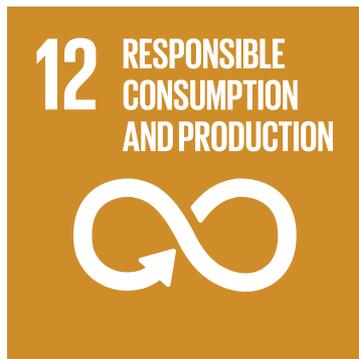


SUSTAINABLE DEVELOPMENT GOALS

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SDG 12: Responsible Consumption and Production

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Introduction: Sustainable Consumption and Production

The 1994 Oslo Symposium on Sustainable Consumption defined *sustainable consumption* as:

the use of goods and services that respond to basic needs and bring a better quality of life, while minimising the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle, so as not to jeopardise the needs of future generations (OECD, 1999).

Sustainable production can be understood in much the same way but with the focus shifted to the output of goods and resources. While these are good working definitions, it must be noted that these are broad and sometimes contested concepts with definitions that can be expanded, focused, and adjusted. Broadly speaking, however, sustainable consumption and production (SCP) relates to:

[S]ystemic change, decoupling economic growth from environmental degradation and applying a lifecycle thinking approach, taking into account all phases of resource use in order to do **more and better with less**. (One Planet Network).

History

In 1972, the Club of Rome commissioned *The Limits to Growth* (LTG), a report analysing the results of a computer simulation which had examined the effects of exponential economic and population growth on a planet with finite natural resources. Based on the simulations, the report concluded that without changes to historical growth trends the planet would begin to reach the limits to growth by 2072, leading to a “sudden and uncontrollable decline in both population and industrial capacity” with catastrophic implications for human societies. LTG provoked substantial criticism at the time and since, often relating to the argument that human ingenuity would enable new technologies to be used which would rely on new resources and the repurposing of existing resources (Lomborg & Rubin, 2009; Simon, 1996). However, analysis of historical data from 1972-2000 found that the original simulation has been largely accurate in its predictions (Nørgård et al., 2010; Turner, 2008; Turner & Alexander, 2014).

A number of key milestone events followed on from the LTG report which have contributed to a greater understanding and recognition of the dire situation created by overconsumption: the

1987 UN World Commission on Environment and Development, the 1992 UN Conference on Environment and Development, the 2002 World Summit on Sustainable Development, and the 2003 launch of the Marrakech Process on Sustainable Consumption and Production. After decades of summits without much in the way of formal UN agreement, the 2012 UN Conference on Sustainable Development (Rio+20) was a key turning point. At Rio+20, Heads of State not only decided to initiate the process of developing a set of goals which eventually became the SDGs, but also adopted the 10-Year Framework of Programs on Sustainable Consumption and Production Patterns (10YFP).

The 10YFP is a universal framework aimed at changing the way societies around the world produce and consume through a range of functions such as facilitating the exchange of information and tools regarding best practice; fostering cooperation and networking between stakeholders; facilitating access to technical, educational, financial, and technological assistance; and fostering innovation and ideas. While the 10YFP is designed to assist all countries in achieving better SCP outcomes, it specifically calls upon developed countries to take the lead so that all countries may benefit. Implemented by the One Planet Network, the 10YFP has six distinct programs: Public Procurement, Buildings and Construction, Tourism, Food Systems, Consumer Information, and Lifestyles and Education (Dodds et al., 2014; One Planet Network, 2017).

Sustainable Development Goal 12

The twelfth standalone goal in the UN's 2030 Agenda for Sustainable Development is to *ensure sustainable consumption and production patterns*, comprising of eight targets (12.1-12.8). These targets focus on achieving the sustainable management and use of natural resources; reducing food waste; environmentally sound chemical production and use; waste reduction through the “three R’s” (reduce, reuse, recycle); encouraging private companies to adopt sustainable practices; encouraging sustainable public procurement practices; and the provision of sustainable development information to people around the world. SDG12 also includes three additional targets specifically relating to the means of implementation (12a-12c). These three additional targets focus on supporting developing countries to improve their scientific and technological capacities in order to achieve sustainable production and consumption; develop and implement tools to monitor the sustainable impacts of tourism; and the phasing out fossil-fuel subsidies.

Global progress towards meeting the targets set out within SDG12 has been slow and uneven. Material consumption has continued to increase at a rapid rate, gravely compromising the world's ability to achieve not only SDG12 but the 2030 Agenda more broadly. A 2019 report by the UN Secretary General on progress made towards the SDGs states that “Urgent action is needed to ensure that current material needs do not lead to the overextraction of resources or to the degradation of environmental resources, and should include policies that improve resource efficiency, reduce waste and mainstream sustainability practices across all sectors of the economy” (UN 2019, p. 22). The report continues by laying out some alarming statistics in relation to SDG12: global material consumption has increased by 254 percent from 27 billion in 1970 to 92.1 billion tons in 2017, a figure that is projected to increase to 190 billion tons by 2060 without rapid and intensive change; and the material footprint per capita has also increased significantly from 8.1 tons of natural resources used annually per person in 1990 to 12 tons per person in 2015. These figures show the unabated increase in demand for natural resources around the world, a hallmark of recent decades, which has resulted in extreme environmental stresses (UN, 2019).

Critical Challenges

Energy

The global energy industry contributes the vast majority of greenhouse gas emissions annually. Most of the energy consumed around the world is currently produced by the burning of fossil fuels; predominantly coal, oil, and gas (Ritchie & Roser, 2020b). Burning fossil fuels for energy is inherently unsustainable as they are finite materials, have myriad associated production costs and

are having a devastating impact on global economies, societies, and the biosphere. If we are serious about mitigating against the worst impacts of climate change and achieving the SDGs, we must rapidly transition to more renewable forms of energy. Unfortunately, economies and governments around the world have become highly dependent on the extraction of these resources, so much so that on average approximately 8 percent of global government revenue comes from fossil fuel extraction. In many countries around the world this percentage is higher: such as in Russia (33 percent), Indonesia (22 percent), and India (10 percent) (Ritchie & Roser, 2020). The dependency on fossil fuels as a means to generate revenue in some ways explains the continued implementation of fossil fuel subsidies and incentive schemes by governments. If governments are to successfully change sustainable energy consumption and production, global subsidies for fossil fuels must be removed and energy systems must transition to renewable technologies.

Water

Water scarcity poses a significant threat to the health and wellbeing of billions of people around the world. The design and implementation of sustainable management practices for the planet's water resources is therefore critical, especially as global freshwater use has increased almost six-fold since the start of the 20th century. The majority of the world's freshwater withdrawals (70 percent) is used for agriculture, though this percentage varies considerably between countries. Variation is especially evident in regard to the income levels of countries; on average, 90 percent of low-income countries' water use goes to agriculture, compared to an average of 41 percent going to agriculture in high-income countries (Ritchie & Roser, 2020a). The Asia-Pacific region, which has experienced rapid economic growth over the past two decades, still uses around 80 percent of its water for agricultural purposes and is a good example of a region facing significant challenges in terms of water management. It is estimated that 1.7 billion people in the Asia-Pacific do not have access to basic sanitation, and by 2050 3.4 billion people could be living in water stressed areas. It is further estimated that the demand for water in the region will increase by 55 percent by 2050, and it is unclear how the region will be able to sustain economic growth without sustainable water management (Asian Development Bank, 2016). The global nature of the threat posed by water scarcity requires stronger global governance and mechanisms to ensure fair and adequate management and allocation of water sources (Cooley et al., 2014).

Food

The confluence of increasing populations, diminishing natural resources and increasing urbanisation around the world means that more people are needing to be fed with less water, less agriculturally viable land and less access to rural labour — factors which will only be exacerbated by the effects of climate change. It is therefore highly concerning that around a third of all food produced for human consumption is wasted or lost (Ritchie & Roser, 2020c). This concern can be understood from two standpoints. First, in relation to food insecurity and hunger: why do over 800 million people still experience hunger if a third of all food produced is not being consumed? Second, in relation to the impact of food wastage and loss on already strained resources and the environment (HLPE, 2014). Indeed, global food production accounts for 26 percent of the world's greenhouse gas emissions (Ritchie & Roser, 2020c). Therefore, food waste and loss is not only a waste of resources but also contributes to environmental degradation through the greenhouse gas emissions of urban waste dumps. Industrial mono-culture farming practices are also a key concern as they are heavily reliant on pesticides and land clearing which in conjunction with factory farming of livestock produce vast quantities of methane and degrade soil (Tilman, 1999; Yale School of Forestry & Environmental Studies, 2020). Achieving food security through a transition to sustainable agriculture practices is critical if we are to meet the projected increased global food demand of 60 percent by 2050 (FAO, 2016). Another concern in regards to food production and consumption is the increasing rate by which meat, dairy, and seafood is being produced and consumed: meat, fish, and seafood production has quadrupled over the past 50 years; and milk production has doubled over the same timeframe.

Overconsumption and production of meat, dairy, and seafood products is problematic for a number of reasons, but in terms of the SDGs perhaps most ostensibly due to the fact that livestock and fisheries account for the majority (52 percent) of the global greenhouse gas emissions attributed to food production—a figure that is even higher in the EU (83 percent) (Sandström et al., 2018). In fact, dietary change to reduce or even exclude meat, dairy and seafood is arguably the most effective way to reduce one’s carbon footprint at an individual level (especially for big meat eaters in countries such as the US and Australia) (Ritchie & Roser, 2020c). Further, meat, dairy, and seafood production not only have the largest carbon footprints per pound of protein (and calories), but also have a huge water footprint. Measured per kilogram of food product cheese requires 5,605 litres, farmed fish requires 3,691 litres, cattle (for dairy) requires 2,714 litres, lamb requires 1,803 litres, cattle (for beef) requires 1,451 litres, and milk requires 628 litres (Poore and Nemecek, 2018).

Consumption and Production Disparities between the Global North and South

Another critical challenge that must be met in order to achieve SDG12 is remedying the huge disparities in the consumption rates and patterns between the Global North and South. Some estimates have shown that the roughly one billion people in the Global North, who live in places such as North America, Western Europe, Japan and Australia, consume at a rate 32 times higher than the majority of people living in countries in the Global South (Diamond, 2008). Inequalities in consumption rates between the Global North and South show that the planet’s resources are currently overwhelmingly depleted by a minority of people lucky enough to have been born into rich countries. This inequality is dangerous not only to the planet’s biophysical wellbeing but can also be tied to inter- and intra-societal tensions between those who have the means to consume luxuriously and those who do not (UNEP, 2012). Significant attention must therefore be paid to the consumption and production patterns and rates in the Global North to reduce the disproportionate share of the planet’s resources being depleted by rich countries. Attention must also be paid by the countries in the Global South currently experiencing economic and population growth to ensure sustainable and efficient use and management of resources so as to bolster and future-proof their economies and societies instead of repeating the mistakes of the Global North.

European Union Initiatives on SDG12

The European Union (EU) has made some progress towards achieving the targets set by SDG12. Significant progress over the past 15 years has been made in reducing the use of toxic chemicals, increasing resource productivity, increasing energy productivity, increasing the share of renewable energy, and increasing the rate by which circular materials are used within the economy. Moderate progress over the past 15 years has been made in reducing the average CO2 emissions per kilometre for new passenger cars, reducing primary energy consumption, and reducing the generation of waste. The EU is going backwards in terms of its final energy consumption, having failed to reduce its overall energy usage (Eurostat, 2019).

The EU has implemented a number of initiatives directly related to achieving SDG12 and recognises that there must be a decoupling of environmental impacts from economic growth in order to enable continued improvements to living standards and quality of life into the future. EU initiatives related to SDG12 include: the 2018 European Chemicals Agency adoption of a substitution strategy designed to encourage the replacement of harmful chemicals with safer alternatives and technologies; mandatory emission reduction targets for new cars, phased in from 2012-2015 and increased in 2020-2021; the 2018 Circular Economy Package which seeks to increase municipal recycling rates to 65 percent by 2035 and reduce municipal landfill to 10 percent by 2035; and the EU platform on Food Losses and Food Waste, established in 2016 and revised in 2018 which requires Member States to reduce food waste at all stages across the supply chain and monitor and report annually on food wastage levels (Eurostat, 2019).

Perhaps the most significant initiative by the EU designed to address SDG12 and the wider SDG agenda is the European Green Deal (EGD). The EGD, announced by European

Commission (EC) President Ursula Von der Leyen in late 2019, is a commitment to making Europe the first climate neutral continent by 2050 through targeted investment and systematic economic renewal. Executive Vice-President of the EC Frans Timmermans describes the EGD as “an opportunity to improve the health and well-being of our people by transforming our economic model. Our plan sets out how to cut emissions, restore the health of our natural environment, protect our wildlife, create new economic opportunities, and improve the quality of life of our citizens” (European Commission, 2019). This undoubtedly bold commitment has its detractors within the EU—notably Poland, which has exempted itself so far. The EGD is however also seen by some in the EU—such as the leaders of the Netherlands and Germany—as the logical way to stimulate and future-proof the EU economy and also an ideal pathway to lead the EU out of the economic crisis posed by the COVID-19 pandemic. (Janssen, 2020; Davison & Hughes, 2020).

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