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## **SUSTAINABLE BUILDING GUIDELINES**

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### **1. Purpose of Report**

To present, for the Committee's endorsement, the draft Sustainable Building Guidelines that have been developed for the public, and to update the Committee on other work being done to advance the sustainability of buildings in Wellington.

### **2. Executive Summary**

The attached Sustainable Building Guidelines ("the Guidelines") will be posted on the Council website to provide information and guidance for homeowners, tenants, developers, builders and others on how to make Wellington's buildings more sustainable. The Guidelines have been developed in response to the priorities of the Council's Environmental Strategy, as reflected in the 2006/16 Long-Term Council Community Plan. They were developed by an officer working group, in consultation with external reference groups and key stakeholders. Much of the content of the Guidelines is drawn from existing New Zealand guidelines, with the addition of Wellington-specific information where appropriate.

Buildings offer one of the greatest opportunities for increasing environmental sustainability and reducing greenhouse gas emissions that cause climate change. The resource demands and environmental impacts of buildings can be reduced by designing, constructing and retrofitting them so that they are more energy-efficient, use renewable energy sources, conserve water, and minimise waste. Any additional up-front costs to incorporating sustainability features are usually paid back over time in direct savings through reduced energy, water and waste costs--not to mention the value of the environmental and social benefits that accrue.

The voluntary Guidelines are designed to encourage a higher level of sustainability than the baseline standards found in the New Zealand Building Code for building projects (new buildings and retrofits). The New Zealand Building Code is currently being reviewed, with a discussion document open for comment until 28 September. Other central government work providing a context for local government action includes a national Home Energy Rating Scheme, an EnergyWise Homes package of loans and grants for households, and a commitment to achieving high sustainability ratings for central government office buildings.

Beyond providing information through the Guidelines, Council officers are investigating whether incentives may provide a practical way of encouraging greater uptake of sustainable building practices. Officers are also developing options for incorporating sustainability standards into new Council buildings and major retrofits. Officers will report back to the Strategy and Policy Committee by December 2007 on these items as part of the climate change work programme.

### **3. Recommendations**

It is recommended that the Committee:

1. *Receive the information.*
2. *Agree to endorse the draft Sustainable Building Guidelines (attached as Appendix One, and subject to editing by the Council's Web Centre), to provide information and guidance for homeowners, tenants, developers, builders and others on how to make Wellington's buildings more sustainable.*

### **4. Background**

The Council's Environmental Strategy, approved in June 2006 as part of the 2006/16 Long-Term Council Community Plan, highlights energy efficiency and conservation, water conservation, renewable energy, and energy security as a top three-year priority.

This priority was identified to respond to the following long-term Council outcome:

*"More Sustainable: Wellington will reduce its environmental impact by making efficient use of energy, water land and other resources; shifting towards renewable energy resources; conserving resources; and minimising waste."*

In addition, this priority responds to the following Community Outcomes:

*"Wellingtonians' use of non-renewable energy resources will decrease."*

*"Wellington's urban development and buildings will be energy-efficient."*

In response to this strategic direction, a new initiative on Sustainable Building Guidelines was developed for the 2006/16 LTCCP. The initial aim of the initiative is to develop externally-focused guidelines for a range of user groups on how to make their buildings more sustainable.

## **5. Discussion**

### **5.1 *The importance of sustainable buildings***

Buildings are significant users of resources such as energy and water, and can also be significant generators of waste during construction, operation and demolition. In addition, buildings account for a significant proportion of Wellington's greenhouse gas emissions, primarily through the use of electricity and other energy sources that are at least partially generated by fossil fuels.

Because of this, buildings offer one of the greatest opportunities for increasing environmental sustainability and reducing greenhouse gas emissions that cause climate change. The resource demands and environmental impacts of buildings can be reduced by designing, constructing and retrofitting them so that they are more energy-efficient, use renewable energy sources, conserve water and minimise waste.

Beyond environmental benefits, sustainable buildings generate co-benefits for social and economic wellbeing, by:

- reducing operating costs of buildings
- providing warm, healthy living and working environments
- improving employee productivity

Any additional up-front costs to incorporating sustainability features are usually paid back over time in direct savings through reduced energy, water and waste costs--not to mention the value of the environmental and social benefits that accrue. The long life of buildings means that wise decisions made today can improve environmental, economic and social outcomes well into the future.

### **5.2 *The Guidelines***

#### *Why Guidelines?*

One of the main barriers to the greater uptake of sustainability in buildings is the lack of public understanding on long-term benefits and practical techniques. Providing information to address this barrier is a logical starting point for the Council. Sustainable Building Guidelines can address the following information gaps:

- no information on sustainable building is currently available on the Council's website
- a plethora of information (websites, brochures, books, etc.) exists on various aspects of sustainable building, but there are few comprehensive sources that pull it all together
- existing resources in New Zealand and elsewhere have little Wellington-specific information, such as a discussion of Wellington's unique characteristics, case studies, and Council processes.

It is important to note that these Guidelines are voluntary, not mandatory. Given the wide range of benefits, there is growing interest in the community for voluntarily making buildings more sustainable. Moreover, the Building Act does not allow local governments to impose more stringent building performance requirements than those specified by the New Zealand Building Code. Certain environmental effects of buildings can be managed under the Resource Management Act but typically only on issues where the Building Code is silent (e.g. appearance). The mandatory baseline of the Building Code is currently being reviewed and is discussed further below.

The provision of Sustainable Building Guidelines is the first step in a process of fostering voluntary behaviour change in the building sector to adopt more sustainable building practices.

#### *Who are the Guidelines for?*

The Guidelines are intended for a wide range of user groups, including homeowners, tenants, developers, builders, other professionals. Accessibility and readability is key. It is expected that most professionals (architects, builders, plumbers, etc.) will have access to more technical information from other sources, so the technical detail in these Guidelines is kept to a minimum.

#### *How were the Guidelines developed?*

The Guidelines were developed by a Council officer working group, led by the author of this report and comprising officers from Building Control and Licensing Services, Property, Infrastructure, CitiOperations, Development Guidance, Planning Policy, Strategy and Policy. Some sections of the Guidelines were drafted by external consultants with experience in developing similar guidelines nationally.

External advice was sought from the Council's external Environmental Reference Group, followed by a workshop with key stakeholders in March 2007. Attendees included representatives from central government, academia, non-profit organisations, and the private sector, as well as various Council officers.<sup>1</sup> This workshop was supplemented with numerous follow-up conversations with various stakeholders. Experts in Australia were also consulted directly for their experience with encouraging building sustainability.

#### *What do the Guidelines contain?*

In generating the content for the Council's Sustainable Building Guidelines, the deliberate intent was to avoid re-inventing the wheel. Existing valuable and up-to-date resources are referred to where possible. For example, the vast array of information sources on sustainable homes has been recently brought together,

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<sup>1</sup> Non-Council attendees included representatives from Department of Building and Housing, Ministry for the Environment, Energy Efficiency and Conservation Authority, Building Research, Greater Wellington Regional Council, Victoria University of Wellington's School of Architecture, Sustainability Trust, Beacon Pathway Ltd, New Zealand Green Building Council, BBE Architects and Aonui Architects.

updated and presented clearly and attractively on the Smarter Homes website ([www.smarterhomes.org.nz](http://www.smarterhomes.org.nz)), which was recently launched by the Government. Much of the content for Wellington's Guidelines is drawn from this website, and links to Smarter Homes web pages are provided for more detail on various topics. The same approach is taken with other resources by organisations such as BRANZ and the New Zealand Green Building Council.

The content of the Sustainable Building Guidelines includes:

- overview of sustainable homes and commercial buildings: why and how
- external resources (primarily weblinks) for more information
- Wellington case studies (homes and commercial buildings)
- Wellington-specific considerations (topography, weather, soil, etc.)
- working with Wellington City Council (building consent and resource consent processes)
- context: wider sustainable development issues and resources

#### *How will the Guidelines be presented and maintained?*

The current draft text for the Sustainable Building Guidelines is attached as an appendix to this report. The Council's Web Centre is currently editing and formatting the text to match the Council's other website content. The Guidelines will be broken into easily readable sections rather than presented as an entire document, and they will be accompanied by photos to assist in readability and visual interest.

It is intended that these Guidelines will sit within the Environment module of the Council's website, and that they will also be linked from other sections of the website (e.g. Urban Development and Building Services). The Council website's search engine will help users to easily locate the Guidelines.

Since these Guidelines will be based on the Council's website, they can be easily updated and expanded periodically by officers, as new information arises. The key external resources that the Guidelines link to will also be maintained; for example, the Smarter Homes website will be maintained by the Department of Building and Housing and the Consumers Institute.

#### *How will the Guidelines be promoted?*

The Guidelines will be promoted through Council publications such as *On the Level* (December issue), the *Our Wellington* page, and items in newsletters and websites of external organisations with whom officers have been working.

As with many sustainability initiatives, the ultimate goal is to create voluntary behaviour change in the community, with people choosing willingly to improve the sustainability of their actions. For this to happen, the information has to be put into context so that people can see how their behaviour impacts on the environment and contributes towards larger outcomes. The promotion of the

Guidelines will ensure that they are presented within the wider sustainability and climate change context. Future sustainability and climate change work will include a review of how the Council engages with the community to foster and enable behaviour change.

### **5.3 *Building Code Review***

The New Zealand Building Code specifies mandatory performance requirements for building projects, and therefore is a vital reference point for the Council's Sustainable Building Guidelines. The Building Code sets baseline standards for sustainability features like weathertightness, energy efficiency and water conservation, while the Sustainable Building Guidelines encourage achievement of higher levels of sustainability.

The Code is being reviewed comprehensively by the Government for the first time since 1991, to be consistent with the Building Act 2004. A discussion document published in May 2006 sought feedback on the scope of building work the Code should address. A second discussion document has recently been released (July 2007), seeking feedback on proposed changes to the performance requirements specified by the Code.

One of the most sweeping sustainability-related proposals in the recent discussion document is to assess resource efficiency for buildings in terms of carbon dioxide emissions associated with their construction, operation, maintenance and demolition. This would be a first internationally, both in terms of its whole-of-life analysis and its focus on greenhouse gas emissions.

Officers are preparing a submission on this discussion document, with submissions closing on 28 September 2007.

### **5.4 *Other central government work***

Central government is moving forward with a comprehensive work programme to promote sustainable buildings, beyond the mandatory measures of the Building Code. These central government initiatives provide important context for local government's work.

The Home Energy Rating Scheme (HERS) is an energy efficiency rating scheme for homes that will be launched in December 2007. Initially it will be voluntary, but the Government's intent is to eventually make it mandatory at the point of sale or lease. The HERS will not specify the standard to be achieved – it is only an information tool – but it may be used to measure compliance with the energy efficiency components of the new Building Code.

The HERS is part of a wider EnergyWise Homes package launched in Budget 2007, providing \$72.4 million over four years for:

- an interest-free loans scheme to help homeowners pay for energy efficiency and clean heating upgrades
- continuation of the grants scheme providing energy efficiency retrofits for low-income households

- research and partnerships to support energy efficient technologies
- an information campaign for consumers.

The Government has also launched a scheme of \$500 cash grants to help householders with costs for installing solar hot water heating systems.

Procurement practices are also changing to support sustainable buildings, with the Government committing all its new A-grade office buildings in central business districts to a five-star rating (signifying “excellence”) and its other buildings to a four-star rating (signifying “best practice”) under the New Zealand Building Council’s GreenStar system.

The national rating tools, funding programs, and spending decisions of central government will place the Council’s Sustainable Building Guidelines within a supportive context, whereby Wellingtonians wanting to make their buildings more sustainable will have better access to the tools and funding necessary to make this a reality.

### **5.5 Financial and regulatory incentives**

Beyond the information provision of the Sustainable Building Guidelines, Council officers are investigating whether incentives may provide a practical way of encouraging greater uptake of sustainable building practices in Wellington.

Incentives are generally implemented when market failure is identified. An example of market failure would be if developers are unable to recoup the higher initial costs of sustainable building techniques from eventual building owners or tenants, or if homeowners are unable to finance the upfront costs of sustainable building features that will pay off financially and environmentally in the medium- to long-term. Officers have not yet identified whether and to what extent this market failure is occurring. Anecdotal evidence suggests that the central city office market is demonstrating an increasing willingness-to-pay by occupants (including government agencies) who are aware of the many benefits of sustainable buildings.

If incentives are identified as necessary to further encourage market behaviour, a range can be evaluated for feasibility. These potentially include both regulatory and financial incentives to save people time and/or money:

- **Waiver or reduction in building consent fees.** This is legally possible but would need to be funded from another source such as rates, rather than increasing the fees for building projects not deemed “sustainable.” Direct grants may be preferable.
- **Waiver or reduction in development contributions.** Some developers have proposed this incentive, given the potential savings to Council’s infrastructure costs through (for example) water conservation features. It can be difficult, however, to establish a clear link between a building’s features and overall system costs for the Council. As a simplifying measure,

this waiver or reduction could potentially be funded by rates, as in Waitakere City.

- **Fast-tracking building or resource consent processes.** This is unlikely to be a practical approach for most larger projects, given the complexity of these cases and the need for advice from external parties such as the NZ Fire Service. In order to speed consents for “sustainable” buildings, without slowing the processing of other projects, new resources would need to be devoted to this area, and even then the impact may be limited.
- **Density bonuses, height bonuses, or other bonuses under the District Plan.** This technique presents challenges because of the need to consider local environmental effects under the Resource Management Act.
- **Grants.** The Council currently offers Environmental Grants to community groups, and these grants can already be used for energy-efficiency retrofits or other sustainability features of community facilities. Unlike central government, the Council does not typically make grants directly to building owners or occupants.

Regardless of the incentive chosen, an assessment tool would be required to identify how a building project would qualify for the incentive. Emerging national tools such as the New Zealand Green Building Council’s GreenStar rating system for commercial buildings or the Home Energy Rating Scheme may be of assistance in some cases.

Officers are continuing to explore the options for regulatory and financial incentives and will present recommendations to the Committee by December 2007 as part of the climate change work programme.

### **5.6 Sustainable Building Standards for Council Buildings**

The Sustainable Building Guidelines initiative in the 2006/16 LTCCP includes developing in-house standards during 2007/08 for Council building projects, including major retrofits.

There are few “off-the-shelf” standards available. The New Zealand Green Building Council (NZGBC)’s GreenStar system has an office design tool, and is considering expanding this to government facilities such as schools and hospitals, but there are no tools available yet for Council-specific buildings such as indoor sports centres, libraries, pools, community centres, etc. The NZGBC is willing to work with the Council on a cost-sharing basis to develop relevant standards for Council buildings, as they are doing for Auckland City Council.

Other options include the Council devising its own standards, based on the existing NZGBC office tool and/or overseas standards for non-office buildings.

Council standards for its own buildings will be developed by June 2008. In the interim, the Council could commit generally to recognised sustainability excellence, working with NZGBC and others to specify what this means for each of its upcoming building projects. Officers will propose options as part of the

December 2007 report back to the Strategy and Policy Committee on the climate change work programme.

## **6. Conclusion**

Buildings offer one of the greatest opportunities for increasing environmental sustainability and reducing greenhouse gas emissions that cause climate change. The attached Sustainable Building Guidelines are to be posted on the Council's website to encourage and guide the greater uptake of sustainable building practices in Wellington. These Guidelines fit within a context of increased central government involvement in this area, a review of the New Zealand Building Code, current Council officer exploration of potential regulatory and financial incentives, and the development of sustainable building standards for Council's own buildings.

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## **Supporting Information**

### **1) Strategic Fit / Strategic Outcome**

*This report relates primarily to the following outcome from the Council's overall strategic direction, as reflected in the LTCCP and the Environmental Strategy:*

**More Sustainable:** *Wellington will reduce its environmental impact by making efficient use of energy, water land and other resources; shifting towards renewable energy resources; conserving resources; and minimising waste.*

*This report also relates to the following three-year priority from the LTCCP: Energy efficiency and conservation, energy security, renewable energy, and leadership in this area*

### **2) LTCCP/Annual Plan reference and long term financial impact**

*This report has no financial implications. It presents a voluntary set of guidelines that were developed through funding in the 2006/07 financial year.*

### **3) Treaty of Waitangi considerations**

*This report has no Treaty implications.*

### **4) Decision-Making**

*This report does not require a significant decision to be made.*

### **5) Consultation**

#### **a) General Consultation**

*Input has been sought from an internal Council officer working group, the Environment Reference Group, and a range of government agencies and experts.*

#### **b) Consultation with Maori**

*None.*

### **6) Legal Implications**

*There are no legal implications from this report.*

### **7) Consistency with existing policy**

*This report is consistent with the outcomes and priorities of the Environment Strategy and as reflected in the LTCCP. It does not recommend any new policies but instead provides voluntary guidelines for sustainable building.*

## **Appendix One**