

# The road to smarter water use

## COUNCIL NAME

Namoi Unlimited

## WEB ADDRESS

[namoiunlimited.nsw.gov.au](http://namoiunlimited.nsw.gov.au)

## SIZE

60,000 square kilometres across the councils of Gunnedah, Gwydir, Liverpool Plains, Narrabri, Tamworth region, Uralla and Walcha

## POPULATION

100,000

## FUNDING PROGRAM

Increasing Resilience to Climate Change

## Overview

Water is needed to maintain gravel roads, as it helps compaction for a smoother, longer-lasting road surface. But during the most recent drought, water became so scarce some councils stopped maintaining their gravel roads. As the road conditions deteriorated, the safety risks for the community grew. Time spent in drought in this region is projected to increase with climate change.

Namoi Unlimited, a strategic partnership of councils across the Namoi region, proposed to trial the use of recycled water on gravel roads. While the trial could not proceed due to NSW Government regulations, the project has filled information gaps that will help councils to elevate their water-saving efforts when the next drought hits home.

## Background

Despite being the world's driest continent, Australia recycles just a small proportion of its wastewater compared to countries like Kuwait, Israel and Singapore. In fact, New South Wales recycles under 10% of its wastewater, while Victoria and Queensland both recycle around 24% apiece.

Although there is a well-developed understanding of how wastewater can be used for some domestic uses, like toilet flushing, far less was known about how to use wastewater for gravel road maintenance.

A survey of Namoi Unlimited's participating councils found that between 10 and 30 kilolitres of water was used per kilometre of road restoration, and that figure could be even higher in times of drought. Armed with this information, Namoi Unlimited began to investigate the alternatives.

## Implementation

With funding from the NSW Government's Increasing Resilience to Climate Change Program, Namoi Unlimited scoped out a six-stage project:

- Stage 1: Design and commence project
- Stage 2: Literature review through consultancy
- Stage 3: Consult and engage the community
- Stage 4: Pilot a solution in two local government areas
- Stage 5: Develop and document resources and case studies
- Stage 6: Review and evaluate.

After establishing a steering committee and engaging stakeholders, several NSW Government agencies were consulted, including Department of Primary Industry - Water, NSW Health and the NSW Environment Protection Authority, as well as the Institute of Public Works Engineering Australia.

Environmental consultant GeoLINK was appointed to undertake a literature review. After looking at the issue from every angle - health, environmental, social, economic and functional – the consultant team made key recommendations, which included

further technical assessments and benchmarking, as well as a community communication and engagement strategy.

Following this, an online survey of 545 people illuminated local attitudes and behaviours to water recycling and reuse. Key findings included:

- 33% of survey respondents were "very concerned" about their access to water and a further 45% were "concerned" or "somewhat concerned"
- Almost 92% of respondents were worried about future water supply
- 89% supported their local council using appropriately treated and safe recycled water for activities like watering public trees and gardens, for street cleaning and, importantly, in the maintenance of gravel roads.

During Stage 4, the project team planned to pilot a solution in two local government areas. In regional NSW, recycled water schemes that use treated wastewater from a council wastewater treatment plant must obtain approval under Section 60 of the Local Government Act 1993 (NSW). Unfortunately, the project team was not granted approval to use wastewater on gravel roads.



Gunnedah STP Maturation Pond



Walcha STP final pond



Westdale STP (Tamworth Regional Council) Chlorine dosing unit

## Outcomes

Three workshops could not resolve several areas of disagreement between the project team and the regulators. These included health risks to the public and to council workers, specific recycled water targets and the number of rounds of wastewater pathogen testing.

The project team's extensive research suggests the proposed scheme is not 'high exposure' to the public, as gravel roads are located in rural areas with low population density, low traffic numbers and very few pedestrians or cyclists. A risk management plan identified ways to restrict traffic and cease the flow of water if a member of the public was present. The slightly higher risk to council workers was also carefully considered in the risk management plan.

While the pilot would have addressed some concerns around policy, procedures and health and safety, the project was unable to proceed.

## Key Learnings

After Namoi Unlimited wrote to the responsible NSW Minister, the project was referred to the Town Water Risk Reduction Program for review. Following this, the Town Water Risk Reduction Program developed a roadmap to address some issues and challenges identified by Namoi Unlimited. The NSW Government is also expanding data sets to help local governments predict and prepare for future droughts.

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The project's extensive technical assessments and benchmarking provide a strong body of evidence for future projects, but arguably the most important insights come from the community engagement campaign. The consumer research confirmed that the communities represented by Namoi Unlimited care about water security, with almost 92% of respondents noting it as a concern and 58% connecting a lack of water with climate change. This provides clear opportunities for future community engagement programs.

### **More information**

Check out the short video, [Smart water use for a changing climate](#), on YouTube.

### **Contact**

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