

Reusing plastic and metal could help keep global warming below 2 degrees Celsius and allow the EU to go emission-free by 2050, according to new research on the burgeoning circular economy.

Upping the ante on circular economy efforts by increasing recycling could more than halve the EU's industrial emissions, a new study by Material Economics has concluded.

Instead of focusing purely on decarbonising the supply side of industry, which includes greening energy sources and increasing the use of renewables, the study insists that industry demand could hold the key to big gains.

By reusing and recycling four of the most emission-intensive materials (steel, plastics, aluminium and cement) to a greater extent, the EU could reduce the carbon footprint of its industry by 56%, which is roughly equivalent to 300 megatons of CO<sub>2</sub> a year by mid-century.

Recycling and reuse alone could reduce annual emissions by 178 Mt, while more efficient processes and retooled business models could add a further 56 Mt and 62 Mt, respectively. Estimates shown that material production alone is set to contribute 900 Gt by century's end if current trends continue. In order to get that figure down to a more manageable 300 Gt, the study authors argue that the circular economy is essential.

Although the report acknowledges that savings from the cement sector are difficult to come by, the authors point out that there is huge potential in steel, aluminium and plastic if they are recycled in such a way that preserves their quality.

The study shows that 56% of plastics could be mechanically recycled and that product design and "end-of-life disassembly" processes need to change in order to make recycling economically viable. Those figures are 70% and 50% for steel and aluminium, respectively. Investment is crucial to boosting capacity and the study adds that a higher carbon price will help in the long-term. A tonne of carbon emitted under the EU's Emissions Trading Scheme now costs over €15; a seven-year high.

Europe's 2050 hopes

The findings come at an important time as the European Commission is currently updating its 2050 climate strategy, which dates back to 2011, in order to make it compliant with 2015's Paris Agreement.

Commission officials have already reportedly been asked to work through the summer lull in order to get the strategy finished before the end of the year and ongoing talks on renewables and energy efficiency need to wrap up soon so that the final agreements can be plugged into the calculations.

Sources told EURACTIV that it is "vital" those talks, which remained deadlocked last week,

are finalised soon, most preferably under Bulgaria's rotating presidency of the EU, which expires at the beginning of July.

EU jobs chief Jyrki Katainen said that the "adoption of new, circular business models based on material reuse and improved efficiency can only bring benefits and give European companies a competitive edge".

He added that it will also "lead to significant emissions reductions, contributing to our ambitious climate policy targets and improving quality of life in Europe".

The study also insists that the "priority should be to firmly embed circular economy measures in the low-carbon agenda".

According to UN experts, the remaining carbon budget (the amount of CO<sub>2</sub> humanity can emit in order to keep temperatures below the Paris Agreement's 2 degrees Celsius redline) is around 800 billion tonnes .

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