
AUCKLAND UNITARY PLAN

Report To: Unitary Plan Political Working Party

Report Name: Report on the tools to enable sustainable development outcomes

Executive Summary

This paper outlines the main tools available for the Unitary Plan to achieve more sustainable buildings and neighbourhoods.

A new key method identified in this paper is the use of a sustainability assessment tool as a means of establishing a quantifiable and measurable approach to benchmark sustainable development. Assessment tools are commonly used around the world and are now mandatory within most of Auckland's major competitors on the Pacific rim. Although each tool varies, they work by evaluating a development based on a number of criteria such as energy efficiency, water conservation, public transport etc. The tool then gives a score based on the performance against each criteria. The overall score indicates the sustainability of the development. It is an outcome focused tool that allows flexibility for the designer to most appropriate method for the development.

The use of an assessment tool in the Unitary Plan is key outcome from the Auckland Plan, identified in Directive 8.3 in Chapter 8: Auckland Response to Climate Change.

A sustainability assessment tool in the Unitary Plan must be supported by performance standards, policy frameworks and non-statutory approaches to ensure new development is designed, located and constructed to be sustainable.

The second part of this paper discusses the type of tool we could use in the Unitary Plan. We could use an existing tool, such as those developed by the New Zealand Green Building Council, Council could develop their own tool or we could customise an existing tool to suit the Unitary Plan. Due to cost and resources required in developing our own tool and the unlikely difference between an existing and a bespoke tool, it is recommend we use an existing assessment tool.

The use of an assessment tool is seen as an established and effective technique that allows the quantifiable measuring of the sustainability of a building. The tool offers the best option in balancing flexibility for developers to determine their own approach to providing sustainable development whilst minimising the resource and capacity demands upon Council. Such an approach aligns with wider policy direction in the Unitary Plan and with the support of complimentary methods, gives effect to the Auckland Plan.

Recommendation

1. That this report is received
2. That the two recommendations of this report are supported by the Unitary Plan Political Working Party.

Recommendation 1

We use a sustainability assessment tool in the Unitary Plan, supported by performance standards, policy frameworks and non-statutory approaches.

Recommendation 2

It is recommended that the Unitary Plan uses an existing sustainability assessment tool due to cost and resource implications in developing a our own tool.

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Introduction

Auckland Council is seeking to improve the sustainability of our buildings and neighbourhoods in terms of the way they are planned, designed, constructed and operated. The needs of our natural environment must be addressed alongside the needs of an efficient and competitive economy and those of our residents and communities. In considering the 'full' sustainability of a development we can maximise shared social, cultural, economic and environmental outcomes.

The issue

Buildings in Auckland use natural resource inefficiently, do not maximise economic benefits or foster vibrant and viable communities. In particular, unsustainable buildings and neighbourhoods are:

- inefficient in their use of energy and water.
- expensive to run.
- cold, damp and unhealthy places to live.
- sources green house gas emissions and contributors to climate change.
- contributors to wider costs to the community, such as provision of costly infrastructure, congestion, increase travel times and poor health.

Strategic Direction

The Auckland Plan has a strong emphasis on the sustainability of development:

- Section C sets a vision for a 'Green Auckland' where water and energy is used efficiently, biodiversity is enhanced and homes are healthy and comfortable to live in.
- Chapter 8 has a target of a 40% reduction in greenhouse gas emissions relative to 1990 levels by 2040. The sustainability of Auckland's built form is key to reducing emissions.
- Directive 8.3 in Chapter 8 seeks to improve building performance through ensuring development is assessed using an appropriate ratings tool.
- Chapter 10 states that if Auckland is to succeed then its built environment must be more sustainable and outlines a suite environmental design principles.
- Chapter 11 seeks more sustainable housing to improve health and lower running costs.

The outcome

The Unitary Plan is seeking to continue the holistic approach to sustainability, in giving effect to the Auckland Plan. We seek to ensure that buildings and neighbourhoods are socially, economically, culturally and environmentally sustainable. The supporting policy framework will address sustainable design principles across the city's spatial scales (from the city, to the neighbourhood, the street and the site).

How do we achieve the outcome?

There are a number of regulatory and non-regulatory methods that could be used in the Unitary Plan to enable a sustainable outcome resulting in more efficient buildings and neighbourhoods.

Key Considerations

The following considerations have been used to review potential Unitary Plan methods.

1. **Market friendliness** of any sustainability method
2. **Flexibility** of the a method for developers / clients / designers
3. **Resourcing and capacity** implications for council's Resource Consenting process

4. **Timeframe** of the Unitary Plan project and notification processes
5. Level of **Impact** on the Auckland Plan’s sustainability targets and key environmental indicators
6. Ability to be **Measured** and **Monitored**
7. **Future proofing**, the Unitary Plan keeps up with rapidly changing building technology.
8. **Integration** of economic, cultural, social and environmental sustainability values in Aucklands neighbourhoods and buildings.
9. **Alignment** with the guiding principles of the Unitary Plan, the purpose of the RMA as well as whether a method will give effect to the Auckland Plan.

Option One: Sustainable Design Performance Standards

Standards identify minimum thresholds for our built environment to ensure improved sustainable building design. They would need to be easily defined and measurable.

Standards can be used if Council wish to establish a benchmark which all development must meet. An example of which is the ‘Merton Rule” in the United Kingdom which required all new development to generate at least 10% of their energy needs from on-site renewable energy equipment.

Example: Auckland Council’s internal ‘Sustainable Building Design Benchmark’ (Not a regulatory standard)

“The modelled energy usage of all new commercial space should not exceed 100kWh per m2“

Benefits/Advantages	Costs/Disadvantages
<ul style="list-style-type: none"> • Allows Council stringent control over the breadth and focus of requirements. • Targeted and specific to enable maximum impact. • Clear and able to measure policy success • Can influence large part of market through attaching to permitted status • Works well when there are sustainable standards which can easily be benchmarked and are unlikely to change through advancement in technology e.g lot and building orientation for maximum solar gain. • Can be used to set a clear benchmark across Auckland for building performance. 	<ul style="list-style-type: none"> • Due to advancement in building technology, standards can quickly become obsolete and therefore will require a costly and resource intensive plan changes to update. • Would require Council to provide dedicated capacity and resource within the resource consenting process to make assessment of infringements to a standard. • Large number of standards that would be needed to cover the full range of sustainable design aspects. • Difficulty in balancing environmental with social, cultural and economic outcomes through separate standards. • Restrictive standards limit flexibility in the design solution for a development. • Potential conflict with the Building Act.

Option Two: Sustainable Design Policy Framework as a Means of Assessment

This approach relies on the assessment of a development against policies, which state the desired outcomes. The assessment relies on an activity requiring a resource consent triggered by a standard (as discussed in Option One)

To be effective this approach relies on well worded and measurable policies that can be easily interpreted by the processing Consent Planner as well as the applicant. A suitable trigger for consent is required and a discretionary activity status would allow a holistic assessment of sustainable design.

Example: Auckland Council District Plan: Auckland Central Section, Victoria Quarter

“Buildings should be designed to be sustainable through the use of durable low maintenance materials inert exterior cladding (avoiding the use of materials containing copper or zinc), maximising solar access and natural ventilation and the incorporation of mechanical and electrical systems that optimise energy efficiency”

Benefits/Advantages	Costs/Disadvantages
<ul style="list-style-type: none"> • Provides increased flexibility by defining the outcome but not the method used to achieve that outcome. • Provides freedom for the designer to manage trade-offs between different aspects of sustainable design. • Enables the incorporation and future proofing for emerging technologies and practices. • Works well with a more discretionary approach. • Allows for monitoring when policies are written in a specific and measurable way. 	<ul style="list-style-type: none"> • A development needs a resource consent if this approach is to be used. • If a policy is poorly written it can be difficult to benchmark, assess applications against, measure and monitor the policy’s success. • Complicated to write necessary policies that would cover the full range of sustainable design aspects, or detail how to evaluate competing outcomes. • Difficult to translate and assess across the full project lifecycle [especially construction and operation]

Option Three: Sustainability Assessment Tool

This tool is a mechanism used to assess the sustainability of a development. It is a relatively new tool within an RMA context, but widely used internationally over the past 20 years. It allows the sustainability of a development to be quantified and easily assessed.

How they work

- User enters information about their development into a website. The website then scores environmental performance of a development against a number of factors [e.g. water usage, energy use etc].
- Alternative an assessor evaluates their project and awards credits based on adherence to one or more defined levels of performance for a particular aspect of design. Some design aspects are mandatory, while most are optional.

Such a tool can quantify a wide range of social, cultural, economic and environmental design factors.

The tool also allows the balancing of competing outcomes and demands. By enabling the flexibility for the applicant to choose which credits to prioritise, it allows them to concentrate their investment to achieve the best sustainable design outcome for that particular development.

Example: TUSC (Tool for Urban Sustainability Code of practice)

The TUSC tool evaluates the amount of energy and water a house will use by the applicant entering design details into an online database which then calculates a score.

Benefits/Advantages	Costs/Disadvantages
<ul style="list-style-type: none"> • Existing tools are familiar to the international development industry and extensively market tested. One of the earliest tools was used in the UK in 1990. • Gives effect to the Auckland Plan by implementing Directive 8.3 and supporting wider directives and priorities from Chapters 8, 10 and 11. • Alignment with Councils Energy and Climate Change Mitigation Strategy. • Tools are becoming increasing familiar to the domestic market (e.g GreenStar and HomeStar). • Quantifiable evaluation of the sustainability of a development. Allows for accurate monitoring. • Provides a very simple and consistent rule within the Unitary Plan, without the need for extensive list of rules covering all of the different sustainable design aspects or having to detail how to balance competing outcomes for those design aspects. • Flexible in allowing applicant to decide where to invest in their project to create the most sustainable outcomes. • Allows the balancing of a wide range of different aspects of sustainable design. • Minimum resource and capacity demands for council to implement as the assessment 	<ul style="list-style-type: none"> • Additional development costs for demonstrating compliance with tool in the short term. However initial cost will reduce over time and cost savings will be generated through efficiency saving of buildings design (e.g. reduced expenditure on heating through a high standard of insulation). • Introduction of a new method will require consultation and educational programmes with the development industry and the general public. • For the tool to be successful it cannot stand alone. It will need commitment from Council through supporting policies and programmes. • New method within a RMA context, robust research and testing will be needed. • If an existing tool is used it will usually involves a fee for license, covered by the applicant. • If Council wish to develop their own tool rather than use an existing then additional resources will be required. • Currently existing tools assess development at the site scale rather than considering the wider neighbourhood.

<p>is carried out by independent assessors or by the applicant through a website.</p> <ul style="list-style-type: none"> • There are a range of tools already available for certain sectors, requiring minimum development time. • Tools can provide an independent auditable and transparent evaluation framework. • Tools are often supported by educational programmes within the market place and the general public • PR and recognition for projects complying with the tool e.g. New ASB office building, Wynyard Quarter. • The assessment can identify measurable areas of improvement in a buildings design. 	
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Option Four: Non-statutory methods (other methods)

This approach relies on non-statutory methods for improving the sustainability of Aucklands built form that compliments the statutory content of the Unitary Plan.

Community education and one-on-one advice can offer useful support to regulatory measures. Research concludes that regulatory measures are far more successful if they are supported by effective and targeted educational services. Councils Eco Design Advisors are an example of such an approach.

Example: Auckland Council’s Retrofit Your Homes program

Benefits/Advantages	Costs/Disadvantages
<ul style="list-style-type: none"> • The Unitary Plan will state the desired outcome and non-statutory approach can give advice on the possible methods which can be used to achieve the outcome • One-on-one point of contact, such as the Eco Design Advisory service, is very customer focused giving tailored responses to queries. This service can also provide support for Council staff. • Community education through method such as publications, campaigns and websites are relatively low cost methods of disseminating information. • Can achieve outcomes where a traditional 	<ul style="list-style-type: none"> • On there own, non-regulatory approaches cannot guarantee outcomes. • Passive forms of information relying on people seeking the information out. • Councils current EDA may not have capacity to manage additional workload generated by the Unitary Plan.

<p>RMA approach would not be so efficient or effective.</p> <ul style="list-style-type: none"> • Can be updated and changed easily to meet changes in technology and demand. • Opportunities for co-ordination with national/international initiatives. 	
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Recommendation 1:

We would recommend **Option 3** supported by **Options 2 and 4** the use of a sustainability assessment tool for consideration within the Unitary Plan, supported by complimentary policy and non-regulatory methods. **Option 1** will be used for specific standards which are future proof, such as building orientation for maximum solar gain.

This is on the basis that such a tool would be the first step in quantitatively benchmarking, monitoring and championing economic social and environmental sustainability within Auckland buildings and neighbourhoods. The tool offers the best option in balancing flexibility for developers and design teams to determine their own approach to improving the future viability of the city whilst minimising the resource and capacity demands upon Council. This approach is supported by the widespread application of ratings sustainability assessment tools throughout the world in last 15-20 years in a range of planning systems and markets to facilitate the delivery on environmental outcomes.

It is important to note that a ratings tool is not a silver bullet, and the intrinsic complexity of the land and development markets and economics, governance and politics necessitates a range of statutory and non-statutory methods.

What type of Sustainability Assessment Tool should we use?

Sustainability assessment tools are used around the world to promote sustainable design outcomes, and there is therefore a diverse range of ratings tools that could be used.

Option One: Proprietary Assessment Tools

The council could use a proprietary “off the shelf” tool that has already been developed and used in New Zealand. There are a range of tools available, although their market penetration and policy support has been limited in comparison to most developed and developing countries. These tools have generally been developed by an independent organisation / charity who then license the use of the tool for independent evaluation of projects by a ‘trained assessor’.

Example : The GreenStar Office Tool

The Green Star Office 2009 Design and Built rating tool, developed by the New Zealand Green Building Council evaluates the sustainability of new, existing and refurbished office buildings.

Benefits/Advantages	Costs/Disadvantages
<ul style="list-style-type: none"> • Free to embed into policy, with zero development costs • Can be used immediately with no development times • No costs for Council in the assessment or monitoring of projects using the tool as part of resource consent process. • Certain tools have been developed in partnership with the development industry including the Property Council, and therefore the use of such a tool can be seen as supporting the industry’s own ambitions. • Familiar to development industry and design professionals • Provides a benchmark rating system that is already well recognised and understood. • There are a range of tools available that could be applied to a variety of developments 	<ul style="list-style-type: none"> • Minimal control over the exact format and operation of the tool • Possible ‘point-of-use’ fee for using the tool would be covered by project owner. • Potential additional development costs for demonstrating compliance with tool in the short term. • Potential difficulty in assuring the long term consistency between the tool and the strategic direction of Council.

Option Two: Bespoke Tools

The second option would be for the Council to develop its own tool

Example: TUSC (Tool for urban sustainability Code of Practice)

TUSC is an online tool that rates the sustainability of urban residential buildings, subdivisions by calculating the energy and water savings and the wider storm water and transport-related impacts

at the concept design stage. Its role is to show how sustainable your home or subdivision is and will give you ideas on how your home can be improved.

Benefits/Advantages	Costs/Disadvantages
<ul style="list-style-type: none"> • Provides significant control over the focus and operation of a tool, allowing the council to tailor to its specific demands. • Opportunity to work to possibly resolve criticisms of current tools. • Could tailor assessment and streamline to integrate into resource consenting process. • Assured consistency between the tool and Council's direction. Council can easily update the tool as it sees fit. 	<ul style="list-style-type: none"> • The development of such a tool would be expensive, with most existing tools benefitting from the support of national and international networks of engineers, scientists, energy advisors and sustainability consultants overseeing the systems modelling, testing and marketing. • The ownership of the tool by Council rather than an independent tool could attract criticism over excessive interference in the market. • Council would need to dedicate resources going forward to undertake the tool's assessments of projects as part of the resource consent process, or to fund the training of independent assessors. • Require resources to manage the tool's monitoring, evaluation and development to ensure it is up to date and relevant. • Questionable how much different a bespoke tool could / should be in comparison to a proprietary tool. • Tool would be new to the market and would require testing and embedding.

Option Three: Customised Tools

The third option for Council would be to either partner with a tool developer [such as the new Zealand Green Building Council or Beacon] or reach agreement with the tool owner to pursue a customised version of an existing proprietary tool.

This option is effectively a hybrid of options one and two, looking to minimise the costs and associated timeframes of developing a tool that is bespoke to Councils needs, whilst achieving the benefits of using an existing sustainability assessment tool.

The viability of this option would centre on the perceived additional value and / or impact of such a customised tool when evaluated against the existing 'proprietary tools' already available on the market, and Council finding a willing tool owner who is prepared to adapt their tool.

For Example : BASE Christchurch

This has been developed in partnership between the New Zealand Green Building Council and Christchurch City Council. For a review of the Christchurch BASE tool please refer to Appendix 4.

Benefits/Advantages	Costs/Disadvantages
<ul style="list-style-type: none"> • Provides significant control over the focus and operation of a tool, allowing the council to tailor to its specific demands. • Opportunity to possibly resolve criticisms of current tools. • Could tailor assessment and streamline to better integrate into resource consenting process. • Potential to minimise development costs and timeframes when compared to a bespoke tool. 	<ul style="list-style-type: none"> • No guarantee that tool providers would want to work with Council to provide another version of their tool that would weaken market penetration of their existing tools • Aspects of tool would be new to the market and would require testing and embedding to bring the industry with us. • Questionable whether the additional cost of developing a custom tool would deliver significant additional benefits / impacts over and above using existing proprietary tools.

Recommendation 2:

We would recommend **Option 1**, the use of a proprietary assessment tool for consideration within the Unitary Plan.

In using a proprietary tool the Council could benefit from an established method for benchmarking and monitoring sustainable aspects of design without incurring significant development and operational costs. Many proprietary tools have been developed and tested in partnership with the development industry, for example the New Zealand Property Council is a sister organisation to the New Zealand Green Building Council.

Option 3, may also be a viable solution, but further work would be needed to evaluate the cost / benefit analysis of the additional investment and timeframes associated with this option over and above a proprietary tool. If Council deems this to be a desired approach, consideration needs to be given on what could be delivered in the Unitary Plan by December 2012.

Conclusion

In order to move rapidly to a more sustainable urban form in Auckland it is recommended that the Unitary Plan use a Sustainability Assessment Tool supported by standards, policies and non – regulatory programmes. It is recommended that we use a proprietary tool as it will be a relatively quick and cost effective means of implementation.

Maori Impact Statement

The proposed methods will have potential impact on all development in Auckland, including Maori development. The recommended methods have synergies with Maori sustainable and urban design principles. The proposed methods allows for and support the use of these principles. It is recommended that further engagement is required to ensure alignment between the recommended methods and the Maori design principles for development such as papakianga.

Additional Methods and Future Work

Implementation of a Sustainability Assessment Tool

A basic methodology for implementation is outlined in Appendix 5. Further work is necessary to test methodology and liaise with stakeholders.

Performance

Currently tools available assess only a buildings design and construction. To ensure that buildings perform in a sustainable manner we will need to introduce a tool which can consider performance.

Removal of Barriers

Council should be enabling development which is of a sustainable design. Unnecessary barriers that hinder sustainable development, including retrofitting need to be addressed.

Neighbourhood Scale

Tools that are currently available assess at the site scale. Significant sustainable benefits can be better achieved at neighbourhood scale. A tool is needed that can assess at multiple scales.

Point of sale disclosure of building performance

The greatest gains in the sustainability of the urban form can be achieved when consumers demand more sustainable products. When you purchase a washing machine you have information on the efficiency of water and energy use. A similar principle could apply to purchasing a property. For a house information could be provided about how much it will cost to heat. A more sustainable home will be cheaper to run and therefore would be more desirable to the market.

Incentives

Sustainable buildings are an incentive due to decreased running costs, increased marketability and improved comfort and health. The Unitary Plan and wider council tools can offer significant incentives to the market to increase uptake of sustainable design practices.

If Council wish, we can present them a paper detailing the future approaches noted above.

Signatories

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