

# SUNRISE

proposes a sustainable alternative to fossil-based fuels and base chemicals where the required energy will be provided by sunlight and the raw materials will be molecules abundantly available in the atmosphere, such as carbon dioxide (CO<sub>2</sub>), water (H<sub>2</sub>O), oxygen (O<sub>2</sub>) and nitrogen (N<sub>2</sub>).



With the Paris climate agreement, the European member states engaged to mitigate global warming fighting against climate change.

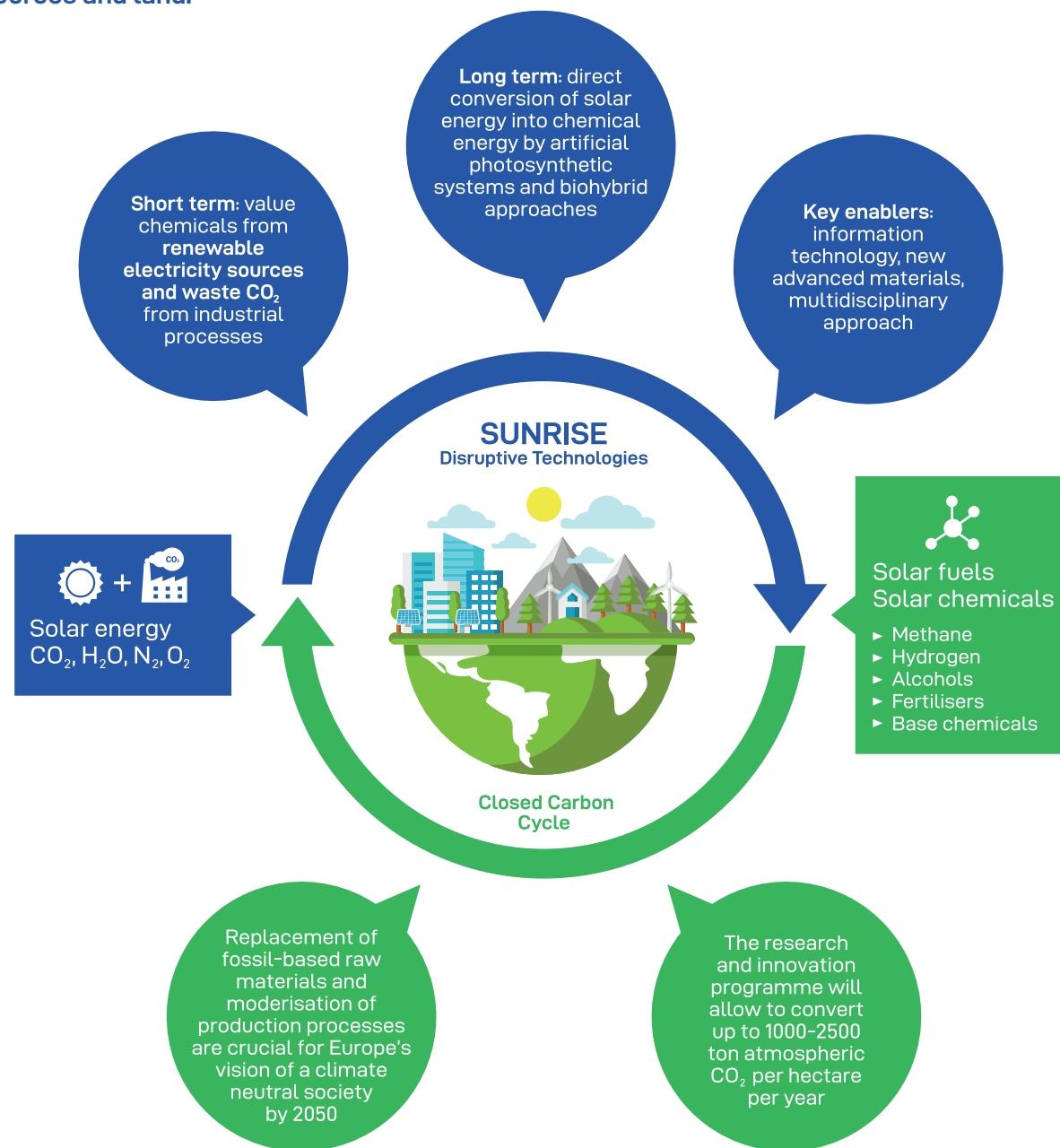


Technologies allowing the transition to a low-emission society are still not available on a large-scale level and significant research and development efforts are crucially needed.



Producing alternative fuels and chemical raw materials from renewable energy sources represents a game changer and one of today's biggest challenges.

We target a **sustainable CO<sub>2</sub> cycle**, where the concentration in the atmosphere is decreased and then maintained at a level compatible with climate stability, with **sustainable use of natural resources and land**.





# GOALS OF THE FUTURE RESEARCH INITIATIVE


## Sustainable Fuels & Chemicals via a Circular Approach

SUNRISE is one of six Coordination and Support Actions (CSA) candidates to develop a European large-scale research initiative.

At the end of the CSA the project will deliver a Scientific and Technological (S&T) roadmap based on 3 main goals:

**1**  Provision of sustainable fuels from renewable energy (solar fuels)

**2**  Synthesis of commodity chemicals from renewable energy (solar chemicals)

**3**  Development of efficient methods to recycle CO<sub>2</sub> from the atmosphere

## PARTNERS



[www.sunriseaction.eu](http://www.sunriseaction.eu)

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## Solar Energy for a Circular Economy