



BUSINESS UNIT SHIP RECYCLING

WHITEPAPER

**WATERJET CUTTING IN SHIP RECYCLING –
A SUSTAINABLE ALTERNATIVE BACKED BY
SCIENCE**

*Based on the study 'The Environmental Impact of
Ship Recycling' (Yan et al., 2023)*

Introduction

Ship recycling is a critical phase in a vessel's lifecycle with direct implications for environmental protection, occupational safety, and resource efficiency. Traditional cutting methods such as gas cutting are widely used but pose serious risks, including toxic emissions and high fire hazards. A recent study published by Yan et al. (2023) provides comprehensive scientific evidence supporting waterjet cutting as a significantly safer and more sustainable alternative.

About the Study

The study 'The Environmental Impact of Ship Recycling', published by the Institution of Engineering and Technology (IET), aimed to evaluate various cutting techniques used in ship dismantling operations. It focused on comparing thermal methods (oxy-fuel), manual mechanical tools, and abrasive waterjet systems in terms of air pollution, safety, efficiency, and waste generation.

Practical Implications

These scientific insights confirm what many in the industry already suspect: mobile waterjet cutting systems are ideally suited for dismantling ships safely and cleanly. Companies adopting this approach benefit from faster deployment, safer environments, and lower environmental impact – all while meeting international decommissioning standards.

ANT AG's Role

As a technology leader in mobile waterjet systems, ANT AG supports safe and efficient ship recycling with compact, powerful units engineered for demanding field conditions. Our systems are already in use for munitions demilitarization, offshore decommissioning, and industrial dismantling – and are now proving their value in the maritime sector.

More Information sales@ant-ag.com

Key Findings

The findings clearly show that abrasive waterjet cutting systems offer multiple advantages over conventional approaches:

- Significant lower emission of airborne pollutants such as CO, NOx, and particulates
- No generation of heat or flame – significantly reducing fire and explosion risks
- Improved working conditions through minimized toxic exposure and noise
- Enhanced cutting precision and versatility on mixed materials and coatings

Conclusion

Waterjet cutting is not only a feasible but scientifically proven best practice in ship dismantling. This whitepaper summarizes the key reasons why stakeholders across the maritime industry should consider it an essential part of future decommissioning strategies.

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