

Parkes Water Infrastructure Renewal Project

# Resilience in Design

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PARKES SHIRE COUNCIL





Photo: Christian Uhrig





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## Sewage Treatment Plant



Photo: Christian Uhrig







## Water Treatment Plant



Photo: Christian Uhrig











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**Parke Shire Council was willing to invest in going beyond business as usual for longer term benefits to the environment, community and operating costs of the plant.**

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# Resilience Initiatives







## 3 initiatives



**Climate Change  
Risk Assessment**



**Photovoltaic  
Augmentation**



**STP Outfall  
Redesign**



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**Critical infrastructure such as  
sewage and water treatment  
plants are vulnerable to the  
effects of climate change.**

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## Maximum temperatures projections

Year 2030

↑ 0.7°

Year 2070

↑ 2.1°







## Climate change risk assessment steps

1

Climate effects  
identified

2

Key risks  
identified

3

Adaptation measures  
identified





## Climate effects

2

## Key risks

RISK RATING	2030	2090
Very Low	3	2
Low	19	18
Medium	11	4
High	5	11
Very high	0	3
Total risks	38	38



3

## Adaptation measures

Adaptation measures are actions that reduce the vulnerability of natural and human systems to the adverse effects of climate change.

Adaptation measures can be implemented at different scales, from local to global, and can be voluntary or mandatory.

Adaptation measures can be implemented in different sectors, such as agriculture, water management, urban planning, and infrastructure. Adaptation measures can also be implemented in a cross-sectoral manner, involving multiple sectors and stakeholders.

Adaptation measures can be implemented in a proactive manner, before the adverse effects of climate change become severe, or in a reactive manner, after the adverse effects have occurred. Adaptation measures can also be implemented in a combination of proactive and reactive measures.

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**This largely validated  
what Parkes Shire Council  
was already doing**

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## 3 initiatives



**Climate Change  
Risk Assessment**



**Photovoltaic  
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**STP Outfall  
Redesign**





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20%

plants energy supply  
per annum



8Yrs

Payback period

Modelling has been carried out based on a 100kWp system

STP: 100kW<sub>p</sub>

288kW<sub>p</sub>

WTP: 100kW<sub>p</sub>

108kW<sub>p</sub>

Further savings if maximum energy draws shifted to peak sunlight hrs

## 3 initiatives



Climate Change  
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