

Inland Waterway Transport (IWT) Zero-emission pathway FACT SHEET

Decarbonisation quick-win of switch to IWT-suitable biofuels

There are drop-in fuels on the market that are 100% renewable and compatible with IWT engines and existing refuelling infrastructure. These fuels offer a practical, short-term solution for decarbonising IWT, but are not price competitive with diesel.

Fuel	CO ₂ intensity	CO ₂ reduction well-to-wake
Diesel	95.5g CO ₂ e/MJ	0%
HVO100 and higher-grade FAME B100	8g CO ₂ e/MJ	91%

Note: The CO₂e/MJ value of FAME and HVO depends on the type of feedstock utilised (e.g. used cooking oil versus vegetable oils) and the fuel production process.

Cross-border IWT requires a unified European response to create a level playing field. To accelerate the zero-emission transition for freight and passenger IWT, we need a coherent EU policy framework that tightens emission standards and promotes the rollout of affordable renewable alternatives. This will drive their technical and commercial development, while encouraging innovation in advanced alternatives for the medium term.

Reducing emissions to air (tank-to-wake)

To address air pollution in the short-term, the most effective measures are the installation of Stage V engines or after treatment devices.

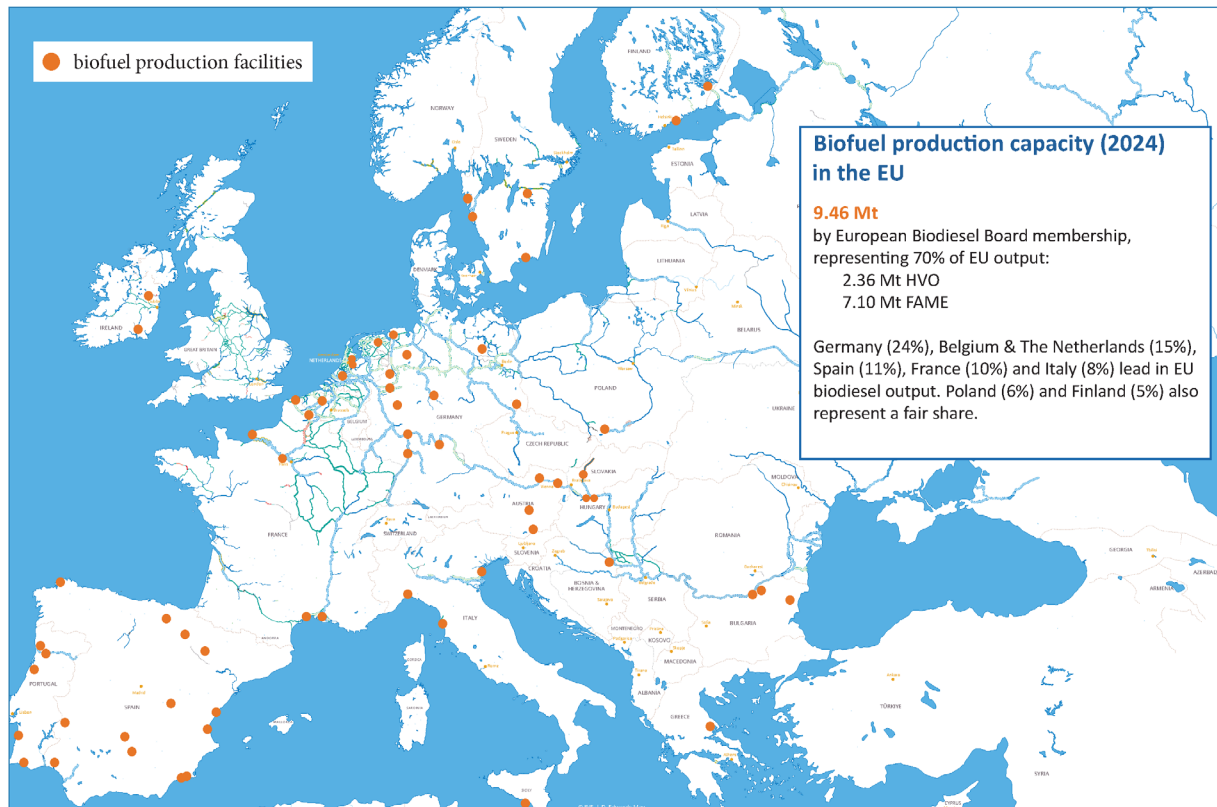
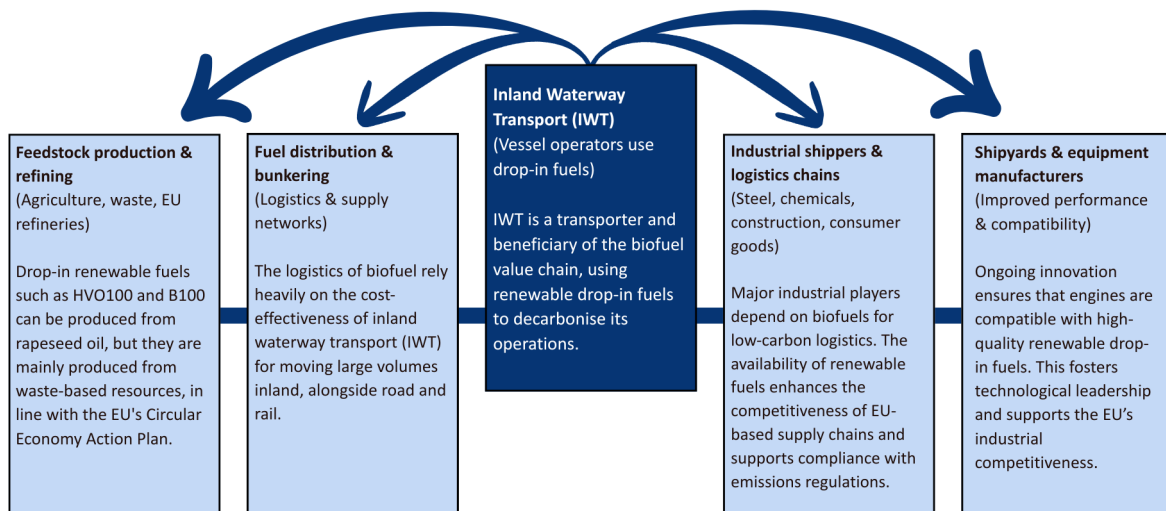
Technology	NOx reduction	PM reduction	Cost increase vs. baseline
CCNR2 engine & below (conventional engine) - Diesel	0%	0%	baseline
CCNR2 engine (conventional engine) + SCR + DPF - Diesel	82%	92%	5%
Stage V engine - Diesel	82%	92%	10%
Short-term			
Stage V engine - HVO	82%	92%	40%-60%
Stage V engine - LBM	81%	97%	80%-110%
Mid & long-term - innovation to unlock scalable and affordable solutions			
Battery	100%	100%	50%-370%
Fuel Cell - H ₂	100%	100%	350%-520%
Internal Combustion Engine - H ₂	82%	92%	210%-370%
Fuel Cell - MeOH	100%	100%	300%-400%
Internal Combustion Engine - MeOH	82%	92%	60%-90%

Source: CCNR and Province Zuid-Holland, 2021

Annual IWT biofuel needs by 2030

1.6 million tonnes of HVO100 and higher-grade FAME B100

The EU biofuel value chain and IWT



Source: EBB, EWABA, Chemical Research Insight, INE (Please note that the information on the map is not exhaustive.)