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ROCKWOOL on circularity

As the world's population continues to grow, pressure on natural resources will only increase. Creating greater circularity across all economic sectors will contribute to relieving this pressure, especially in the built environment, which is responsible for 30-40 percent of the global waste generation.¹

The circular economy is defined by three principles. Those include designing out waste and pollution; keeping materials at their highest value; and restoring natural systems. These principles are essential elements across ROCKWOOL's business operations in the following ways.

1. Design out waste and pollution

Designing out structural energy waste: Reducing energy waste is at the core of our business. Representing around 75 percent of our annual revenue, ROCKWOOL's insulation products sharply reduce energy consumption and waste in buildings. In poorly insulated buildings, more than 70 percent of the energy used for heating and cooling can be lost. This wasted energy has negative economic, social, and environmental consequences. By offering products that address the root causes of this problem, we contribute to reducing emissions, and saving energy and money.

Designing out construction waste: Construction is one of the most wasteful sectors in the global economy. For example, in the EU alone, construction and demolition waste is responsible for more than 30 percent of the materials going to landfill. By producing recyclable stone wool and offering comprehensive recycling services in a growing number of countries, we contribute to greater circularity in the construction sector. In the past three years, we have increased the volume of reclaimed stone wool material by more than 30 percent and expanded the availability of our reclaimed material service to 17 countries, thereby meeting our intermediate goal of offering this service in 15 countries by 2022. Our longer-term goal is 30 countries by 2030.

Design for disassembly: Making products that are reusable and recyclable starts at the design phase. This also pertains to ROCKWOOL's products, most of which are well-aligned with this principle. ROCKWOOL's insulation, cladding, and acoustic tiles, for example, are easily separated from other materials during a building's renovation or demolition, in that they are typically fitted without the use of glue or other means that inhibit easy separation. This facilitates recycling or reuse and allows for more flexible construction and deconstruction of buildings.

Recycling waste from other industries: Our technology allows us to upcycle waste from other industries, providing an alternative to these materials being landfilled or incinerated. We repurpose waste, for example, from the aluminium industry and power plants. As a result, in certain geographies and product lines, our stone wool products can contain up to 75 percent recycled material.

Closed-loop production: In three-quarters of our stone wool manufacturing facilities, we have eliminated all stone wool waste going to landfill. Globally, we have committed to reducing production waste going to landfill by 85 percent by 2030. As of 2020, we met our waste to landfill interim target of 40 percent reduction by 2022, having achieved 50 percent.

¹ <https://www.sciencedirect.com/topics/earth-and-planetary-sciences/construction-waste>

2. Keeping materials at their highest value

Durability: Our insulation has a life span of more than 60 years² with no loss of thermal or mechanical performance. This durability helps extend the lifecycle of buildings, improve their performance, and ensure they stay in use for longer, thus reducing waste.

Product life-extension: In product categories such as flat-roof, façade, and general building insulation, ROCKWOOL's insulation products are especially well-suited for life-extension applications. Sometimes referred to as re-insulation, this entails repairing and upgrading a building's existing insulation to meet higher energy performance standards, without demolishing and building anew. This contributes to extending the life span of buildings and the materials used to make them.

Fire resilience: ROCKWOOL's stone wool is non-combustible, which helps keep buildings, materials, and people safe by minimising damage caused by fires. This also contributes to reducing the materials and resources required for rebuilding after a fire.

3. Restoring natural systems

Decarbonisation: Our business is already net carbon negative because of the large carbon savings our insulation products enable in their lifetime. Through our ambitious decarbonisation efforts, we are increasing this positive impact and thereby playing an important role in the transition towards a carbon neutral society (for more information, see the decarbonisation position paper).

Positive impact on human wellbeing: Stone wool's inherent durability as well as its thermal, acoustic, and water and fire resistance performance help create safe and healthy environments for people living, working, learning, playing, and recovering in buildings. What is more, our stone wool contains no fire retardants and is one of the most tested and studied buildings materials anywhere in the world. Hundreds of scientific tests have proven stone wool to be completely safe to manufacture, install, and live alongside, and that it poses no risk to the environment or human health.

Impact of our raw materials on natural systems: We use stone to make our products, primarily volcanic types like basalt and gabbro. Stone is by far the most abundant natural resource on Earth.³ On average, the Earth produces 38 000 times more stone through volcanic activity than we use annually to produce stone wool⁴ (for more information, see the stone position paper). Our choice in this natural and abundant material helps to decouple the growing demand for construction materials from the use of finite resources.

Sustainable food production: Our Grodan horticultural substrate products and associated services contribute to making food production more sustainable and are an important alternative to traditional soil-based agriculture. Whether on roofs, in buildings or greenhouses, Grodan stone wool products can be sited anywhere, require no soil, far less space, water and fertiliser compared to soil-based methods while achieving higher yields. Grodan products also make it possible to use bio-based pest control, thus reducing or even eliminating chemical-based plant protection products that can have an adverse impact on other eco-systems and human health.

² Source: FIW, Durability Project Mineral Wool (2016), p. 14

³ TW Dahl, et al. (2011), International Geology Review (Volume 53 Numbers 7–8, June–July 2011)

'The human impact on natural rock reserves using basalt, anorthosite, and carbonates as raw materials in insulation products', p. 901. [Source link](#)

⁴ Own calculation, based on TW Dahl, et al. (2011), International Geology Review (Volume 53 Numbers 7–8, June–July 2011) 'The human impact on natural rock reserves using basalt, anorthosite, and carbonates as raw materials in insulation products'. [Source link](#)