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# CARBON SINKS: WHAT ROLE FOR RESEARCH IN ACCELERATING THEIR DEVELOPMENT IN FRANCE?

As a contribution to the European and National objective of achieving carbon neutrality by 2050, there is a growing initiatives of foresight studies aimed at anticipating and accelerating the deployment of solutions to reduce and to eliminate CO<sub>2</sub> from the atmosphere.

Based on sectoral emission reduction trajectories, most of these studies use negative emission solutions – or carbon sinks – to a greater or lesser extent, making it possible to compensate for fossil CO<sub>2</sub> emissions that would be too difficult to reduce in the next three decades.

These carbon sinks are a solution that is now considered unavoidable. Increasing but also preserving carbon sinks and, in some cases, restoring them, are therefore priority issues.

As a result of a study by **a group of experts from the ANCRE alliance**, including experts from IFPEN, six main categories of carbon sink solutions have been identified for the French context: three

categories of natural CO<sub>2</sub> capture solutions in more or less anthropised environments, and three categories of solutions integrating technological developments.

**The state of play, the challenges, the barriers and action needs for each of the solutions, were highlighted in 7 individual worksheets:**

- **Worksheet 1.** Carbon storage in biomass and agricultural and forest soils
- **Worksheet 2.** Carbon storage in biomass and soils in urban and anthropised environments
- **Worksheet 3.** Carbon storage in aquatic environments and from rock weathering
- **Worksheet 4.** Technological solutions for capturing atmospheric CO<sub>2</sub> for geological storage
- **Worksheet 5.** Storage of CO<sub>2</sub> in materials via mineralisation
- **Worksheet 5bis.** Biogenic CO<sub>2</sub> capture and storage in bio-based materials
- **Worksheet 6.** Technological solutions for recycled carbon capture, reuse and long-term storage

The position paper includes all 7 worksheets and has also selected 7 examples of priority recommendations to enhance carbon sink solutions in France.

[Read the position paper and the worksheets](#)

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[Rock-Eval®: supporting soil research for the climate challenge](#)

[Plastic pollution in soils: IFPEN joins the French scientific community clearing the ground](#)

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Expert advice - Carbon sinks

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