



Understanding the knowledge and information requirements for sustainable retrofits:

A two stage study of apartment owners in Melbourne, Australia.

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Executive summary

The study was commissioned by the City of Melbourne through the Hi-Res project, a City of Melbourne led initiative in partnership with the cities of Port Phillip and Yarra, Strata Community Australia (Vic), Moreland Energy Foundation, and Yarra Energy Foundation and supported by the Victorian Government Sustainability Fund. The study was designed to understand the attitudes of apartment owners and owners corporation committee members towards sustainable retrofits for shared services and common areas in apartment developments. The study was also designed to understand the potential for developing an online information tool to address these issues.

This report summarises the findings from the study which is based on 12 qualitative in-depth interviews and 130 quantitative online surveys with owners of apartments in Melbourne. The semi-structured in-depth interviews were conducted by Swinburne University in February 2012, and the anonymous online survey, also prepared by Swinburne University, was conducted during March 2012.

There were four objectives for the qualitative study. These were to understand issues associated with: living in and maintaining apartment blocks; opinions of property sustainability assessments; knowledge and opinions of sustainable retrofits; and information needs for sustainable retrofits. There were five objectives for the quantitative study. These were to understand the respondents' involvement with their owners corporation; financial matters and maintenance plans; undertaking sustainable retrofits; information sources about sustainability; and owners' requirements from an online information tool.

In summary, the respondents in the sample enjoyed living in their apartment block, and there was a positive feeling about maintaining the apartment blocks. Around half of the sample was aware of the existence of a maintenance plan for their block. Their knowledge of sustainability assessments was reasonable, though the qualitative research indicated that they were often described as 'energy audits', 'waste audits' 'environmental assessments' and 'star ratings'.

In most instances, those who owned and lived in their own apartment (as opposed to those who just owned the apartment for investment and rental) as well as those who were on the OC committee were more aware and more positive about maintenance plans, sustainability assessments and the need to implement sustainable changes to shared services and areas within their apartment complex.

Some progress is being made towards implementing sustainable retrofits in some of Melbourne's apartment blocks. Examples included the installation of solar panels, using more energy efficient light globes, and water recycling. When asked what a sustainable retrofit meant, their answers suggested that this involved: reducing energy consumption and installing more energy efficient products; replacing old and inefficient equipment; and, including provisions for recycling. While the sample of respondents believed that sustainable retrofits were important, they were divided about the likelihood of this happening. It seems that achieving support for sustainable retrofits is a balancing act between the need to adopt

such sustainable retrofits, and the need to address the marketing, legal and governance issues and other barriers.

Three quarters of the sample believed it was *not* easy to find information about implementing sustainable retrofits. When looking for information, they relied on Google, their property managers, the OC committee, and local government as sources of information. Sources that were not well known included the Consumer Affairs Victoria (CAV) and Strata Community Australia (SCA (Vic)). When asked about who was the one most trusted information provider to provide reliable and useful information about undertaking sustainable retrofits, their local council (23%) was mentioned most often. This was followed by the owners' corporation manager (15%), non-profit organisations (14%), industry association (9%) and the state government (7%).

Hence, there is a need for tailored information and guidance about sustainable retrofits in apartment blocks, which can be achieved through the development of an online tool for all stakeholders. These stakeholders include owners, owners corporation committees, property managers, developers, and the 'general public'; as well as the government, business people including lawyers, finance people and marketers, the media, sustainability service providers and potential investors.

An online information tool needs to be properly structured. It should not only offer stakeholders the opportunity to obtain information about implementing sustainable retrofits, it also needs to clearly illustrate to owners that this is their opportunity to do their part for sustainability and for the reduction of greenhouse gas emissions. This online tool should include factual information as well as case studies and a Q&A section. This should cover information about the kinds of retrofits that can be done; information on cost comparisons and a cost benefit analysis; a contact list of experts, suppliers and product information; information on the costs of a retrofit; and information on subsidies, funding, rebates, grants and how to obtain them.

This tool also needs to update the stakeholders on the legal and governance aspects that are to be followed to ensure such legal, financial and insurance obligations are met. It will do this by emphasising that by undertaking sustainable retrofits, buildings will keep in line with current local, state, Federal and international governance expectations, and that, in turn, this will help buildings retain their market value. Allowing buildings to fall into disrepair will impact on land values and opportunities to gain insurance coverage, and this will put the owners corporation, as well as individual apartment owners, at risk of causing long term financial and physical damage to their asset.

As well as the online tool, the current research has indicated that the use of emails and social media (such as Facebook and Twitter) could, in the future, be an appropriate means to disseminate the information. Such a strategy has been successfully used by the City of Toronto who used Facebook and Twitter to inform stakeholders about recent initiatives as well as to encourage stakeholders to share their stories and knowledge on sustaining their apartment complexes.

Further research is required to prepare case study scenarios for the online tool, to understand the types of issues to be addressed in the Q&A section of the online tool, and to test different

versions of the online tool. Such research will examine strategies for the implementation of such a tool; strategies to encourage change in owners' attitudes and knowledge; what changes are needed in the law and governance models; and how to best market such an instrument to the different stakeholders. Further research is also needed to understand the decision making processes, and the knowledge and awareness of the current owners corporation regime in Victoria.

The outcomes of the current research study and the research proposed for the future will be used to inform strategies to ensure that the City of Melbourne and its partners can meet their climate change and sustainability challenges in the future.

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1.1 Introduction and background

Urban consolidation is now the dominant policy guiding strategic metropolitan planning in Australian cities (Easthope & Randolph 2009) and throughout most of the first world. Increasingly, cities are promoting the redevelopment of existing apartment blocks to achieve denser and more mixed-use patterns that are believed to be crucial to urban environmental sustainability (Mueller 2010). As the move towards living sustainably gains momentum, research into the lived experiences of the residential and mixed-use building sectors is important, as these structures contribute significantly to the drain on natural resources and water (Dong, Kennedy & Pressnail 2005).

This research project was conducted in the context when more people are moving into strata title developments, particularly large-scale, high-density, inner city developments in the inner Melbourne area. This trend has been escalating as more people throughout Melbourne are being encouraged, through planning policy, to work and reside in medium to high density developments and master planned estates. Therefore, strata living and owners corporations (OC) will inevitably become part of their daily lives.

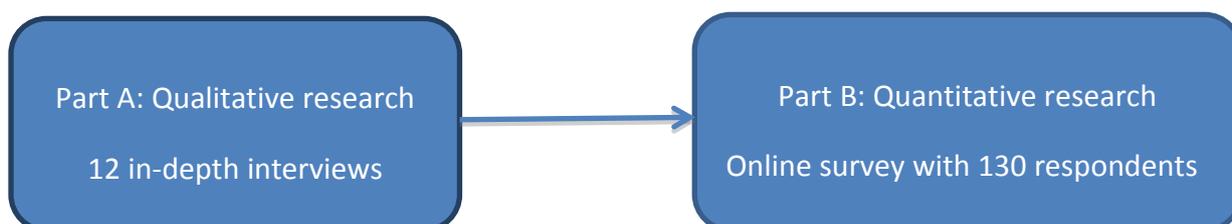
To date, little research has been undertaken, regarding OC's and the maintenance of strata developments and re-developments in Australia (Dredge & Coiacetto 2011). In the construction sector, the opportunities for moving towards sustainable growth manifest themselves in the realm of building maintenance, repair, renewal, retrofits, adaptive re-use and recycling within the buildings. As such, apartment communities need to include new plans and strategies which are aimed at achieving environmental and sustainable objectives (Mueller 2010).

Recognising the need to address the issues of apartment redevelopment and maintenance, and to do this sustainably, the City of Melbourne commissioned Swinburne University to undertake a two stage research study in February and March 2012. The objectives of the study were to gain an understanding of the experiences of OC committee members and more broadly, apartment owners, with respect to the maintenance and sustainable retrofits of existing residential and mixed-use high rise buildings in Melbourne's inner city areas, including Moreland, Docklands and SouthBank. Findings from this research will be used to guide the development of an online tool that links the marketing, legal and governance issues with the barriers that arise as the governments, property managers, and OC committees endeavour to effect such changes.

1.2 Methodology and Objectives

A two-stage research design was implemented, using qualitative and quantitative methods to investigate the research objectives among respondents in Melbourne. The qualitative study was exploratory, designed to gain an insight into the issues, and to assist in the development of the quantitative study. The quantitative research was descriptive and included a larger sample of apartment owners to quantify and further explore the findings from the qualitative research.

The survey method is summarised on the diagram below.



The exploratory 12 in-depth interviews were conducted in February 2012 with apartment owners in Melbourne's CBD, Moreland, Southbank and the Docklands. All but one of those interviewed were members of the owners corporation committee for their property complex.

There were four objectives of the qualitative study. These were to understand issues associated with:

1. Living in and maintenance of the apartment blocks
2. Opinions of property sustainability assessments
3. Knowledge and opinions of sustainable retrofits
4. Information needs for sustainable retrofits

The descriptive quantitative research was designed using the findings of the exploratory research. In March 2012, 130 apartment owners in Melbourne participated in an anonymous online survey. The online survey used snowball sampling to gather respondents for the study. The initial contacts were provided by the City of Melbourne. These initial contacts were then asked to refer other apartment owners to complete the online anonymous survey.

The five objectives of the quantitative study were to understand:

1. Involvement with the OC
2. Financial matters and maintenance plan
3. Undertaking sustainable retrofits
4. Information sources about sustainability and maintenance
5. Requirements from an online information tool

While the online survey was attempted by 130 respondents in Melbourne, the sample size for the latter questions was lower, as some of the respondents started, but did not complete the questionnaire. Despite the respondents being encouraged to complete the entire questionnaire, the software enabled them to stop when they wished to do so resulting in 119 completed interviews.

Of the Melbourne sample, 56% owned and lived in their apartment, 23% owned but did not live in the apartment, whilst 21% did not comment. 69% of the respondents lived in blocks of less than 99 apartments, 14% in larger blocks, whilst 20% did not comment.

Copies of the in-depth interview guide and the online quantitative survey questions are included in Appendix 1 and Appendix 2 respectively.

Main Findings – Part A: Qualitative study

Twelve in-depth interviews were carried out with Melburnians who were apartment owners in Melbourne’s CBD, Moreland, Southbank and the Docklands. The interviews were recorded, and then transcribed and coded by the researchers. The following is a summary of the findings and includes select comments from respondents (noted in italics). The moderator’s guide is included in Appendix 1.

1.3 Living in and maintenance of the apartment blocks

Among the 12 respondents, the number of apartments in each complex ranged from 6 to 1000. Most, if not all, apartment owners guessed at the ratio of owner/occupiers to tenanted apartments. This ranged from 30:70 to 60:40. Most apartment blocks were between 7-10 years old. Some were older properties that had been refurbished and transformed into apartments in the last 10 years. Most felt that their property was in good condition.

All property complexes under discussion were professionally managed. With only a couple of exceptions, the properties were managed by the property managers, MICM. It was interesting to note that the only respondent was not on the OC committee, was not sure whether the property was professionally managed or not and only talked in the context of being professionally managed.

“...we also have serviced apartments which are professionally managed. I am assuming that’s what you mean by professionally managed...”

The pros and cons of living in strata apartments are summarised below.

The pros were the security, convenience of the location and not having to maintain the garden or building, the amenities, and the access. More specific details are noted below:

- No security concerns
- Convenient location to city living and all it has to offer, such as restaurants, Crown Casino, cinemas, Arts Centre, sports venue.
- No tasks associated with suburban living such as gardening, maintenance of the house.
- Amenities available in the complex such as pool, gym, BBQ area
- No need for car, can use bike, public transport was easily accessible.

Specifically, the cons were that there was little control over the property, close living, noise, lack of community and the poor rubbish removal. More specific details are noted below:

- Inability to do what you want to your own property, that is, you need to get permission from the OC to do anything to the outside of your property

- *“Living in each other’s pockets”*
- Noisy tenants
- For some, lack of community / neighbourly feeling
- What to do with your hard rubbish – can be unsightly

As all but one of the respondents were on the OC committee for their property, it was not surprising that the level of perceived activity of the OC and personal engagement was rated as high. The only respondent, who was not personally involved with the operation of the OC, rated herself as one out of 10 in terms of involvement with the OC itself.

The motivation for joining the OC committee often stemmed from a need to contribute and to have a say on how the property was run and maintained. Some felt that if they wanted to change anything in their development, they would at least have some say over the decision.

Meetings varied from monthly to quarterly, with the requisite Annual General Meeting (AGM). However, for some OC committee members, there were some ad-hoc meetings as required for a specific project or email correspondence with the property manager and other committee members as required.

The available shared facilities did vary depending on the size and age of the property. The smaller complexes had some very basic common facilities such as car parking, lift and lobby. In general, the larger complexes also had a pool, tennis courts and a garden and/or a BBQ area. Other shared facilities mentioned were spas and golf nets, although they were not the norm. Some of the more involved OCs had also made use of underutilised space in the property to create more common areas such as a library, bike parking, recycling and rubbish areas.

Upgrades were usually seen to be beneficial to the whole community living in the complex, whether the benefits were monetary or for aesthetics or preventative or for safety reasons. Recent upgrades were viewed to be mainly focused on non-sustainable issues such as painting and upgrading facilities, including timber balconies. Specific comments included the following:

- Cleaning, repairing or painting the exterior of the property,
- Changing light bulbs to a smaller wattage or a different type of bulb (fluorescent to LED),
- Taking out bulbs to decrease usage without affecting safety and vision, installing sensors, installing eco switches
- Introduce speed humps in the car park for safety reasons
- Security system, such as button for the car park, cameras in parts of the property
- BBQ/Picnic area
- Upgraded timber balconies throughout the complex
- Recarpeting common areas
- Automatic pool cover linked to the security system.

Planned upgrades included (note that the respondent who did not sit on the OC committee did not know what was being planned):

- Upgrade the foyer
- Pool needs upgrading, e.g. resurfacing and sealing
- Outside facade needs work
- Repainting the whole property
- Want to include solar panels at some level
- Refurbishment of specific areas such as podium areas
- Landscaping

All except for the non-OC committee member and the resident in the smaller complexes (6 apartments) were aware that a maintenance plan existed for the property and that having a maintenance plan was now a legal requirement for developments with an owners corporation. The existence of a maintenance plan varied, with some still being put in place, and others varying from 7 to 30 year plans. Some plans were reviewed regularly yet others seemed to consider the plan to be something to be followed to the letter of the law.

“I think by law you have to do it every five years and we got it done after three years the last time I think. Last year some of us formed a maintenance subcommittee and we went through the plan and we did a spread sheet and we forecasted for the next 25 years with expected spends”.

The level of knowledge of what the maintenance plan included depended on the respondent’s membership of the OC committee, as those who were on the committee had a greater knowledge of them. The main issue with the maintenance plan seemed to be how the OC will fund major works that are outside the boundaries of a maintenance/sinking fund.

1.4 Opinions of Property Sustainability Assessments

Awareness of the term ‘Sustainability Assessments’ was reasonable, although they were not always referred to as such. Words such as energy audits and waste audits were used, as were the terms ‘environmental assessments’ and ‘star ratings’.

“I guess it’d be someone to come and give you advice on how to assess the star rating of the property now and what improvements could be made”

Not all properties have had such an assessment undertaken, especially the smaller complexes; and some members of the OC did not see the need to consider them at this stage. On the other hand, some properties have participated in such an assessment, with one property nominating the Socs & Blocks program provided by the City of Port Philip. A small number of individuals have had an assessment done privately, through a government body (Moreland Energy Foundation, which was mentioned several times).

1.5 Knowledge and Opinions of Sustainable Retrofits

The consensus was that a 'sustainable retrofit' means something to do with replacing or renewing or upgrading something in the apartment block that has a positive effect on the environment. The following verbatim comments are reflective of this conclusion.

"It conjures up replacing something... something in the property with that which is more sustainable and uses less energy and less carbon footprint, those types of things"

"it's about something that you can reuse, and that is relevant for people's needs, or for the tenants needs at that time and that can be changed? An example would be having an outside area..."

"Retrofitting would mean replacement of boilers and things like that, but not new initiatives that we haven't thought of"

"Because of the work I do elsewhere, I know all sorts of things about water harvesting, lighting, about greening the roofs..."

"Some piece of infrastructure that you've already got in place that is coming up for either renewal or replacement, or you just want to upgrade it. When you do upgrade it, ...you want to make sure that it is in line with sustainable practices of making sure that you're replacing it [with] something that is sustainable for the future – not only from an economic but also from a manufacturing ..."

"It conjures up a picture of green power replacing old power... just upgrading - like energy consuming items to more efficient ones"

However, not all members of the OC committee were of a like mind. There was some suggestion that there were some owners who could go out of their way to influence decisions made by the OC committee.

When sustainable retrofits were discussed, the perception was that the easiest thing to change was the lighting that is, replacing light bulbs to make the property more "green" and to cut costs.

"The one sustainable item that I saw – I think that it's sustainable – is the replacement of the light bulbs throughout the entire property. I think it dropped the electric bill by 50%"

Further top of mind activities included the potential for installing solar panels, finding ways to harness wind (for those properties with wind issues), using Astro turf, using a pool cover, and other ways of keeping loss of water and heat for the pool.

The process was often initiated by a member of the OC committee or, the property manager. The level of involvement required by the whole OC depended on what was the task at hand. If the required task was small in terms of cost, then the OC committee could proceed and

provide the maintenance company with the go ahead as long as it was within the maintenance budget. If it was a large retrofit, the idea needed to be voted on by the owners. This could be done at the annual general meeting or if it was urgent, then information would go out to all owners and an extraordinary meeting was held.

“If the owner knows a member of the committee, they would approach them and say, I’ve got a really good idea. They would be welcomed with open arms to either write to the committee or come along to a committee meeting to tell what the good idea would be...”

“If MICM have got any good idea that they think has worked somewhere else that would be brought to the committee meeting and we would actively embrace that as well”

For the larger complexes, the contracting process would be via their property management group (most were with MICM). Tenders would be called for, quotes would be obtained and the OC committee would make the final decision. For the smaller properties, the OC may need to obtain the quotes themselves prior to making a final decision.

Not all the respondents were positive about spending money on sustainable retrofits. Many felt that to make sustainable changes, the cost savings needed to be made evident to the rest of the owners in the complex. There were occasions when members worked together to attempt to influence others about the benefits of adopting sustainable retrofits. They used various means to influence others including, providing information and informing others with a cost benefit analysis.

1.6 Information needs for sustainable retrofits

When the OC needed information about sustainable retrofits, the first port of call for most people was “Google” and the property management people. The OC property manager and the local council were often mentioned. Emails were popular, though it was noted that this would need to be managed by the property management team as the OC would not have access to all email addresses. Messages and notice boards in the lift were still being used to inform owners about maintenance work happening in the property. The use of social networking was minimal. Other methods included posting a letter or information into all of the residents’ letter boxes. Comments about this not being read were mentioned!

“If they mail it, I read everything that comes to me in the mail, but I can see where we have our letterboxes, where I see there has been some kind of public mail-out, and most of it is on the side table (thrown out)”

The Moreland Energy Foundation was also mentioned a number of times as having a good website containing relevant information. Respondents also discussed that MICM offers a website for the building that all the owners can subscribe to, but generally the perception was that this website was not used much by owners.

The following summarises the prompted comments about each of the sources:

- Local Council – those who have had contacts with their local council before, and have had a good experience and have kept a specific contact within the council may use this
- OC manager and the building property manager were often one of the first ports of call.
- CAV – Not really seen as somewhere to go for this sort of information
- SCA (Vic) – many have not heard of the organisation but a few were aware of OCV

There was some interest in the provision of an online tool, but this interest will depend on what information will be provided. As well as providing the facts (which they can Google), the online portal needs to provide something extra – such as Q&A or case studies about what has and has not worked in the past.

“I would love it if there was one, to find out what people are doing, have done,... find out what worked, what didn't work, you'd use that constantly, that community forum like Trip Advisor...”

“Well, case studies – it would be nice to have a little website or something that people put up workmen that have done a good job”

“Some examples, some scenarios of people who have done this, this is how they went about it...”

“Links to companies (that specialise in it) that you could go to for advice. Ideas of what you can do, from the simple to the complex”

A Q&A section was also suggested.

“A Q & A on rights. ..Owners and tenants want to know their rights on certain things. And .. [information]what's normal, energy costs, usage, even corporate fees. “

Main Findings – Part B Quantitative study

In March 2012, a sample of apartment owners in Melbourne was invited to participate in an anonymous online survey. A copy of the 22 survey questions is included in Appendix 2. The survey was attempted by 130 respondents. While the respondents were encouraged to complete the questionnaire, the software enabled them to stop when they wished to do so. Hence, the sample size for the latter questions is lower, as some of the respondents did not complete the questionnaire. Some of the participants were from other states; however, as these numbers were so low, they have been excluded from this analysis.

There were five main objectives for the quantitative study. These were to understand the respondents’:

- Involvement with the OC
- Financial matters and maintenance plan
- Undertaking sustainable retrofits
- Information sources about sustainability and maintenance
- Requirements from an online information tool

1.7 Involvement with the OC

To understand their involvement with the running of the OC, respondents were asked Q5, Q6 and Q8. Question 5 measured their involvement with the OC, Q6 measured if they were on the OC committee, and Q8 measured their interest in receiving information about how an OC works.

53% of those who responded to the survey were on the OC committee, compared to 24% who were not, and 23% did not comment. When asked to describe their level of involvement with the owners corporation on a scale from 7 (very involved) to 1 (not at all involved), 42% of Melbournians claimed to be very involved (code 7). This was in contrast with 24% who indicated little or no involvement (code 1-3).

Not unexpectedly, owners who lived in their apartment were twice as likely to be involved as those who did not live in their apartment (53% very involved compared to 28%). The above was also true for those who were on the OC committee compared to those who were not on the OC committee (64% very involved for those on the OC committee compared to 5% for those who were not).

In Melbourne, the level of interest in receiving further information about the OC was similar to the lack of interest for this information (46% interested compared to 45% not so). Interestingly, those who owned and lived in their apartment had the same level of interest as those who owned but did not live in their apartment (47% compared to 48%). Being on the OC committee did slightly increase the level of interest in this information but not significantly (51% compared to 44% for those not on the OC committee).

1.8 Financial matters and maintenance plan

To understand the issues involving financial matters and the existence of a standard maintenance plan for the apartment building, the respondents were asked Q7 and Q9. Question 7 measured how easy or difficult it was to make financial decisions, and Q9 measured whether there was a standard maintenance plan for the apartment building.

On a scale from 7 (very easy) to 1 (very difficult), 40% of Melbournians claimed that it was easy (ratings 5-7) to make financial decisions, compared to 30% claiming that it was difficult (ratings 1-3). Twenty nine percent chose the mid-point. There was little difference by ownership with 42% of those who own and live in the apartment claiming that it was easy compared to 41% of those who did not live in their apartment. It was of no surprise to see that respondents who were on the OC committee were more likely to indicate that it was easy to make financial decisions (48% compared to 20% for those not on the OC committee).

The sample was told that:

A standard maintenance plan specifies major capital items which may need repairs or replacement over the next ten years. It covers the current condition of the items, estimates for when repair or replacement is required, and the expected costs.

When asked if there was a standard maintenance plan for their building, 42% of the respondents said there was a maintenance plan for their building, compared to 28% without a plan and 22% of respondents who did not know. Similar results occurred when comparing those who live in their apartment and those who did not (46% vs. 48% had a plan, 26% vs. 33% did not, and 23% vs. 18% didn't know). Again, those on the OC committee were more likely to know whether there was a maintenance plan for the building (52% of respondents knew about a plan compared to 37% of those not on the OC committee). Those not on the OC committee were about half as likely to be *not* aware of the existence of such a plan (34% compared to 16% of respondents on the OC committee).

1.9 Undertaking sustainable retrofits

Of importance for this survey was to understand the importance and awareness of undertaking sustainable retrofits in their apartment buildings (Q10), the likelihood of undertaking sustainable retrofits (Q11) and the ease of implementing them (Q12).

About three quarters (77%) of the Melbourne respondents rated undertaking sustainable retrofits in their apartment buildings as being important (ratings of 5 to 7), with one third (35%) rating it as being very important (rating of 7). Those who owned and lived in their apartment were significantly more likely to say that it was very important (rating of 7 only) to undertake sustainable retrofitting (47% compared to 15% for those who did not live in their apartment). Seventy six percent of those on the OC committee rated this issue as important (ratings of 5-7), with only 36% giving it a very important rating (7 only). This compares to 69% (ratings of 5-7) and 45% (7 only) for those not on the OC committee.

There was a wide spread of answers to the question about the likelihood of undertaking sustainable retrofits. Only 5% thought it would be very likely that the owners corporation will undertake sustainable retrofits on the building, with 41% overall believing that this was likely (ratings of 5-7). On the other hand there were about one in five (20%) who thought this was neither likely nor unlikely, while the rest said not likely (ratings of 1-3) or can't say. Forty four percent (44%) of those who own and live in their apartment thought that retrofitting was likely (ratings of 5-7) compared to 31% of those who did not live in the apartment. Forty four percent of those on the OC committee thought that retrofitting was likely (ratings of 5-7) compared to 27% for those not on the OC committee.

When asked about finding information for implementing sustainable retrofits, only 4% of Melbournians thought it was very easy (rating of 7 only), with a total of 25% saying it was easy (ratings of 5-7). The majority of the sample (75%) felt that it was either difficult or neither easy nor difficult, or said 'can't say' to this question. None of the respondents who owned but did not live in the apartment thought it was very easy to find information (rating of 7). Overall 18% (ratings of 5-7) of these respondents thought it was easy to find information compared to 28% of those who lived in the apartment. Not one respondent who was *not* on the OC committee thought it was easy to find this information (ratings of 5-7). This compared to 31% for those on the OC committee.

1.10 Information sources about sustainability and maintenance

The owners were asked six questions that related to the information sources about sustainability and maintenance for their building (Q13-18). Q13 asked if they needed any more information about sustainability and maintenance from their OC; Q14 asked about the one main way that owners were informed about maintenance works; Q15 asked where they would go to find information about maintenance and sustainability for an apartment building.

The answers to Q13 suggested that more information about sustainability and maintenance from their OC was needed. 63% said 'yes' to the question, compared to 32% who said 'no' and 'not interested' about receiving more information about sustainability and maintenance from their OC. About two thirds (62%) of those who lived in the apartment said 'yes' compared to 50% of those who did not live in the apartment; and twice as many who were on the OC committee (34%) said 'no' to this question compared to those not on the OC committee (17%).

Q14 asked about the one main way that owners were informed about maintenance works. In Melbourne, email (29%) followed by AGM (19%), then the minutes of committee meetings (16%) and hard copy newsletter (12%) were the four main methods of communication. When comparing those who own and live to those who own but do not live in the apartment, email and minutes of meetings was more popular for those who did not live in the apartment. AGM, hard copy newsletters and notices in common areas were more important for those who do live in the apartments.

This is summarised on Table 1 below.

Table 1: Most important ways of disseminating information by ownership

	Total %	Own and live in apartment %	Own but do not live in apartment %
Email	29	25	43
AGM	19	23	10
Minutes of committee meetings	16	14	25
Hard copy newsletter	12	13	5
Notice in common areas	6	9	0
Social Networking	0.5	1	0

When comparing those who were on the OC committee to those who were *not* on the OC committee, there were fewer differences. The exception was email which was preferred by about twice as many who were on the OC committee (36%) compared to those were not on the OC committee (20%) and notices in common areas (9% cf. 2%).

Q15 asked about where they would go to find information about maintenance and sustainability for an apartment building. The main source was the OC manager (52%), followed by the local council (45%), and the state government (24%). There were few mentions of the other sources: building or facility manager, federal government, university, non-profit organisation such as MEFL, private company and an industry association such as SCA.

Q16, 17 and 18 asked the respondents to nominate who they would trust most, second and third (respectively) to provide reliable and useful information about undertaking sustainable retrofits. In Melbourne, the local council (23%), followed by the owners' corporation manager (15%), non-profit organisations (14%), industry association (9%) and the state government (7%) were the top responses of the **most** trusted information provider. There was little difference in the answers by those who own and live to those who own but do not live in the apartment. The exceptions were State government (10% compared to 3%) and Building Manager (1% compared to 10%).

When comparing those who were not on the OC committee to those who were on the OC committee, it was apparent that a higher percentage who were on the OC committee said local councils (27%), OC managers (21% cf. 12%), and the State government (10% cf. 5%) were the one most important source of information about sustainable retrofits. Industry associations were more popular (12% cf. 7%) among those who were not on the OC committee.

These findings are summarised on Table 2 below.

Table 2: Most important sources of information by OC membership

	Total %	Not on the OC %	On the OC %
Local Council	23	15	27
Owners corporation manager	15	12	21
Non-profit organisations	14	17	15
Industry association	9	12	7
State government	7	5	10
Building Manager	3	2	4

When asked Q17 and Q18 about who they would trust the second and third most to provide reliable and useful information about undertaking sustainable retrofits, industry associations, the state government, local councils and non-profit organisations were often mentioned. In Melbourne, industry association (16%) followed by the state government (15%), the local council (15%), and non-profit organisations (12%) were the top responses of the **second most** trusted information provider.

When comparing the second most likely sources among those who own and live to those who own but do not live in the apartment, state government and building managers were more likely to be mentioned by those who own but don't live in the apartment. These differences are summarised below.

- Industry association – 18% compared to 15%
- Local Council – 16% compared to 13%
- Non-profit organisations – 12% compared to 8%
- State government – 12% compared to 25%
- University – 9% compared to 3%
- Owners corporation manager – 6% compared to 8%
- Building Manager – 4% compared to 13%

1.11 Requirements from an online information tool

To understand their requirements from an online information tool, respondents were asked Q19 to Q21. Q19 measured preference in terms of how to receive information about sustainable retrofits, Q20 measured the perceived usefulness of an online information tool for owners corporations, and Q21 measured the information that they would like to be included in the online tool kit for sustainable retrofits.

In Melbourne, email (74%) was definitely the most preferred way of receiving information about sustainable retrofits. A letter or brochure (22%) and in person or an information seminar or a workshop (21%) were also popular. A further 16% did a web search.

Using a rating scale from 1 to 7 where 1=not at all useful and 7=very useful, about half of the sample thought that online information tool for owners corporations would be very useful (rating of 7). In fact, a total of 81% thought that this concept would be useful (ratings of 5-7). Those who owned and lived in an apartment were twice as likely to say that such a tool be very useful (57% rated it 7) compared to those who own but do not live in their apartment (26% rated it 7). Those on the OC committee were also more likely to rate this tool as very useful (51%) compared to 37% for those not on the OC committee.

When asked to describe what information they would like to be included in the online tool kit for sustainable retrofits, there were two main themes. The sample wanted general information about retrofits, as well as details of funding and the costs associated with doing a retrofit. Three illustrative comments are shown below:

“Cost benefit analysis and how many years pay off. Options to retrofit and contacts for who can implement locally. What works best for the size of apartments (small blocks compared to large blocks).”

“Examples of retrofits in our local area. Names of personnel who could act as advisers.”

“Practical examples of specific retrofits projects - i.e. retrofit a rain water collection system for irrigation and cleaning of common areas in an older (15 years old) multi building/unit environment and costing example.”

In more detail, the following table shows that the sample wanted general information about the kinds of retrofits that can be done; information on cost comparisons/cost benefit analysis; a contact list of experts, suppliers and product information; examples of case studies on successful retrofits; information on the costs of a retrofit; and information on subsidies, funding, rebates, grants and how to get them.

Table 3: Information would like included in the online tool

Information would like included in the online tool	Number of mentions
General information including links to of various potential retrofits that can be done including water conservation, the use of solar power, energy efficient lighting, renewable heating sources	21
Information on potential cost comparisons, cost savings/cost benefit analysis, as well as templates for retrofits	20
Contact list of Experts / Suppliers/ product information	20
Examples of retrofits case studies / successful retrofits with links/ how they did it	19
Cost associated with retrofits	15
Information on subsidies / funding / rebates / grants available and how to get them	13
Information on council/state regulations/permits/legal rights	5
Information / Support networks for those who want retrofits	2
Information on body corp. Vs owners vs tenants can do re retrofits	2
Guidelines as to what needs to be done to make a building sustainable	2
List of what changes can be done	2
Contacts to local councils	2
How to start / the approval process	2
Information on getting other owners to approve retrofits	1
Face to face info - where to go	1
Documents (proforma) for contractors / for applications to body corporate...	1
New Ideas	1
Tools to calculate environmental benefits	1
Other	2

Finally the sample was asked to comment about any of the issues were included in thie survey. The cost of implementing sustainable initiatives was foremost in the minds of those who commented, as was the design and style of an online tool, and the need to convince the stakeholders that this is a good idea. Most of the comments were positive and welcomed the idea of implementing sustainable retrofits in apartment blocks.

“Great to see someone actively tackling this issue/opportunity - there has been a distinct lack of information available to owners corporations on the matters discussed.”

The main themes of the comments are summarised on the table below. Below the table are some examples of relevant comments.

Table 4: Summary of the ‘other’ comments

Other comments	Number of mentions
Cost issues are the driving force for implementing sustainability measures	7
Any website needs to be simple / plain English /user friendly / not written from a lawyer’s view	5
Good to see initiative tackling this issue / great idea to develop the kit	5
Need material to convince others it's a good idea	3

Some were positive about the implementation of the online tool.

“Looking forward to an easy to navigate online tool. Thank u!”

Some cautioned about the online tool being easy to navigate and use.

“Any web site needs to be super simple to navigate and use. Some of the sites that you can examine things quickly and then if you want go into more detail might be a good way to go.”

One lengthy comment related to the need to justify the financial cost of such sustainable initiatives.

“Owner’s corporations inevitably “fall between the cracks” when federal and state governments develop funding assistance programs for sustainability initiatives, and their financial viability cannot be justified. Remember they must be properly justified using other people’s money, so a mechanism such as a realistic ‘pay-back’ period must be determined. The “feel good” justification will never be accepted by a majority of owners. Private (freehold) dwellings and commercial premises are eligible, but owners’ corporations never seem to be eligible - the funding distribution and acquittal mechanisms seem too hard for government to contemplate and manage. However the economy of scale of sustainability projects in OC communities can be significantly more effective than for individual dwellings. More needs to be done to lobby in this area.”

Inevitably, there were comments about the cost, and, like the previous comment, the need to justify the sustainable retrofits.

“We have undertaken some sustainability changes in our building. What I’ve found is the real driver for bodies corporate implementing sustainability measures is cost - i.e. how much can they save.”

“One of the reasons we haven’t gone through with some suggestions (e.g. solar heating for our pool) is due to it affecting the amenity of the building. So it needs to save costs and also look good.”

Discussion of the findings

This study has used both qualitative and the quantitative data to gauge knowledge and attitudes towards sustainable retrofits and information needs for shared services and areas in apartment developments in Melbourne. The main topics explored in the research can be summarised under the following headings:

- Maintenance plans and sustainability assessments
- Sustainable retrofits
- Information needs

This study has shown that that owners of apartments in Melbourne’s inner city areas can see that some progress is being made towards implementing sustainable retrofits in Melbourne’s apartment blocks. The study identified that to increase the likelihood of sustainable retrofits in their apartment developments, more effort needs to be made to convince apartment owners, owners corporations and property managers that there is both a financial and an environmental benefit in undertaking sustainable retrofits.

However, it seems that achieving support for sustainable retrofits is a balancing act between the need to adopt such sustainable retrofits, with the need to address the marketing, legal and governance issues.

This is depicted on the following figure.

Figure 1: The balance between the need to adopt sustainable retrofits and the marketing and legal issues



The research indicated that there was a positive feeling about maintaining the apartment blocks. Around half of the sample was aware of the existence of a maintenance plan for their block. The knowledge on sustainability assessments was reasonable, though they were often confused with energy assessments and energy efficiency star ratings. In most instances, those

who lived in their own apartment (as opposed to those who just owned the apartment for investment and rental) as well as those who were on the OC committee were more aware and more positive about maintenance plans, sustainability assessments and the need to implement sustainable changes to shared services and areas within their apartment complex. Findings from the two studies indicate that respondents viewed a sustainable retrofit involving: reducing energy consumption and installing more energy efficient products, replacing old and inefficient equipment and including provisions for recycling. While the sample of respondents believed that sustainable retrofits were important, they were divided about the likelihood of this happening.

An online information tool or portal will offer an opportunity for all stakeholders, including owners, owners corporation committees, property managers, developers and more broadly the 'general public', to receive information and knowledge about implementing sustainable change and retrofits to their developments. This will also provide apartment blocks the opportunity to do their bit for sustainability and the reduction of city greenhouse gas emissions. Further, by undertaking sustainable retrofits, buildings will keep in line with current local, state, Federal and international governance expectations and this is likely then to help keep buildings modern and to retain their market value. Allowing buildings to fall behind and into disrepair, impacts on land value, insurance protection and will put the owners corporation as well as individual apartment owners, at risk of causing long term financial and physical damage to their asset.

It is important that the proposed online tool target current and potential apartment owners, developers, property managers, OC committees and other property stakeholders in the development industry. As is the case with other portals, external target markets such as the government, business people including lawyers and marketers, media and potential investors should also be targeted. The online tool should not only include information that can already be located on Google, but also Q&A and case studies which provide real examples of what others have done. Such an information tool needs to not only be a marketing tool, it also needs to update the target market on the legal and governance aspects that need to be followed to ensure all legal and insurance requirements and obligations are met.

In summary, the following should be noted from the research undertaken for this study:

1.12 Maintenance plans and sustainability assessments

The respondents liked living in their apartment block because of the available shared facilities particularly those that had a pool, tennis courts and a garden and/or a BBQ area. Some felt that their block lacked a community feeling (some called this a lack of “social sustainability”) and were concerned about the poor rubbish removal facilities. The majority of the apartment dwellers could see the benefits of keeping their apartment blocks well maintained. Many indicated that they were involved in the OC, with apartment dwellers and those on the OC committee being significantly more involved.

The sample was divided about their knowledge of the ten year maintenance plan for their building, with about half being aware and the rest being not aware. Those who were on the OC committee had a higher awareness of the maintenance plan, while there was little difference by apartment ownership. The main issue with the maintenance plan was how major works that were outside the boundaries of a maintenance plan will be funded. Respondents who were on the OC committee were more likely to indicate that it was easy to make financial decisions (48% compared to 20% for those not on the OC committee). The awareness of sustainability assessments was reasonable, although they were often referred to or confused with energy audits, waste audits, environmental assessments, or star ratings. Not all the properties had such an assessment done, especially smaller complexes; and there was some resistance about getting them done. This could be an awareness issue, as those who had participated in such a program (such as the Socs & Blocks program which was undertaken by the City of Port Philip) were regarded highly, among knew about them.

1.13 Sustainable retrofits

The sample described a ‘sustainable retrofit’ as something to do with replacing or renewing or upgrading something in the apartment block that has a positive effect on the environment. They identified four main aims of a sustainable retrofit of which three were ‘sustainable’. These three were reducing energy consumption and installing more energy efficient products, replacing old and inefficient equipment and, including provisions for recycling. They also mentioned that sustainable retrofits included introducing common areas that can be used by the tenants.

The majority of the sample believed that undertaking sustainable retrofits in their apartment buildings was important, particularly those who owned and lived in their apartments and those who were on the OC committee. Importantly, one third of the sample rated this 7/7 that is ‘very important’. However, there was uncertainty about whether this would happen or not, with less than half of the sample saying that this was likely to happen. OC committee members were more positive than the others. On most occasions, sustainable retrofits were initiated by a member of the OC committee or the property manager. For retrofits, the idea needed to be voted on by the owners, either at the AGM or at an extraordinary meeting, and the contracting process was done by the property management group. Tenders would be called for, quotes would be obtained and the OC would make the final decision. For the smaller properties, the OC often needed to obtain the quotes themselves prior to making a decision.

1.14 Information Needs

Three quarters of the sample believed it was *not* easy to find information about implementing sustainable retrofits. Instead, they relied on Google, their property managers, the OC committee, and local government as sources of information. Sources that were not well known included the CAV and SCA (Vic). When asked about who was the one most trusted information provider to provide reliable and useful information about undertaking sustainable retrofits, their local council (23%) was mentioned most often. This was followed by the owners' corporation manager (15%), non-profit organisations (14%), industry association (9%) and the state government (7%).

The sample wanted general information about the kinds of retrofits that can be done; information on cost comparisons/cost benefit analysis; a contact list of experts, suppliers and product information; examples of case studies on successful retrofits; information on the costs of a retrofit; and information on subsidies, funding, rebates, grants and how to get them. If information needed to be disseminated among the owners, a number of methods were being used. Messages and notice boards in the lift were still being used to inform owners about maintenance work happening in the property. Other methods included a letter in all the residents' letter boxes, though there was the feeling that often this was not read. Emails could also be problematic unless the property management team had access to the email addresses. The use of social networking was minimal.

Recommendations for the online information tool

This study has highlighted the need to change the target markets' attitudes and behaviour, and to increase their awareness and knowledge of the processes and benefits associated with implementing sustainable retrofits in shared areas and for services in apartment blocks. This can be achieved through the development of an online tool that is targeted to all the stakeholders. As well as information covering legal and governance issues, such an online tool needs to include case studies and a Q&A section. Such case studies and the Q&A should cover general information about the kinds of retrofits that can be done; cost comparisons and a cost benefit analysis; a contact list of experts, suppliers and product information; information on the costs of a retrofit; and information on subsidies, funding, rebates, and grants, and how to get them. This online tool will need to be promoted to all stakeholders in the apartment industry.

Further research

Further research is required to prepare case study scenarios for the online tool; to understand the kinds of issues to be addressed in the Q&A section of the online tool; and to understand the decision making processes of the stakeholders. Subsequent research will also test proposed versions of the online tool and how to best market such an instrument. Research is needed to determine the usefulness of using emails and social media (such as face book and twitter) to reach the stakeholders. Interestingly, the City of Toronto, who manages the high rise “Tower Renewal” program,¹ recently introduced a new Facebook information portal² as well as a Twitter opportunity to inform stakeholders about new initiatives in the programme as well as to encourage stakeholders to share their stories and knowledge on sustaining their apartment complexes.

Further research is also needed to understand the knowledge and awareness of the current owners corporation regime in Victoria. This is governed by the *Owners Corporation Act 2006* and it must be taken into consideration before change can be implemented in Victorian apartment developments. In some respects, as high quorums are required to effect change, the current law can work to hinder sustainability. Having said this, there are alternative options for owners corporations seeking to implement sustainability. For instance, this could be achieved through increasing the awareness about the benefits of sustainability which can change attitudes and encourage owners to vote at owners corporation meetings in favour of such changes.

The outcomes of the current research study and the research proposed for the future will be used to inform strategies to ensure that the City of Melbourne and its partners can meet their climate change and sustainability challenges in the future.

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¹ http://www.toronto.ca/tower_renewal/

² <http://www.facebook.com/TowerRenewalCityOfToronto>

Appendix 1: Outline for in-depth interviews with apartment owners

Topic	Issues to be discussed
Understanding their needs	<p>Do you own or live in a strata apartment? For how long?</p> <p>Are they professionally or self-managed?</p> <p>Do you know the ratio of owner/investors to tenants in the building?</p> <p>What do you like about owning/living in strata apartments?</p> <p>What don't you like?</p> <p>How active is your OC?</p> <p>On a scale of 1 to 10, where 1 means not at all engaged and 10 means extremely engaged, how engaged are you with the OC? Why do you feel that way?</p> <p>How often does the OC committee meet?</p>
The state of the building	<p>When was your building built?</p> <p>How many lots/units are there?</p> <p>What is the condition of this building?</p> <p>What central/shared facilities/systems do they have?</p> <p>Has there recently been an upgrade? What was done? How did it benefit your building?</p> <p>Is an upgrade planned for the future? What needs to be done? How will it benefit your building?</p> <p>Is there a maintenance plan for this building? What, if any, issues are there with this? (Barriers)</p> <p>Is there a maintenance fund to plan for future maintenance or modernisation? IF NO, do you know why there is not one?</p>
Opinions about sustainable retrofits	<p>What do the words 'sustainable retrofits' mean to you? To your OC? What do they include?</p> <p>Have there been sustainable retrofits to this building? What was done?</p> <p>What would/has been done to make your building sustainable? What should be done first? Next? Last?</p> <p>What (else) could be done? Or done better?</p> <p>What is the process?</p> <p>Who makes the decisions?</p> <p>How would/do you contract out these retrofits?</p>
Opinions of building sustainability assessments	<p>What do you know about sustainability assessments?</p> <p>Does your maintenance plan incorporate an assessment of the sustainability of your common property areas??</p> <p>Attitudes towards them</p> <p>How do you inform owners about maintenance including sustainable retrofit ideas? Do you use internal social networking or emails</p> <p>Do they take them seriously?</p>
Information needs	<p>What do you know/don't know about sustainable retrofits?</p> <p>Where would you go to get this information? ASK UNAIDED FIRST THEN AIDED BY MENTIONING IF THEY WOULD GO TO CAV, SCA (VIC) FORMERLY OCV, LOCAL COUNCIL, THEIR OC MANAGER, ASSESSORS OR SOMEONE ELSE.</p> <p>Could an online service assist with any issues?</p> <p>What would help you the most in terms of information provision</p> <p>What would it take for your OC to start discussing sustainable retrofits if they haven't already?</p>
Proposed online tool	<p>Reaction to the proposed online tool that the Hi-RES is proposing</p> <p>What do you want from it?</p>
Final comments/reflections	<p>What other comments do you have?</p> <p>Thank you for your time and help</p>

Appendix 2: The questions that were included in the online survey

Question 1: What is the post code of the apartment?

Question 2: What state is this apartment?

Question 3: Do you own or live in an apartment?

Question 4: How many apartments are there in the building?

Question 5: How would you describe your involvement with the owners corporation?

Question 6: Are you on the owners corporation committee?

Question 7: In your opinion, how easy or difficult is it to make financial decisions about capital expenditure?

Question 8: Are you interested in receiving further information and guidance about how an owners corporation?

Question 9: A standard maintenance plan specifies major capital items which may need repairs or replacement over the next ten years. It covers the current condition of the items, estimates for when repair or replacement is required, and the expected costs. To the best of your knowledge, is there a standard maintenance plan for your building?

Question 10: Sustainability is any action that improves the environmental performance of your building. This could include sustainable retrofits to existing amenities including installing energy efficient lighting, upgrading heating and cooling systems, implementing water saving measures such as rainwater tanks, or installing solar photovoltaic (PV) panels. In your opinion, how important is it that your owners corporation will undertake sustainable retrofits in your building?

Question 11: In your opinion, how likely is it that your owners corporation will undertake sustainable retrofit

Question 12: How easy or difficult is it to find information about how to implement sustainable retrofits?

Question 13: Do you feel that you need more information about sustainability and maintenance from your owners corporation?

Question 14: What is the one main way that the owners in your building are informed about maintenance works?

Question 15: Where would you go to find information about maintenance and sustainability for an apartment building?

Question 16: Who would you trust the MOST to provide reliable and useful information about undertaking sustainable retrofits?

Question 17: Who would you trust the SECOND most to provide reliable and useful information about undertaking sustainable retrofits?

Question 18: Who would you trust the THIRD most to provide reliable and useful information about undertaking sustainable retrofits?

Question 19: How would you prefer to receive information about sustainable retrofits in your apartment block?

Question 20: How useful would you find an online information tool for owners corporations?

Question 21: What information would you like to be included in the online tool kit for sustainable retrofits?

Question 22: What other comments you would like to make about any of the issues that have been discussed