MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

AIDE MEMOIRE

Forward Supply Outlook: Sawtooth fuel supply chart

Date:	14 May 2026	**Priority:**	Medium
Security classification:	Sensitive	**Tracking number:**	REQ-0032385

Information for Minister(s)
Hon Nicola Willis **Minister of Finance**
Hon Shane Jones **Associate Minister for Energy**

Contact for telephone discussion (if required)			
Name	**Position**	**Telephone**	**1st contact**
Eric Chapman	Head of Fuel Response Data Cell	Privacy of natural persons	✓
McLeish Martin	Head of Data, Research and Insights		

The following departments/agencies have been consulted

Minister's office to complete:
☐ Approved ☐ Declined
☐ Noted ☐ Needs change ☐ Seen
☐ Overtaken by Events ☐ See Minister's Notes ☐ Withdrawn

Comments

MINISTRY OF BUSINESS, INNOVATION & EMPLOYMENT
HĪKINA WHAKATUTUKI

AIDE MEMOIRE

Forward Supply Outlook: Sawtooth fuel supply chart

Date:	14 May 2026	**Priority:**	Medium
Security classification:	Sensitive	**Tracking number:**	REQ-0030796

Purpose

To provide you with further information on the Forward Supply Outlook (sawtooth fuel supply charts), included in the bi-weekly fuel monitoring pack on 12 May 2026.

Privacy of natural persons

Eric Chapman

Head of Fuel Response Data Cell

MBIE

14 / 05 / 2026

Background

1. MBIE included a Forward Supply Outlook (sawtooth chart) in the Fuel Monitoring Pack on 12 May 2026 and briefly discussed this with you at a meeting on 13 May 2026.

2. This aide memoire provides further detail on the key data and assumptions used to generate the Forward Supply Outlook and how it can be used to understand the Forward Cargo Plans and their forecast impact on fuel stocks.

The Forward Supply Outlook provides a forward view of fuel stock resilience

3. The Forward Supply Outlook (sawtooth charts) are a simplified, high-level view of how fuel stocks (in terms of days cover) are expected to change over time. The chart:

    a. provides a forward view of fuel supply resilience by showing the interaction between current stocks, known or planned resupply events (ships on water and forward orders), and assumed demand.

    b. shows the cyclical pattern of stocks declining through demand and increasing when shipments arrive, creating a “sawtooth” shape.

4. By showing repeated cycles of drawdown and replenishment, the sawtooth charts help distinguish between normal inventory behaviour and emerging pressure points. Patterns such as longer gaps between deliveries, or sustained declines in projected stocks will prompt closer scrutiny of underlying data inputs and assumptions, particularly around shipping and demand.

5. Confidence in the Forward Supply Outlook is highest in the near-term and decreases further into the projection period. The first three weeks broadly captures ships currently on water, and beyond that relies increasingly on planned rather than confirmed orders by fuel importers. Based on the three months forward timeline shown, the stocks projection will likely always taper down at the end as some fuel importers do not plan further than 60 days in advance.

The Forward Supply Outlook reflects an assumed rate of fuel demand over time

6. MBIE has chosen to use to use two different measures on the charts to represent fuel demand:

    a. Seasonally aligned (last year) measure – this measure uses a 4-week rolling average of the same time last year to allow for seasonal patterns (e.g. lower winter demand for diesel and jet fuel). It is our preferred measure as fuel companies optimise their orders based on how they see demand evolving. However, it may not show structural or behavioural demand shifts between years.

    b. Static demand – this provides a fixed baseline by using a constant daily demand based on a 12-month average and is consistent with published stock figures. This will not reflect seasonal demand shifts as well as the rolling average.

7. The forward shape of the sawtooth charts reflects these two assumed rates of fuel demand over time. Where lower demand is assumed (for example, over winter), the downward slope

is shallower, reflecting reduced demand and fewer or smaller replenishment cycles being required.

8. As a result, lower projected future shipments do not necessarily indicate increased supply risk. Instead, they may reflect forecasting made by importers about lower demand in the coming period.

Predicting future stock

9. The Forward Supply Outlook can be used to predict future fuel stocks. However, the prediction for a given reporting period should be used with caution as it is influenced by the difference of estimated and actual demand, as well as ship movements. For example, a small delay on a loading ship departing can have a large impact on 'On water Outside EEZ' and therefore total NZ stock. The below table has been developed to predict the fuel stocks for the upcoming Fuel Monitoring Pack to be delivered on 15 May.

	Petrol		Diesel		Jet	
Total Stocks	As at 10 May	Predicted at 13 May	As at 10 May	Predicted at 13 May	As at 10 May	Predicted at 13 May
In-country	29.6	28.5	22.3	20.1	28.4	26
On water within EEZ	5.1	8.1	1.6	4.7	1.2	8.3
On water Outside EEZ	24.3	19.4	21.3	21.8	20.6	13
Total NZ Stock	59.0	56.0	45.2	46.7	50.2	47.2
Stock Movements	Down 3 days		Up 1.5 days		Down 3 days	

Forward Cargo Plans scenario examples

10. We would expect forecast stock for shipments within a three-week horizon to broadly align with observed stock movements, reflecting the higher certainty of vessels currently on the water and confirmed orders held by fuel companies to maintain their MSO and meet anticipated demand. Supplementary information on the number of ships on the water can then be used to distinguish between different underlying supply conditions.

11. Short-term fluctuations in the number of ships on the water are common and do not, on their own, indicate supply risk. However, these charts can be read alongside additional information on shipping to help understand movements in projected stocks. For example:

    a. a declining sawtooth trajectory supported by several incoming shipments may indicate normal inventory cycling under lower assumed demand; whereas

    b. a similar trajectory combined with a persistently low number of ships on the water may point to reduced supply flexibility and warrant closer scrutiny.

12. The example chart below shows three scenarios for Diesel stock as an illustration for the variance we are looking for as we get additional data from Fuel Importers. Scenario 1 is our baseline forecast. Scenario 2 shows our forecast if fuel importers can't buy as much fuel as they originally planned, represented as each shipment having 90% of their planned stock. Scenario 3 represents a shock where half of all planned shipments are cancelled.

Next steps

13. MBIE will continue to refine and monitor the Forward Supply Outlook through the regular Fuel Monitoring Pack, improving data inputs and testing demand assumptions while developing supporting indicators (including shipping activity and risk thresholds) to better distinguish normal inventory cycles from emerging pressures. We will incorporate these insights into ongoing advice by highlighting sustained downward trends, reduced replenishment buffers, or proximity to MSO thresholds.