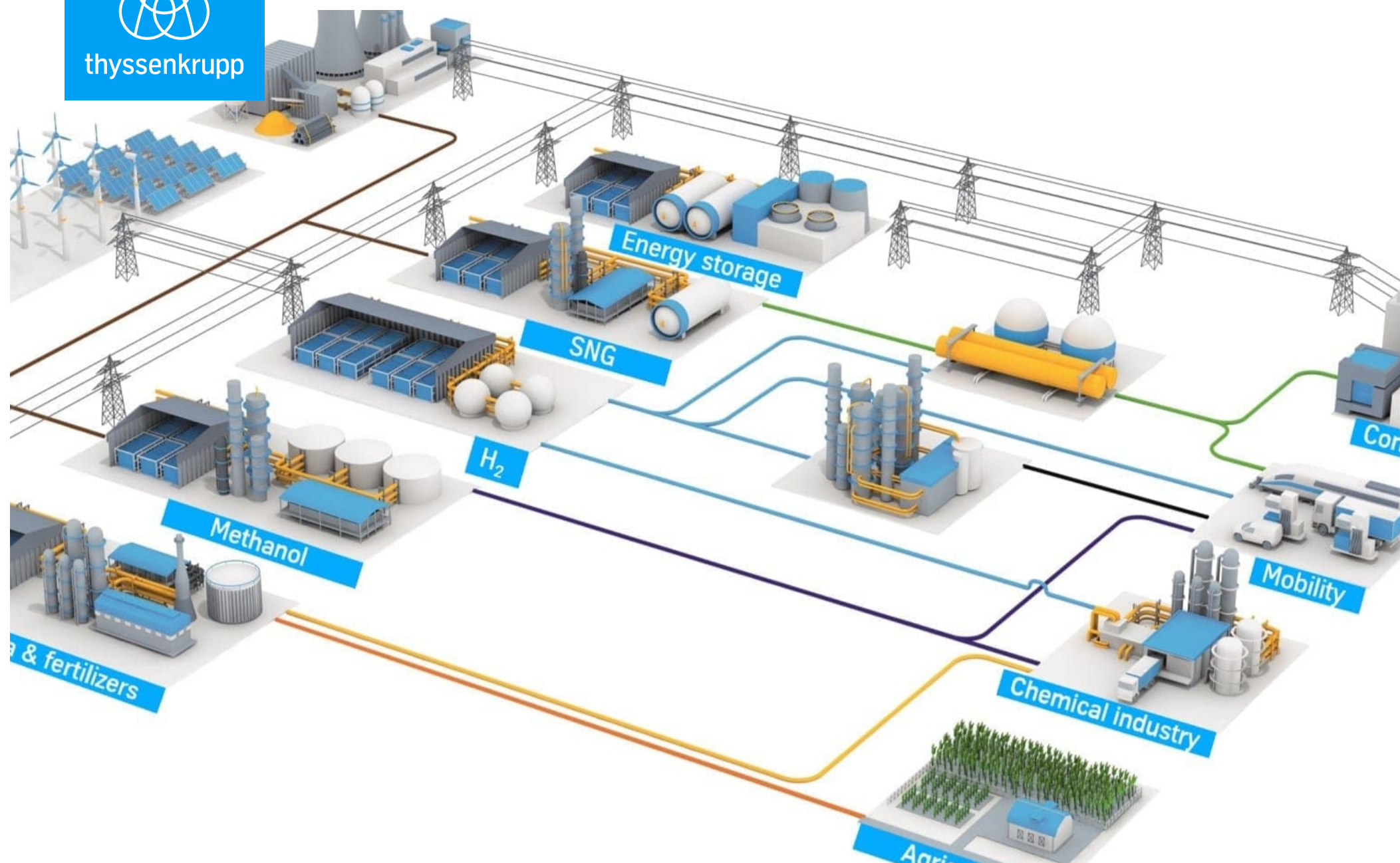




thyssenkrupp

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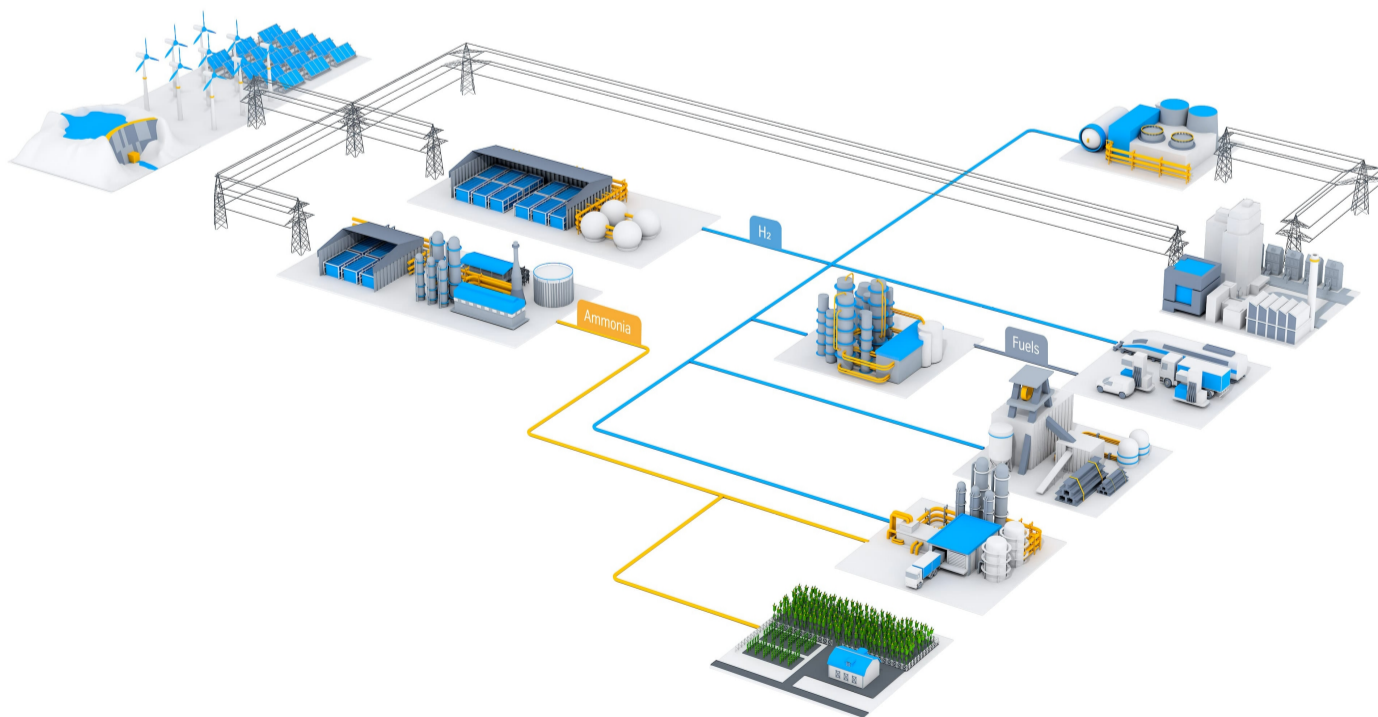
Global warming is a fact. Our technologies for green chemicals can help to mitigate it.

Now is the time to take action against global warming – before it is too late. Defossilisation of vital chemicals such as hydrogen and methanol, the feedstocks for many industrial processes, is a huge task. At thyssenkrupp we have the green technologies that enable chemicals to be produced sustainably and CO2 emissions minimized. Our solutions start right at the beginning of the value chain – by producing green hydrogen.

The starting point for the defossilisation of chemical processes is green energy, air and water. So how is it done? The answer is our leading-edge alkaline water electrolysis (AWE) technology, which was developed by thyssenkrupp Uhde Chlorine Engineers on the basis of our chlor-alkali electrolysis. AWE produces clean, green hydrogen by splitting water into hydrogen and oxygen using nothing but electrical energy. No carbon is involved and no CO<sub>2</sub> emitted if the power is produced from renewable sources. Designed in standard modules, our AWE units can be easily multiplied to realize industrial-scale multi-megawatt H<sub>2</sub> installations. We have decades of experience in large-scale industrial electrolysis and our customers benefit from our high capacity modules that are easy to transport and set up with minimal on-site effort.

Besides [green hydrogen](#), our unique portfolio of downstream processes also includes [green methanol](#), [green ammonia](#) and [green synthetic natural gas](#) (SNG), to name but a few examples. Green hydrogen is a clean energy carrier, feedstock and fuel. Green methanol is a renewable fuel and feedstock for the chemical industry and various manufacturing processes. Green ammonia is a feedstock for the chemical industry, especially fertilizers, various manufacturing processes as well as renewable fuel and a hydrogen carrier. Green SNG captures CO<sub>2</sub>, can be fed into the gas grid, reconverted into energy as required, or directly used for heating purposes, industrial applications and driving motor vehicles. What all our green technologies have in common is that they reduce greenhouse gas emissions or even reuse CO<sub>2</sub>.

As a globally operating specialist in chemical processes and plant construction, we can deliver turnkey solutions for sustainable chemical production anywhere in the world. Fully integrated plant concepts exploit hidden synergies and enable highly efficient production processes. All the value chains based on our green technologies are characterized by greater sustainability than conventional processes and can be designed to be completely carbon-neutral.



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**The bottom line:** Clean energy, renewable fuels and feedstocks for the chemical industry, carbon recycling – our unique green technologies are ready to contribute to a defossilisation of chemical value chains. Whether you need hydrogen, methanol, ammonia, SNG or other green chemicals, we can partner with you to make the transition to green energy easier than ever and achieve a more sustainable future for the chemical industry and in many manufacturing processes.

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