Press release

Renewable Carbon Initiative (RCI)
www.renewable-carbon-initiative.com
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Renewable Carbon as a Guiding Principle for Sustainable Carbon Cycles

Renewable Carbon Initiative (RCI) publishes a fundamental strategy paper on the defossilisation of the chemical and material industry with eleven policy recommendations

The Renewable Carbon Initiative (www.renewable-carbon-initiative.com) is an interest group of more than 30 well-known companies from the wide field of the chemical and material value chains. It was founded in 2020 to collaboratively enable the chemical and material industries to tackle the enormous challenges in meeting the climate goals set by the European Union and the sustainability expectations held by societies around the globe. The industry needs to do more than just use renewable energy. Because decarbonisation is not an option for the chemical and material sector, as it is entirely based on the use of carbon, an alternative strategy is required. Today, the RCI publishes a comprehensive paper on how the renewable carbon concept can serve as a guiding principle for the transformation towards sustainable carbon cycles.

RCI addresses the core of the climate problem: 72% of anthropogenic climate change is caused directly by extracted fossil carbon from the ground. In order to rapidly mitigate climate change and achieve our global ambition for greenhouse gas emission reductions, the inflow of further fossil carbon from the ground into our system must be reduced as quickly as possible and in large scale.

In the energy and transport sector, this means a vigorous and fast expansion of renewable energies, hydrogen and electromobility, the so-called decarbonisation of these sectors. The EU has already started pushing an ambitious agenda in this space and will continue to do so, for instance with the recently released ‘Fit for 55’ package.

However, these policies have so far largely ignored other industries that extract and use fossil carbon. The chemical and material industries have a high demand for carbon and are essentially only possible with carbon-based feedstocks, as most of their products cannot do without carbon. Unlike energy, these sectors cannot be “decarbonised”, as molecules will always need carbon. The equivalent to decarbonisation via renewable energy in the energy sector is the transition to renewable carbon in the chemical and derived materials industries. Both strategies avoid bringing additional fossil carbon from the ground into the cycle and can be summarised under the term “defossilisation”.

To decouple chemistry from fossil carbon, the key question is which non-fossil carbon sources can be used in the future. Rapid developments in biosciences and chemistry have unlocked novel, renewable and increasingly affordable sources of carbon, which provide us with alternative solutions for a more sustainable chemicals and materials sector. These alternative sources are: biomass, utilisation of CO_2 and recycling. They are combined under the term

"renewable carbon". When used as a guiding principle, renewable carbon provides a clear goal to work towards with sufficient room to manoeuvre for the whole sector. It enables the industry to think out of the box of established boundaries and stop the influx of additional fossil carbon from the ground.

The systematic change to renewable carbon will not only require significant efforts from industry, but must be supported by policy measures, technology developments and major investments. In order to implement a rapid and high-volume transition away from fossil carbon, and to demonstrate its impact, a supportive policy framework is essential. The emphasis should be put on sourcing carbon responsibly and in a manner that does not adversely impact the wider planetary boundaries nor undermines societal foundations. An overarching carbon management strategy is required that also takes specific regional and application-related features into account, to identify the most sustainable carbon source from the renewable carbon family. This will allow for a proper organisation of the complex transition from today's fossil carbon from the ground to renewable energy and to renewable carbon across all industrial sectors.

RCI has developed eleven concrete policy recommendations on renewable carbon, carbon management, support for the transformation of the existing chemical infrastructure and the transformation of biofuel plants into chemical suppliers. The policy paper "Renewable Carbon as a Guiding Principle for Sustainable Carbon Cycles" is freely available for download in both a short version and a long version.

The overarching goal of RCI is: Fossil carbon extracted from below the ground shall be completely substituted by renewable carbon, which is carbon from all alternative sources above the ground: biomass, CO_2 and recycling. This is the only way for chemicals and materials to become sustainable, climate-friendly and part of the circular economy – part of the future!

Download link: https://renewable-carbon-initiative.com/media/library/

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The Renewable Carbon Initiative (RCI) was founded in September 2020 by eleven leading companies from six countries under the leadership of nova-Institute (Germany). The aim of the initiative is to support and speed up the transition from fossil carbon to renewable carbon for all organic chemicals and materials. www.renewable-carbon-initiative.com

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