SDG 12: RESPONSIBLE CONSUMPTION AND PRODUCTION

A LEGAL GUIDE

This Legal Guide to the Sustainable Development Goals (SDGs) is published by Advocates for International Development (A4ID).

Disclaimer

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About A4ID

Advocates for International Development (A4ID) is a charity dedicated to the global eradication of poverty through meaningful pro bono engagement with the UN Sustainable Development Agenda. Founded in 2006, A4ID facilitates partnerships based on pro bono legal services and on the ground development expertise. A4ID ensures the world's leading legal minds are able to offer high-quality, free legal support to NGOs, social enterprises, community-based organisations, and developing country governments working to advance human dignity, equality, and justice. A4ID also has a policy, research, and learning hub, using its wide network of legal and development expertise to contribute to and publish resources, courses, and events that explore how the law can be used to help achieve the SDGs.

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Foreword

The SDG Legal Initiative

There are now less than seven years left to realise the achievement of the UN Sustainable Development Goals (SDGs). Aware of the challenge, Advocates for International Development (A4ID) has been continuing its innovative work towards meeting these targets by harnessing the power of the law and the work of lawyers. A4ID's SDG Legal Initiative has been developed because it is now more important than ever that the global legal community comes together to use their skills to advance positive global change.

The SDG Legal Initiative is a call to action to the global legal profession to work towards the achievement of the SDG Agenda and we have until 2030 to do so. By sharing knowledge and providing opportunities to take practical action to end poverty, protect the planet, and ensure that all people enjoy peace and prosperity, A4ID will continue its work with the legal sector to enhance this impact. The SDG Legal Initiative aims to create communities of practice, and to amplify the role of the legal sector in achieving the SDGs.

Legal Guide to the SDGs

As part of its SDG Legal Initiative, A4ID has developed the world's first Legal Guide to the SDGs. The Legal Guide has been developed as a unique resource, providing a foundational analysis of the role that law can and should play in the achievement of the SDGs. Developed in collaboration with lawyers, academics, and development practitioners, the Guide is made up of 17 distinct chapters, each focussed on one of the 17 goals. Each chapter provides an overview of the relevant regional, national, and international legal frameworks, highlighting how the law can be applied to promote the implementation of the SDGs. The Guide also offers key insights into the legal challenges and opportunities that lawyers may encounter, presenting clear examples of the actions that lawyers can take to help achieve each goal.

Role of law in Responsible Consumption and Production

In the wake of industrialisation, growing populations and modern-day consumption habits, the lifestyle of today's societies has placed unsustainable pressure on natural resources. Consumption levels in certain pockets of the world now rely heavily on the resources of others. Benefits are thus distributed unequally, largely in favour of developed regions. Meanwhile, in emerging countries, urbanisation coupled with economic growth has brought a larger ecological footprint per person. Worldwide, increasing use of digital products, while offering new solutions for sustainable development, has seen increasing reliance on electrical energy and led to the generation of greater amounts of e-waste year on year.

To preserve the planet's depleting resources and more effectively deal with excess waste, a complete paradigm shift in production and consumption patterns is needed. This shift must involve governments, private-sector corporations, and individual consumers to better balance supply and demand for natural resources.

"It is up to the G20 countries responsible for 80% of global emissions that we are beholden to for our survival. Our survival is being held to ransom at the cost of profit and an unwillingness to act despite the ability to do so."

Mark Brown, Prime Minister of the Cook Islands (COP 27)

Sustainable consumption and production (SCP) is considered to be "one of the most cost-efficient and effective ways" to foster economic and social development while protecting the environment,[1] looking not only to preserve but to reverse the harm already done to our planet. As the underlying principle behind SDG 12, the focus of SCP allows for growth and a better quality of life, touching on aspects such as food, transport, and construction, but in a manner that does not come at the price of our planet.

As SDG 12 is primarily concerned with products and services across global supply chains, acting as an important driver towards the circular economy and more conscious commerce, it is particularly amenable to private sector stakeholders. It is here that the role of law in facilitating private sector transactions and regulating responsible business behaviours comes to the fore. This provides a unique opportunity, particularly for commercial lawyers, to support the world's global ambitions towards net zero and climate security.

Yasmin Batliwala MBE

Chief Executive

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The Sustainable Development Goals

The UN Sustainable Development Goals (SDGs) are a universal call to action to end poverty, protect the planet, and ensure that all people can enjoy peace and prosperity.

Also known as the Agenda 2030, the SDGs were agreed in 2015 by the UN General Assembly (Resolution 70/1). They were adopted by all UN Member States, and 2030 was set as the deadline for achieving them.

Compared to the Millennium Development Goals (MDGs), which they succeed, the SDGs cover more ground, with wider ambitions to address inequalities, climate change, economic growth, decent jobs, cities, industrialization, oceans, ecosystems, energy, sustainable consumption and production, peace, and justice. The SDGs are also universal, applying to all countries, whereas the MDGs had only been intended for action in developing countries.

The 17 interdependent goals are broken down into 169 targets. At the global level, progress is monitored and reviewed using a set of 232 indicators. The Addis Ababa Action Agenda provides concrete policies and actions to further support the implementation of the 2030 Agenda. Each year, the UN Secretary General also publishes a report documenting progress towards the targets. In addition, the annual meetings of the High-level Political Forum on Sustainable Development (HLPF) continues to play a central role in reviewing global progress towards the SDGs.

At the national level, even though the SDGs are not legally binding, governments are expected to implement country-led sustainable development strategies, including resource mobilisation and financing strategies, and to develop their own national indicators to assist in monitoring progress made on the goals and targets.

SDG 17 stresses the importance of multi-stakeholder partnerships to achieve the goals. The mobilisation of governments, local authorities, civil society, and the private sector is needed to achieve this aim. Today, progress is being made in many places, but, overall, action to meet the SDGs is not yet advancing at the speed or scale required. This decade must therefore deliver rapid and ambitious action to meet the SDGs by 2030.

Key terms

SDG 12: Ensure sustainable consumption and production patterns

In the context of SDG 12, the following terms mean:

'**Sustainable consumption and production**': sometimes abbreviated to 'SCP', this is commonly defined as "the production and use of services and related products, which respond to basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as the emissions of waste and pollutants over the life-cycle of the service or product so as not to jeopardize the needs of future generations."[2]

SCP implies the transformation of unsustainable production and consumption patterns through "the development and use of new environmentally sound products and services and new technologies, including information and communication technologies, that can meet consumer needs while reducing pollution and depletion of natural resources."[3]

Overview of the targets

Today, worldwide production and consumption patterns are marked by the absence of both fair distribution and efficient use of limited resources. Global food production and distribution systems are unbalanced and can lead to surplus and waste in some areas, while many of the world's poorest areas remain undernourished. Energy production capabilities are also uneven, and despite some progress in the use of renewables, dependence on depleting natural resources is still too high.

The ambition of SDG 12 is to fundamentally change production and consumption patterns to meet material needs without environmental degradation. Sustainable production and consumption are crucial elements of achieving overall sustainable development and of mitigating long-term environmental damage and climate change. However, there are considerable challenges to reaching these ambitions. Broad economic and social changes are required from all stakeholders to achieve sustainable practices throughout global supply chains as well as at the consumer level.

The material footprint per capita in developed countries is considerably higher than in the developing world. However in some developing regions, especially East and South-East Asia, the material footprint is rapidly increasing following economic growth and industrialisation. In an effort to reduce material footprint and waste generation, calls are being increasingly made for innovative design within product lifecycles as well as for transitions to a circular economy. This would allow for economic growth in all regions in a manner that is resource efficient and sustainable.

Implement the 10-year framework of programmes on sustainable consumption and production, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries.

The 10-year framework of programmes on sustainable consumption and production – abbreviated as 10YFP – was adopted at the UN Conference on Sustainable Development (Rio+20) in 2012. The aims of the 10YFP are to accelerate transformation towards sustainable consumption and production ('SCP') in both developed and developing countries by assisting regional and national policies and initiatives related to SCP through financial and technical support and knowledge sharing between stakeholders (governments, private sector, financial institutions, and UN entities). The 10YFP consists of 6 programmes: sustainable public procurement, sustainable buildings and construction, sustainable tourism, sustainable food systems, consumer information for SCP, and sustainable lifestyles and education.[4]

Target 12.1 is monitored by the number of countries that have adopted a sustainable consumption and production plan or strategy. As of 2018, 108 countries had adopted national plans or initiatives towards SCP.[5] Since then, between 2019 and 2022, a further 484 policies have been reported in line with a shift towards SCP. However, with 50% of these having emerged from Europe and Central Asia, regional imbalances are still noted.[6]

By 2030, achieve the sustainable management and efficient use of natural resources.

SDG 12.2 concerns natural resource depletion and the multiplicity of serious consequences this can create from environmental degradation and loss of biodiversity to climate and energy emergencies – all of which affect human security and undermine sustainable development principles.

Two indicators are used to measure progress in this area:

1. Material footprint – referring to levels of material extraction (biomass, fossil fuels and ores) required to meet the consumption needs of a country (or a person if expressed per capita) and

2. Domestic material consumption – referring to the amount of materials used in an economy (including imports) minus those that are exported.

Recent trends highlight an increase in the global material footprint by GDP[7] and a 65% increase in global domestic material consumption between 2000-2019.[8] Domestic material consumption of Eastern and South-Eastern Asia, Europe, and North America account for 70% of the world total. Meanwhile, the material footprint per capita in high-income countries is 60% higher than upper-middle income countries and more than 13 times the level of low-income countries.[9]

The findings highlight an ongoing need to decouple natural resource consumption from economic growth and redistribute material consumption more equitably across countries. For example, in 2022 the Secretary General of the UN Economic and Social Council proposed a package of measures for the absolute reduction in consumption rates of high-income countries to offset expected increases in emerging and developing economies. This would allow for growth but in a more equitable manner, accountable to natural resource conservation.[10]

By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.

As of 2020, an estimated 13.3% of food produced was lost before reaching retail markets.[11] This is approximately $400 billion in wastage.[12] Of this total, an average 170kg of food per year, per person, is estimated to have been wasted at the retail and consumer levels.[13] Cumulatively then, the amount of global food waste produced each year is not only staggering,, resulting in significant economic losses, but is also at absurd odds with SDG 2's ambitions for zero hunger.

While these problems are global in nature, food loss tends to be higher in developing countries whereas food waste is higher in developed countries. The ramifications of food loss and waste are therefore felt disproportionately across the globe, with food insecurity concentrated in specific regions such as sub-Saharan Africa (noted by the SDG 2 Legal Guide).[14]

In addition to the economic and social consequences of global food waste, there are also environmental impacts: 8-10% of global greenhouse gas emissions are caused by decaying food in landfill sites,[15] not to mention the energy and resource inefficiencies caused as a result.

By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimise their adverse impacts on human health and the environment.

Chemicals can benefit human beings in many ways including medicine, industrial manufacturing, energy, and public health. However, global chemical pollution poses great threats to sustainable development and livelihoods, affecting both humans and ecosystems.

Various multilateral agreements govern the management of hazardous and chemical waste, most of which have universal or near universal ratification. The Montreal Protocol on Substances that Deplete the Ozone Layer is notable here, having received almost full compliance in reporting from signatories. Others, however, including the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal; the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade; and the Stockholm Convention on Persistent Organic Pollutants, have received mixed success at 61%, 75%, and 50% compliance respectively.[16]

Of particular concern is the rise in electronic hazardous waste (relevant to indicator 12.4.2). According to 2019 figures, 7.3kg of e-waste per capita is produced on a global scale. Of this, only 1.7kg was managed in an environmentally sustainable manner.[17] It is expected that global levels of e-waste will rise to 9kg per capita by 2030, necessitating better waste management strategies and stronger regulation. For example, it is projected that e-waste recycling schemes will need to increase 10-fold to meet SDG 12 ambitions by 2030.[18]

By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.

There is limited data available for measuring progress against SDG 12.5, which looks to national recycling rates. However, there is a growing emphasis on waste reduction strategies as effective ways to conserve resources for future generations and create a cleaner environment.

Under 'waste management hierarchies', priority is given to preventing and reducing the generation of waste, followed then by the recycling or re-using of it. This emphasis emerges as the amount of global rubbish generated continues to increase, in part due to overconsumption patterns, an increasing world population, and the growing use of non-biodegradable materials such as plastic.

More recently, calls have been made for a greater focus on product life cycles and product design as a way to reduce waste generation.[19] For example, with only 9% of global plastic waste currently recycled,[20] the UN's new roadmap, unveiled in 2023, aims to reduce plastic pollution by up to 80% by 2040, specifically through circular consumption and production, focusing on reusing, recycling, and reorientating production.[21]

Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.

Businesses can have a decisive role in reducing waste and dependence on natural resources, while still meeting consumer demand and maximising on the opportunities afforded by transitions to a circular economy.[22] Guidelines on sustainability reporting have been developed for businesses and wider stakeholders on how to report the amount of waste produced, the disposal methods used, the environmental impacts, and the initiatives to mitigate them.[23] The rationale behind sustainability reporting is that, by disclosing these datasets and being accountable to public opinion and watchdogs, companies will be incentivised to improve their business model. Sustainability reporting is gaining ground, with more than 96% of the 250 largest companies in the world integrating sustainability information into their reporting practices as of 2022.[24]

Promote public procurement practices that are sustainable, in accordance with national policies and priorities.

Public procurement accounts for a significant share of the economy and can be used as a powerful lever to achieve ecological transition. Sustainable public procurement (SPP) – also known as green purchasing -– is commonly defined as "the integration of social and environmental considerations into the purchasing processes of public and private organisations...grounded in the concept of value for money…[it] takes into account total cost of ownership or the whole life cost of products."[25]

In 2022, the United Nations Environmental Programme (UNEP) published a report analysing the policies and practices of 45 governments regarding sustainable public procurement. This measured considerable progress in the development of SPP polices and legal instruments since the adoption of the SDG agenda, and greater uptake from the private sector as a result. Of note, was the use of SPP practices beyond environmental issues to support in socio-economic developments including the promotion of small and medium-sized enterprises and the protection of human and labour rights for at risk groups.[26]

By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature.

It is widely acknowledged that ensuring consumers are supported, informed, and educated to consume sustainably is central to achieving the SDGs.[27] This target therefore specifically seeks to raise public education and awareness regarding sustainable development, covering issues such as consumer product labelling, recycling regulations, and public guidance on environmental issues.

The main indicator for SDG 12.8 analyses the extent to which this has taken place within education systems across countries, including whether global citizenship education and education for sustainable development has been mainstreamed in national education policies, curricula, teacher education, and student assessment. According to 2022 figures, around 90% of countries reported that this had been at least partially achieved.[28]

Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production.

SDG 12.a focuses on the installation of renewable energy-generating capacity in developing countries. The target links closely with other SDGs, such as targets under SDG 7.

Progress in this area has accelerated at pace since 2011 with the level of electricity generated from renewable sources by developing countries rising from 109.7 watts per capita to 245.7 watts per capita. However, despite progress made, least developed countries and landlocked developing countries are still falling far behind.[29]

"Only renewables can safeguard our future, close the energy access gap, stabilize prices and ensure energy security." - António Guterres, UN Chief

Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products.

The tourism sector accounts for 10% of global GDP and remains one of the fastest growing industries in the world.[30] While the impact of COVID-19 severely impeded growth, it has opened up new opportunities for sustainable transition as the sector rebuilds itself. To encourage tourism sustainability, SDG 12.b promotes the inclusion of standard accounting tools to monitor environmental and economic impacts from the industry. In 2016, progress against this target peaked with 92 countries reporting to have at least one accounting table in this respect. However, since then, reported data suggests a significant decline with only 41 countries reporting against this indicator in 2020. It is suspected that this decrease has largely been caused as a result of difficulties in maintaining statistical operations during the pandemic.[31]

"The restart of tourism everywhere brings hope... [it is the] ultimate cross-cutting and people-to-people sector, which touches on almost everything we do." - Zurab Pololikashvili, UNWTO Secretary General

Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities.

Since the fallout of COVID-19 and the Russian invasion of Ukraine, the start of a global energy crises has seen a drop in fossil fuel subsidies (the target indicator for SDG 12.c) as countries look to diversify energy supply and move away from traditional energy sources. This move away from fossil-fuel subsidies is critical given the financial barriers they pose to renewable energy transitions by favouring traditional fossil fuels. However, given that this fall followed a steady incline in the preceding years, it is difficult to tell whether the 2020 figures mark a temporary departure from the status quo or a hopeful transition towards more sustainable and efficient energy usage longer term.[32]

Key actions lawyers can take

The final section of this chapter provides more details on how the international legal community can engage in efforts to achieve SDG 12. However, the following short summary describes some of the key actions lawyers can take to contribute to the sustainable development agenda by enabling responsible consumption and production.

Learn and educate

It is fast becoming a necessity for most sectors and industries to consider sustainable consumption and production, along with the circular economy, in order to meet regulatory expectations, maximise on new opportunities for growth and realise net-zero commitments.

Lawyers who are able to actively engage in these discussions and advise on how these models may impact client policies, processes and corporate liability will not only have a more competitive offering, but will be better able to educate and guide others on issues relevant to SDG 12 as leaders in the field.

Integrate

SDG 12 provides an impetus for the private sector to examine and re-align internal policies and practices, including the ways in which law firms and corporate legal departments operate. This emerges at a time where calls are already being made to reconsider traditional ways of working, with a need for more inclusive policies, enhanced legal ethics and hybrid legal services. Lawyers can therefore seize this opportunity to carefully consider how their own business operations can be better delivered, drawing on the concepts of sustainable consumption and production.

Act

By aligning their work with the SDGs, lawyers can be confident that they are taking practical steps towards a comprehensive and inclusive roadmap for sustainable development. In the case of SDG 12, there is a growing volume of strategic litigation around issues of greenwashing, industrial pollution, and unsafe waste disposal.

These areas offer some of the more direct areas where lawyers can contribute to sustainable consumption and production, whether this is through direct client handling, via pro bono offerings, or in the advice they provide to clients when exercising due diligence and determining risks around actual and potential liability.

Elements of the international legal framework

International Convention for the Prevention of Pollution from Ships (MARPOL)

Adopted by the UN General Assembly: 1973

Entered into force: 2 October 1983

Status of ratification (as of June 2023): 161 Parties

The International Maritime Organization ("IMO") created MARPOL with the objective of developing and maintaining a regulatory framework for shipping, and prevention of pollution from ships, including from oil, garbage, harmful substances, noxious liquid substances, sewage, and air pollution.[33]

Since its adoption, the Convention has been updated by a number of additions and amendments including the 1978 MARPOL Protocol.

The Convention and the 1978 Protocol entered into force in October 1983. In 1997, an additional Protocol was adopted, adding a further Annex to the Convention, which entered into force in May 2005. There are presently six technical Annexes, including regulations aimed at preventing and minimising pollution from ships, linking closely with the aspirations of SDG 12.4.

United Nations Convention on the Law of the Sea

Adopted by the UN General Assembly: 10 December 1982

Entered into force: 16 November 1994

Status of ratification (as of June 2023): 169 Parties

Abbreviated to 'UNCLOS', the Convention establishes the most comprehensive regime for governing jurisdiction across the world's oceans and seas.[34] The Convention covers:

- rules for the prevention, reduction, and control of marine pollution from a variety of sources;
- obligations to adopt laws and regulations to prevent, reduce, and control marine pollution;
- determinations on the scope of jurisdiction and broadened jurisdictional rights for enforcing environmental regulations, and
- explicit provisions for the protection of the marine environment.

With respect to waste management, the Convention specifically requires the adoption of rules to address dumping (i.e., wastes or other matter including and from vessels, aircraft, platforms, or other man-made structures at sea). Since its adoption, there have been a number of agreements passed to build upon the scope and provisions of UNCLOS, most notable of which include: an Agreement relating to the implementation of Part XI (1996) and the United Nations Fish Stocks Agreement (1995).

Vienna Convention for the Protection of the Ozone Layer

Adopted by the UN General Assembly: 22 March 1985

Entered into force: 22 September 1988

Status of ratification (as of June 2023): 198 Parties

The adoption of the Vienna Convention in 1985 marked the first formal commitment by the international community to protect the ozone layer. Parties undertook to cooperate by means of systematic observations, research, and information exchange and to set up measures to ban activities that were likely to have adverse effects on the ozone layer.

The Convention therefore placed a general obligation on parties to take appropriate measures against the adverse effects of ozone depletion, including through the adoption of national legislative and administrative mechanisms. However, the Convention did not explicitly require States to ban specific ozone-depleting chemicals resulting in the passing of the Montreal Protocol (below).

Montreal Protocol on Substances that Deplete the Ozone Layer

Adopted by the UN General Assembly: 16 September 1987

Entered into force: 1 January 1989

Status of ratification (as of June 2023): 198 Parties

The Montreal Protocol addressed the gap in the Vienna Convention by gradually phasing out or phasing down the production and consumption of substances contributing to the depletion of the ozone layer, especially chlorofluorocarbons (CFCs) commonly used as refrigerants.

"Among the considerable number of multilateral agreements... [the] Montreal Protocol stands out. The manner in which this instrument for repairing and recovering the Earth's protective shield has been financed and implemented serves as an inspiring example of what is possible" - Ban Ki-Moon, Former UN Chief

Under the protocol, parties are required to phase out ozone-depleting substances (ODS), commit to annual reporting on ODS, implement national licensing systems to control ODS trade and meet time-bound commitments for phasing out/down relevant substances. Different timetables are set for the commitments of developing countries and developed countries.

Heralded as the most successful international treaty by former UN Secretary-General Kofi Annan,[35] and the first to achieve universal ratification, the Montreal Protocol is widely considered as instrumental to reversing damage done to the ozone layer.

While the Protocol entered into force in 1989, well over 30 years ago, it comprises an adjustment provision that allows Parties to make fast responses to new scientific findings and control new chemicals, together with a mechanism to offer financial and technical support to developing countries.[36] Accordingly, since entering into force, the Protocol has undergone revisions on nine occasions, with the latest, the Kigali Amendment (2016) calling for a phase down of hydrofluorocarbons (HFCs).

Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal

Adopted by the UN General Assembly: 22 March 1989

Entered into force: 5 May 1992

Status of ratification (as of June 2023): 191 parties

The Basel Convention is a global treaty designed to reduce production and cross-boundary transportation of hazardous wastes and other wastes such as household waste and incinerator ash. It also governs the disposal of the same in an environmentally sound manner. As well as formally regulating toxic, explosive, corrosive, flammable, poisonous and infectious wastes, the Convention has given rise to a number of non-binding policy instruments, technical guidance, and training projects to support in the implementation of its aims.

Established in response to public outcry surrounding the export of hazardous waste to developing nations, the Convention emphasises the sovereign right of each Party to prohibit the import of these substances. Among other obligations, Parties must take appropriate measures to reduce the generation of hazardous waste to a minimum; to guarantee the availability of adequate disposal facilities; to minimize the consequences for human health and the environment where hazardous waste does occur, and to guarantee that the cross-boundary transportation of hazardous wastes and other wastes is reduced to a minimum.[37]

The United Nations Framework Convention on Climate Change

Adopted by the UN General Assembly: 9 May 1992

Entered into force: 21 March 1994

Status of ratification (as of June 2023): 198 parties

The United Nations Framework Convention on Climate Change (UNFCCC) has a primary objective towards the "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system."[38] The limits on greenhouse gas emissions are non-binding and the Convention itself does not contain enforcement mechanisms as such. Instead, the framework outlines how specific international treaties (called 'protocols' or 'agreements') may be negotiated by State Parties to designate further measures in fulfilling the goals of the UNFCCC. Of relevance to SDG 12, are the linkages between global production chains, such as food production, and consumption habits, such as fossil-fuel consumption, that contribute to anthropogenic greenhouse gas emissions.

Stockholm Convention on Persistent Organic Pollutants

Adopted by the UN General Assembly: 22 May 2001

Entered into force: 17 May 2004

Status of ratification (as of June 2023): 186 parties

The Stockholm Convention on Persistent Organic Pollutants (POPs) is a global treaty that aims at protecting human health and the environment from chemicals that do not degrade naturally over time, are widely distributed geographically, and accumulate in the fatty tissues of humans and wildlife. Scientific research shows that exposure to POPs affects human health and increases the incidence of certain cancers, congenital disorders, and dysfunctional immune and reproductive systems.[39]

POPs have a significant international dimension as they travel through wind and water currents, making it the joint responsibility of all governments to manage, monitor and control them. The Convention requires Parties to take measures to eliminate certain chemicals (listed in Annex A of the Convention) and restrict the production and use of others (listed in Annex B).

The Convention also encourages countries to adopt environmentally sound alternative processes and chemicals while accelerating sound waste management practices for contaminated products. Originally, the Convention targeted 12 priority POPs, referred to as "The Dirty Dozen" but has since expanded to upwards of 20, with more likely to be added in future.

Minamata Convention on Mercury

Adopted by the UN General Assembly: 10 October 2013

Entered into force: 16 August 2017

Status of ratification (as of June 2023): 142 parties

Established in response to long incidences of mercury poisoning from industrial wastewater in Japan, The Minamata Convention was adopted and opened for signature in October 2013.

The Convention is designed to protect human health and the environment by regulating the use of, and emissions deriving from, mercury and mercury compounds. Among the legal requirements set out under the convention are restrictions on mercury import and exports, restrictions on mercury mining, prohibitions on the use of mercury in a number of products and manufacturing processes, and requirements for the safe storage and waste management of mercury contaminants and emissions.

Since 2013, the Convention has achieved high implementation rates among parties, however more work is still needed to improve monitoring and reporting on mercury emissions, in delivering consumer education on the risks associated with mercury and in building the capacity of developing countries to better regulate and manage mercury usage.[40]

International Plastic Treaty

Adopted by the UN General Assembly: Expected in 2024

Entered into force: As yet unknown

Status of ratification (as of June 2023): As yet unknown

In 2017, the UN Environment Assembly established an expert group to explore potential global actions to support the long-term elimination of marine litter and plastic pollution. In March 2022, the UN Member States adopted the Resolution 5/14, entitled "End Plastic Pollution: Towards an international legally binding instrument." Through this instrument, Member States have agreed to negotiate an internationally binding agreement (that will come into force in 2024) to end plastic pollution.

The first negotiation meeting took place in November 2022, with a second meeting having taken place in Paris in June 2023. In total, 135 states have called for binding, global rules relating to plastics across their entire lifecycle and 94 states have called for the ban or phase-out of problematic polymers and chemicals.

The binding agreement is very much in its infancy, however, strong Member State participation in the negotiation stages reflects positively. The final negotiation is aimed to be completed at the end of 2024.[41]

Soft law and declarations

Rio Declaration on Environment and Development (1992)

Adopted at the United Nations Conference on Environment and Development in Rio de Janeiro in June 1992, the Rio Declaration is considered the cornerstone of global environmental governance. Alongside the adoption of Agenda 21 (an action plan towards sustainable development for the 21st Century) and the Statement of Principles for the Sustainable Management of Forests – the Rio Declaration built on concerns surrounding environmental degradation that had been raised some twenty years prior in Stockholm.[42]

The Declaration consists of 27 principles that act as a blueprint for recognising economic and social development while safeguarding a shared environment. These include: the exploitation of resources; the eradication of poverty; the implementation of national environment laws; liability surrounding pollution and environmental damage, and knowledge sharing and transfer specifically through scientific understanding and new technologies.

Of particular relevance to SDG 12 is Principle 8. This principle states that "to achieve sustainable development and a higher quality of life for all people, States should reduce and eliminate unsustainable patterns of production and consumption and promote appropriate demographic policies."[43]

Agenda 21 (1992)

As referenced above, Agenda 21 was adopted by 178 governments at the 'Earth Summit' in Rio (1992). The agenda is a comprehensive plan that sets out an international programme of action for achieving sustainable development during the 21st century.

Agenda 21 addresses waste, a well as multiple other environmental concerns, and promotes circular economy and changing consumption patterns.[44] Waste is an underlying issue throughout most of Agenda 21's chapters with Chapters[45] 20, 21 and 22 dealing directly with waste management. Chapter 20, for example, identifies environmentally sound management of hazardous waste whilst Chapter 21 deals with the management of solid waste and sewage-related issues. Similarly, Chapters 4-9, 11, 14 and 16-19 implement discussions concerning waste management and material use, calling for effective waste management and market mechanisms, and the reduction of wastes in general.

"Despite increasing efforts to prevent waste accumulation and to promote recycling, the amount of environmental damage caused by overconsumption, the quantities of waste generated and the degree of unsustainable land use appear likely to continue growing." - Agenda 21, 16.20

Johannesburg Declaration on Sustainable Development (2002)

Ten years after the Rio Declaration, UN Member States reunited at the World Summit on Sustainable Development in 2002 to adopt the Johannesburg Declaration. This reaffirmed the importance of sustainable development, containing active measures towards environmental protection and stressing the importance of multilateral action.

The Johannesburg Declaration reiterated the principles outlined within the Rio Declaration, while also endorsing a new plan of implementation and calling on partnership initiatives towards action.

Paragraph 11 of the Declaration speaks directly to the ambitions of SDG 12, reaffirming that "consumption and production patterns" remain one of the "overreaching challenges of and requirements for sustainable development", along with poverty eradication and management of natural resources.[46]

The Future We Want (2012)

Another ten years later at the UN Conference on Sustainable Development, known as Rio+20, the declaration 'The Future We Want' once again reaffirmed the Rio Principles, outlining an institutional framework and implementation means necessary to achieve sustainable development. The declaration called for the negotiation and adoption of internationally agreed Sustainable Development Goals, paving the way for the SDG Agenda.

Of relevance to SDG 12, was the adoption of the 10-year framework on sustainable consumption and production (10YFP) referenced under Target 12.1 above.

G7 Toyama Framework on Material Cycles (2016)

The Toyama Framework, developed in 2016, lays out a vision to enhance resource efficiency and to promote the 3Rs: reduce, reuse, and recycle. The Framework includes several goals for ambitious action by the G7 countries.[47]

The vision of the Framework is to realise a society which uses resources efficiently and sustainably across their whole life cycle, by reducing the consumption of natural resources and promoting recycled materials and renewable resources, so as to remain within the environmental boundaries of the planet.[48] The integration of policies within the G7 countries allows for measures on resource efficiency and the 3Rs, as well as climate change policy, disaster waste, natural environmental conservation and industrial competitiveness.

Examples of actions by G7 members include an 80% recycling rate in Japan after the Great East Japan Earthquake. More recently there have been additional reports and action plans created to extend recycling and waste management provisions in the Framework to achieve its aims.[49]

Regional legal and policy frameworks

Association of Southeast Asian Nations (ASEAN)

ASEAN Declaration on Environmental Sustainability (2007), Declaration on ASEAN post-2015 environmental sustainability and climate change agenda (2015), ASEAN Socio-Cultural Community Blueprint 2025 (2016)

2007 saw the first ASEAN declaration on environmental sustainability, recognising the need to "combat transboundary environmental pollution", "promote the use of renewable and alternative energy sources" and mitigate "the effects of climate change and environmental degradation."[50]

"ASEAN needs a new 'growth paradigm', one that fosters dynamic, sustainable and inclusive economic growth, leaves no on behind, and prioritises human capital development concurrently with environmental conservation... Sustainable security and sustainable economic development require strong support both from within the region and beyond." - Prayut Chan-o-cha, past Prime Minister of Thailand

In so doing, ASEAN countries noted that rapid growth in economy, while accelerating poverty eradication in the region, imposed challenges in dealing with, among others, unsustainable consumption and production patterns.

In 2015, ASEAN States reiterated their commitment to sustainable consumption and production and pledged to integrate it in their national policies.[51]

Since then, the ASEAN Socio-Cultural Community Blueprint 2025 was developed as a strategy and monitoring plan, with sustainable consumption and production as one of its key strategies towards environmental sustainability. The Blueprint contains commitments to strengthen public-private partnerships, to promote environmental education and awareness, to enhance capacity for improved waste management and energy efficiency, and to mainstream sustainable consumption and production best practices into public and private activities.[52]

United Nations Sustainable Development Cooperation Framework for the PRC (2021-2025) (UNSDCF)

The UNSDCF spans from 2021-2025 (coinciding with China's 14th Five-Year Plan) and sets out how the UN System would support China in achieving its 2023 Agenda for Sustainable Development. This includes implementing the country's "five new development concepts": innovation-driven, coordinated, green, open, and shared development.[53]

Having reached upper-middle income status, China is now entering a new era in its development... an era in which the principal challenge... is the "contradiction between unbalanced and inadequate development and the people's ever-growing needs for a better life." - Quoting President Xi Jinping

In terms of progress towards SDG 12, the Government's effort to boost responsible consumption can be seen in its urban waste management plan and the planned phased reduction of single-use plastic.

The cooperation framework further aims to position the UN as a strategic advisor for the Chinese Government, providing strategic policy advice, evidence-based analysis, research, and technical inputs to address the development challenges faced by China during 2021-2025.

European Union

Sustainable Consumption and Production (SCP) Action Plan (2008)

The SCP Action Plan, a Communication of the European Commission, later endorsed by the Council, presents the EU strategy to make its consumption and production patterns more sustainable.[54] The Action Plan sets out a dual ambition: 1) on the production side, it seeks to improve the environmental performance of goods, from their production to their disposal and, 2) on the consumption side, to foster the demand for sustainable products through consumer information and labelling.

The Action Plan has been implemented through the adoption of a legislative package covering, among others, energy efficiency (Eco-Design Directive 2009/125/EC), labelling (Eco-Label Regulation 66/2010/EC and Energy Labelling Directive 2010/30/EU replaced by Regulation 2017/1369/EU), waste management (Waste Framework Directive 2008/98/EC), and green public procurement (Communication 2008/400).

Eco-Design Directive 2009/125/EC

The Eco-Design Directive aims to improve the energy efficiency of products at design stages before they come to market.[55] Minimum mandatory requirements are set through product-specific regulations directly applicable in all EU countries, with non-compliant products unable to be produced or imported within the EU.

The Directive covers many everyday products, such as air conditioners, computers, fridges, lamps, televisions, tyres, and washing machines. It was extended to include smartphones, other mobile and cordless phones, and tablets from June 2023.[56] The system permits the phasing out of poorly performing products, such as incandescent lightbulbs, and encourages the development of greener technology.

"A more modern and circular economy will make us less dependent and boost our resilience. This is the lesson we need to learn from th[e COVID-19] crisis." - Ursula von der Leyen , President of the European Commission

Energy Labelling Regulation 2017/1369/EU

Closely related to the Eco-Design Directive, the Energy Labelling Regulation assigns products a label on a scale from A (most energy efficient) to G (least efficient) to enable consumers to make an informed choice and select more sustainable products.[57] New rules have also been proposed in June 2023 to extend the regulation to cover smartphones and tablets.[58] These proposals arise in light of the European Green Deal (see below) and efforts to encourage a more circular economy.

Waste Framework Directive 2018/98/EC

The Waste Framework Directive outlines measures to protect the environment and human health by preventing or reducing the generation of waste and its adverse impacts.[59]

Linking closely to SDG 12.5, one of the Directive's main features is the five-step 'waste hierarchy' which establishes an order of preference for managing and disposing of waste. The hierarchy establishes prevention of waste as the preferred option, followed by 'preparing for re-use', then 'recycling', then 'other recovery' (such as energy production), and finally disposal of waste to landfill as a last resort.

The Directive sets specific targets and requires EU Member States to take measures to increase the rates of re-use, recycling, and recovery of waste.

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Regulation (2007)

REACH is a European Union Regulation adopted to improve the protection of human health and the environment from chemical risks, as well as promote alternative methods for the hazard assessment of substances.[60] REACH applies to all chemical substances which are integral to various industries across the EU. To comply with the Regulation, companies must identify and manage the risks linked to the substances they manufacture and market, including demonstrating to the European Chemicals Agency how the substances can be safely used.

REACH establishes procedures for collecting and assessing information relating to the properties and hazards of substances. With earlier and better identification of the intrinsic properties of chemical substances, REACH aims to enhance innovation of the EU chemical industry.[61] It is hoped that this sustainable practice will not only protect lives, but reduce chemical pollutants entering the ecosystem, by making developers more aware of their products.[62]

European Green Deal (2020)

The European Green Deal is a roadmap to establish the EU as a modern, resource efficient, and competitive economy. Comprised of a whole suite of policy initiatives, the Green Deal seeks to make the EU climate neutral by 2050, decoupling economic growth from resource use and building a more sustainable and equitable EU market.

Notable strategies, policies and laws under the European Green Deal include:

- **The Circular Economy Action Plan (2020)**: providing initiatives along the entire product life cycle to encourage circular economic processes, promote sustainable consumption, and reduce waste. The action plan has developed a monitoring framework (last revised in 2023), inspired revisions to EU rules and directives (including on packaging, industrial emissions, and waste pollutants), and launched the Global Alliance on Circular Economy and Resource Efficiency for international cooperation.

- **Farm to Fork Strategy (2020)**: promoting sustainable consumption through food value chains by addressing matters such as chemical pesticide use, agricultural diversity, organic farming, and partnership working along food supply chains. The strategy sets out both regulatory and non-regulatory policies and is expected to adopt a new legislative framework for sustainable food systems by the end of 2023.

- **EU Zero Polluting Action Plan (2021)**: adopting a zero-pollution action plan for air, water, and soil. The Plan includes reducing plastic litter and microplastics which are released during production and disposal and creates an objective to reduce residual municipal waste by 50%. The Plan foresees a review of relevant EU legislation with the intention of revising specific laws to bring them in line with the Green Deal.[63]

- **Proposals for Packaging Waste Regulations (2022**): these rules, proposed in November 2022, aim to reduce the volume of waste produced through packaging, by promoting reusable packaging, restricting unnecessary packaging, and setting mandatory rates that producers must include in new plastic packaging.

- **Proposals for empowering consumers for the green transition (2023)**: these rules, proposed in March 2023, aim to prohibit misleading advertising and overcome greenwashing to empower consumers when making sustainable consumption decisions. The proposals build upon the Regulation on Ecodesign for Sustainable Products, as well as the above proposals for Packaging Waste Regulations.

- **Regulation on deforestation-free supply chains (2023)**: this Regulation entered into force in June 2023 and its obligations will apply from December 2024. Once implemented, the law will require that certain consumer goods no longer contribute to deforestation and forest degradation in the EU or elsewhere in the world. Companies will be required to conduct due diligence if they wish to trade palm oil, cattle, soy, coffee, cocoa, timber, and rubber, as well as derived products, in the EU.

In addition, the European Climate Pact has been established to support with implementation of the many European Green Deal initiatives, creating a movement for individuals, communities and organisations to showcase their contributions towards common goals and work collaboratively to maximise impact.

Africa

African Circular Economy Alliance

Conceived at the World Economic Forum on Africa in Kigali (2016) and launched at the COP 23 intersessional meetings in Bonn, the alliance was founded by Rwanda, Nigeria and South Africa, along with the UN Environment Programme, and the World Economic Forum. The ambition of the alliance is to spur Africa's transformation to a circular economy that delivers economic growth, jobs, and positive environmental outcomes at national, regional, and continental levels.[64]

The action allows for a better understanding of hotspots for food loss and waste, and for the creation of effective collection systems. It encourages strategic planning and the installation of sorting, pre-processing and recycling operations, as well as incentivising and supporting product design for the reuse and recycling of plastics.

Agenda 2063: The Africa We Want (2019)

Agenda 2063 is a blueprint for transforming Africa into a "global powerhouse."[65] The framework aims to deliver on its goal for inclusive and sustainable development and is a manifestation of the pan-African drive for unity, self-determination, and progress.

A long-term 50-year trajectory was envisioned to allow Africa to revise and adapt its development agenda and to review all sustainability-related goals, including that of sustainable and inclusive economic growth.

"We rededicate ourselves to the enduring Pan African vision of 'an integrated, prosperous and peaceful Africa, driven by its own citizens and representing a dynamic force in the international arena.'

We are confident that Africa has the capability to realise her full potential in development, culture and peace and to establish flourishing, inclusive and prosperous societies."

Durban Declaration (2019)

This declaration was the first pan-African policy announcement that included circular economy ambitions for the entire continent. Africa is not as established in circular economy as its European counterparts, however, the continent has begun influencing policy by incorporating circular economy policy mapping and "circular economy roadmaps".[66] The Durban declaration recognises the value of circular economy and commits to taking measures to evaluate its progress of implementation and its potential to improve consumer services and waste reduction. The Alliance agrees to raise the political visibility and awareness of circular economy throughout Africa and commits to scaling up and using circular economy approaches as part of regional transformation, as contained in Agenda 2063 of the African Union.

USA

Proposed SEC Climate Disclosure Rule (2022)

The US Securities and Exchange Commission proposed rule changes in March 2022 that would require registrants to include climate-related information in registration statements and annual reports. These rule changes would standardise and mandate climate-related disclosures in relation to Scope 3 emissions, carbon offsets, and climate-related risks. However, the policy landscape in the US in relation to ESG is increasingly polarised, with several states passing anti-ESG bills.

Examples of relevant national legislation

Bangladesh

Solid Waste Management Rules (2021) and Hazardous Waste (e-waste) Management Rules (2021)

2021 saw the adoption of The Solid Waste Management and Hazardous Waste Management Rules in Bangladesh in recognition of the country's growing waste and pollution problems, particularly with regards to plastic.[67]

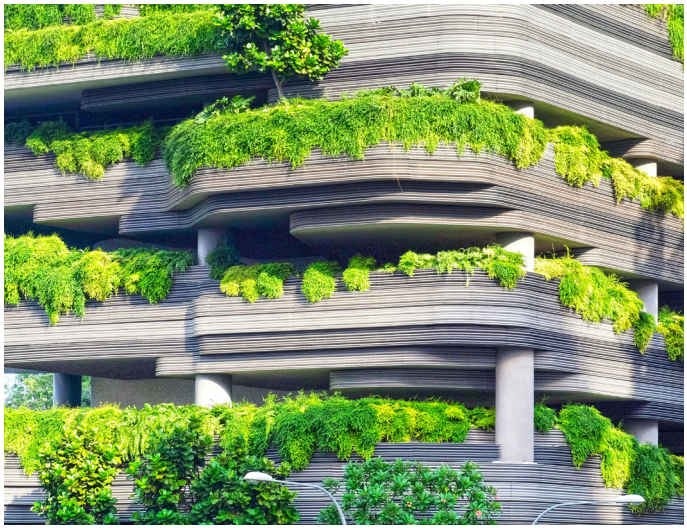
The former, the Solid Waste Management Rules, include the introduction of Extended Producers Responsibility, specific provisions on the management of medical waste and the promotion of the 3Rs (reduce, reuse, recycle). The latter, the Hazardous Waste Management Rules, establishes obligations on all stakeholders along the e-waste supply chain (manufacturers, traders, sellers, transporters etc.) to register with the Department of Environment and commit to a Waste Electrical and Electronic Equipment management plan.

The Netherlands

Green Deal on Circular Procurement (2013)

Circular procurement encourages innovation and increases the demand for recycled materials. The Dutch government launched a pilot initiative to translate circular economy principles into procurement practices to encourage the development of a circular economy in 2013.

The Green Deal on Circular Procurement is a collaboration between public and private procuring actors, in which each organisation commits to carry on two circular procurement initiatives and then share their experience in a community of practice.[68]



South Korea

Green New Deal (2021)

The Green New Deal comes as part of a wider policy initiative (the Korean New Deal) seeking to establish South Korea as a digitally smart country with bolstered social security programmes and a commitment to net zero. The Deal sets out eight implementation targets focused in three main areas: green infrastructure building; low-carbon and decentralised energy; and innovation towards green industry.

The Green New Deal pledges 73.4 trillion South Korean won by 2025 in the pursuit of these ambitions. It is expected to see retrofitted renewable energy facilities, an increase in solar and wind energy generation, the launch of a Smart Green Industrial Complex project, and Green Start-up Towns to promote green business. The policy framework complements the country's 2050 vision for an improved waste management sector, transitions towards a circular economy and resource efficiency including production and consumption patterns.[69]

"Tackling climate change requires global efforts and collective engagement. Korea will lead by example to help the international community jointly make efforts to reach carbon neutrality by 2050."

UK

Green Claims Code (2021)

The Green Claims Code was issued in 2021 by the UK's Competition and Markets Authority (CMA) and aims at combatting greenwashing to ensure that environmental claims made by businesses are genuine and well founded. It sets out that all environmental claims must be truthful and accurate, clear and unambiguous, must not omit or hide important information, comparisons must be fair and meaningful, and all claims must be substantiated with robust and credible evidence.

The Code also sets out that in making environmental claims, a business must consider the full life cycle of the product and all steps of the supply chain. Following the introduction of the Code, the CMA launched a Misleading Green Claims project and began investigations into fast fashion brands and fast-moving consumer goods.

The UK Digital Markets, Competition and Consumers Bill was introduced to Parliament in April 2023 and if passed, will give the CMA power to impose hefty fines for breach of consumer protection offences, including greenwashing.

Environmental Improvement Plan (2023)

The Environmental Improvement Plan comes two years after the passing of the Environment Act 2021 and acts as the first review of the UK's 25 Year Environment Plan for protecting the natural world, maximising resources, and reducing waste generation.

The Improvement Plan includes commitments to implement Extended Producers Responsibility so that polluters pay for recycling (expected from 2024), the introduction of a deposit return scheme for plastic and metal drinks containers (expected by 2025), and better management of hazardous substances particularly with regards to pesticide use in sustainable food production.

In addition, the plan considers retrofitted water efficient products, consumer awareness programmes to eliminate avoidable waste, and mandatory recycling labelling to support more sustainable consumption patterns.

Germany

Act on Corporate Due Diligence Obligations in Supply Chains ("Supply Chain Act") (2023)

The Supply Chain Act entered into force on 1 January 2023. It requires German companies, and foreign companies with a branch in Germany, with at least 3,000 employees (this number will decrease to at least 1,000 employees from 1 January 2024) to comply with certain due diligence obligations to prevent human rights abuses and harm to the environment. The requirements set out in the Act apply to all steps in the supply chain, from extraction of raw materials, to delivery to the end customer, and extends to the actions of suppliers and contractual partners.

The Act sets out nine due diligence obligations that companies must comply with, including risk management, risk analysis and assessment, implementation of preventative measures, remedial action, a complaints procedure, and documentation and reporting.

The Supply Chain Act includes provisions relating to child labour, forced labour and slavery, payment of a living wage, prohibitions on the use of persistent organic pollutants (POPs) and mercury, and requirements relating to the handling and exportation of hazardous waste. Failure to comply may result in hefty administrative fines of up to 2% of turnover for enterprises with a turnover of more than EUR 400 million.

China

14th Five Year Plan (2021)

The 14th five-year plan focuses on how China can develop the country's circular economy and increase resource efficiency while meeting climate goals and encouraging green innovation. There are several development targets under the Plan, including reducing energy consumption by 13.5% and water consumption by 16% in comparison to 2020, as well as utilising 60 million tons of wastepaper and 320 million tons of scrap steels.[70]

Law of the People's Republic of China on the Promotion of Clean Production (2002)

This law was enacted in 2002 to promote cleaner production, increase efficiency of the utilisation rate of resources, reduce and avoid the generation of pollutants, and promote the sustainable development of the economy and society.[71] To do so, toxin-free, non-hazardous, or low-toxin and low-impact raw materials, and recycling waste products, wastewater, and heat generated from production procedures are encouraged to be used. The law also ensures that inspections and audits are in place to ensure that the clean production goals are achieved.

Circular Economy Promotion Law of the People's Republic of China (2008)

This law was implemented to promote the development of a circular economy in China, with the aim of achieving resource utilisation efficiency, protecting and improving the environment, and realising sustainable development. Under the law, certain industries are required to implement management systems in their businesses that would reduce resource usage and waste generation while encouraging resource recovery and recycling.[72]

Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Wastes (amended in 2020)

Enacted in 1995, the law prohibits the import, dumping and disposal of solid and hazardous wastes unless they are subject to a specific import license. The Act focuses on improving the ecological environment by preventing and controlling pollution from industrial waste, household waste, construction waste, agriculture waste and hazardous waste.

In 2020 the law was amended and introduced new product-related programmes to support Chinese circular economy policies and regulations, e.g., Article 66 of the law establishes an extended producer responsibility system for producers of electronic and electric products, lead batteries and power batteries for vehicles. Producers are required to implement a system for recycling waste products that matches the sales volume of the product, and this must be disclosed to the public.

The law also restricts the production, sale and use of non-biodegradable plastic bags and other single-use plastic products, and in particular the hospitality industry will be prohibited from proactively providing single-use supplies unless they are specifically requested by guests.[73]

Hong Kong

Waste Blueprint for Hong Kong 2035 (HK Blueprint)

In February 2021, the Hong Kong government announced the HK Blueprint which outlined the goals and strategies of waste management until 2035 for Hong Kong. The HK Blueprint has two main goals, 1) to reduce the per capita municipal solid waste disposal rate by 40-45% and raise the recovery rate to about 55% by implementing municipal solid waste charging, and 2) to move away from disposing at landfills by development waste-to-energy facilities.

To achieve the above, the HK Blueprint focuses on six key areas, namely waste reduction, waste separation, resource circulation, industry support, innovation and cooperation, and education and publicity in the hopes of building a circular economy and creating a more sustainable green environment.

Product Eco-responsibility Ordinance (PERO) (Cap. 603)

The ordinance[74] was enacted in 2008 to provide a legal basis for introducing producer responsibility schemes and to impose an environment levy on plastic shopping bags through the Product Eco-responsibility (Plastic Shopping Bags) Regulation (Regulation) (Cap. 603A). The Plastic Shopping Bag Charging Scheme extends to all retailers in Hong Kong.

Waste Disposal Ordinance (Cap. 354)

The ordinance governs the control of pollution caused by all forms of waste. For example, chemical waste from non-household sources must be managed from the point of production to the point of disposal. The producer must first register with the Environmental Protection Department, arrange suitable packaging, labelling and storage of the chemical waste and only engage licensed waste collectors to collect the chemical waste. The disposal, reprocessing and recycling of the chemical waste must only be done at licensed facilities.[75]

Producer Responsibility Schemes on Waste Electrical and Electronic Equipment (WPRS), Glass Beverage Containers (GPRS) and Plastic Beverage Containers

The WPRS requires that suppliers of regulated electric equipment (REE) must be registered with the Environmental Protection Department before REEs are distributed.[76] Under the scheme, registered suppliers are required to fulfil certain statutory obligations such as paying recycling levies and providing recycling labels in the REE. Additionally, any person who wishes to be engaged in the storage, treatment, reprocessing or recycling of REEs must first register for a waste disposal licence under the Waste Disposal Ordinance (Cap. 354).

The Promotion of Recycling and Proper Disposal (Product Container) (Amendment) Ordinance 2016 provides the statutory regulatory framework for the GPRS, which amended the Product Eco-responsibility Ordinance (Cap. 603) and the Waste Disposal Ordinance (Cap. 354). Similar to the WRPS, registered suppliers of GRPS, i.e. local manufacturers and importers of glass-bottled beverages are required to submit periodic returns on the glass-bottled v beverages, pay relevant container recycling-levies and submit audit reports in relation to their manufacturing practices. Additionally, any person who stores, treats, reprocesses or recycles glass container waste must also obtain a waste disposal licence.

The Hong Kong government is currently considering necessary legislative amendments to extend the GPRS in relation to plastic beverage containers (plastics constitute about 20% of Hong Kong's municipal solid waste disposal).

USA

Sustainable Materials Management (SMM) 2009

In 2009, the US Environmental Protection Agency (EPA) introduced a framework policy called the Sustainable Materials Management (SMM), which focuses on the value of using and reusing materials in the most productive and sustainable ways across their lifecycle. The framework aims to minimise material usage, thereby minimising associated environmental impact.[77]

The SMM facilitated the creation of various programmes that draw on the information and data provided in the SMM. Using the Life Cycle Analysis[78] the US authorities can now identify hotspots of materials and processes with the greatest environmental challenges. The Framework utilises system-thinking, material flow analysis, and integrated policy to create outcome-based goals and has become an important model for sustainable development within the Agency.

SMM aims to replace the weight-based recycling and diversion model, with goals that prioritise environmental impact, using the concepts of life cycle thinking. The SMM introduced a document entitled "the Road Ahead" which creates a roadmap for future based material management, using less materials and reducing toxins and recovering more material used.[79]

"We live in a material world. How our society uses materials is fundamental to many aspects of our economic and environmental future... The foundation that underlies the world economy, prosperity and a healthy environment rests largely on how people extract and use the full range of materials that come from and return to the Earth..."

National Recycling Strategy

The National Recycling Strategy is part of EPA's series on a circular economy, focused on enhancing and advancing the national municipal solid waste recycling system, and identifying strategic objectives. The Strategy recognises the need to implement a circular economy approach, reducing the creation of waste within local communities and implementing material management strategies that are inclusive for communities with environmental justice concerns.[80]

The Strategy is aligned with, and supports implementation of, the National Recycling Goal to increase the recycling rate to 50% by 2030. The Strategy is organised by 5 objectives to create a more resilient and cost-effective national recycling system. These are: improving markets for recycling commodities, increased collection, reduced contamination, enhanced policies, and standardised measurement and increase data collection.[81]

California Plastic Pollution Prevention and Packaging Producer Responsibility Act 2022

In June 2022, this landmark packaging law required that by 2032:

• 100% of the packaging within the state of California must be recyclable or compostable;

• 25% of plastic packaging be reduced; and

• 65% of all single-use plastic be recycled.

This legislation shifts the onus of plastic pollution reduction from consumers to the plastics industry by raising $5 billion from industry members over 10 years.[82]

The aim of the legislation is to cut plastic pollution and support disadvantaged communities who suffer the impact of plastic waste the most. With a 10-year legislative timeline, the Act aims to ensure success by the beginning of 2032 and establishes a new extended producer responsibility programme to manage packaging products across every sector of the economy.

New York Fashion Sustainability and Social Accountability Bill 2021

Currently going through Legislative Session within the Consumer Protection Committee Assembly, this Senate Bill requires fashion sellers to standardise environmental and social due diligence policies and establish a fashion remediation fund.[83]

The fund's purpose will be to implement environmental benefit projects or labour remediation projects that directly and verifiably benefit the workers and communities directly impacted by the fashion industry.

Canada

Ocean Plastics Charter 2018

The Charter addresses plastic pollution and waste, laying the groundwork to ensure that plastics are designed for reuse and recycling to protect the marine environment and keep valuable resources within the economy.[84]

The Charter commits to taking steps towards a resource efficient life-cycle management approach to plastics within the economy, through sustainable fashion, collection, management, sustainable lifecycles, research and innovation, and coastal and shoreline action.

Zero Plastic Waste and Action Plan 2018

The government of Canada is working with industries, NGOs and researchers to take action on plastic waste and pollution. One strategy it has developed to achieve this is the Zero Plastic Waste and Action Plan. Building on the Ocean Plastics Charter, the Plan takes a circular economy and lifecycle approach to plastics and provides a framework for action throughout Canada.[85]

The plan comprises two phases with clear timelines to better prevent, reduce, reuse, recover, capture and clean up plastic waste and pollution in Canada. Phase 1 of the Plan identifies actions to improve the circularity of plastics within the economy and change the system to reduce plastic waste. Phase 2 outlines actions to reduce plastic pollution, raise awareness, strengthen scientific research, and take global action. The Plan aims to assess policy options to improve end-of-life management and compile a reference collection of guidelines for recyclability.[86]

Ecuador

Ley Orgánica de Economía Circular Inclusiva 2021

Between 2018 and 2019 a national network of Ecuadorian waste workers and related associations, collectively the Fundación Avina and Red Nacional de Recicladores de Ecuador (RENAREC), lent their expertise to a draft bill advocating for access to work, recyclable material, and decent wages for Ecuadorians. In 2021, Ecuador passed the first inclusive circular economy law in Latin America, allowing recyclers to have a say in regulations to make workers part of the urban solid waste collection systems, and economic inclusion models.[87]

Passing this law solidifies the aspirations of thousands of Ecuadorian recyclers by recognising, valuing, and promoting inclusive recycling as a key component of circular economy. The Act not only allows a higher quality of life for the workers, but also creates networks for education, learning, and conservation of natural resources. The circular economy law prioritises the conservation of natural resources by promoting eco-design, the reuse and recycling of materials (which will reduce demand for raw materials), resource extraction, and the reduction of greenhouse gas (GHG) emitting transportation.

Japan

The Basic Act on Establishing a Circular Society 2000

Passed in 2000, the purpose of the Act is to promote "comprehensively and systematically" the establishment of a 'Sound Material-Cycle Society' (the Japanese term for circular economy) and ensure healthy and cultured living for both present and future generations of the nation. In accordance with the Basic Environment Act, this Act focuses on Sound Material-Cycle Society – a society in which products are prevented or reduced from becoming waste and instead maintain their environmental ciruclar use.[88]

"Pursuing economic sustainability by creating a virtuous cycle of growth and distribution is the kind of new capitalism that I am aiming for." - Fumio Kishida, Prime Minister of Japan

India

Plastic Ban 2019

In 2019, India's Central Government announced the ban of single-use plastics, with a particular focus on enforcement.[89] With 40% of India's plastic waste left uncollected, the ban aimed to reduce waste within the system (which ultimately causes air and water pollution).[90] The ban extends to a variety of plastic products and influenced the Plastic Waste Management Amendment Rules in 2021.

India's plastic pollution problem is viewed as a littering issue. The ban aims to promote cleanliness as well as improve source segregation, increase waste collection coverage, and limit the toxic release of chemicals and burning of waste.[91]

Egypt

National Action Plan for Sustainable Consumption and Production 2016

Egypt is attempting to transition to sustainable consumption and production to aid its circular economy through its Sustainable National Action Plan (SCP-NAP).[92] Developed under the coordination of the Ministry of Environment, the Centre for Environment and Development for the Arab Region, and Europe (with technical support from UNEP) the plan is part of Egypt's efforts to achieve Agenda 2030 and the SDGs.

The SCP-NAP addresses four priority areas – water, energy, agriculture, and municipal solid waste – and was developed through nationally owned multi-stakeholder processes. The Action Plan includes six different programmes and 28 detailed projects, presented by 13 different government institutions and specialised research centres.

The Plan aims to achieve sustainable consumption and production by promoting efficient allocation of water and energy resources, and waste management. The Action Plan further intends to provide solutions for mainstreaming SCP policies that facilitate the achievement of SDG 12.[93]

> **"Envisioning a more sustainable Egypt is no longer a dream nor an unrealistic endeavor."**

The Plan suggests prioritising a review of existing laws and regulations, launching public awareness campaigns, and long-term research on SCP. A capacity development programme will implement SCP and green economy into education alongside designing trade policies and directing financial institutions to fund projects and investments.

France

Textile Waste EPR Scheme 2017

France is the only European country to have implemented an Extended Producer Responsibility (EPR) framework in the textiles sector. The framework was developed to meet the European Commission's waste management target of 50% recovery of solid waste. The nation has set a 50% collection target for the annual sales of clothing, linen, and footwear, as well as a goal of reaching over 95% recovery for all collected textiles.[94]

The ECR Scheme contributed to a 3-fold increase in the collection and recycling rates of post-consumer techniques between 2006 and 2018. Since its implementation, there has been a 13% annual increase in post-consumer textiles collection, with over 44,000 collection points for textiles and footwear in France.[95]

In 2020, the scheme's 4,096 members paid $36 million to "Refashion", which takes clothes that would otherwise be waste and introduces them into the fashion market. Brands placed more than 517,000 tonnes of reused clothing products on the French market in 2020, with 204,000 tonnes of clothes collected (a collection rate of 39%).[96] Europe is now looking at this framework as a solution in terms of textile circular economy.

Insights for the Legal Profession

a) Examples of Relevant Cases and Legal Proceedings

UK

ASA Ruling on Tesco Stores Ltd t/a Tesco (2022)

A number of Tesco's adverts, which were broadcasted throughout the UK on TV, video on demand, radio and online, promoting Tesco's "Plant Chef" range, were found to be misleading. The adverts showed a woman eating a plant-based burger and claimed that making a "little swap" could "make a difference to the planet" or be "even better for the planet". These claims implied that there was an environmental benefit to eating a Plant Chef burger over a meat-based burger.

The Advertising Standards Authority ruled that environmental claims must be based on the full life cycle of the advertised product and must make clear the limit of the life cycle, highlighting the fact that various steps in the supply chain of processed plant-based products could have a negative environmental impact – in particular, production or transportation. Tesco did not hold any evidence in relation to the full life cycle of the Plant Chef products, and the comparative claims the adverts made about environmental benefits of the Plant Chef burger over a meat burger could not be substantiated. The adverts were found to breach multiple UK advertising codes.

Elliott-Smith v Secretary of State for Business, Energy and Industrial Strategy et al. 2020

Georgia Elliott-Smith, a waste industry expert and environmental consultant, won permission to challenge two aspects of the UK Emissions Trading Scheme (UKETS), which aims to replace the EU Emissions Trading Scheme (EUETS) 2021. UKETS adopts a "cap and trade" principle which sets a cap on the total amount of GHG that can be emitted by sectors covered by the scheme. Elliott-Smith argued that the total emissions cap was too high to meet short and medium-term obligations under the Paris Agreement, and that the emissions cap unlawfully omitted municipal waste incinerator emissions. Elliott-Smith further alleged that the Climate Change Act of 2008 confirmed the purpose of UKETS as reducing emissions, yet the government set the emissions cap for the improper purpose of easing the UK's exit from the EU.

The challenge was dismissed. However, in dismissing the case, the court noted that its acceptance of the government's argument did not deny the "urgency of the need to address climate change" and suggested that "taking measures in the short term is an essential part of achieving the longer-term objective."

USA

Rawson v ALDI, Inc. (No. 21-cv-2811) (2022)

ALDI faced a class-action lawsuit in the US state of Illinois alleging that it made deceptive sustainability claims in its marketing of Atlantic Salmon. Packaging described the product as "Simple. Sustainable. Seafood", though the salmon was in part sourced unsustainably from fish farms in Chile, where salmon are not native. While the court dismissed certain allegations made in the suit, it held that it was plausible that ALDI's use of the word "sustainable" was misleading and allowed the claim to continue.

ALDI faced a second lawsuit from Toxin Free USA in the District of Columbia, in relation to the same allegedly misleading marketing, on the grounds that it breached the District of Columbia Consumer Protection Procedures Act. ALDI's action to dismiss this case was also rejected.

Despite negotiations being underway to settle both claims out of court, these cases provide a helpful illustration of the power of consumer and advertising law to promote greater sustainability and transparency in supply chains.

Haiti

Petition to the Inter-American Commission on Human Rights Seeking to Redress Violations of the Rights of Children in Cité Soleil, Haiti 2021

In 2021, multiple Haitian children petitioned the Inter-American Commission on Human Rights to redress human rights violations resulting from waste disposal in their district, Cité Soleil. The children argued that toxic waste disposal from Port-Au-Prince to Cité Soleil causes short- and long-term health harms and affects children more acutely, and their petition included a discussion of climate change's exacerbation of the harms to children through environmental displacement and waterborne diseases. The petitioners allege violations of the American Convention's rights of the child, right to dignity, right to live in a healthy environment, and the right to judicial protection. The case is currently pending.

Italy

Prato Nevoso Termo Energy Srl v Provincia di Cuneo and ARPA Piemonte 2019

This Italian request for a preliminary ruling concerned atmospheric emissions caused by bioliquids, and a clarification as to whether the substance in question counts as a waste or as a fuel.

In 2016, Prato Nevoso requested authorisation from the Province of Cuneo to replace methane with bioliquid (derived from used cooking oils and oil refining residues) as the power source for its power plant. Despite the bioliquid being supplied by a company that had a permit classifying the liquid as an end-of-waste product, Nevoso's request was denied on the grounds that the bioliquid was not contained on a national list of authorised biomass fuels and should therefore be considered waste.

Prato Nevoso challenged the decision arguing that the national list breached provisions of the EU Waste Framework Directive which allows for certain waste to cease becoming waste and achieve end-of-waste status.

The national court sought a preliminary ruling from the ECJ on whether the Directive must be interpreted as precluding national legislation.

The ECJ found that the Directive does not preclude the possibility that a substance derived from waste can be defined as a fuel.

China

Taizhou Environmental Protection Federation vs. Taixing Jinhui Chemical Co., Ltd (2016)

In this Chinese case, Taizhou Environmental Protection Federation (TEPF) commenced proceedings in tort against multiple defendants including Taixing Jinhui Chemical Company (Jinhui), Jiangsu Changlong Agrochemical Co., Ltd (Changlong), Jiangsu Shimeikang Pharmaceutical Company (Shimeikang), Taixing Shenlong Chemical Co., Ltd., Taixing Fu'an Chemical Co, and Taixing Zhenqing Chemical for environmental damage caused to the Rutai Canal and Gumagan River.

Jinhui, a chemical company, arranged to dispose of its acid by-product by selling the waste to another company, Jiangzhong, knowing Jiangzhong did not have the qualifications or appropriate licences to dispose of it. Despite knowing that Jiangzhong was illegally disposing the waste into Rutai Canal and Gumagan River, Jinhui never intervened in the disposal process.

The lower courts found Jinhui liable and forced it to pay environmental restoration costs. The court held that even though it did not directly cause the pollution, as a chemical producer it must ensure that the production,

sales, transportation, storage, and disposal of its hazardous chemicals are compliant with relevant Chinese environmental laws.

Jinhui appealed on grounds of damage valuation, standing, causality, civil procedure, liability, and corporate autonomy. The Appeal Court confirmed the original decision, which was subsequently affirmed by the Supreme Court. Of particular importance was the court's affirmation that TEPL had standing to commence proceedings against the defendants as it was a social organisation registered with the Taizhou Municipal Civil Affairs Bureau which aimed to protect environmental public interest.

Also noteworthy is that the court encouraged the upgrading of Jinhui's technology so that it could convert waste into assets by offering a 40% reduction in the restoration cost if Jinhui could certify that it would abide by environmental assessments or implement a technological upgrade.

India

Sukhdev Vihar Welfare Residents Association v. Union of India 2013

In 2013, a Welfare Residents Association challenged the construction and operation of the waste-to-energy plant by the Municipal Corporation of Delhi in India. The Association argued that the incineration of unsegregated municipal solid waste emits large quantities of GHG, including carbon dioxide, and therefore contributes to climate change.

However, The National Green Tribunal allowed the operation of the plant, on the basis that the project proposal adopted anti-pollution measures, improved technology, introduced new methods of segregation, and brought emissions to not only within the prescribed limits, but to more stringent standards.

b) Legal context and challenges

Achieving sustainable consumption and production (SCP) at an international level can be particularly difficult owing to the high degree of politicisation surrounding issues of climate action including SDG 12; all of which have received growing attention in recent years with the popularity of COP conferences. Here, close linkages between economic growth and resource dependency raise moral dilemmas around how resource allocation should be distributed between developing and developed countries.

For example, tensions arise relating to the level of obligation and responsibilities that should be attributed to different governments. As a result, it can be hard to achieve international consensus on concrete commitments. Even when made, methods for monitoring and enforcement are weakened. This is seen, for example, with the web of treaties regulating the production, use, transport and disposal of toxic substances, which despite having received high levels of ratification from many countries around the world, have faced inconsistencies in reporting. As a result, it becomes hard to determine how successful compliance and implementation has been.

In contrast, at regional and national levels, where resource distribution tends to be more equitable, progress has been much faster. New plans and policies have been developed on circularity - promoting SCP at all stages of product design and life cycle, and necessitating cooperation from the private sector. As a result, changes to business standards, corporate licensing systems, and the regulation of products and services have seen sustainability reporting gain ground among the biggest companies, including with direct reference to the SDGs.[97]

However, in a similar vein to international treaties, efforts are still needed to improve alignment and consistency within reporting. Efforts to combat greenwashing (as suggested in the European Green Deal for example) highlight the need for greater transparency of information. One challenge is how best to assess current and potential impacts on the SDGs throughout the whole value chain, from use of raw materials to the reusability and recyclability of the end-product, as well as how to enable sustainability reporting within small and medium-sized enterprises.

c) So, what can lawyers do?

This section highlights several areas for action, encouraging the profession to use its expertise and influence to contribute to the objective of making production and consumption patterns more sustainable.

Learn and educate

Lawyers can enhance their understanding of production and consumption patterns along with the policy and programmatic efforts to make them more sustainable. The One Planet Network, a knowledge hub for SDG 12, offers an online collaborative library with project documents, guidelines, and policies on SCP to encourage knowledge transfer and innovation in this area. For each of the six themes (public procurement, buildings and construction, tourism, food systems, consumers information, and lifestyle and education), interested practitioners will find relevant policy and legislation classified by country or region.[98]

On the particular issue of sustainability reporting, the Global Reporting Initiative (GRI) has also developed standards which are widely used by companies around the world, and offer best practices for reporting on non-financial issues.[99] In addition, the Circularity GAP Report 2023, provides insight into the circular economy worldwide, providing data and measurement on resource efficiency and waste.[100]

However, law firms with relevant expertise can go a step further, collaborating to create networks driven by knowledge sharing and collective impact. Given the industries that SCP touches upon, from waste management to consumer protection, SDG 12 requires a coordinated approach between law firms, the corporate sector, governments, international organisations, and civil society, that encourages data sharing and a commitment to transparency. Understanding and acknowledging the complexities of SCP, particularly its disproportionate impact on least developed countries, is integral to SDG 12's aims.

At a firm level, understanding the importance of SCP should be prevalent across all sectors and at all levels. In addition to a familiarisation with SDG 12's targets, clear objectives should be set that relate to the operations of the firm, for example, zero plastic goals and efforts to reduce firm-wide digital impact. Senior management should create an infrastructure that allows lawyers to achieve team-specific targets, as well as make personal commitments to advancing the goal, for example, through responsible food and recycling choices.

Integrate

With SDG 12 providing an impetus for the private sector to examine and re-align their own policies and practices, law firms, corporate legal departments, and other law-related organisations can begin to evaluate their own consumption habits. For instance, innovative working models prompted by COVID-19 offer new virtual and hybrid business activities for those considering how best to reduce their material footprints. From cutting down on overseas business travel, to reconfiguring office space and integrating new digital capabilities (e.g. electronic signatures, video teleconferencing, cloud-based technologies etc.) there are many ways for law firms to change how they deliver legal services, and often in ways that are more flexible and accommodating to clients.

When delivering these services, lawyers can further integrate the principles of SCP by promoting sustainability-based risk assessments that include real and potential impacts along the supply chain, and notably, look to circularity within business practices, processes and products. In so doing, lawyers can assist their clients in meeting non-financial reporting obligations and extending best practices in sustainability to include matters such as waste generation, use of natural resources, and gas emissions along the global value chain.

Lawyers assisting authorities in public procurement processes also have a role to play. For example, by integrating sustainability criteria within bid specifications and contracts, SCP can be enhanced in public and private arrangements.

Act

Strategic litigation in cases of greenwashing, industrial pollution, or unsafe waste disposal are some of the more direct areas where lawyers can contribute to SDG 12, whether this is through direct client handling or via pro bono offerings.

Given that environmental issues, such as climate change and waste management, are international by nature with production and consumption (i.e. impact and causation) stretching the circumference of the globe, SDG 12 offers opportunities for lawyers to participate directly in sustainability projects overseas. This includes using or developing expertise in legal frameworks across jurisdictions. For law firms with international offices, it further allows for greater linkages within the corporate structure. By building relationships with local stakeholder groups, NGOs, and civil society organisations in affected communities, law firms can provide assistance for those confronted with the harmful consequences of production, while also understanding the consumption habits driving those impacts from their own office locations.

In addition, legal and pro bono expertise can contribute to developing legal frameworks in favour of the achievement of SDG 12, including: guidelines on sustainability reporting; comprehensive legal frameworks on sustainable public procurement; legislation on waste management and transposition of international conventions on the subject; or legislative acts and policies on quality consumer information.

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