

Global Energy Solutions

For Prosperity and Climate Neutrality

The world needs feasible solutions for energy and climate.

Technically possible, economically viable, globally implementable. The gradual transition to a climate-neutral energy system shall be achieved within the next 30 to 40 years worldwide. By then, there will be ten billion people living on earth. They shall live in freedom and prosperity as well as in peace with nature. Affluence of climate-neutral energy for all – that is our vision.

Innovations and investments are the key.

Creativity, willingness to change and new ideas are necessary. Based on new approaches we see promising and affordable technology paths in a global perspective and investigate them without prejudging the outcome, taking into account realistic timeframes and required resources. Transitional solutions are being incorporated. At Global Energy Solutions, investors find scientific footing and entrepreneurial thinking. Solutions must pay off and lead to future-oriented business opportunities.

Building blocks of a climate-neutral energy system.

An important component is on the production of green electricity, for example in the earth's deserts full of sun, at low cost and in ever greater quantities. For many applications, green electricity can be used directly. For others, green hydrogen (H_2) is produced, with a wide range of potential uses. Hydrogen and CO_2 captured from industrial processes (CCU) are used to produce climate-neutral energy carriers, in particular methanol ("liquid electricity") and methane ("gaseous electricity"). A guiding principle is the conversion of fossil-based energy processes towards climate-neutral energy carriers, always keeping an eye on financial and technical feasibility. Natural gas, in conjunction with CCS, will play an important role here for decades to come. With gas, we are talking about low carbon

electricity without volatility problems, the production of climate-neutral steel, cement and many chemical products, and the production of low carbon hydrogen. Crucial to the use of natural gas is the capture of CO_2 for subsequent reuse or storage.

Climate-neutral energy carriers are increasingly replacing fossil resources.

In the production of climate-neutral energy carriers, solar energy is converted into chemically bound energy. In nature, this process is called photosynthesis. "Technical photosynthesis" turns CO_2 into a valuable economic commodity in a circular carbon economy. Further processing steps lead to climate-neutral synthetic fuels and chemical products. Today's vehicles, aircrafts and infrastructure can be used further on. The stock becomes climate-neutral.

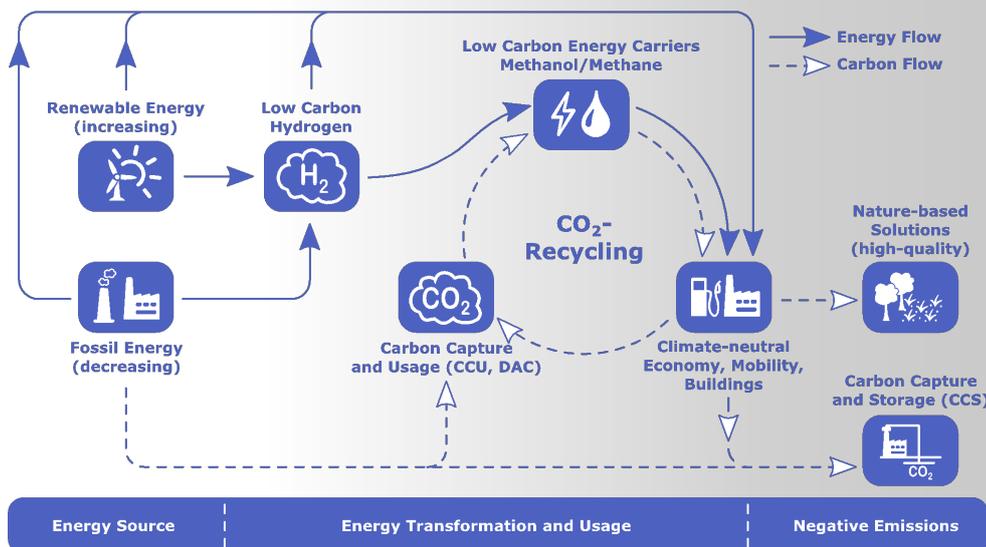
Technical and biological cycles complement each other.

CO_2 emissions need to be reintroduced into the technical carbon cycle via CCU or need to be stored permanently using CCS. If this is not possible, a biological carbon cycle comes into play. Through reforestation, rainforest protection or humus formation in agriculture, corresponding CO_2 emissions are removed from the atmosphere (nature-based solutions), financed by the purchase of high-quality climate certificates by the emitters.

International cooperation is the foundation.

What is needed is cooperation on equal terms between industrialised, emerging and developing countries. Europe is primarily counting on Africa. Millions of new jobs can be created there in the green energy sector, in industry as well as in agriculture and forestry. The economic momentum leads to more development and an end to population growth. Fully in line with the 2030 Agenda for Sustainable Development of the United Nations.

Elements of a climate-neutral System



For more information click:



global-energy-solutions.org