

Is there a role for sustainable biofuels in the decarbonisation of shipping?



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ISWG-GHG 6

IMO HQ, London

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Collaboration on shipping's sustainability journey



SSI: Who are we?



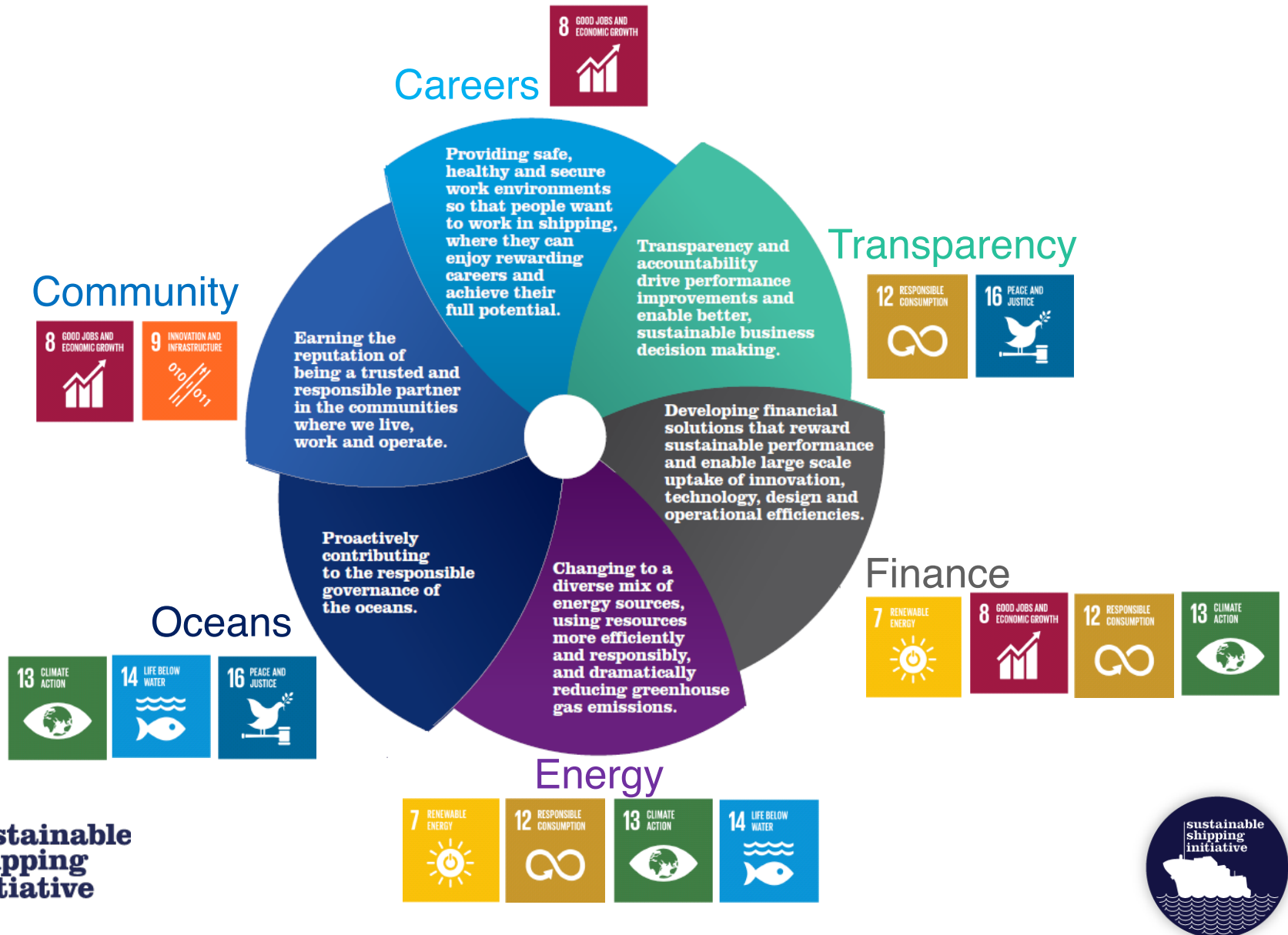
Priya Blue Industries Pvt. Ltd.



sustainable
shipping
initiative



SSI Vision2040: Sustainability = Success



How does the SSI work?

A multi-stakeholder initiative that brings together **like-minded and ambitious leaders spanning the entire shipping value chain** to contribute to – and thrive in – a more sustainable maritime industry.

through

Leadership: Demonstrating leadership through our members' sustainability initiatives to inspire change by sharing learning and best practice

Collaboration: Combining the SSI's expertise and knowledge to address specific challenges and working together to develop tangible solutions for adoption by the industry to overcome barriers to change

Voice of the industry: Driving and convening debate on key sustainability issues to encourage long-term thinking across the industry



Decarbonisation

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Zero Emission Vessels, what needs to be done?

Report prepared for Sustainable Shipping Initiative

Report produced by Lloyd's Register Group and University Maritime Advisory Services



Reporting date:
May 2018

Published in May 2018
This report concluded that:

“advanced biofuels may represent the most economically feasible zero-emission alternative for the shipping industry.

The fact that biofuels can be used in a way that very closely mirrors current technology, i.e. through internal combustion, means that associated additional costs are kept to a minimum of the fuel price itself.

Under the scenarios projected in this study, these costs are within the realm of acceptability for many in the industry.”

Published in May 2018

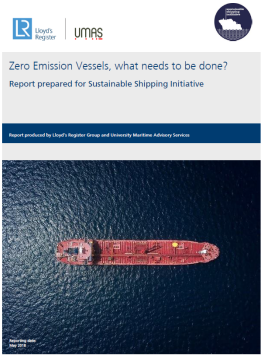
Biofuels are also the most ‘technologically ready’ of the various alternatives being proposed for long-range shipping

(batteries can and are being used on short-range ferries, but they are unlikely to service long range routes due to limits on energy density).

Biofuels are already available and being used

(albeit typically in experiments and pilots).

As such, they hold the potential to be deployed at scale more rapidly than ammonia or hydrogen electro-fuels.

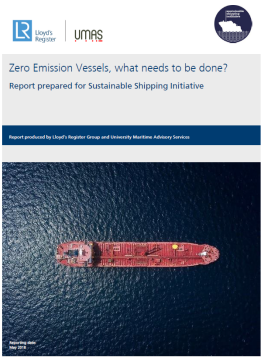


Published in May 2018

However, biofuels have also proven highly controversial, with questions raised not only about adverse sustainability impacts arising from their use, but also whether there will be sufficient availability to meet the needs of a variety of different sectors.

The Zero Emission Vessels Report went on to note that biofuels:

“may not be the answer to the question of decarbonisation, due to two important, and coupled, considerations – sustainability and availability.”



2019: Multi-stakeholder inquiry on the sustainability and availability for shipping

Internal knowledge paper on the key questions

Jun - Dec 2018

Lead an inquiry on the Sustainability and Availability, asking:

WHAT IS THE ROLE OF SUSTAINABLE BIOFUELS IN SHIPPING'S DECARBONISATION?

Findings published – Report launch 11 December at COP25

Dec 2019

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**Seminar 1
Sustainability**
June 2019

2

**Seminar 2
Availability**
July 2019

3

Webinar
August 2019

4

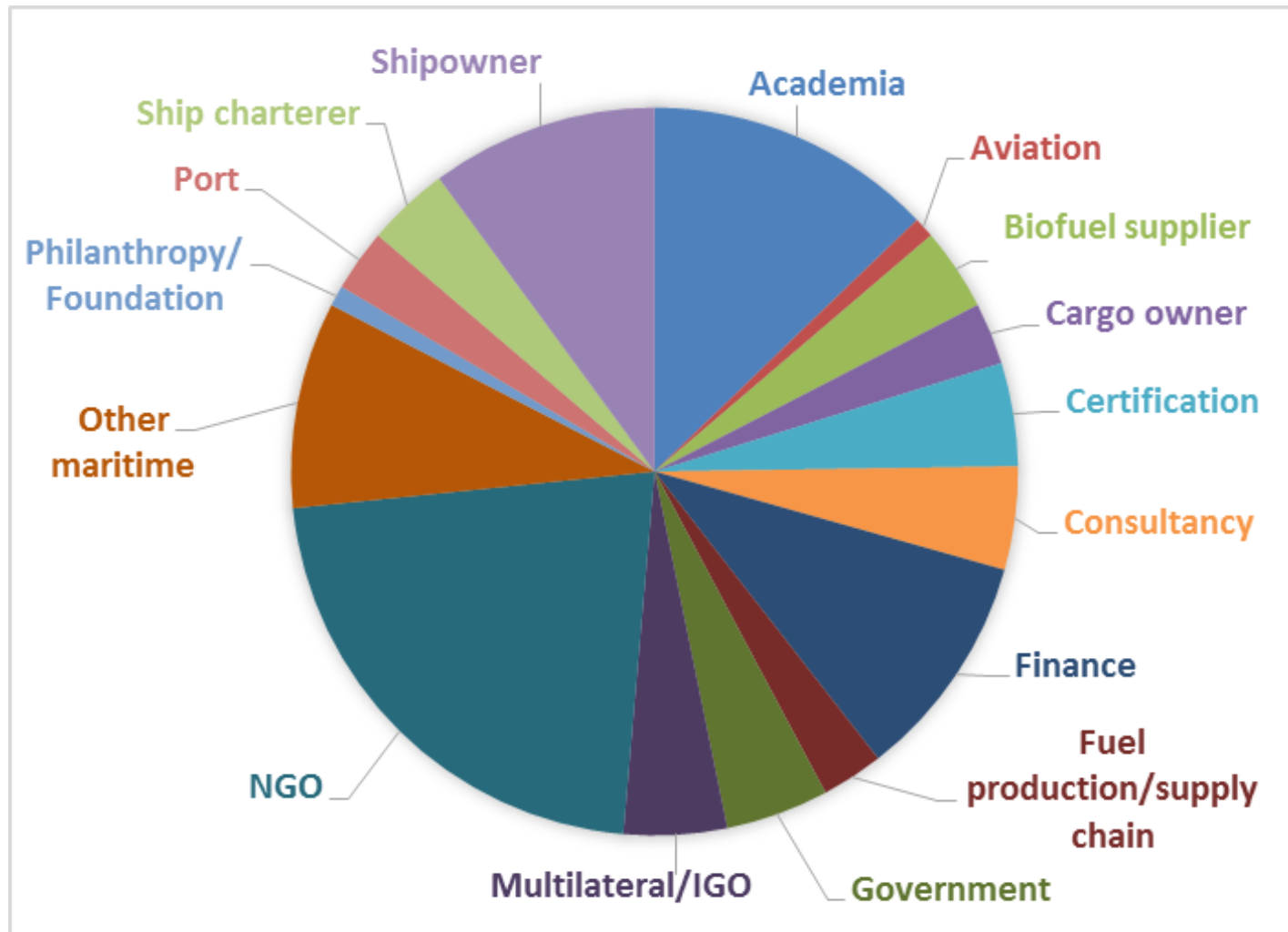
**Climate Week NYC
Panel**
September 2019



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2019: Multi-stakeholder inquiry on the sustainability and availability for shipping





The Sustainability Issues Surrounding Biofuels

SSI inquiry: Stakeholders' views on the sustainability of biofuels for shipping

- Biofuels are associated with a wide range of environmental, social and economic impacts
- Indirect impacts of biofuels are difficult to track and measure, resulting in often greatly varied estimates
- Carbon credentials of certain biomass feedstock pose higher risk of indirect impacts, e.g. purpose-grown crops for energy
- Preference for residues and waste streams; however, purpose-grown crop feedstocks sourced within regions with strong land governance and clear carbon and biodiversity credentials would be viable to produce biofuels
- Certification schemes present opportunities yet have limitations

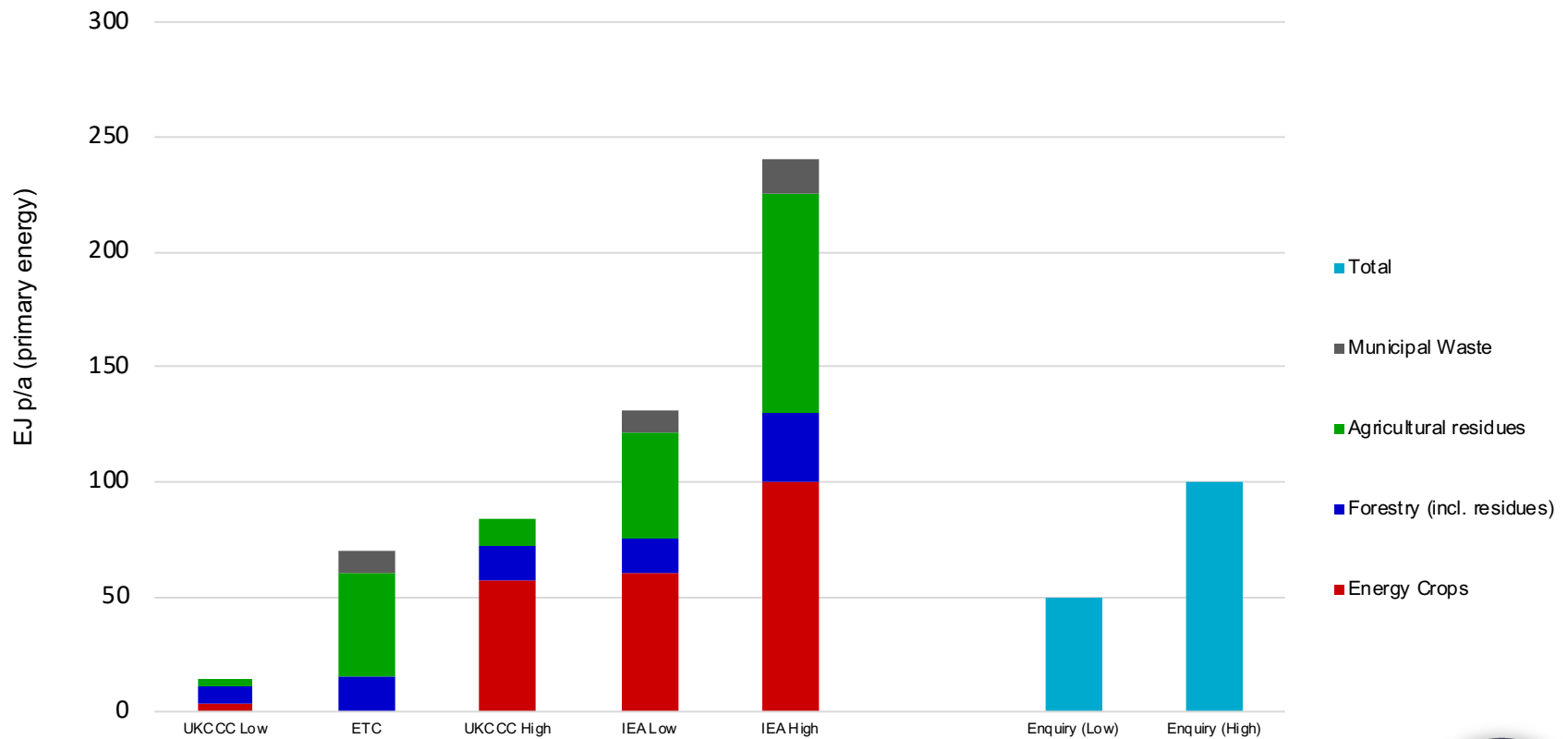


The Potential Availability of Sustainable Biofuels

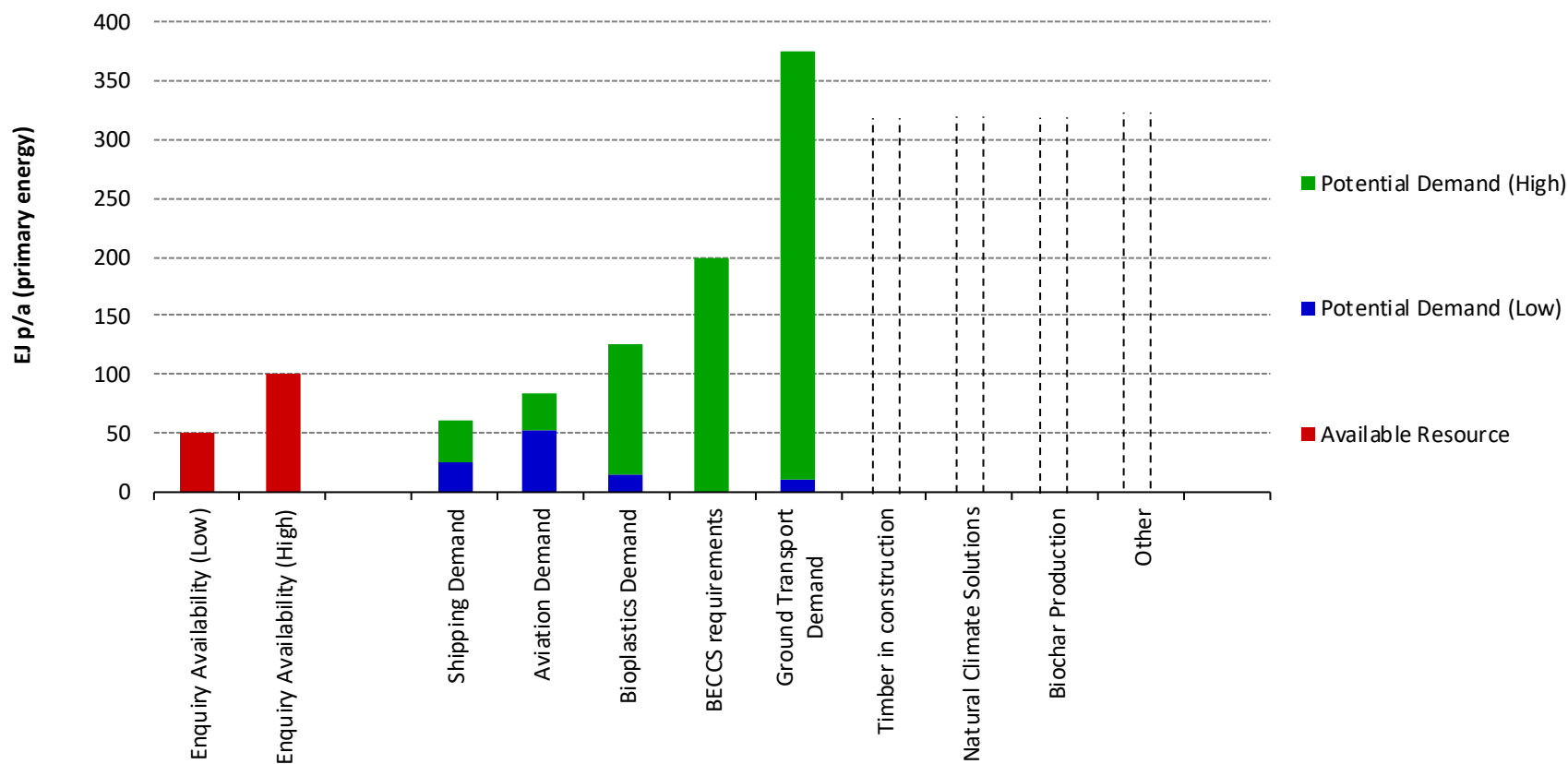
SSI inquiry: Stakeholders' views on the availability of biofuels for shipping

- Projections for the potential future availability of sustainable biofuels vary due to their use of different variables & assumptions
- Data on current production of sustainable biofuels is uncomprehensive
- Potential for increases in demand from other industries already using or intending to use biomass feedstocks to replace fossil fuels or to reduce carbon emissions
- Different sources of demand will drive competing pressure for the different types of bio-feedstocks
- General consensus that aviation is likely to be the closest competitor for bio-feedstocks to shipping
- A better understanding of shipping's potential demand is needed when considering the amount which may be available with little competition and for how long

Forecasts for the range of potential availability of sustainable biofuels by 2050



Forecasts for demand by sector



High and low supply assumptions for biomass feedstocks in comparison to the potential sectors that could make demand for it. Some demands are unquantified as forecasts were not found for these, so they are included illustratively to demonstrate the diversity of sectors that could make use of supply.

SSI inquiry: Stakeholders' views on the availability of biofuels for shipping (cont.)

- A better understanding of shipping's potential demand is needed when considering the amount which may be available with little competition and for how long
- Distribution of available bio-feedstock could be distributed across the economy via market forces, but as a limited and valuable resource that could contribute in different ways to the decarbonisation of society, certain sectors could be given priority over others
- Significant, though not currently quantified, probability of supply not meeting shipping's entire energy demand; there are some plausible, but unlikely, scenarios where shipping could have relatively easy access to biofuels for all its energy needs
- potential that alternative fuels could be unfeasible due to their own → possibly resulting in greater willingness of the shipping sector to pay for an allocation of limited biofuels

Thank you



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Stay tuned for the launch of the final report at COP25



Q&A

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