



WHEN TRUST MATTERS

Shaping the aquaculture industry

Investigating scenarios for Ocean's Future to 2050

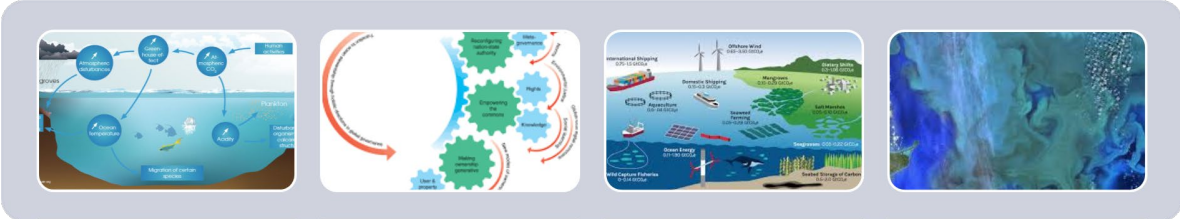
North Atlantic Seafood Forum

22 June 2022



Ocean Space at DNV

Build knowledge, methods and tools supporting the sustainable management of ocean industries



Ocean Space at NASF




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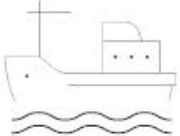
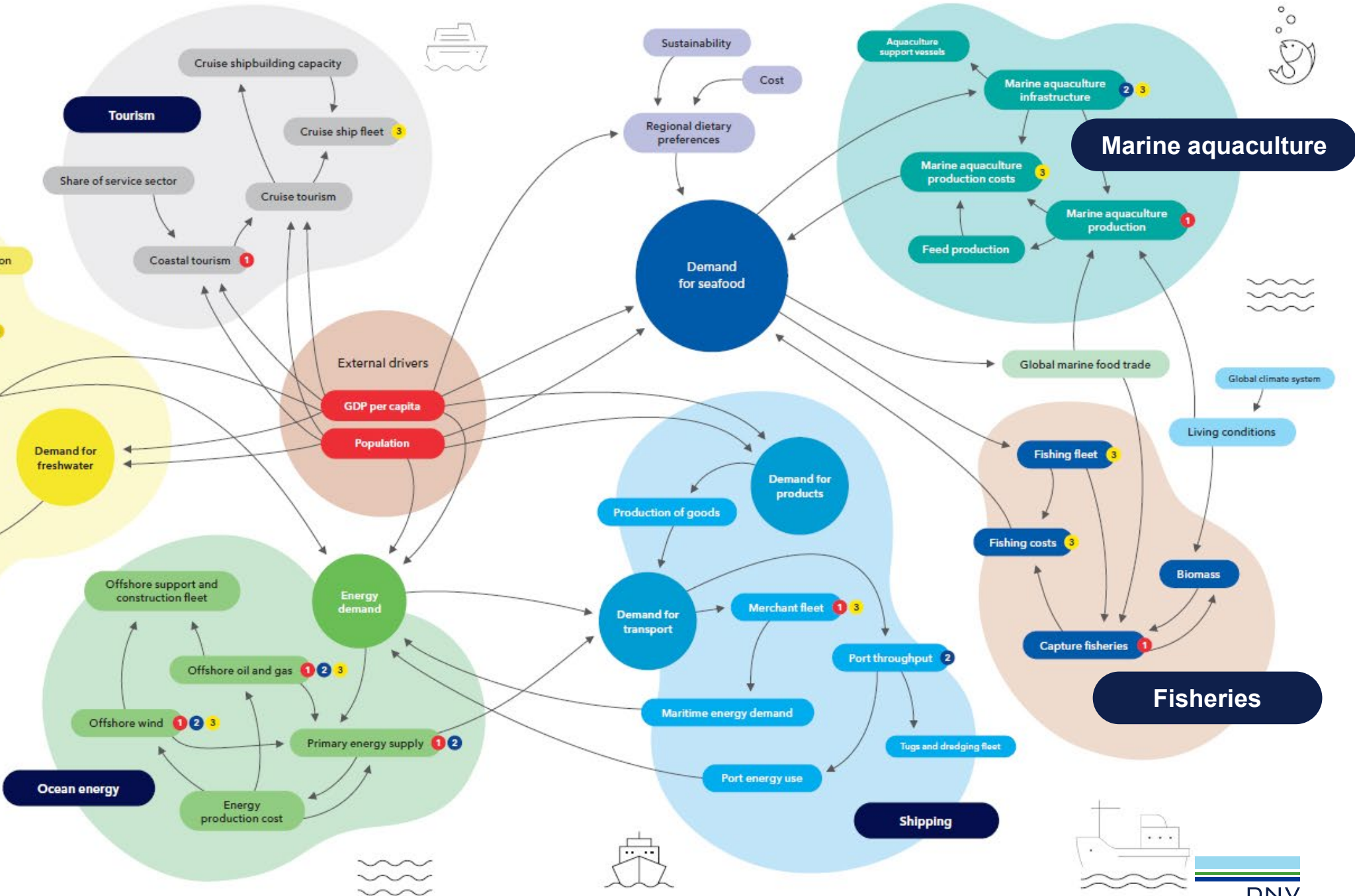
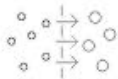
A woman with dark hair, wearing a black puffer jacket, is looking down at a box of sushi in a grocery store aisle. The aisle is filled with various food items, including bags of nuts and packaged meals. The background shows other shelves and a person in a red hat.

What will be the future demand for marine aquaculture and how will this be met?

How do key social and economic uncertainties impact this future?

SIMPLIFIED OVERVIEW OF OUR SYSTEM DYNAMICS SIMULATION MODEL

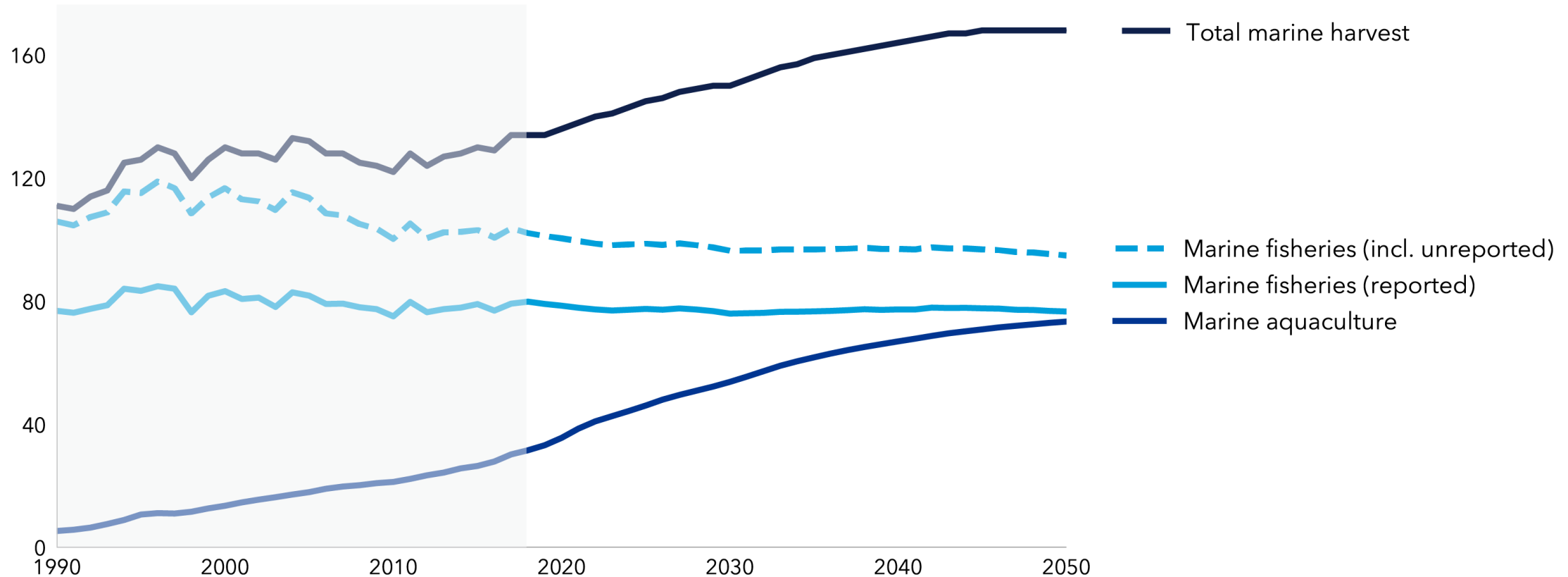
This diagram shows the drivers of the Blue Economy, and the relationships between the different variables in our model.



Marine aquaculture production approaches capture fisheries by 2050

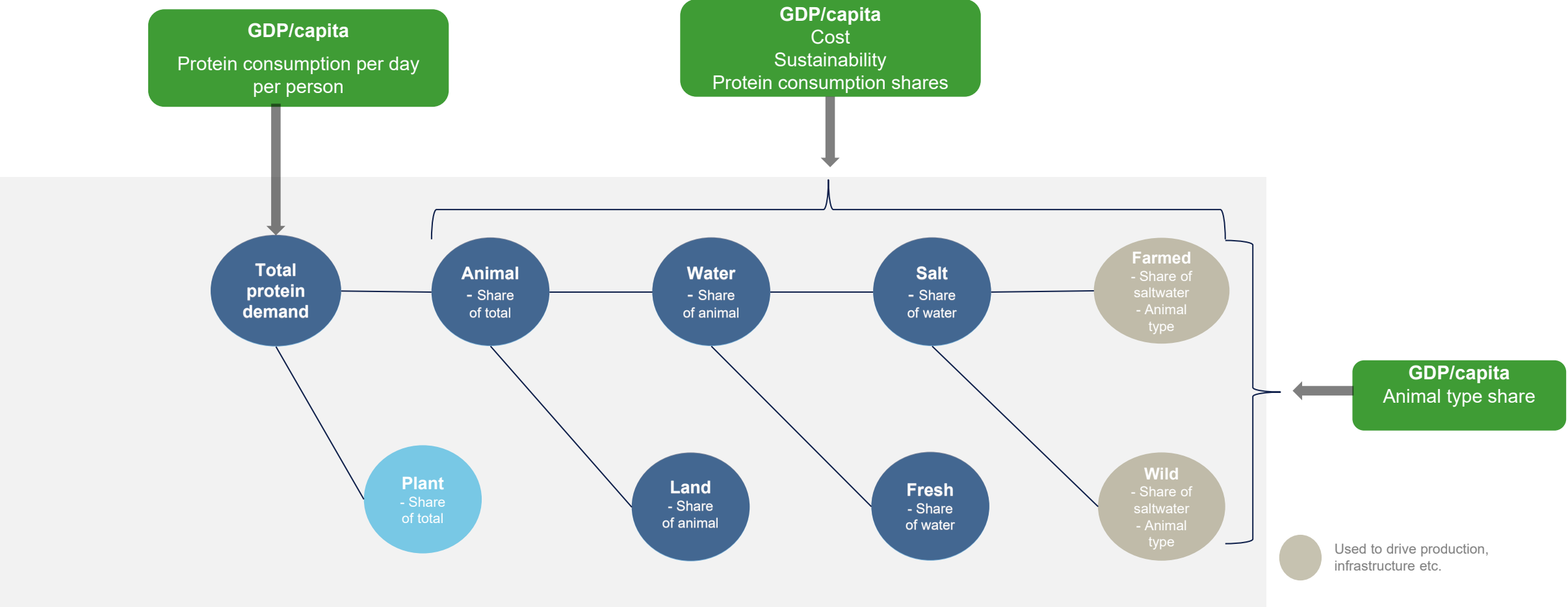
Global marine harvest from fisheries and aquaculture

Units: Million tonnes



Global food demand

(Protein consumption per day per person)



Scenarios

Ocean's Future to 2050: Case introduction

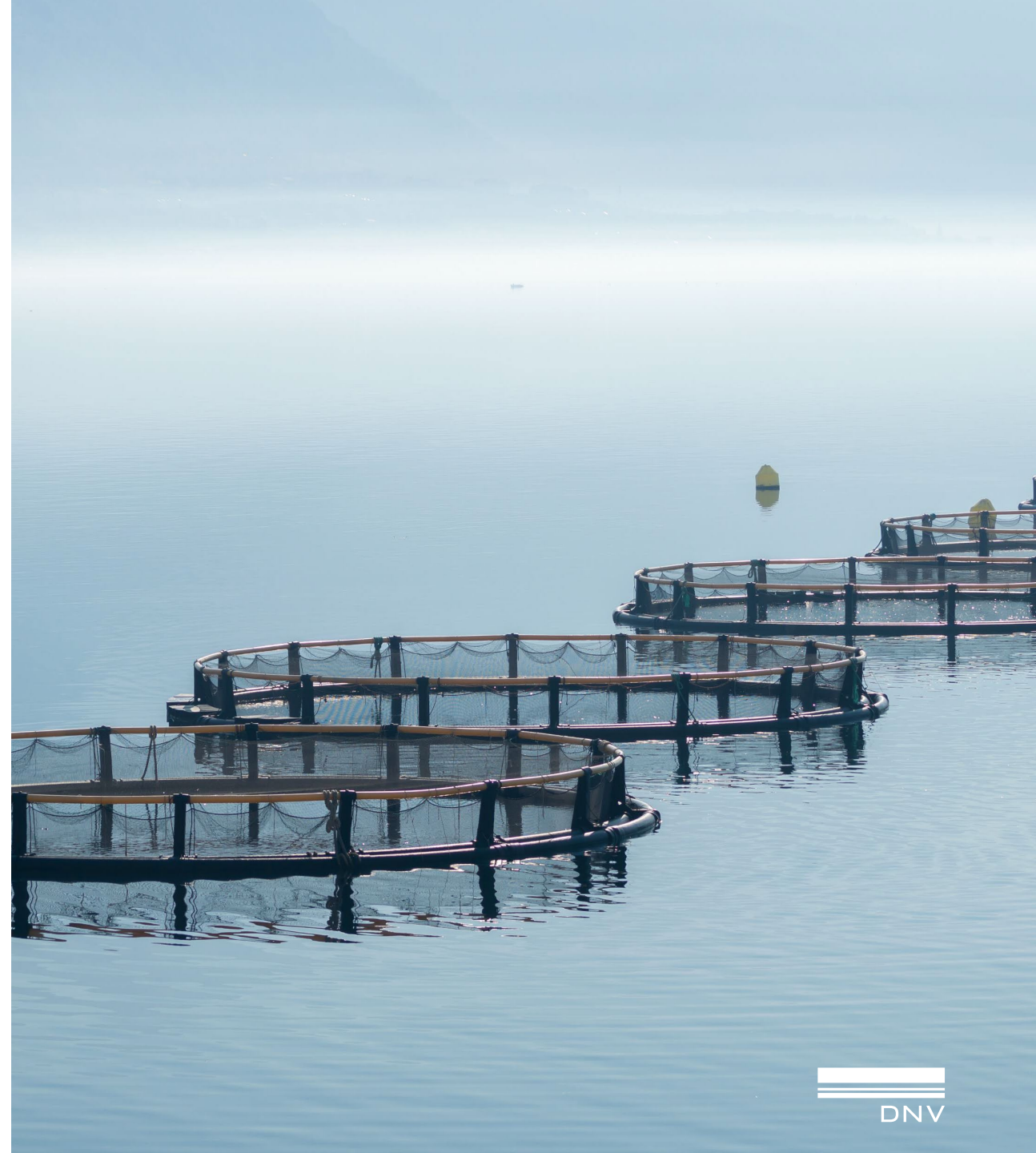
Have you ever wondered how aquaculture demand would respond to global changes in the macroeconomy and consumer food preferences?

- *The **DNV Ocean's Future to 2050** model provides a “most-likely” forecast of the long-term developments for the Blue Economy, including marine aquaculture.*
- *The model now also runs scenarios to support decision-making under uncertainty.*
- *The objective is to understand how aquaculture demand is impacted by key uncertainties in the global economy.*

Our base case shows

- Demand for protein (pr capita) in 2050 will be 112 g/capita-day
- Proteins from marine aquaculture will be about 3% of total dietary protein intake
- **76 million tonnes of aquaculture production**

*How will the **aquaculture demand** change under changing **consumer preferences** and other global challenges like **stagflation**?*



Long-term global stagflation

Scenario: Long-term global stagflation

Recent events have led to economic shake-up and supply chain disruptions.

This has caused the highest inflation in 50 years with increased cost for important input factors like fish feed and increased fish prices for end consumers.

The pressure on profits for marine aquaculture companies leads to reduced R&D investments, limiting the potential for future cost reductions.

What if the world goes into long-term stagflation? How will this impact seafood demand?



- 5 minutes for discussion at the tables

Instructions

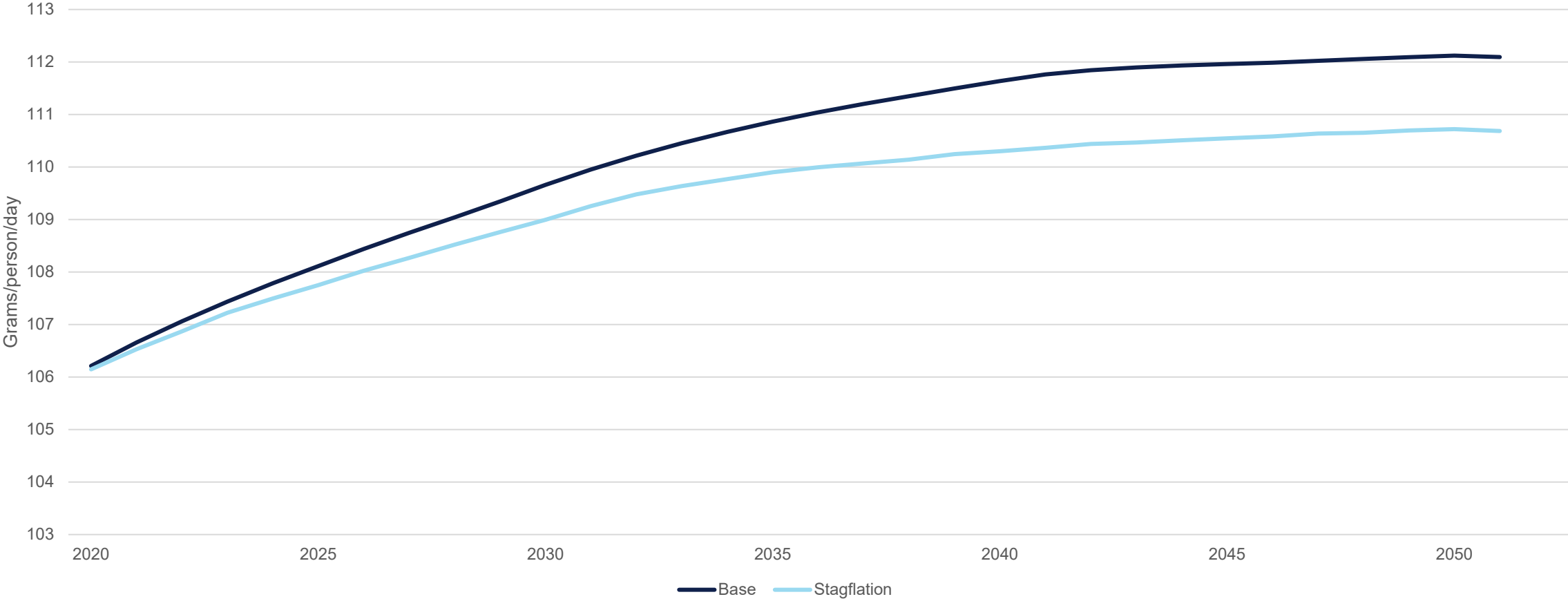
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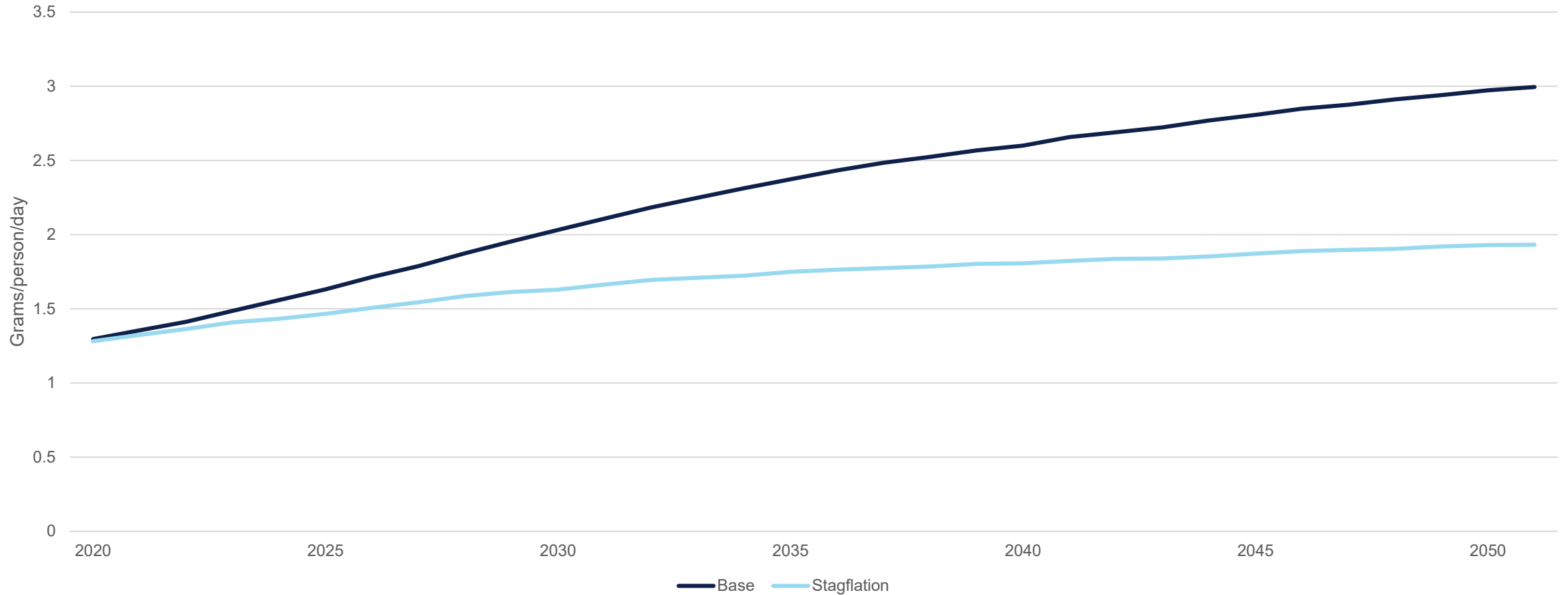


Or use QR code

Long-term global stagflation: Total protein demand



Long-term global stagflation: Marine aquaculture demand



Sustainable Food Systems

Scenario: Sustainable food systems

With a global population heading beyond nine billion by 2050, the world is striving to improve the sustainability of food systems.

With a more sustainability-focused global populace, a carbon tax is implemented, greatly increasing the cost of emission-intensive sources of protein.

Consumer preferences shift towards favouring foods that are perceived as being more sustainable.

How will the shift to more sustainable food systems impact our forecast?



- 5 minutes for discussion at the tables

Instructions

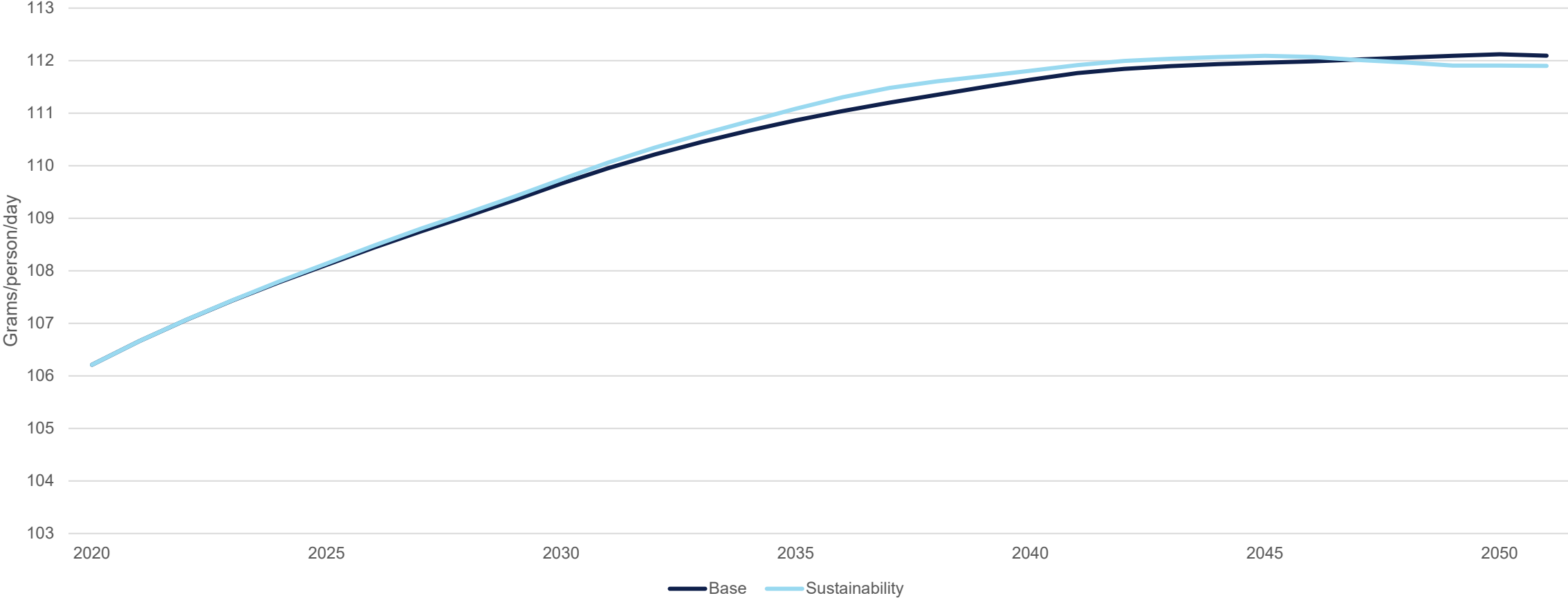
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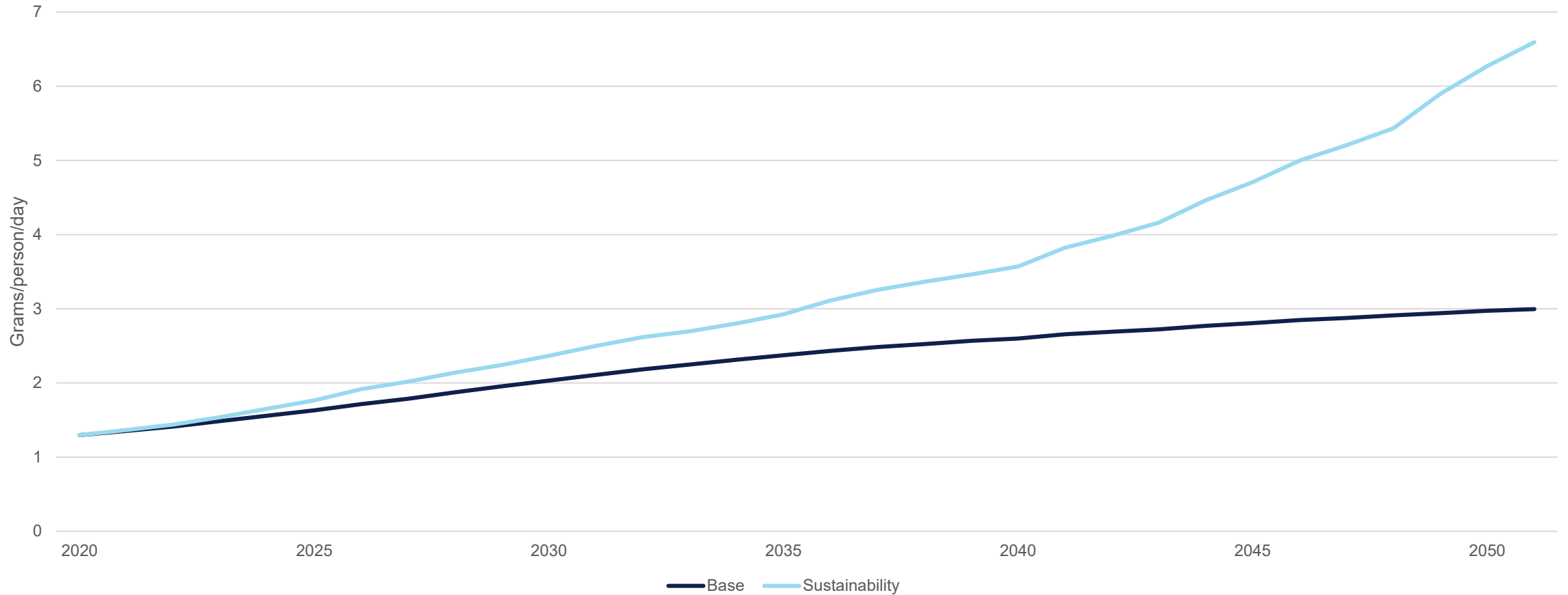


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Sustainable Food Systems: Total protein demand



Sustainable Food Systems: Marine aquaculture demand



How can the industry accelerate the shift towards sustainable aquaculture?



- 5 minutes for discussion at the tables

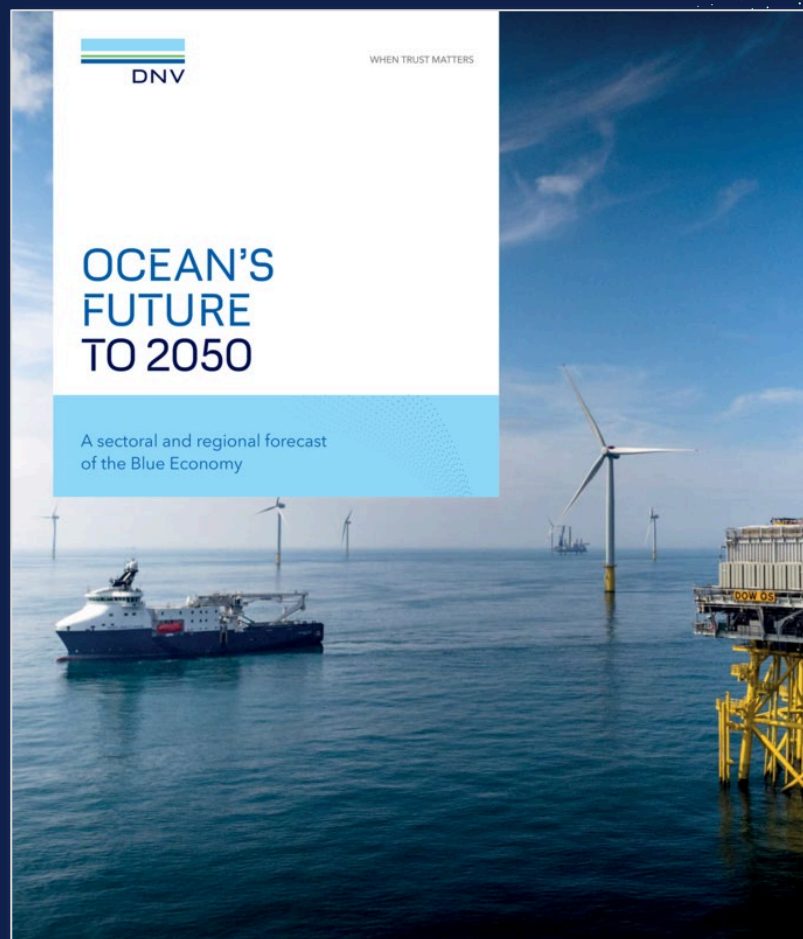
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