

**The consumption of natural resources can be decoupled from Finland’s economic growth. At the same time, climate change and biodiversity loss can be mitigated, and pollution reduced. Transitioning to a circular economy makes sense for the European Union and Finland, as it allows reducing natural resource extraction and improves resilience in crises**

The material footprint of Finns is over three times higher than the EU average, and the added value generated from Finland’s natural resources is among the lowest in the EU. Transition to a carbon-neutral circular economy society enables sustainable and efficient use of natural resources and increases the economic well-being obtained from natural resources. Companies, households and the public sector have an important role to play in this.

Regulation should create and maintain markets for circular economy materials, products and services. Consistent and long-term regulation brings predictability to the market. As a basis for regulation, it is important to identify which material cycles are genuinely sustainable and focus on supporting their competitive position.<sup>1</sup>

Finland should influence EU’s initiatives to accelerate the circular economy. For example, Finland can support EU’s Ecodesign regulation promoting longer lifetime and recyclability of products, and the proposal to verify green claims improving consumers’ opportunities to influence.

Investments in industries that are resource-efficient, add high value and use clean energy are essential for the transition to a carbon-neutral circular economy.

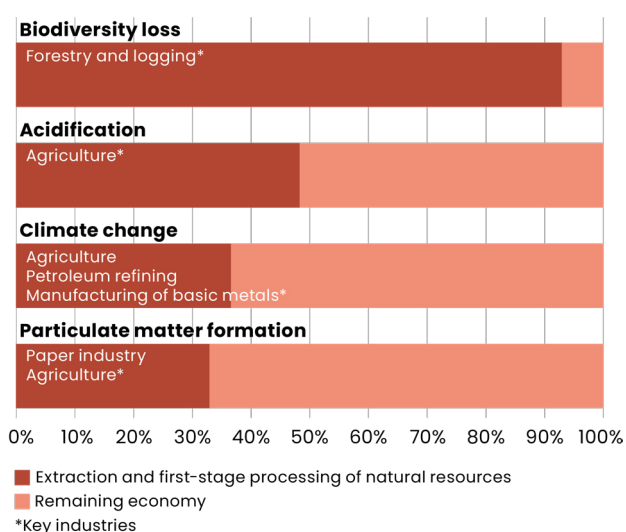
Biodiversity loss can also be mitigated by reducing the extraction of virgin natural resources and managing nature impacts better.



## The use of natural resources causes harm to the environment

Climate change, biodiversity loss and pollution are major global problems that are challenging to solve as living standards rise. The problems are largely due to the increasing use of virgin natural resources. The International Resource Panel estimates that extraction and processing of natural resources are currently responsible for around 55% of global greenhouse gas emissions and more than 90% of biodiversity loss.<sup>2</sup> The use of natural resources must be reduced to environmentally sustainable levels.

### Share of environmental impacts of extraction and processing of natural resources<sup>3</sup>



In 2019, extraction and first-stage processing of natural resources and construction caused just under 40% of greenhouse gas emissions, about 50% of acidification and over 90% of biodiversity loss in Finland.

## Sustainable circular economy as a solution

Environmental problems related to the use of natural resources have been recognised in Finland and EU.<sup>4,5</sup> Finland and EU are also dependent on imported natural resources, which are needed, for example, for energy, healthcare and defence technology and food production. Circular economy is a key solution for both reducing environmental problems and increasing the resilience in EU. Raw material self-sufficiency and resilience have recently been emphasised in EU as the security environment has changed substantially.

At its best, circular economy reduces the use of virgin natural resources by keeping products and materials in use for as long as possible. At the same time, the value of materials from one cycle to another is maintained and less waste is generated. Circular economy is promoted, for example, by utilising the side streams of production, using recycled materials,

designing products to be long-lasting, and increasing sharing, reuse, and repair.<sup>5</sup>

The circular economy actions of Finnish companies, households and the public sector affect the use of natural resources both in Finland and beyond our borders. The pressure on nature is reduced especially by decreasing the extraction of virgin natural resources.<sup>6</sup> It is crucial to be mindful of nature when extracting natural resources.

## Companies see circular economy as an opportunity

According to the circular economy barometer,<sup>7</sup> the concept of circular economy is familiar to Finnish companies and the majority see it as an opportunity. Concrete measures, however, are still quite rare in companies. On the other hand, almost a third of companies intend to increase their circular economy business within the next five years. Especially growth companies have plans related to the circular economy.

In the future, Finland should manufacture higher added value products. Products should also minimise the use of virgin natural resources. Key cross-sectoral circular economy measures include more efficient use of materials, increased use of recycled materials and more service-oriented approaches. In addition, a clean energy transition is essential to ensure low-carbon material cycles. However, it must be carried out in such a way that the impact on nature remains as low as possible. Circular economy can also help reduce emissions from production activities.

## Involving households in the circular economy transition

Households can use fewer natural resources and reduce their environmental impact by changing consumption patterns. Consumption should focus more on long-lasting products with a lower environmental impact, reuse, and services instead of goods.

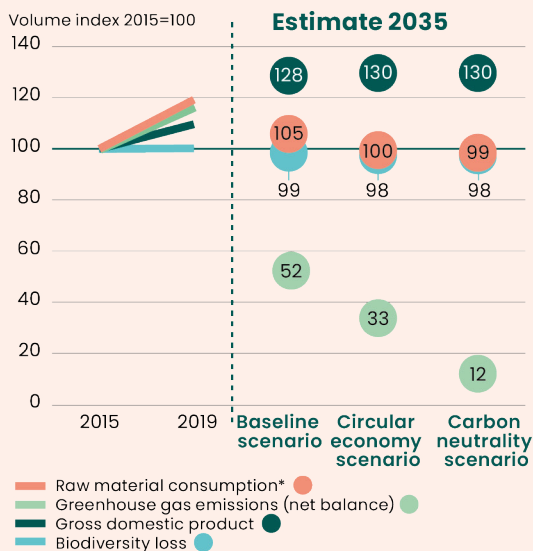
Based on the circular economy barometer,<sup>7</sup> circular economy is visible in households' everyday lives. Extending the lifespan of goods by self-maintenance and repair is a circular economy measure favoured by households. Reuse is not so common, and sharing and the use of paid circular economy services are even rarer. The majority of households are in favour of policies and regulation that improve the efficiency of waste sorting and recycling, and extend the lifespan of goods.

**Regulation must support the circular economy measures of companies and households.**

## In a carbon-neutral circular economy, economic well-being increases and environmental impacts are lower

The aim of the Finnish Circular Economy Programme is to halt the growth in the raw material consumption by 2035. This is possible by introducing circular economy and low-carbon measures in construction, industry, consumption, energy sector and food system. The transition to a circular economy society can be achieved without weakening the economy. At the same time, greenhouse gas emissions are significantly reduced, and air pollution is decreased. Biodiversity loss is also reducing.

### The consumption of natural resources can be decoupled from economic growth<sup>3</sup>

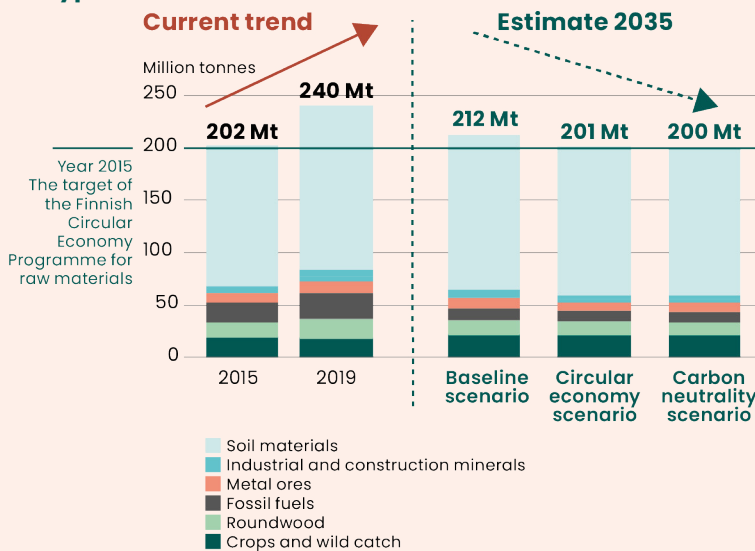


**Baseline scenario:** The clean energy transition has been completed and some circular economy measures have been taken.

**Circular economy scenario:** More circular economy measures have been taken, such as more efficient use of materials in the forest and technology industries.

**Carbon neutrality scenario:** More new and enhanced circular economy and climate measures, such as strengthening carbon sinks.

### Consumption of natural resources by type of raw material<sup>3</sup>



In the baseline scenario, raw material consumption in 2035 will be slightly higher than in 2015. However, the raw material consumption will be below the 2019 level, because less fossil fuels will be consumed. In the circular economy scenario, the raw material consumption in 2035 will be slightly lower than in 2015, due to circular economy measures. In the carbon neutrality scenario, all raw material types will be consumed less in 2035 than in the baseline scenario. The consumption of soil and stone materials will decrease the most, as its share of raw material consumption is the largest.

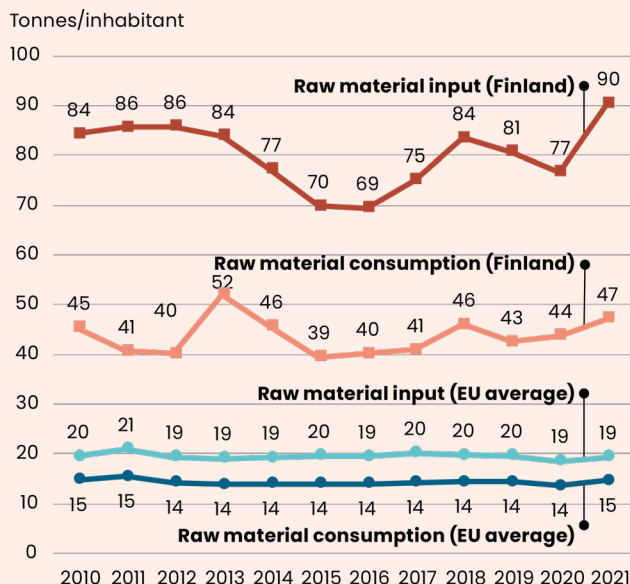
## Finland uses more natural resources than the EU average

**Raw material consumption (RMC):** The amount of raw materials consumed for domestic final demand, i.e. consumption and capital formation. Raw materials used in the manufacture of exported products are excluded.

**Raw material input (RMI):** The amount of raw materials used for goods and services for domestic final use and export. Includes natural resources extracted from domestic nature and foreign natural resources used in the manufacture of imported products. Natural resources do not include use of water.

Finland consumes significantly more raw materials than EU countries on average. As a rule, Finland's raw material input and consumption per capita have grown since 2015. Between 2010 and 2021, consumption has fluctuated between 39 and 52 tonnes due to economic cycles, for example. At the same time, the EU average has remained between 14 and 15 tonnes. In Finland, the raw material consumption is increased especially by building and infrastructure construction, a high standard of living, material-intensive industry, and a cold climate.

### Raw material consumption and inputs<sup>3</sup>



\* The legend of the graph The consumption of natural resources can be decoupled from economic growth has been corrected (June 6, 2024).

## There are ways for more sustainable use of natural resources

### Resource-efficient and low-carbon industry

- Unsustainable operating models should be dismantled. This can be achieved, for instance, by phasing them out in a controlled manner and discontinuing the subsidies that uphold them.<sup>8</sup>
- The removal of tax subsidies for the use of natural resources, such as tax subsidies for wood burning, can improve the state of the environment and government's economy.<sup>9</sup>
- The market for recycled materials and products must be supported. Restrictions are needed on the waste use of side streams and waste, such as incineration. Incineration of waste must be included in emissions trading as soon as possible.
- In addition, new investments in sorting and production are needed, as well as strengthening the competitive position of sustainable end products. For some materials, such as plastics, recycled content requirements may be considered.

### Sustainable consumption

- Product policy must be developed on a long-term basis so that it supports companies' innovation and investment activities and changes in consumption.<sup>10</sup>
- Investments must be made in the expertise of repair and maintenance services and in the development of the service network. The threshold for using repair

services can be lowered by experimenting with repair vouchers granted to households.<sup>11</sup>

### Resource-wise built environment and land use

- Extending the lifetime of the existing building stock should be improved. Renovation can be promoted by offering a public guarantee to finance renovation projects of buildings with low financial value.<sup>12</sup>
- It is important to promote the use of recycled raw materials and the reuse of parts in construction. Public procurement can, for example, be used to guide the safe replacement of virgin soil and rock materials with demolition concrete and ashes.
- Policies that reduce land use pressures and strengthen carbon sinks should be increased, as this will also curb the use of natural resources. Effective policy instruments include a land use change fee, carbon compensation, and an increase in the protected areas, especially in areas with high nature values.<sup>13</sup>

**Finland should influence the EU's initiatives promoting the sustainable use of natural resources and the circular economy, as most of the relevant regulation is formulated at EU level. For example, support must be given to the preparation of the Ecodesign regulation, End-of-Waste regulation and the initiative requiring verification of Green claims.**

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## Reducing use of natural resources can be coupled with strengthening the economy

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