# Circularity Gap Report - Norway

## Q&A Document

English

**The report states that we consume 44.3 tonnes per person per year. How is that possible, I don't throw away that much waste in a year?**
As a consumer, we use clothing, phones, furniture, food, cars and many more consumer goods. But we also need houses to live in, we drive on roads, we enjoy the safety of our tunnels, we walk through shopping streets, and we use many more products and services that do not end up in our trash. So, the 44.3 tonnes includes our household waste, construction waste and the waste from our industry and agriculture. In short, all the resources that was used to meet all of our needs.

**How does reusing materials help create a new economic model?**
Where previously our society was more or less in balance with the ecosystems around it, our way of consuming has changed dramatically since the industrial revolution. Since then, the growth of the economy has been increasingly measured by the amount of products consumed. However, this is not sustainable and it's not possible in a circular economy. In a circular economy, the amount of materials in the economy is limited and is continuously reused. Consuming more by extracting more materials from the earth or the ecosystem is no longer possible. We, therefore, need a new economic model, a new way of consuming and producing, to achieve a circular economy in which we not only keep as many materials in use as possible but where we are also aware that there is a limit to how much we can consume.

**What is the relationship between the ambition to become circular and other sustainability ambitions?**
The circular economy is not an end in itself, but a means to a higher end. The goal is to live in balance with the planet and its ecosystems as a society. In this way, the transition to the circular economy can contribute to achieving other sustainability goals, such as climate mitigation or reducing the plastic soup in the ocean.

**In calculating the circularity of the Norwegian economy, is it also distinguished between high-quality and low-quality reuse of material?**

No. The fact that the Norwegian economy is 2.4% circular means that, on average, almost 2.4% of the materials are used again and are useful in the economy in one way or another. No distinction is made here between so-called high-quality and low-quality reuse or recycling. However, a high degree of high-quality recycling is a precondition for achieving a fully circular economy. A fully circular economy keeps all materials in use for as long as possible and in as high-quality as possible to avoid the need to extract new materials.

**What is the relationship between the circular economy and other sustainability principles, such as Cradle-to-Cradle, biomimicry, or the biobased economy?**
The circular economy is not a new concept, but it is a relatively new term for a field of knowledge that has developed over decades. The circular economy combines the principles of multiple sustainability principles, including Cradle-to-Cradle and the biobased economy.

**Isn't it more important to use fewer materials instead of recycling more materials?**
Making the Norwegian economy circular is a huge challenge. Curbing our consumption and consuming less, has also proven to be a major challenge. The more we consume, the more difficult it is to reuse all materials. Also, there are material flows that we will not be able to reduce, or reduce fully, because they are essential to our society. So we don't have the luxury of choice and reducing our consumption goes hand in hand with the aim of a circular economy. To ensure compatibility between the two objectives, we should focus on making those material flows which are essential to our society circular, such as our food, our homes and our hospitals, among others.

**What is the role of biomass in a circular economy? Is biomass also included in the calculation of the circularity of Norway?**
Biomass, i.e. materials produced by plants and animals, are an important part of the circular economy. Our food, a large part of our clothing, and part of our houses consist of biomass. Biomass can be seen as circular if the associated ecological cycles are closed cycles. For example, it is important that we recover the nutrients from our food and use them in the production of new food, and that we ensure that the wood we use comes from responsibly managed forestries. This way of reusing biomass, via an ecosystem, is included in the calculation if measurements show that this is done in a responsible manner. Unfortunately, little information is yet processed in macroeconomic databases about the origin and sustainability of biomass, so many of these material flows cannot yet be classified as circular.

**How do you explain the role of stocks in becoming circular? Is stock build-up a bad thing?**

The assessment of the circularity of an economy focusses on the material flows within a given time period, usually a specific calendar year. It can happen that in a specific year a lot of materials are extracted and used to build up infrastructure, production capacity, or another type of stock. If that build-up of stocked materials is based on virgin materials, that will inevitably lead to a decrease of the circularity of the Norwegian economy for that specific time period, even if the related products have a circular design by focusing, for instance, on recyclability or durability. This is reflecting the fact that, for that time period, the related impact on the environment and the depletion of finite resources is also increased. That doesn't necessarily mean that stock build-up is a bad thing. In some cases, such as the installation of windmills and solar panels, you could even argue it is necessary. In this example, a decrease in circularity in the year that windmills are being produced is even followed by many years in which the circularity is actually increased because fossil fuels are replaced by renewable energy. However, to avoid the negative effect of such a stock build-up, it is always wise to explore options to use renewable or secondary resources to produce the required goods and infrastructure, for instance by using circular economy criteria in public procurement.

**How can a circular economy contribute to creating a fair and more equal economy?**
Creating a circular economy is first about minimising the negative impact of our material consumption on the planet and its ecosystems. This endeavour is part of broader sustainability ambitions, such as the United Nations Sustainable Development Goals or Kate Raworth's model of a Doughnut Economy. Creating a circular economy is linked to many of these broader ambitions. Many international conflicts can be traced back to the lack or scarcity of natural resources. Water pollution in the countryside or air pollution in large cities causes a lot of health damage. The realisation of a circular economy also offers the opportunity to retrain people as repairers, circular service providers, or small-scale and sustainable producers. The pursuit of a circular economy can, therefore, make an important contribution to creating a safe and fair economy with more jobs and a healthier living environment.

**I see you have modelled several scenarios where a part of the Norwegian economy**

**I have trouble to understand how you calculated the circularity of Norway's economy. Can you explain how you did it?**
The circularity index is defined as the share of cycled resources among all the resources needed to produce the goods and services that Norwegians consume to satisfy their societal needs. Please note that we therefore deliberately exclude the materials and products that are exported from the calculation, to avoid double-counting among countries. To calculate the share of cycled resources we need to add two things together: the number of secondary materials used and the amount of waste (re)used in the economy to serve the Norwegian societal needs. The number of secondary resources can be

calculated by adding the secondary resources recycled within Norway and the secondary resources included in imports and subtracting the secondary resources that are included in Norwegian exports. This comes down to 4.4 + 2.9 - 2.5 = 4.9 Mt of secondary materials (note: the 0.1 deviation is due to rounding of numbers). The amount of waste (re)used in the Norwegian economy to satisfy local demand is 0.6 Mt (note: this is not shown in the diagrams in the report to reduce their complexity). The total amount of cycled resources is, therefore, an estimated 4.9 + 0.6 = 5.5 Mt. As we estimate the total amount of resources needed to satisfy the societal needs of Norway to be 234 Mt, the circularity of the Norwegian economy is 5.5 / 234 = 2.4%.