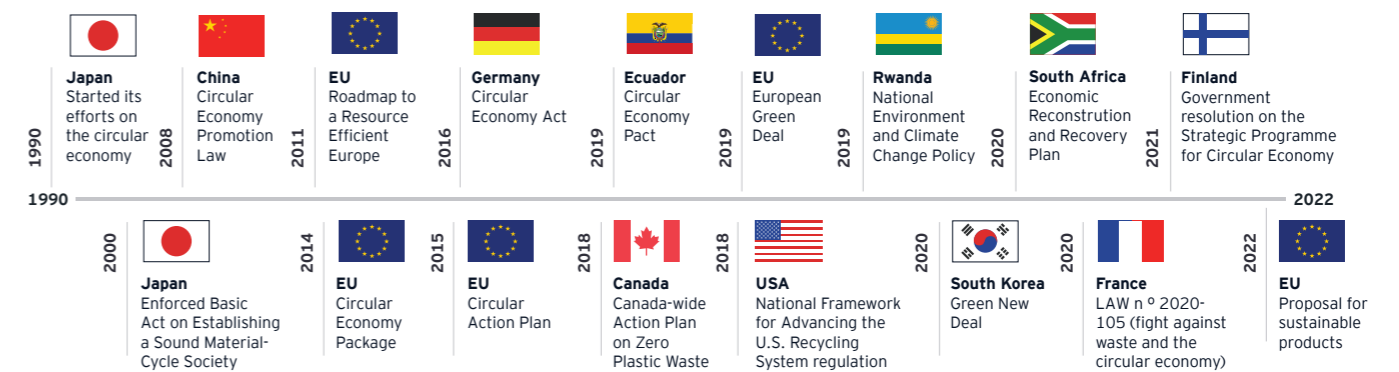


Figure 2

Timeline view of regulations



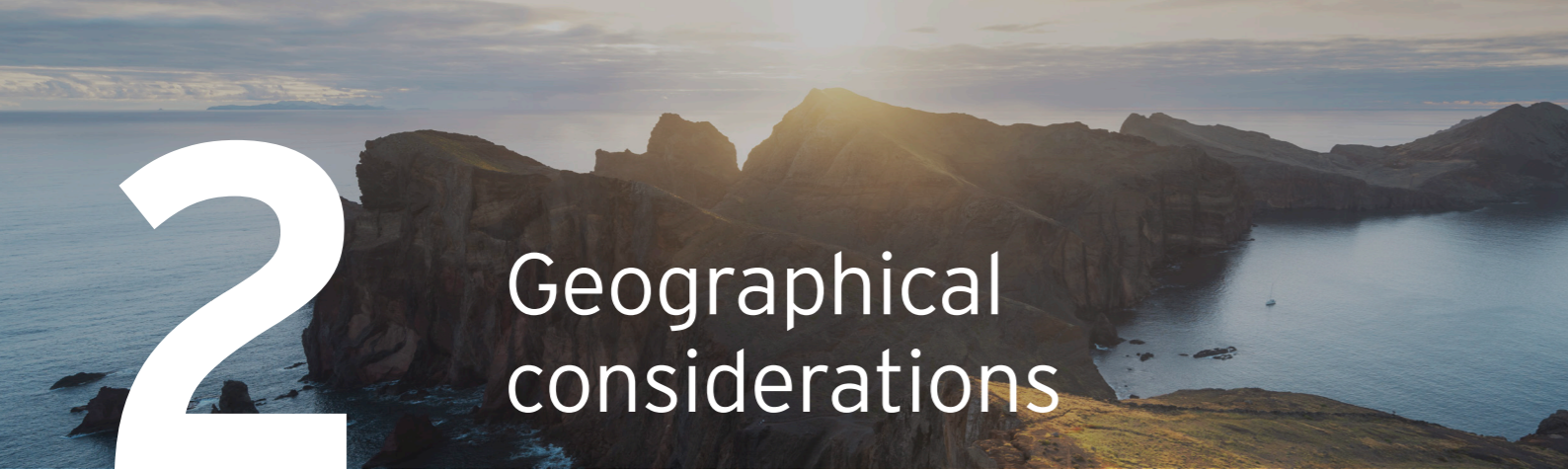
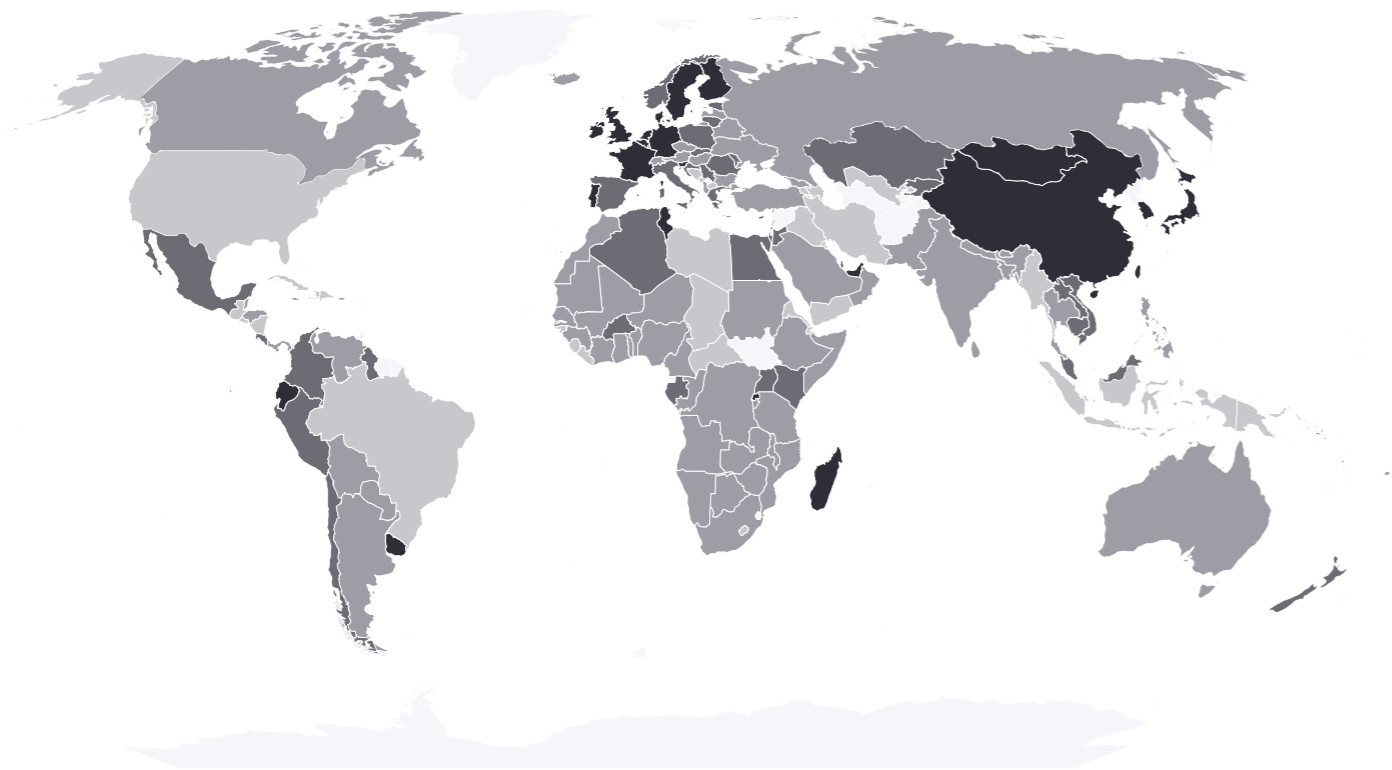


Figure 3
Maturity assessment of circular economy legislation rated on a scale of 1 to 4

Maturity assessment of federal and national regulations



□ No data available.
 Note: Maturity levels are not cumulative.⁴

| Level | Description | Value |
|-------------|------------------------------------|-------|
| Basic | Waste management and recycling | 1 |
| Initiated | Fiscal policy, EPR, product policy | 2 |
| Progressive | Roadmap | 3 |
| Mature | National circular economy policy | 4 |

Europe

European countries have had waste and recycling policies since the mid-1970s and introduced product design policies in the mid-2000s. However, circularity did not enter the policy discourse until the mid-2010s, following which, several circular economy policies and measures were implemented rapidly. The European Commission's Green Deal proposal (2019) illustrates ambitious goals to become the first climate-neutral continent by 2050,⁵ with circular economy as a key pillar in this transition. The Commission subsequently published the second Circular Economy Action Plan in March 2020.⁶ Additionally, several policy measures and instruments aim to support this transition by embracing circularity. Some of the most ambitious policy measures involve the sectoral policy proposals, such as the New Sustainable Products Initiative, which will revamp the existing eco-design framework by embedding circularity and implementing digital product passports. It has also introduced a proposal for new consumer rights and a ban on greenwashing⁷ that will oblige companies to provide consumers with information on product durability and reparability. Furthermore, the new EU taxonomy framework will include disclosures on circular economy and resource efficiency parameters. In addition to measures set at the EU level, multiple countries, such as France and Germany, have also introduced national circular economy policies. The enhanced ambition and volume of measures coming from the EU are reflected in a high level of circular economy regulation maturity in most EU countries (Figure 3). Surrounding European countries, such as Norway, the United Kingdom and Switzerland, also are following suit. Countries within Eastern Europe effectively transpose EU circular economy legislation but do not appear to be publishing their own roadmaps or strategies.

North America, Latin America and the Caribbean

In the United States, the federal government does not directly address circular-economy-related policies, but it has been embraced in the Sustainable Materials Management (SMM) approach since 2009.⁸ The earliest and most advanced effort was published by the U.S. Environmental Protection Agency (EPA), the National Recycling Strategy, first developed in 2011,⁹ followed by a recent draft published in 2020 for public comment.¹⁰ Additionally, there are ambitious policy measures at the state and local levels to drive circularity, such as the recently announced Colorado EPR for printed paper and packaging,¹¹ which has the potential to encourage other states to follow suit. Moreover, California incorporated a legislative package in 2021 that will promote circular economy efforts to raise consumer awareness and industry accountability, complementing a bold \$270 million investment to modernize recycling systems.¹² It is important to be cognizant of the bipartisan support required for future circular economy efforts to be successful. The Canada-wide Strategy on Zero Plastic Waste and Action Plan, 2018, aims to reduce the harmful environmental impacts of plastic waste through greater prevention, collection and value recovery to achieve a more circular plastics economy. Canada recently announced a new regulation that bans single-use plastics, planned to be implemented in December 2022. It is expected to eliminate more than 1.3 million tons of hard-to-recycle plastic waste and more than 22,000 tons of plastic pollution, equivalent to more than a million garbage bags of litter over the next 10 years.¹³ Several Latin American and Caribbean countries have published roadmaps and strategies to implement circular economy policies as drivers for sustainable economic growth, with some countries already transposing



Sector-specific legislation

measures into law, such as Ecuador, which, in 2021, published the Organic Law of Inclusive Circular Economy.¹⁴ There are efforts to develop coordinated action at the continental level. The Latin America and the Caribbean Circular Economy Coalition, formed by policymakers, academics and other stakeholders in cooperation with the Ellen MacArthur Foundation, published a strategic vision for the region to become more circular with measures adapted to the specificities of the region.¹⁵ Several Latin American countries are embracing circularity as a driver for economic growth and environmental protection and are building robust policy frameworks to support this vision, therefore increasing the level of maturity of the continent.

Asia and Africa

Initial efforts in APAC include China's Circular Economy Promotion Law (2000) and Basic Act on Establishing a Circular Society (2000). In China, circular economy is promoted as a top-down national political objective, while in other areas and countries, such as the EU, Japan and the United States, it is a tool to redesign bottom-up supply chains.¹⁶ In 2017, China introduced the National Sword policy restricting the import of secondary raw materials for processing. This policy had global repercussions, with researchers estimating a 23.2% increase in plastics sent to US landfills.¹⁷ Furthermore, according to the All India Plastics Manufacturers' Association, India's plastic ban implemented in 2019 would result in increased packaging costs, 100,000 job losses and a loss of \$650 million in the country.¹⁸

Circularity is gaining prominence in Asian geographies as a future growth strategy, and there are several roadmaps being introduced. According to our research, China Mainland, Japan, Mongolia, Taiwan, South Korea and the UAE have implemented a circular economy policy in the Asia region.

Circular economy efforts in Africa started with several measures to tackle plastic pollution through taxation and bans of single-use plastic. A mature roadmap was implemented in 2016, with the National Action Plan for Sustainable Consumption and Production in Egypt. In 2019, the African Development Bank announced that it would no longer be financing coal projects,¹⁹ and research supports the idea that a circular economy approach can enable greater renewable energy uptake and transitioning.²⁰ The European Green Deal will also have repercussions in African countries, with a high probability of value chain relocation to African countries.²¹ In March 2022, during the UN Environment Assembly meeting in Nairobi, 175 countries agreed to negotiate a new global treaty on plastic pollution. This treaty would include binding measures covering the entire lifecycle of plastics. In emerging economies, circular economy efforts are implemented predominantly by the informal sector. Our research indicates that Madagascar, Rwanda and Tunisia have a national circular economy policy implemented in the Africa region.

Chemicals

The Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) regulation, one of the prominent regulations in the chemicals sector, was first established in 2006 and has been emulated in other parts of the world, such as in South Korea, which, in 2015, adopted The Act on the Registration and Evaluation of Chemicals, also known as K-REACH.²²

Currently, the EU has an ambitious regulatory framework in place to manage chemicals with policies such as the REACH regulation and the Restriction of Hazardous Substances Directive. The growing emphasis on circularity in the EU is influencing policymakers to address material compositions and to increase transparency on materials; for example, with the introduction of the Substances of Concern In articles as such or in complex objects (Products) (SCIP) database introduced in the 2018 revision of the Waste Framework Directive.²³ This database aims to provide detailed and granular information on the presence of substances of very high concern in articles to recyclers, consumers and authorities. In addition to the 2020 Chemicals Strategy for Sustainability (CSS)²⁴ and the 2021 Zero Pollution Action Plan,²⁵ the EU is developing a multipronged approach to increase transparency over the presence of chemicals in products and the environment to improve traceability and recovery to enable a circular and toxic-free society.

Other countries and regions have various levels of maturity and approaches to tackle chemicals legislation. For example, in the US, there are different policies in place at the state level, such as California Proposition 65.

In Asia, countries such as Korea, Japan and China have legal frameworks to tackle chemicals inspired by the EU's REACH regulation. However, each country introduces its own specificities.²⁶ With a growing number of measures and technological breakthroughs, it will become possible to facilitate higher-value chain transparency on the presence of chemicals in material flows, thus enabling higher recovery rates and improved end-of-life treatment options.

Plastics

The earliest policies relating to plastics management focused on bans and levies to reduce plastic waste, with Denmark being the first country to place a levy on plastic bags in 1994. Since then, there has been a drastic increase of measures globally seeking to address plastic pollution through direct bans on single-use products and microplastics, the introduction of EPR schemes, collection targets and measures for mandatory recycling. Additionally, at a global level, the Basel Convention (1988) and United Nations treaty (2020) established requirements to address transboundary movement of hazardous waste, solid waste and municipal incinerator ash, and the entire plastics supply chain, respectively.²⁷ In August 2022, California established the Plastic Pollution Prevention and Packaging Producer Responsibility Act (SB 54) that will impose new sustainability regulatory requirements on all businesses manufacturing single-use packaging and food service ware.²⁸ As we move away from fossil fuels, there will be a potential increase in regulatory focus on bio-based plastics.²⁹

4 How companies can adapt to evolving policy trends

Textiles

In 2007, France was the first country to declare a legal framework for managing textile waste through EPR.³⁰ Since then, the EU has established binding requirements for member states to implement textiles EPR by 2025, and the UK is exploring options for a textiles policy framework that includes EPR.³¹ In March 2022, the EU published a strategy for sustainable textiles that includes measures such as the introduction of mandatory eco-design requirements for textiles, bans on the destruction of unsold goods, and implementation of digital product passports and supply chain due diligence.³² If passed, the New York Fashion Sustainability and Social Accountability Act 2021,³³ currently in committee, would require companies to map their supply chains and provide a social and environmental sustainability report.³⁴ Additionally, California and New York legislators are pushing forward proposed legislation that regulates per- and polyfluoroalkyl substances (PFAS) in textile products.³⁵

The operations of apparel brand manufacturing processes have garnered increased scrutiny for both social and environmental impacts – social impacts, such as the collapse of Rana Plaza in 2013, and environmental impacts, such as being the second highest consumer of water globally,³⁶ as well as contributing 10% to global GHG emissions³⁷ and 11.3 million tons of textile waste annually in US landfills alone.³⁸ Many countries and geographic regions, including France,

Finland, Germany, the Netherlands, China, the EU and the US, led notably by California and New York, are implementing circularity strategies to address these problems. While policies aimed at circularity broadly will impact the textile and apparel space, due to the immense volume of clothing waste, generated emissions and water usage, expectations on increased targeted regulation of the apparel and textile industries are high. At the moment, targeted policies are still in their nascent phase, but this will ramp up due to stakeholder pressure and the industry will become more highly regulated in the coming years.



As circularity becomes more mainstream and is integrated into national and regional growth plans, this will translate into new regulatory pressures for companies operating in these jurisdictions. EY professionals have identified the following recommendations for companies to prepare:

1. Develop strategies aligned with the country's maturity level. This would help companies understand and navigate the underlying evolving regulatory landscape.
2. Identify policy or infrastructure gaps and take necessary preventative actions. Companies operating in areas with barriers to proper recycling and re-processability have a higher possibility of being impacted by legal liabilities, litigation or more stringent legal requirements.
3. Recognize that regional or local policies may have a national or global impact. For example, "right to repair" policies in certain US states will likely motivate companies to provide the same "repair" information to all US customers.
4. Build relationships and seek opportunities to cooperate with value chain and technology partners to prolong materials and resources in the value chains and build data-driven strategies.
5. Leverage digital tools to enhance compliance, reduce administrative burdens and improve transparency. Digital tools used to improve transparency over material flows will be pivotal in helping companies understand their material footprint, increase recovery rates and reintegrate material into the value chain.

In addition to regulatory drivers, evolving consumer preferences will potentially drive companies toward more sustainable and circular business models through purchasing power, growing concern and increased demand to reduce the environmental footprint and material impact.

Industry cooperation, either through coalitions or developing product standards, is an important driver to develop a level playing field and drive competition toward more circular business models. Industry coalitions, such as the Alliance to End Plastic Waste or the US Plastics Pact, can be an effective mechanism to address regulatory gaps and build a unifying organization. However, prior to joining such initiatives and coalitions, buy-in from internal stakeholders can be a challenging exercise.

The European Green Deal will have global implications: With a delocalized value chain, it may create economic opportunities for some countries and displace net emissions.

Informal markets in emerging economies are an untapped opportunity for businesses. Integrating formal and informal markets could be the paragon of profit with purpose.

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