

Action 2030: A More Resilient Water Utility

Hong Kong
October 2019

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Chief Executive
Watercare Services Limited

OUR
VISION

Trusted by our
communities for
exceptional performance
every day

Better tomorrow than we are today
Pai ake apōpō atu i tēnei rā

WSAA Commitment to UN's SDGs

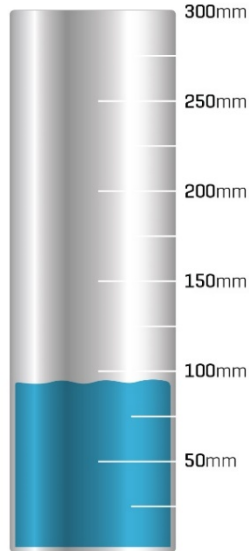
6 CLEAN WATER AND SANITATION



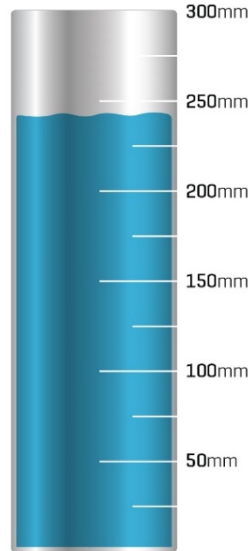
Sharing the Tasman Tempest experience

- Auckland faced the possibility of a boil water notice – an advisory to consumers that the city's drinking water could be contaminated.
- To avoid this, Watercare needed to reduce the city's daily water consumption by 50 million litres.
- Watercare's Save 20 campaign encouraged Aucklanders to use 20 litres less a day. The campaign's success demonstrates the power of clear and consistent communication in times of crisis, and the necessity to call on our consumers to show resilience and be part of the solution.

Tasman Tempest



During **Cyclone Bola**,
96mm of rain
fell in a 24-hour period



During the **Tasman Tempest**,
241mm of rain
fell in a 24-hour period

- In March 2017, an unprecedented weather event – the Tasman Tempest - caused massive slips in Auckland's major water supply catchment
- The amount of silt in the raw water far exceeded historical levels
- Ardmore, the largest water treatment facility was unable to treat this level of silt in the water and shut down
- Watercare needed to continue to supply Aa graded water to all its customers



- Auckland faced the possibility of a boil water notice – an advisory to consumers that the city’s drinking water could be contaminated.
- To avoid this, Watercare needed to reduce the city’s daily water consumption by 50 million litres.
- Watercare’s Save 20 campaign encouraged each Aucklanders to use 20 litres less a day.

We had too much rain, please save water!

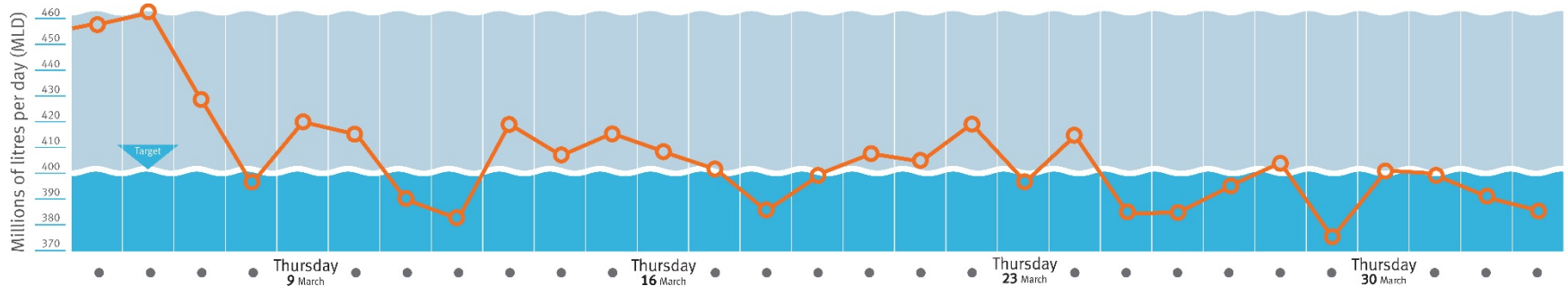
- Typically, when water utilities call on communities to reduce their water use it is during a time of drought. By comparison, our campaign was launched at a time of widespread flooding.
- To overcome this irony, we set out to show – not just tell – the severe impact of the Tasman Tempest. Our spokespeople displayed clay-coloured water samples at press conferences and we supplied drone footage and aerial photography of the landslips, silted dams and treatment plant. We invited media on tours of our facilities to reinforce the severity of the situation.

Maintaining public confidence

- Watercare's primary goal during the crisis was to treat as much water as possible, while continuing to meet New Zealand Drinking Water Standards.
- Our operations staff worked tirelessly to stabilise the Ardmore treatment plant, develop engineering solutions to make up for the production shortfall and maximise production at our other plants.
- Historically, Auckland's typical daily consumption in March has been about 450 million litres. We knew we could not meet that level of demand, so we set a city-wide target of 400 million litres.

Aucklanders responded!

Auckland's total water use for March



- Our messages were: positive, honest and open.
- By being positive, we fostered community spirit and minimise finger-pointing. By being honest and open, we gained the public's trust and showed our customers why they needed to reduce their water usage at a time of widespread flooding.



Only run washing machines when they're full.

Today's tip

Don't use your toilet to flush rubbish.

Today's tip

Use a broom to sweep your paths and driveway rather than a hose.

Turn off the tap when brushing your teeth.

Today's tip

Aucklanders: please reduce your water use by 20 litres per day.

#Save20AKL

Avoid watering the garden.

Look for obvious leaks around your home and get them fixed.

Today's tip

Aucklanders: please reduce your water use by 20 litres per day.

Aucklanders: please reduce your water use by 20 litres per day.

#Save20AKL

Turn off the tap when shaving.

Today's tip

Aucklanders: please reduce your water use by 20 litres per day.

#Save20AKL

Cut your shower time by 2 minutes.

Today's tip

Aucklanders: please reduce your water use by 20 litres per day.

#Save20AKL

Watercare
An Auckland Council Organisation

Turn off auto-irrigation systems.

Today's tip

Aucklanders: please reduce your water use by 20 litres per day.

#Save20AKL

Watercare
An Auckland Council Organisation

Only run dishwashers when they're full.

Today's tip

Aucklanders: please reduce your water use by 20 litres per day.

#Save20AKL

Watercare
An Auckland Council Organisation

Avoid washing your car, boat or other vehicles.

Today's tip

Aucklanders: please reduce your water use by 20 litres per day.

#Save20AKL

Watercare
An Auckland Council Organisation

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Auckland. It's important we continue to reduce water use.

Recent storms are impacting our water treatment plants.
We need every Aucklander to continue to reduce their water
use by 20 litres a day – which is about two buckets of water.



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- Cut your shower time by 2 minutes.
- Turn off the tap when brushing your teeth or shaving.
- Only run dishwashers and washing machines when they're full.



Come on kids – together we can reduce our water use!

Recent storms are affecting our water treatment plants. We need you to use 20 litres less water, every day. That's about two buckets of water each!



- Turn the tap off as soon as you've washed your hands.
- Wash your paint brushes in a bucket or ice cream container of water instead of under a running tap.
- If you see water leaking anywhere at school, tell your teacher.

Auckland is experiencing a shortage of treated water.

Please help our city by minimising your water use.

- Have a quick shower
- Turn off the tap when brushing your teeth

奧克蘭正面臨淨化水短缺的困境。
您亦可減少用水量，幫助奧克蘭渡過難關。
• 洗快速淋浴。
• 刷牙時关上水龙头。
謝謝您對奧克蘭這座城市的愛護。

Auckland souffre maintenant d'une
pénurie d'eau potable.
Vous pouvez aider la ville en réduisant votre
utilisation d'eau.
• Prenez une douche plus courte.
• Fermez le robinet lorsque vous
brossez les dents.
Merci d'aider notre ville.

In Auckland herrscht eine
Trinkwasserknappheit.
Bitte helfen Sie unserer Stadt, indem Sie Ihren
Wasserverbrauch reduzieren.
• Nur kurz duschen.
• Beim Zähneputzen das Wasser abstellen.
Vielen Dank, dass Sie unsere Stadt unterstützen.

Auckland está sufriendo escasez de
agua tratada.
Usted puede ayudar a la ciudad al minimizar su
consumo de agua.
• Tome una ducha rápida.
• Cierre el grifo al lavarse los dientes.
Muchas gracias por apoyar nuestra ciudad.

오克蘭드는 현재 정수 처리된 물의
공급 부족 현상을 겪고 있습니다.
귀하의 사용 패턴 수축을 의도적인
사용량 절감을 꼭 부탁드립니다.
• 샤워는 짧게 하세요.
• 칫솔질할 때 수도꼭지 꼭 닫으세요.
여러분의 협조가 감사드립니다.

オー克蘭ドでは現在、処理済みの水
が不足しています。
水の消費量を最小に抑えるようお願い申し
上げます。
・シャワーを早く済ませる。
・歯磨き中は蛇口を閉める。
ご協力ありがとうございます。



Airbnb supports the call to #Save20AKL



Thank you for supporting our city.

Come on team! It's important we continue to reduce our water use.

Recent storms are impacting our water treatment plants.
We need you to continue to reduce your water use by
20 litres a day – which is about two buckets of water.

- Cut your shower time by 2 minutes.
- Turn off the tap when brushing your teeth or shaving.
- Only run dishwashers and washing machines when they're full.



Success!

On 3 April 2017 – nearly a month after the Tasman Tempest struck – we held a press conference and issued a media release with the headline: “Thank you Auckland. Together, we did it!” We had made it through the crisis without needing to issue a boil water notice.

The people of Auckland had responded positively to our campaign, significantly reducing their water use. And the message remained top of mind for several weeks while our operations staff worked around the clock to increase water production.

Lessons to share

- Our automated treatment plant had to be operated manually and we did not have enough trained staff – be prepared for manual intervention should automation fail
- Our treatment plants were designed and operated based on historical water quality parameters – in this changing climate, we need to expect the unexpected
- We need resilient infrastructure but this by itself is expensive – have resilient staff and engage with your customers to demonstrate resilience
- When things go wrong: be open, transparent and show the human face of the organisation
- Crisis management is a team exercise!

12 months on, we
were better
prepared!



10 April 2018 – extreme weather event

A timeline of the 61-hour incident and the impact on Watercare

We were prepared



Incident management plans in place



Experienced and trained staff on call



Tested procedures and systems in place



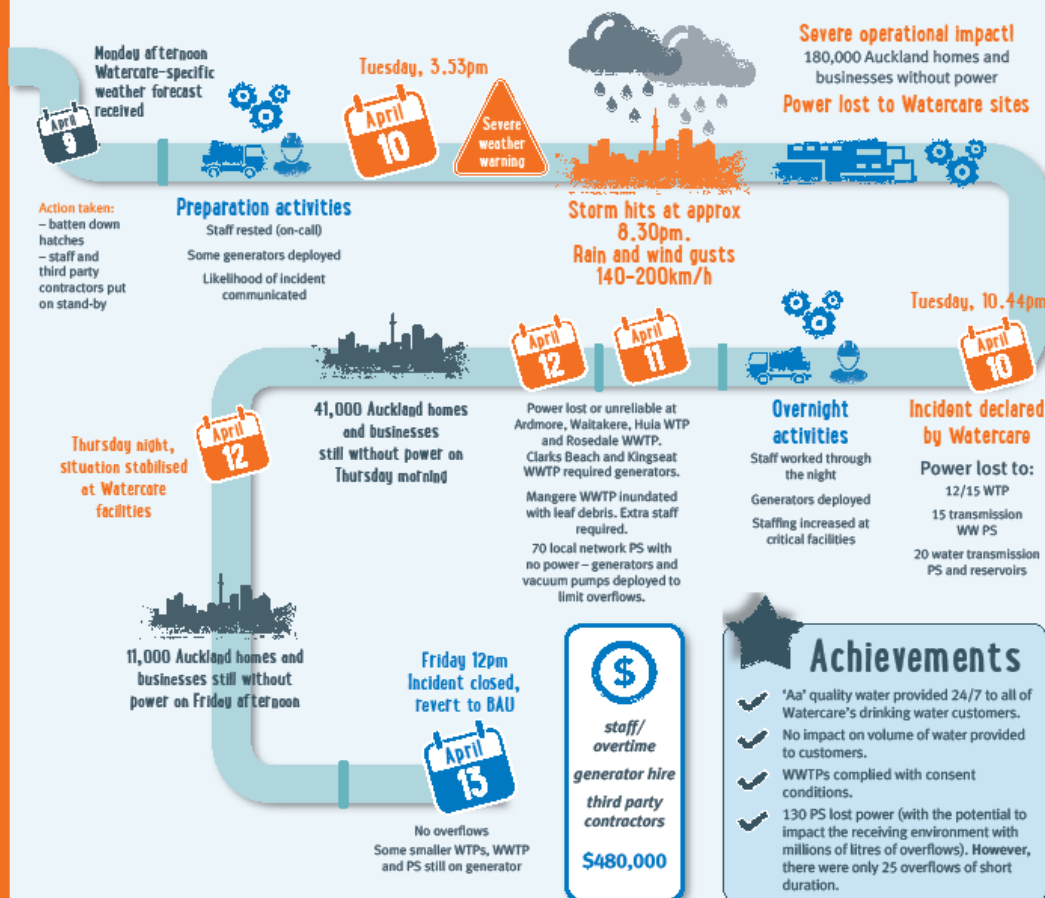
Pre-arranged contracts with third parties



Critical facilities have permanent generators on site to provide resilience

Key
WWTP Wastewater treatment plant
WTP Water treatment plant
PS Pump station
BAU Business as usual

Incident



Learnings



- Incident management plans in place well executed
- Learnings and lessons will be shared with other lifeline utility providers

Improvements identified



- Extend permanent generator coverage
- Review alternative power supply to Waikato Water Treatment Plant
- Investigate additional back-up communication batteries at key locations
- Review engineering standards for non-gravity wastewater systems
- Investigate scope and scale of radio telephone coverage

We have much more to do to become more resilient water utilities. The challenges of a rapidly changing world and the impacts on climate and water resources are profound. We need collective action.

Within the next decade.

Action 2030