



# Energy Plan

Palmerston North

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SMALL CITY BENEFITS, BIG CITY AMBITION

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2018/21

**Te Kaunihera o Papaioea**  
Palmerston North City Council





To fulfil the vision of small city benefits, big city ambition the Council has adopted five goals. The Eco City Strategy was developed to achieve **Goal 4: An eco city**, and this plan shows how the Council will contribute to achieving this goal.

For the city to be successful and sustainable, Council must lead the way in sustainability. It will develop a culture of sustainability within the organisation so that it becomes business as usual. Recognising the value that mātauranga Māori can add to sustainability efforts, Council will progressively add a greater degree of local tikanga into its everyday activities.

Council monitors its energy use by collecting data from each building, facility and vehicle, which is agglomerated each month. This monitoring identifies the largest energy users and which areas need to be targeted first. Council has begun a programme to conduct a comprehensive energy audit on each facility, starting with the facilities that use the greatest energy. These audits produce a list of energy and cost-saving recommendations, which are then implemented.

Council need not wait until each facility is audited before making improvements. It can make significant energy efficiency gains in numerous areas that will result in significant savings. Council will undertake a separate programme of replacing obsolete lighting with newer LEDs, while still ensuring lighting standards are met. Other opportunities include investigating whether the use of solar technology might allow some smaller facilities to go off-grid, saving line charges. Council is also committed to constructing energy-efficient buildings, saving costs over the longer term.





**The purpose of the Energy Plan is to contribute to *demonstrating leadership and best practice by developing and implementing an environmental sustainability plan for the Council, Council run events and facilities (Priority 7, Eco City Strategy).***

The Council seeks to improve the energy efficiency of its operations by:

- Implementing systematic energy audits of Council facilities; Upgrading obsolete technologies and processes to modern energy efficient standards.; Ensuring all new facilities are built to a high sustainability standard.



## Where we are now



- Many Council sites still use obsolete and inefficient technologies that are increasingly expensive to maintain.
- Energy efficiency has not been a key consideration during facility upgrades, renewals and new-builds.
- Energy use monitoring has historically been inconsistent, resulting in a range of energy management oversights.
- Many existing Council buildings are highly energy inefficient and hence costly to run.
- Some low usage Council sites have very high associated electricity line charges.
- Council leases a number of its facilities, making efficiency upgrades more difficult to achieve.
- Current lighting and heating levels are not fit for purpose at some sites.
- Many current systems default to energy wasteful options (e.g. lights left on overnight).

## Where we want to be



- New buildings are designed to be energy efficient.
- Building upgrades target improved energy efficiency.
- Obsolete technologies and processes are phased out.
- Accurate and consistent energy monitoring data is available across all Council sites, driving greater implementation of energy efficiency. Isolated low usage sites are moved off-grid to eliminate high line charges.
- Facilities are comfortable, fit for purpose and meet relevant technical standards.
- Systems default to energy saving options (e.g. sensor activated lighting).
- Energy wastage is avoided through automation where applicable.

## How we're going to get there

### Day to day / ongoing actions to achieve the purpose

- Continuously monitor energy use of all Council facilities.
- Conduct a systematic energy efficiency audit of Council facilities.
- Operate and maintain the biogas engine.

### New ongoing actions to achieve the purpose

- Implement energy audit recommendations.

### Specific programmes to achieve the purpose (with timeframe)

- Progressively upgrade all lighting fixtures to LEDs (by end of 2022/2023).
- Install solar panels, or other renewables, and batteries on isolated low usage sites, and move these sites off-grid.
- Implement biogas engine exhaust heat recovery system (by end of 2018/2019).
- Investigate feasibility of achieving staged increases in the level of energy self-sufficiency during the wastewater treatment plant upgrade (by end of 2022/2023).
- Investigate utilization of waste heat and wastewater heat recovery to reduce energy requirements at the Lido Aquatic Centre (by end of 2018/2019).
- Develop energy and water efficiency standards to inform Council facility renewals and new builds (by end of 2019/2020).



## Actions contributing to Council's strategic themes

### a) Smart city practices

- Implement 'Smart metering' for all Council energy meters allowing for automated energy use data collection, monitoring and analysis across all sites.
- Widespread utilisation of modern technology such as LEDs to replace obsolete energy inefficient units and enable isolated sites to move off-grid.

### b) Sustainable practices

- Energy efficiency gains directly correspond to decreased carbon emissions intensity.
- Use LED lighting to significantly lower end of life environmental impacts compared with fluorescents.
- Encourage more energy efficient behaviour, as outlined in the 'Sustainable Practices Plan'.
- Disseminate standards.

### c) Iwi partnerships

- Aim to learn alongside iwi partners to identify opportunities together, and enable iwi to determine and consider the implications of emerging technologies from a tikanga perspective, for both the benefit of the wider community and to support their own development as an iwi.

### d) Strategic partnerships

- Work with Energy Efficiency and Conservation Authority (EECA) to audit facilities and implement recommendations.
- Work with NZTA, CCOs and Community Leisure Management (pool operators) as appropriate to improve energy efficiency at associated facilities.
- Work with other public institutions to ensure a consistency of approach for sustainable buildings.



## Measures of success

- Energy efficiency (including electricity and natural gas) of Council facilities is improved
- Increase in energy efficiency of city buildings

## Related policies

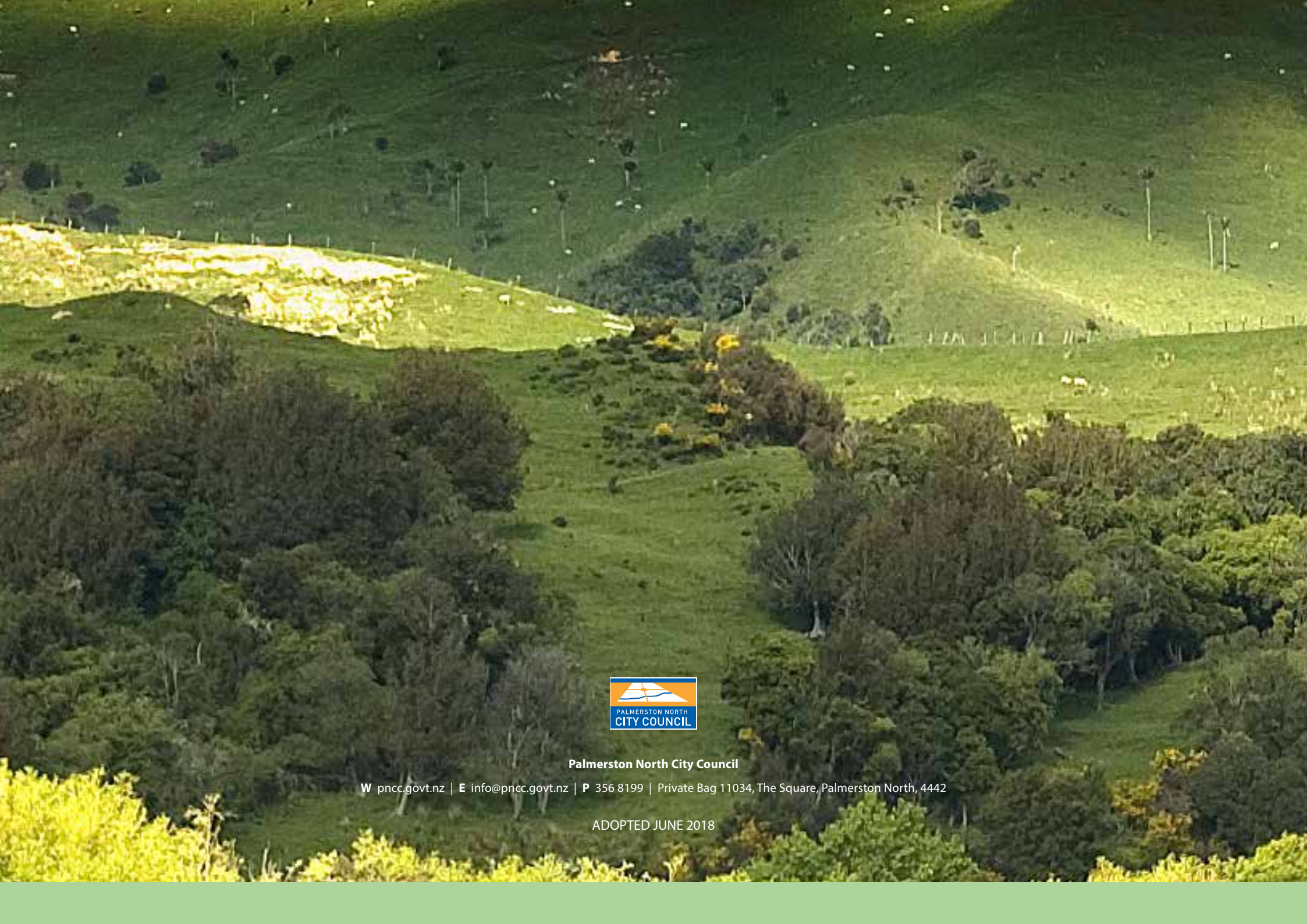
- Water Conservation Management Plan 2016

## Long-term Plan levels of service

Council fosters sustainable practices and behaviours so that City residents and organisations become more sustainable.

## Long-term Plan KPIs

Number and description of sustainable practices campaigns (Qualitative measure).  
Number of Eco Design home consultations.



**Palmerston North City Council**

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ADOPTED JUNE 2018