



Acute Water Shortage Risk Reduction

Update to Taumata Arowai
October 2024

Wellington Water - update to Taumata Arowai schedule

Records	Category	Breakdown	Frequency	Starting	Ending	Information required	Notes	October-24 Commentary
Supply and demand modelling review	Risk of acute water shortage	N/A	One-off	-	31-May-24	Summary of findings of the independent review of the Karaka model, including any recommended adjustments to the model for the 24/25 summer. Description of impact of any modelling changes on the calculated 'Likelihood of demand shortfall and restrictions in 2024/25' curves in Item 2.	Joint letter from WWL and owner councils of 15.03.24 states '... we will carry out an independent review of the model to ensure its accuracy and share the findings with Taumata Arowai'.	COMPLETED Wellington Water completed the one-off report for item 8 in the June 2024 report to Taumata Arowai.
Supply and demand summer risk updates	Risk of acute water shortage	Regional	Weekly	1-Oct-24	30-Apr-25	Acute water supply and demand programme report. Water watch dashboard. Governance summer risk dashboard. Production capacity dashboard. Reservoir level weekly view.	The same reporting is requested during the 24/25 risk period as the 23/24 summer, with inclusion of the updated Karaka model.	As communicated to Taumata Arowai this will be reported by 8th November
Water loss reduction dashboard	Network water loss reduction	Regional AND individual TA	Monthly	31-May-24	30-Apr-25	Dashboards at regional and TA level of actual MLD savings, with the addition of staged monthly MLD savings milestones / targets.	As per Item 6. Include exception commentary where relevant.	Refer to Demand Tracker further in report
Pressure monitoring progress	Network water loss reduction	Regional AND individual TA	Monthly	31-May-24	30-Apr-25	Tracking (MLD savings) and commentary from pressure monitoring and management interventions.		As per item "4a Pressure Management" further in report
Capital renewals progress	Network water loss reduction	Regional AND individual TA	Monthly	31-May-24	30-Apr-25	Tracking (MLD savings) and commentary from capital renewals programme.		As per item "4b. Capital Renewals" further in report Draft version and baselining work continues. The final version will be delivered in the October Report.
Industry capacity assessment	Network water loss reduction	Regional AND individual TA (if possible)	One-off	-	31-May-24	A copy of the report on industry capacity.	As per item 7	COMPLETED Wellington Water completed the one-off report for item 7 in the July 2024 report to Taumata Arowai.
Te Mārua Dissolved Air Flotation (DAF) project progress	Increased supply	N/A	Monthly	10-May-24	Project Completion	Target dates and commentary for key project milestones, including equipment arrival, plant construction completion targets and progress relative to commissioning targets.	As per Item 10. More detailed target dates for project milestones should be included as part of the first report. Include exception commentary where relevant.	As per item 10 further in report
Resource consent variation progress	Increased supply	N/A	Every second month	10-May-24	Decision on variation application	Provide any target dates for submission of resource consent variation application(s) and progress updates.	As per item 11	COMPLETED In accordance with discussion with Taumata Arowai Wellington Water ceased reporting from July 2024. (item 11)

How is demand tracking?

Metropolitan view

These graphs measure demand as an indication of our progress towards achieving the 7.4 million litres per day (MLD) demand reduction needed to reduce the risk of an acute water shortage/water restriction Level 4 for the Wellington Metropolitan Region (Wellington City, Porirua, Lower Hutt and Upper Hutt). This target does not reduce the risk of water restriction level 3.

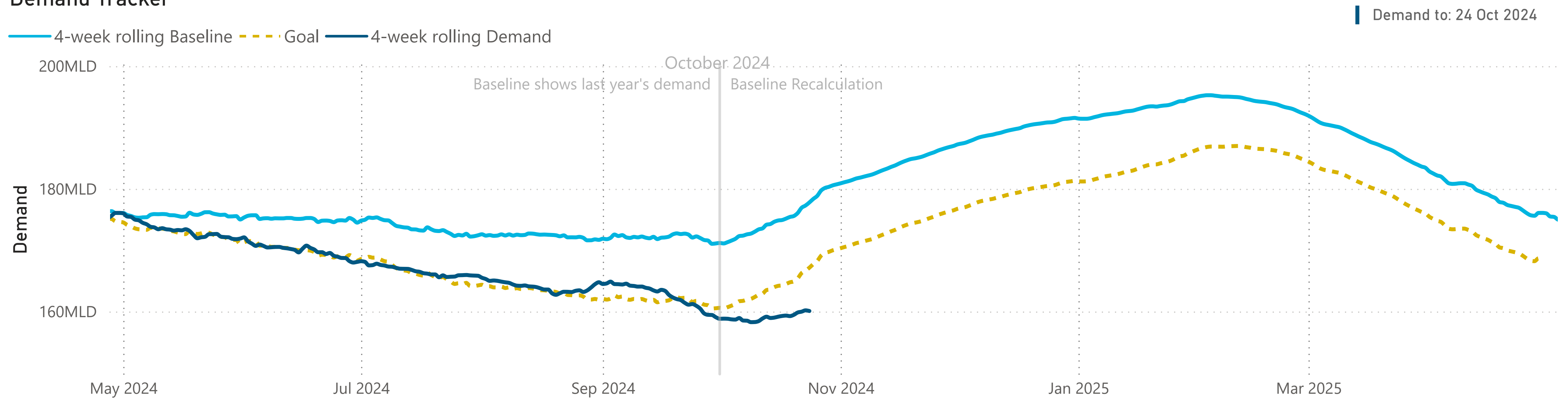
The 7.4MLD demand reduction by February 2025 has been agreed upon by Taumata Arowai, Wellington Water and our council owners as a realistic goal.

'Demand' refers to water that is used by customers and water loss (ie. leaks). Wellington Water and our council owners are working to reduce demand through water loss reduction and increasing customer water conservation. Work is also being done to increase daily supply at Te Mārua Water Treatment Plant. We don't anticipate that the work at Te Mārua will be completed in time to reduce the risk for summer 2024/25.

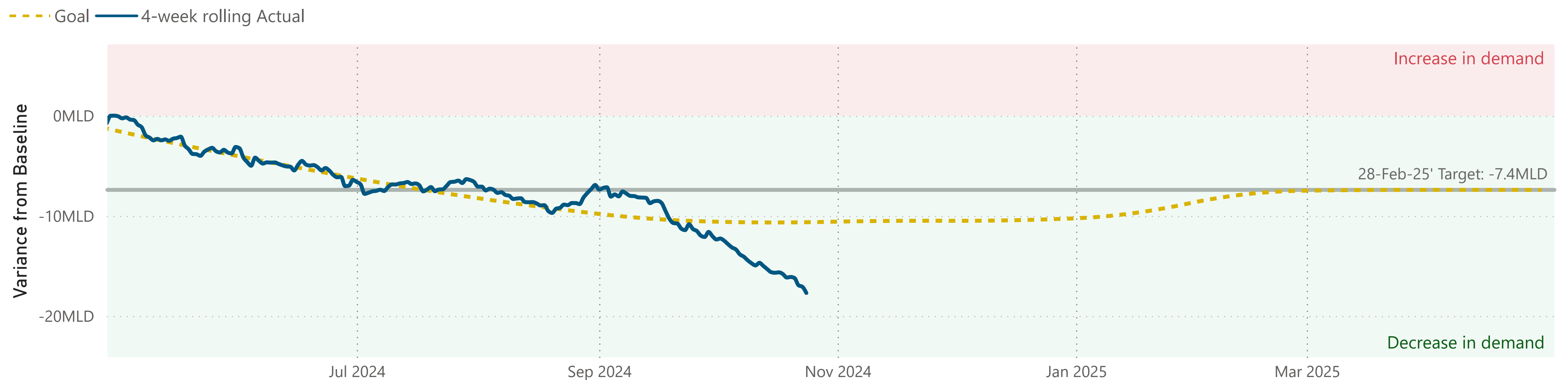
In order to reduce the risk, councils have increased their funding to find and fix more leaks. We are also looking at other operational activities to manage the network and reduce water loss e.g. pressure management.

We expect our data to improve over time, and provide us with a more robust understanding of the efficacy of our demand reduction activities and analysis. We expect these graphs to show short-term fluctuations in actual demand, with the overall trend aligning with the goal.

Demand Tracker



Variance Tracker



Following a recent spike, overall demand is slowly drawing back inline with the goal pathway. The yellow dotted line indicates the goal pathway for demand reduction, while the blue line shows the actual demand. As water demand traditionally increases during summer, to achieve the goal of a 7.4MLD reduction in summer demand we need to exceed that demand reduction during winter. This is built into the graphs below, where demand dips beneath the target and then rises as we enter summer.

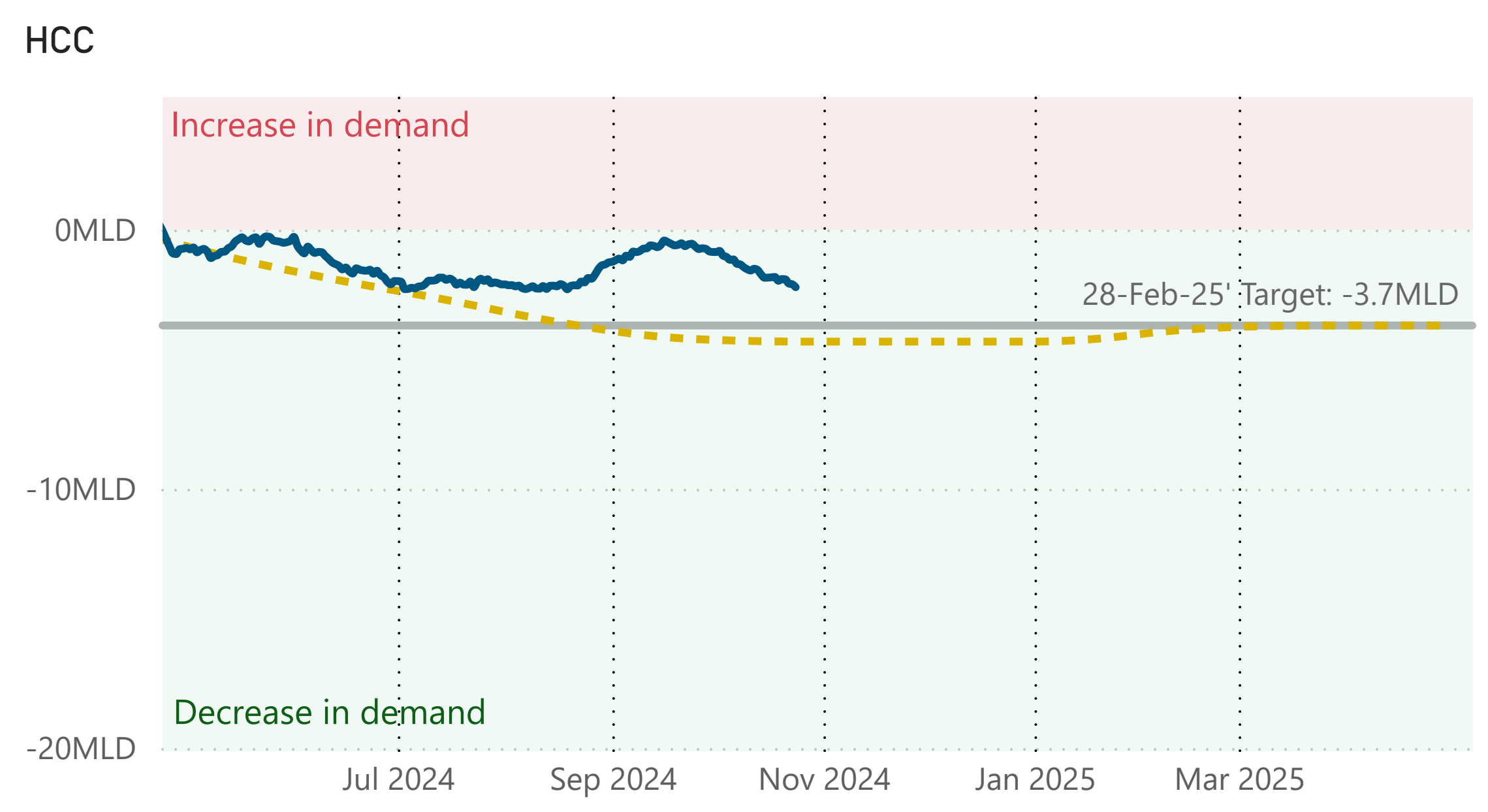
How is demand tracking?

Council by council

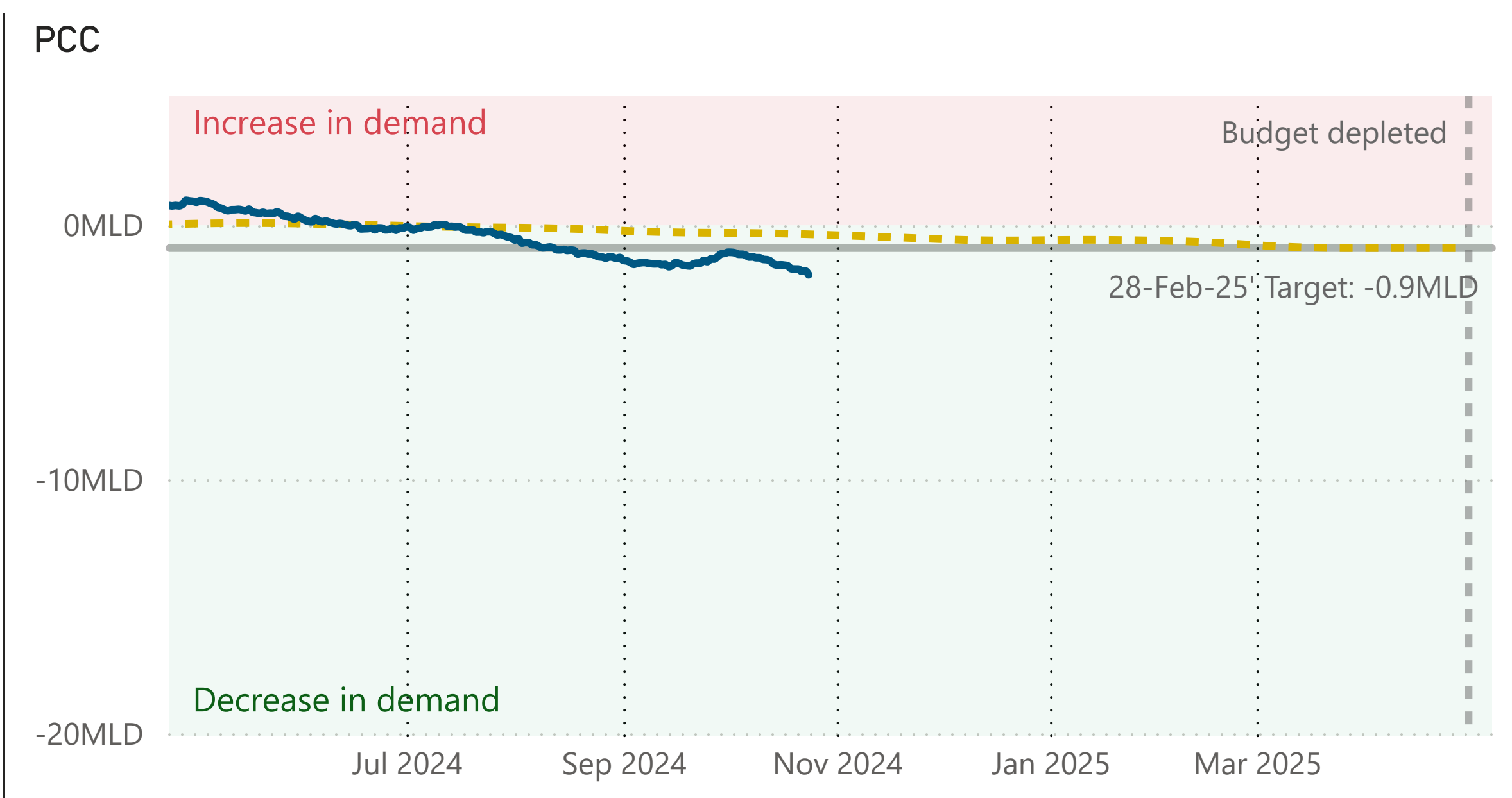
The graphs below track demand reduction, council by council. This is influenced by each council's investment in water loss reduction, activities like pressure management and network calming, and customer use. The yellow dotted line indicates the goal pathway for demand reduction, while the blue line shows the actual demand.

Variance Tracker by City

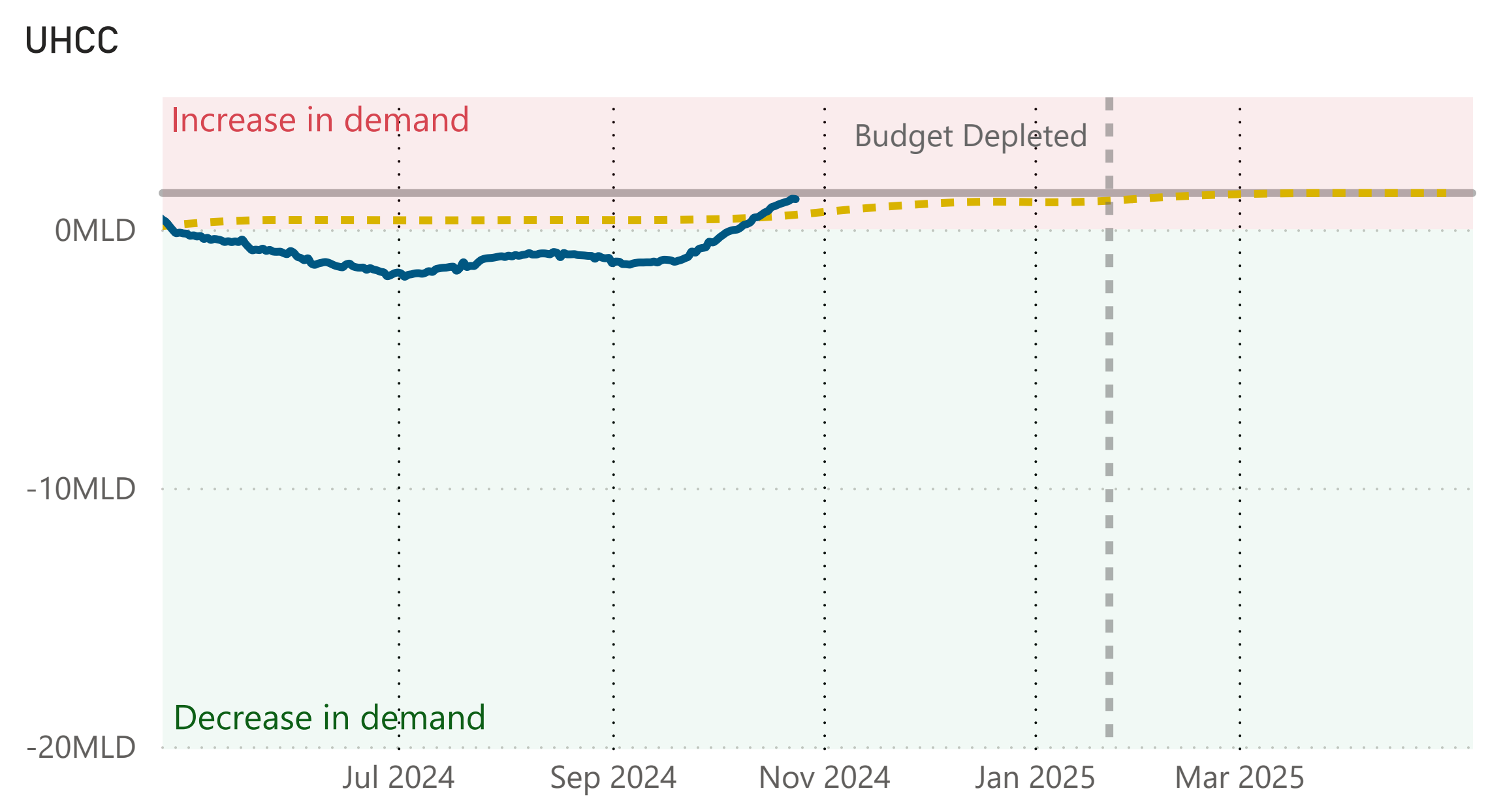
--- Goal — 4-wk rolling Actual



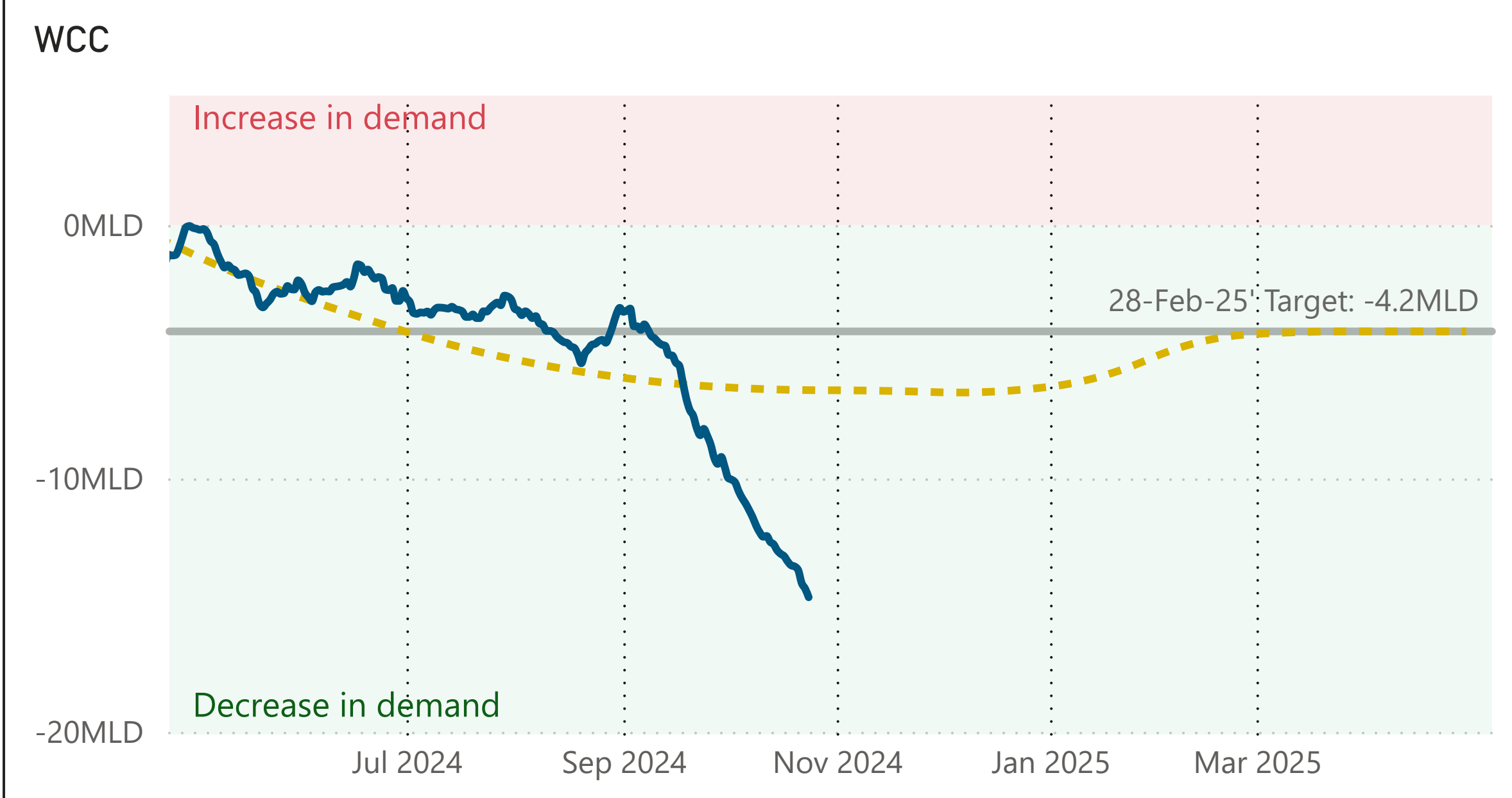
Increased water loss detection and repair activity in the CBD combined with our discovery of a significant private leak which was repaired by the owner are drawing demand back inline with the target. Further work is underway in the zone to ensure that high users are monitored and issues responded to with urgency.



Public leak numbers are within sustainable levels and demand remains steady below the target.



While public leaks remain at a sustainable level, consumption is up on the same time last year. There is no obvious single zone causing this and demand is being monitored closely.



Encouragingly, while demand was forecast to increase, it has instead plateaued and remains lower than the same time last year by approximately 9MLD. This accounts for the sharp dive in the variance tracker.

Reduction Activities

4a. Pressure Management

Wellington Water have a pressure management programme which is contingent on funding. Once funding is confirmed by Council LTP budgets, Wellington Water will outline what zones will be constructed for pressure monitoring and management.

Commissioned zones (3) – post implementation outcomes under review

- WCC Brooklyn
- WCC Johnsonville
- WCC Melrose

In progress zones (3)

- HCC Wellington Road and Wise Street – Commissioning plan prepared and agreed with WWL Customer Operations Group. Commissioning planned to commence in November.
- HCC Hine Road and Main Road – Construction works complete. Commissioning planned late November into December.
- UHCC Gemstone Drive – Council funding (carryover) approval received. Physical works contract currently in procurement. Contract award forecast in November.

Future zones (15)

Zones to be investigated and planned implementation within next 7 - 8 years including:

- Hutt City Council (6)
- Upper Hutt City Council (4)
- Porirua City Council (3)
- Wellington City Council (2)

Savings theoretical, between 0.05 and 0.3 MLD per zone

Supply Activities

10. Key milestones and risks for Te Mārua DAF Project

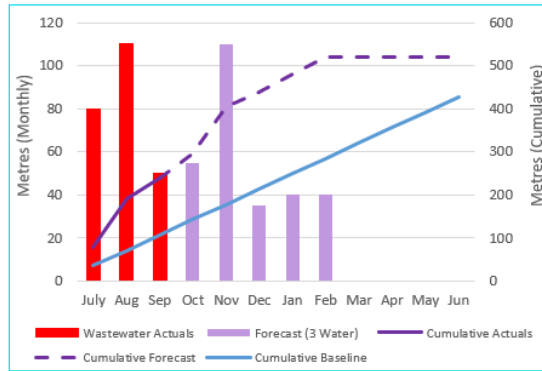
Key Scope and Milestones	MLD Benefit	Target Date (April 2024)	Current Program Date (at Sept 2024)	Risks/Opportunities	Comments
DAF Tank Concrete Structures		August 2024	Complete		Completed
DAF Train 1 Mechanical & Electrical, and 2 of 6 filters renewed		October 2024	November 2024 On Track	Complex commissioning in multiple areas of plant. Tying into existing plant while supplying water to the network carries higher risks to project delivery. Early commissioning planning, and lessons learned from previous packages help to decrease the residual risks	There are 11 different work packages, 4 commissioned to date. Electrical and Mechanical systems for Train 1 DAF currently being installed. Commissioning is underway and on track.
DAF Train 1 Commissioned	20MLD	November 2024	January 2025	Change to the programme date now allows for critical path delivery risk. e.g. Weather delays	Change to the programme date now allows for critical path delivery risk.
DAF Train 2/3 Commissioned	40MLD	May 2025	June 2025	Opportunity and risk around next summer water supply, works could come earlier or later depending on how dry summer is. Current program allows for predicted raw water availability for commissioning.	
Renewal of 6/6 Filters		End of 2025	2027	Very dry next summer, delays re-start of renewals	Change in timing due to Council funding availability, not expected to impact supply capacity

Reduction Activities

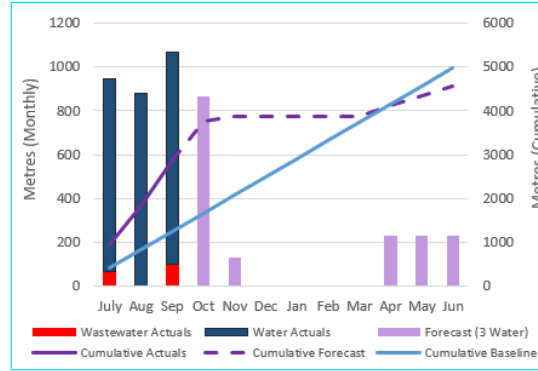
4b. Capital Renewals

Metres of Pipe Renewed or Replaced - FY24/25 Major Projects & Programme Delivery

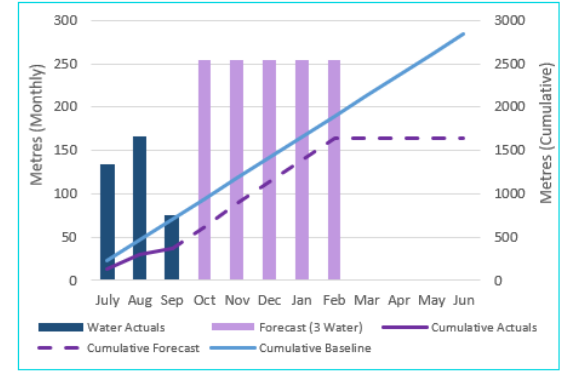
*Information as of September 30th 2024



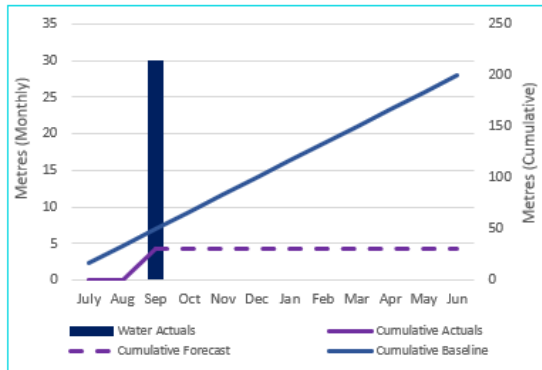
WCC



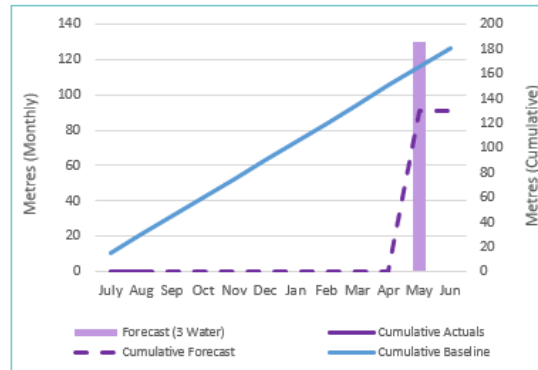
HCC



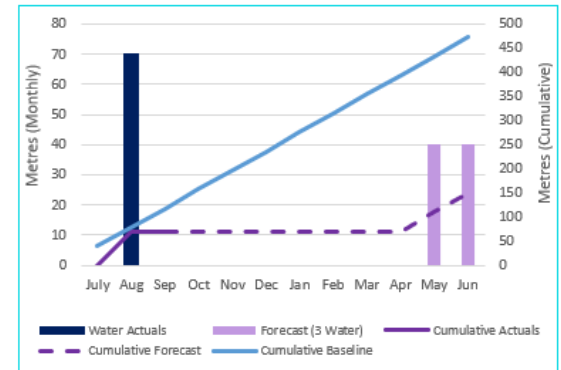
UHCC



GWRC



SWDC



PCC

Note - The current information on metres only includes planned renewals as per the councils LTP