A journey into the **Future of Europe** with the **European Chemical Industry**

What will Europe and the world look like in 2050?

What challenges will we face? How can the European chemical industry contribute?

This report is Cefic's attempt to sketch out a plausible path toward a prosperous, more sustainable Europe in the year 2050.

But we know the challenges ahead are bigger than us and know that we will need to work more closely with governments and society to achieve the future we all want. We look forward to the discussions to come.

For Europe to achieve its ambitious goals by 2050 - and to maintain a thriving chemical industry - we face a number of urgent decisions on the prerequisites to a world that is cleaner and healthier and more inclusive, where the transition to climate neutrality has been socially fair and just, and in which Europe maintains its global relevance.

HOW CAN WE DEFINE THE EUROPEAN WAY?

The European chemical industry wants to lead the transition for our industry globally by offering European solutions to global challenges.

Why us?

We serve society with products that people value and that support people's natural desires for better lives, a healthy planet, peace and prosperity. We are a €650 billion industry that produces everything from soaps to solvents and sealants and from biofuels to plastics and vitamins and active ingredients for pharmaceuticals, to name just a few. We also supply downstream industries and value chains from construction to transportation and energy. We produce the raw and high-tech materials on which a modern, resource-efficient society is built. It is impossible to build a better future for Europe without a successful European chemical industry.

Cefic's 8-point vision for Europe in 2050:

1. The world has become more prosperous and more complex, with a volatile geopolitical environment that brings more economic and political integration within most regions, but more fragmentation between them.
2. Europe has developed its own different but competitive place in the global economy.
3. The European economy has gone circular, recycling all sorts of molecules into new raw materials. The issue of plastic waste in the environment has been tackled.
4. Climate change continues to transform our planet. European society is close to achieving net-zero greenhouse gas emissions while keeping all Europeans citizens and regions on board.
5. Europeans have set the protection of human health and the environment at the centre of an uncompromising political agenda.
6. European industry has become more integrated and collaborative in an EU-wide network of power, fuels, steel, chemicals and waste recycling sectors.
7. Digitalisation has completely changed the way we work, communicate, innovate, produce and consume and brought unprecedented transparency to value chains.
8. The United Nations Sustainable Development Goals and its successors are at the core of European business models and have opened business opportunities as market shares increase for those who provide solutions to these challenges.

This vision is the result of a rigorous quantitative and qualitative consultation process that is the broadest ever undertaken by the European chemical industry.

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Launched by the Cefic Board in October 2017, it involved more than 300 stakeholders from academia, government and think tanks. They came from a range of disciplines, some in chemistry and some beyond, and weighed in on megatrends, alternative feedstocks and circularity, climate change and the European energy mix. Based on those discussions we made a series of assumptions and we invited hundreds of experts from around the world to challenge us on our assumptions. They did, we listened, and the discussion continues.

The report describes the European chemical industry today, in Europe and in the context of global competition - it is a phenomenal export success story, for one, with the world's biggest chemical trade surplus - and devotes a section to the circular economy, digitalisation and other technologies changing the way the world does business.

In both the main report and in a series of provocative, fictional "Facets of the Future", we invite readers to explore several 'What If' scenarios with us to help ensure that we are not missing new challenges and better opportunities - and don't end up with a future that nobody wants.

The result is a cautiously optimistic view of the future: Our homes and offices will be carbon neutral, or even carbon negative. Our personal transportation sector will have been largely transformed by autonomous, electrical vehicles, car-sharing and other new forms of mobility. Aeroplanes, trucks and ships will be shifting to alternative fuels or fuel cells. Our environment - at least in Europe - will be even cleaner than it is today. People will live longer and better. Renewable and other low-carbon energy sources will have replaced around two-thirds of fossil fuel combustion globally. Almost everything will be recyclable by design, and everything that can be recycled will be recycled. Data will have replaced oil as the most valuable commodity.

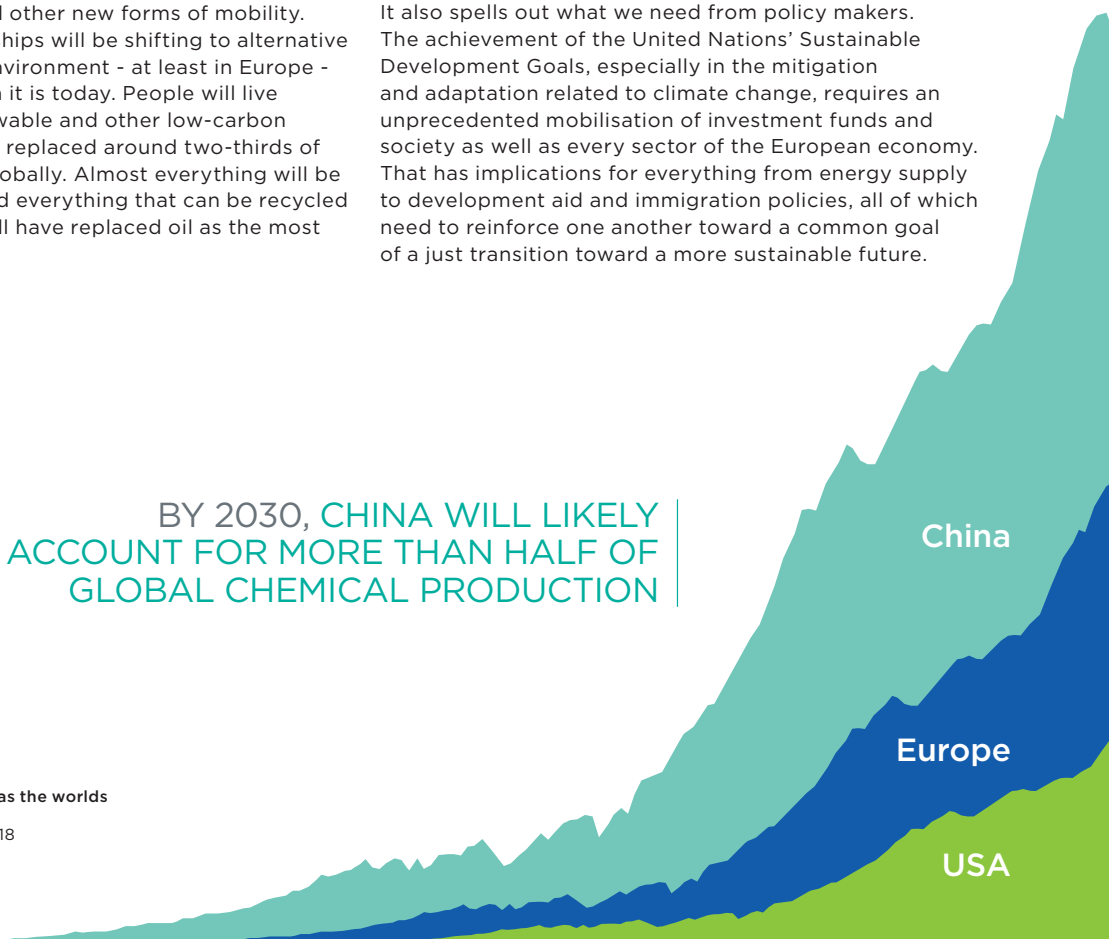
Data mining, artificial intelligence, predictive maintenance and data-based process management will transform industry. Blockchain technology will power radical transparency and track the path of molecules in our economy from production through to recycling. Europe will have cut its greenhouse gas emissions to net zero. Carbon that is still used in industrial processes will be largely captured, re-used and recycled as a valuable feedstock in the circular economy. Europe will be the world leader in sustainable technologies. Each of these visions is highly plausible and highly desirable on its own. Each becomes even more plausible and even more desirable as part of a coherent system.

WE EXPECT EUROPEAN LEGISLATION TO BAN LANDFILLING AND RECOGNISE CHEMICAL RECYCLING AS A VALUABLE WASTE MANAGEMENT OPTION

The report lays out how the European chemical industry can contribute to the circular economy, seeking for greater transparency and placing digitalisation as a way to produce and handle chemicals more efficiently, adapting a wide range of disruptive technologies including hydrogen and fuel cells and artificial photosynthesis and providing good jobs.

It also spells out what we need from policy makers. The achievement of the United Nations' Sustainable Development Goals, especially in the mitigation and adaptation related to climate change, requires an unprecedented mobilisation of investment funds and society as well as every sector of the European economy. That has implications for everything from energy supply to development aid and immigration policies, all of which need to reinforce one another toward a common goal of a just transition toward a more sustainable future.

BY 2030, CHINA WILL LIKELY ACCOUNT FOR MORE THAN HALF OF GLOBAL CHEMICAL PRODUCTION



The European chemical industry has the worlds biggest chemical trade surplus
Source: Cefic Facts and Figures 2018