

# Renew, Recycle, Reduce

## The role of carbon on the path to net zero emissions

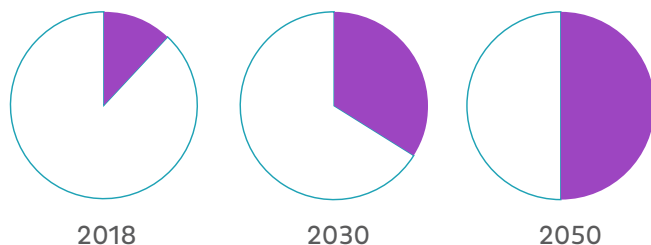


Unilever

Chemicals are ubiquitous. They are key enablers to our modern life. They play a fundamental role in products we use every day, from hand sanitisers to solar panels. But like most things, they have a carbon footprint.

As much as **73%** of most primary petrochemicals' carbon footprint is embedded in the molecules.<sup>1</sup>

### IEA report on 'The Future of Petrochemicals':



**2018** - Petrochemical feedstock currently accounts for 12% of global oil demand.<sup>2</sup>

By **2030** - Petrochemicals will account for over a third of oil demand.

**2050** - They can reach up to 50%!

## Turning off the tap

We need to keep fossil fuels in the ground. By contributing to climate change abatement, Renewable and Recycled Carbon can end our reliance on virgin fossil fuels for our chemical feedstocks.

## Bringing circular economy and climate policies together

Most products available today contain chemicals made from fossil fuel feedstocks, a non-renewable source of carbon. Once maximum material efficiency has been achieved, substituting this carbon with one derived from renewable or recycled sources is the only way to reduce embedded emissions.

By incentivising the transition away from chemicals derived from virgin fossil fuels, policymakers can help unlock novel ways of reducing emissions embedded in products. Unilever estimates that switching from virgin to renewable and recycled carbon feedstocks can reduce the carbon footprint of its product formulations by up to 20%, addressing the hardest to abate emissions.



The expected emissions reductions of a product's formulation environmental footprint by switching to Renewable and Recycled Carbon feedstock

<sup>1</sup> Michael Carus, Lara Dammer, Achim Raschka, Pia Skoczinski and Cristopher vom Berg, "Renewable Carbon - Key to a Sustainable and Future-Oriented Chemical and Plastic Industry," nova-Institute, September 2020, 8, [https://renewable-carbon-initiative.com/wp-content/uploads/2020/09/20-09-21\\_Paper\\_12-on-Renewable-Carbon.pdf](https://renewable-carbon-initiative.com/wp-content/uploads/2020/09/20-09-21_Paper_12-on-Renewable-Carbon.pdf)

<sup>2</sup> <https://www.iea.org/news/petrochemicals-set-to-be-the-largest-driver-of-world-oil-demand-latest-iea-analysis-finds>



# What is Renewable and Recycled Carbon?

**Renewable Carbon** comes from biomass such as palm and other vegetable oils, sugar, and algal oil, and the direct air capture of one-carbon molecules gases from the atmosphere (carbon dioxide and methane). **Recycled Carbon** is obtained from the reprocessing of existing carbon-based materials or the direct capture of industrial gases (carbon dioxide, carbon monoxide, and methane). Today such carbon is largely of fossil origin and thus cannot be described as renewable, but as fossil carbon sources get phased out, it is conceivable that carbon from renewable sources could enter recycling streams in the future.

**Both are carbon sources that avoid or substitute the use of any additional (virgin) fossil carbon from the geosphere.** Unilever is illustrating this novel approach to diversify the carbon used in its product formulations by the 'Carbon Rainbow' in order to reduce the carbon footprint of its cleaning and laundry products.

## Renewable and Recycled Carbon in action

### Did you know?

Last year, **Unilever** pledged to achieve net zero emissions from its products by 2039. This also means **eliminating fossil fuels in cleaning products by 2030**. Unilever will replace 100% of the carbon derived from fossil fuels in its cleaning and laundry product formulations with renewable or recycled carbon.

In Slovakia for instance, Unilever is partnering with German biotechnology leader Evonik Industries to develop the production of rhamnolipids, a renewable and biodegradable surfactant which is already used in dishwashing liquid in Chile and Vietnam.

In Tuticorin in Southern India, Unilever is sourcing soda ash - an ingredient in laundry powders - made using a pioneering CO<sub>2</sub> capture technology. The soda ash is made with the CO<sub>2</sub> emissions from the energy used in the production process.

In China, Unilever launched a capsules of laundry detergent made with recycled industrial carbon emissions from a steel mill.

## Renewable and Recycled Carbon has the potential to foster climate neutrality and consumer empowerment

### Did you know?

**9 out of 10** European consumers want more sustainable and circular products but only a fraction are willing to compromise performance and to pay more.<sup>3</sup>

<sup>3</sup> [https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/659295/EPRS\\_BRI\(2020\)659295\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/659295/EPRS_BRI(2020)659295_EN.pdf)

Renewable and Recycled Carbon addresses the next frontier of climate mitigation - product emissions. It takes us closer to a carbon-neutral and circular Europe

Consumers are demanding change across the board. A broad transition to Renewable and Recycled Carbon will enable people to embrace more sustainable products by making them affordable.

The full potential of carbon circularity remains largely unexplored. What we know to date is that it gives us the opportunity to make more ambitious climate commitments, further develop the chemical and consumer product industry, diversify supply, build resilience, and bring back innovation and research to the centre of the game. **Above all, it is an opportunity for Europe to accelerate its green recovery.**

### About Unilever



Unilever is one of the world's leading suppliers of Beauty & Personal Care, Home Care, and Foods & Refreshment products with sales in over 190 countries and reaching 2.5 billion consumers a day. It has 150,000 employees and generated sales of €52 billion in 2019. Over half of the company's footprint is in developing and emerging markets. Unilever has around 400 brands found in homes all over the world, including Dove, Knorr, Dirt Is Good, Rexona, Hellmann's, Lipton, Wall's, Lux, Magnum, Axe, Sunsilk and Surf. In 2020 Unilever pledged to invest €1 billion as part of its **Clean Future** initiative; the company's comprehensive plan to achieve net zero emissions across all its homecare products by 2039. Clean Future aims to fundamentally change the way that some of the world's best-known cleaning and laundry products are created, manufactured, and packaged by embedding circular economy principles along each step of the value chain. Clean Future is one of the many initiatives within the Unilever Compass; a comprehensive corporate strategy outlining 15 priority areas (including climate change and waste), in which the company has set ambitious targets based on the input of 40,000 employees and external stakeholders.

For more information about Unilever and its brands, please visit [www.unilever.com](http://www.unilever.com). In the case of any questions, please don't hesitate to contact Olivier Floch - Sustainability Manager at Unilever Home Care ([olivier.floch@unilever.com](mailto:olivier.floch@unilever.com)).

For more information on the USLP: [www.unilever.com/sustainable-living/](http://www.unilever.com/sustainable-living/)