Resource efficiency and waste management plan [template]

[AUTHOR]

[date]

[Version]

# Document control

## Document version history

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## Document review

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# Completing this template (page to be deleted)

This page has been included to inform completion of the Waka Kotahi resource efficiency and waste minimisation plan (REWMP) template and should be deleted prior to submitting a completed REWMP. Please note, this document replaces the previously published tier 3 template.

The completed template should cover the implementation and management of project resource efficient opportunities and initiatives. These are initiatives designed to reduce materials use (particularly materials with high embodied carbon), reduce greenhouse gas emissions, reduce potable water use and reduce/re-use and manage waste effectively.

This document includes guidance notes in green italics (this text) and prompts for adding project specific detail [in brackets]. In addition, to support the use of a single REWMP template, navigation (by project tier) is included in highlighted text boxes at the start of each section (example below).

Navigation provided in text boxes through this document are to guide the reader towards the required input by project tier and should be deleted prior to submitting your REWMP to Waka Kotahi.

Checklist:

* Remove all guidance text (green italics).
* Remove all [brackets and placeholder text] once replaced with requested project information.
* Remove all highlighted text boxes from the REWMP once completed.

# Project information

All projects (tier 1–3) to complete the Project information section.

## Project details

### Project name (including state highway number)

[insert project name]

### Territorial/regional/unitary council(s) that have jurisdiction

[insert names of territorial/regional/unitary council(s) that have jurisdiction over the project area]

### Construction period with expected completion date

[insert dates of construction period with expected completion date]

### State highway classification

[insert state highway classification from the [One Network Framework](https://www.nzta.govt.nz/planning-and-investment/planning/one-network-framework/) (ONF)]

### Nature of the works being undertaken

[insert high-level summary of nature of works being undertaken]

### Project tier

[insert identified project tier **(tier 1**, **tier 2** or t**ier 3**) in accordance with the Waka Kotahi [Resource efficiency guideline for infrastructure delivery and maintenance](https://www.nzta.govt.nz/resources/resource-efficiency-guideline-for-infrastructure-delivery-and-maintenance/) and [*P48 Specification for resource efficiency for infrastructure deliver*y](https://www.nzta.govt.nz/resources/resource-efficiency-for-infrastructure-delivery-and-maintenance/)]

## Overview

This section of the plan provides a summary of the project and provides context to the subsequent sections of this plan.

The [project/maintenance contract] relates to delivery of [insert key project information].

Key elements include:

* [insert bulleted list of key project elements considered in this plan].

## Point of contact

The resource efficiency lead for the project is stated below. This person will be the point of contact for reporting requirements.

**Name**: [insert name]

**Title**: [insert title]

**Role in project**: [briefly describe role in project]

**Email**: [insert email address]

**Phone**: [insert phone number]

## Process for REWMP review

This REWMP will be reviewed on an annual basis. The findings of the review will be incorporated into a revised REWMP. Document revision history will be recorded in the document version history at the beginning of this document.

The REWMP review will be completed by [insert name] and approved by [insert name].

# Executive summary

Tier 1 and 2 projects only are required to complete an executive summary as part of the REWMP.

As targets are only mandatory for tier 1 projects, that component below can be deleted for tier 2 projects if no targets have been selected.

Tier 3 projects can delete this section entirely and progress to the Resource efficiency initiatives section

This [insert project name] has considered the following [Resource Efficiency Policy for Infrastructure Delivery and Maintenance](https://www.nzta.govt.nz/resources/resource-efficiency-policy-for-infrastructure-delivery-and-maintenance/) categories in the development of this REWMP:

[insert applicable category: 1. Reduce whole-of-life emissions, 2. Reduced use of virgin and/or high carbon intensity materials, 3. Reduced energy consumption and associated greenhouse gases (from construction and operational phases of the asset), 4. Increased uptake of recycled and alternative materials, 5. Reduced waste, 6. Reduced water consumption].

The overarching objectives of this project in relation to resource efficiency include:

[Insert a two to three paragraph summary of resource efficiency objectives relating to this project]

Reporting on project successes will be supplied to Waka Kotahi on an [insert reporting frequency – minimum of annual] basis, with monthly data recorded in the Waka Kotahi Resource Efficiency Reporting Tool (appendix B of the [*Resource efficiency guideline*](https://www.nzta.govt.nz/resources/resource-efficiency-guideline-for-infrastructure-delivery-and-maintenance/))*.*

The following detail relates to targets (mandatory for tier 1 projects only) and can be deleted for tier 2 projects.

As a measurement of the success of resource efficiency initiatives this project has set the following targets:

* [insert any project targets].

The overarching strategy for addressing these targets (and incorporating resource efficiency outcomes throughout the project lifecycle) is to [insert paragraph on resource efficiency strategy].

A map of the project boundaries is included in figure [insert figure number] below. A more detailed map is included in appendix [insert appendix number].

# Options development

Tier 1 and 2 projects only are required to complete the Options development section of the REWMP.

Tier 3 projects can delete this section entirely and progress to the Resource efficiency initiatives section

In developing this REWMP, this [insert project name] has considered resource efficiency opportunities in the following project phases:

Provide a list of resource efficiency considerations by project phase (note, you can delete any phases where resource efficiency considerations were not applied):

|  |  |  |
| --- | --- | --- |
| Project phase | Resource efficiency considerations | Outcome |
| Point of entry |  |  |
| Strategic case |  |  |
| Programme business case |  |  |
| Indicative business case |  |  |
| Detailed business case |  |  |
| Single-stage business case |  |  |
| Continuous programmes (investment case) |  |  |
| Tender phase |  |  |
| Detailed design |  |  |

The above table should reflect any handover documentation. A quick checklist includes:

* Have resource efficiency opportunities been considered (relative to scale required at project phase)?
* Has a list of considered opportunities been completed (and recorded in the project opportunities register)?
* Have decision making processes, including longlist and shortlist multi-criteria analysis (MCA), been included?

## Resource efficiency workshop

In developing applicable resource efficiency opportunities the project team have conducted [Insert details of resource efficiency workshops completed].

Workshop(s) were completed on:

* [insert workshop dates].

A workshop summary is included in appendix [insert appendix number].

# Base carbon estimate

Tier 1 and 2 projects should include an overview of how the carbon baseline has been developed.

Tier 3 projects calculate carbon emissions based on estimated and can therefore delete this section entirely and progress to the Resource efficiency initiatives section.

All projects should establish a base carbon footprint for the project, noting that only tier 1 projects are required to also include mandatory targets against the base carbon estimate.

To measure the effectiveness of resource efficiency outcomes associated with [insert project name], a project baseline (base carbon estimate) has been prepared. The project baseline, described below, measures the typical carbon impacts of delivering a similar infrastructure project (or maintenance activity).

The following project baseline relies on an initial carbon estimate calculated using the Waka Kotahi [Project Emissions Estimation Tool (PEET)](https://www.nzta.govt.nz/roads-and-rail/highways-information-portal/technical-disciplines/environment-and-sustainability-in-our-operations/environmental-technical-areas/climate-change/climate-change-mitigation/project-emissions-estimation-tool-peet/) – 1st order. The base carbon estimate is described in table [insert ref] below:

Please update the following table:

|  |  |  |
| --- | --- | --- |
| Material | Quantity | Estimated CO2 equivalent |
| [update with key materials calculated, eg concrete, energy] |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| Total |  |

The base carbon estimate for [insert project name], prior to application of resource efficiency initiatives is [insert total from table above] tonnes of carbon dioxide (CO2) equivalent.

# Resource efficiency evaluation

Tier 1 and 2 projects must detail the evaluation process applied in respect to resource efficiency initiatives included at the conclusion of detailed design. Noting this section may be left incomplete until REWMP is finalised.

Tier 3 projects are not required to provide a breakdown of the evaluation of opportunities and can therefore delete this section entirely and progress to the Resource efficiency initiatives section.

Describe evaluation activities/processes, noting that for tier 1 projects it is recommended to include resource efficiency criteria in the multi-criteria analysis (MCA) screening process.

In evaluating resource efficiency opportunities as part of this project, the following evaluation process was undertaken.

As a tier [insert project tier] project, the evaluation of resource efficiency opportunities has included:

* [insert list of evaluation activities].

The overall evaluation of resource efficiency opportunities for the project considered were [insert number of resource efficiency opportunities included in the opportunities register]. Of this longlist, the following opportunities were shortlisted:

* [insert shortlisted opportunities].

The outcome of the [insert evaluation type], concluded that [insert description of evaluation outcomes].

Where applicable a snapshot of the project MCA should be added to this section.

# Resource efficiency initiatives

All projects (tier 1–3) to complete the Resource efficiency initiatives section.

## Summary of initiatives and implementation plan

The table below presents the resource efficiency initiatives that have been/are planned to be, implemented on the project and information about their implementation status.

The table below matches the layout of the ‘Implementation’ tab of the opportunities register and initiatives tracker, with the intention that information can be copied directly into this table.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **ID** | **Resource efficiency category***(Materials, Energy, Waste, Water)* | **Initiative description** | **Priority** *(A, B, C, D)* | **Senior owner** | **Implementation lead** | **Status tracking***(On track, Behind schedule, Ahead, On hold, Completed)* | **Actions to progress** | **Due dates of actions** | **Expected final completion date** |
|  |  |  |  |  |  |  |  |  |  |
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## Risks and barriers

The table below presents the potential risks and barriers to achieving the resource initiatives for the project, how the project plans to overcome them and who is responsible.

As a prompt to identify risks and barriers, some examples of types of risks are:

* health and safety
* programme and resource
* contractual/legal
* technical
* financial
* environmental.

|  |  |  |
| --- | --- | --- |
| Risk | Proposed mitigation  | Risk owner |
|  |  |  |
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# Construction waste management plan

All projects (tier 1–3) to complete a construction waste management plan, noting this plan may be supplied by a contractor.

The purpose of the construction waste management plan is to support the effective management of construction waste.

## Responsibilities

Please describe responsibilities for waste management system set up and duty of care tracking/docket control.

The person(s) responsible for waste management system set up and duty of care tracking is:

**Name**: [insert name]

**Title**: [insert title]

**Role in project**: [briefly describe role in project]

**Email**: [insert email address]

**Phone**: [insert phone number]

## Waste contractor details

The details for the waste contractor for this project are:

**Company**: [insert company name]

**Account manager name**: [insert account manager name]

**Account manager email**: [insert email address]

**Account manager phone**: [insert phone number]

## Waste streams

Core project waste streams are described in the table below, including the expected quantity of materials and the intended end destination (reuse, recycling, recovery, cleanfilling or landfilling).

|  |  |  |
| --- | --- | --- |
| Waste stream | Estimated quantity  | Intended end destination *(Reuse / recycling / recovery / cleanfilling / landfilling)* |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
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# Data tracking and reporting

All projects (tier 1-3) to complete Data tracking and reporting section.

For all projects greater than 12 months in duration, fill in the following information.

If the project is planned to be less than 12 months in duration, the following statement: ‘A project close-out report will be completed’ is sufficient for completing this section of the REWMP.

## Data tracking

In accordance with the [*P48 Specification for resource efficiency for infrastructure deliver*y](https://www.nzta.govt.nz/resources/resource-efficiency-for-infrastructure-delivery-and-maintenance/), the following data will be captured and tracked for this project. Where data is not readily available, estimates or proxy data have been used. Estimated or proxy data are identified as such in the table.

|  |  |  |
| --- | --- | --- |
| Data category *(Materials / energy / waste / water)* | Data to be tracked | Unit  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
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An \* indicates when the data is estimated or proxy data

## Frequency of data reporting

Data will be reported, as agreed with Waka Kotahi for [all improvement projects on an annual basis/all maintenance project on a quarterly basis].

Data reporting may be agreed to occur on a more regular basis. Amend the statement above as appropriate.

## Progress reporting

Progress of this REWMP will be reported, as agreed with Waka Kotahi, on an annual basis.

Progress reporting may be agreed to occur on a more regular basis. Amend the statement above as appropriate.

Project reporting should follow Waka Kotahi’s progress reporting template and include the initial carbon estimate and implementation status of resource efficiency opportunities throughout the project lifecycle.

## Close-out reporting

A project close-out report will be submitted to Waka Kotahi on completion of the project.

Project close-out reporting should follow Waka Kotahi’s close-out reporting template and, for tier 1 projects, include a case study of a resource efficiency initiative achieved on the project.