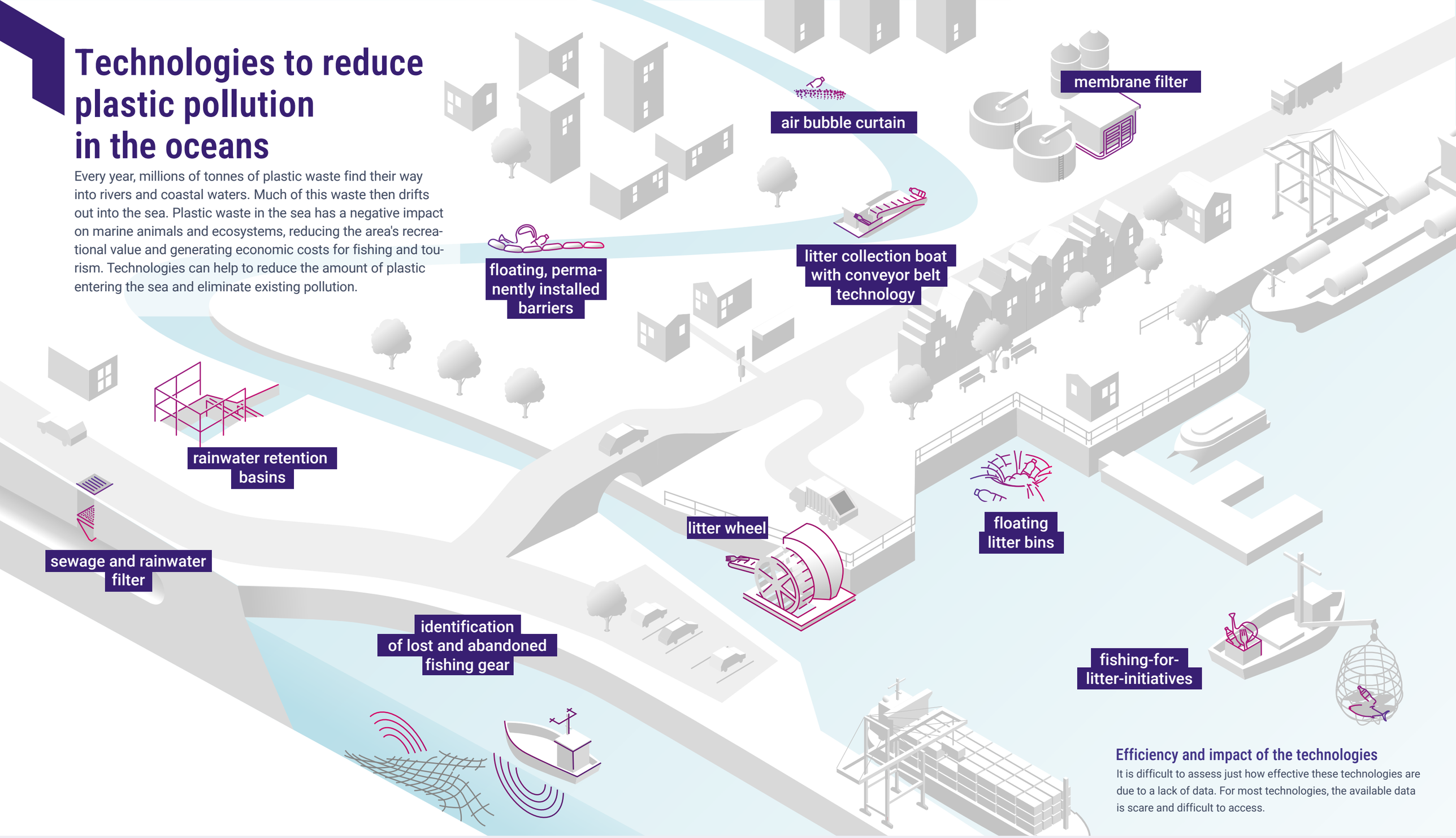
Technologies to reduce plastic pollution in the oceans

Every year, millions of tonnes of plastic waste find their way into rivers and coastal waters. Much of this waste then drifts out into the sea. Plastic waste in the sea has a negative impact on marine animals and ecosystems, reducing the area's recreational value and generating economic costs for fishing and tourism. Technologies can help to reduce the amount of plastic entering the sea and eliminate existing pollution.



Efficiency and impact of the technologies

It is difficult to assess just how effective these technologies are due to a lack of data. For most technologies, the available data is scare and difficult to access.

Policy options

- prevent plastic inputs, as microplastics in the sea are virtually impossible to retrieve
- prioritise clean-up operations where plastics occur in high concentrations and ecological risks are low
- introduce documentation standards for efficiency, side effects, and waste recycling
- link funding to clear technological requirements for efficiency, ecosystem protection, and waste recycling
- expand research into accumulation zones and the effectiveness of technologies

TAB Infographic: Technologies to reduce plastic pollution in the oceans (2026) Büro für Technikfolgen-Abschätzung beim Deutschen Bundestag (TAB) www.tab-beim-bundestag.de/ocean-plastic
Further information is available in German in TA-Kompakt Nr. 5: Technologische Möglichkeiten zur Reduktion von Kunststoffabfällen in den Meeren (2026) Riousset, P. doi:10.5445/IR/1000191167