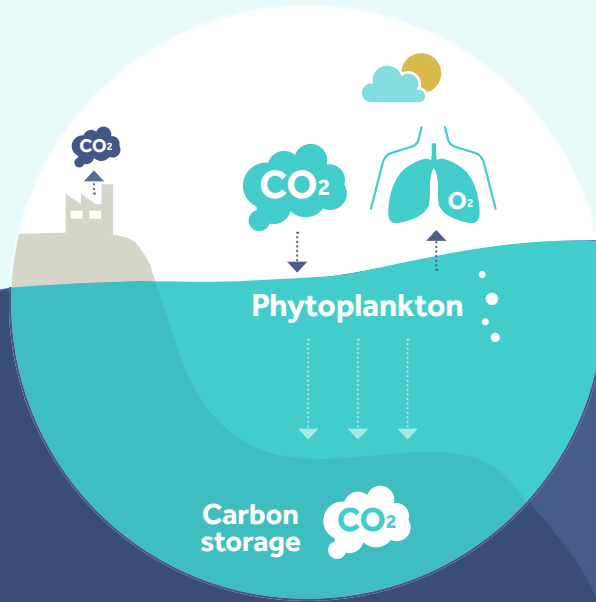


The carbon cycle

The ocean plays a vital role in the carbon cycle. It constantly exchanges CO₂ with the atmosphere, but also stores it on the ocean floor for millions of years.



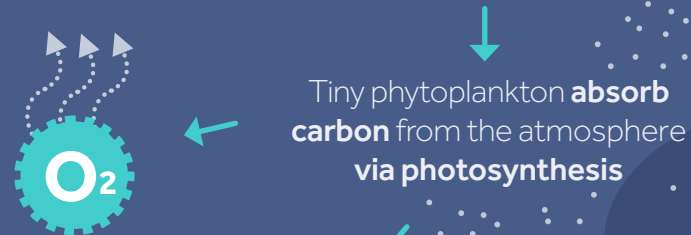
Carbon is **stored** in **rocks**, the **atmosphere**, the **ocean**, **soils** and **plants**. It moves between these stores through a process called the **carbon cycle**.

The **ocean** is called a **carbon sink** as it stores more carbon than it releases



More than **1 million tonnes** of human-made CO₂ is dissolved in the ocean **every hour**

Some CO₂ is held in the ocean via a process called the **Biological Pump**

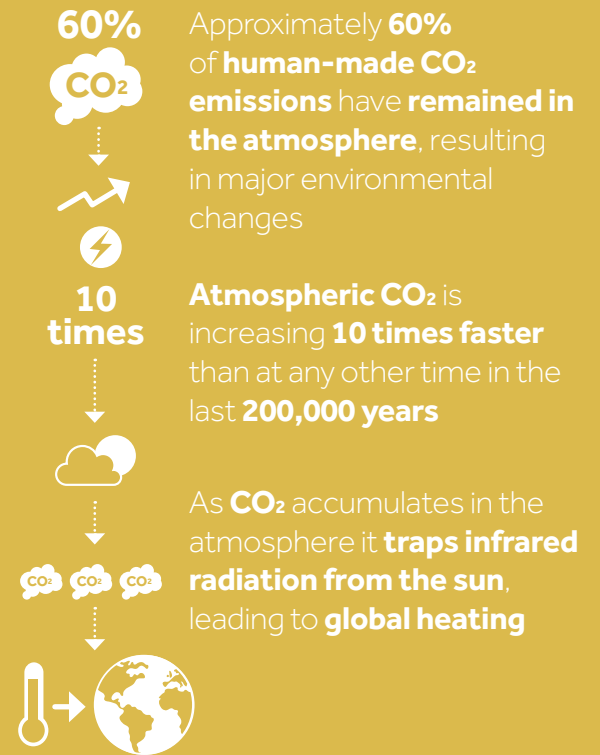


Oxygen is also produced and travels **into the atmosphere**.

As organisms die, they **sink to the seabed** where the carbon is released and **stored** in the sediment **for millenia**

The ocean has **absorbed 28%** of all human-made CO₂ emissions **since 1750**

Changes and impacts



60% of **human-made CO₂ emissions** have **remained in the atmosphere**, resulting in major environmental changes

10 times **Atmospheric CO₂** is increasing **10 times faster** than at any other time in the last **200,000 years**

As **CO₂** accumulates in the atmosphere it **traps infrared radiation from the sun**, leading to **global heating**



CO₂ from the atmosphere is absorbed by the ocean and reacts with seawater to create more acidic conditions – this is known as **ocean acidification**



Since the Industrial Revolution, the **acidity of the ocean has increased by 26%**

X 26%