

## **SB07 – Bridging the gap between vision and reality**

Abstract:

Developers, researchers, community organisations, local authorities, industry, home buyers – sustainability can mean different things to each. How can sustainability be delivered in an integrated urban community when there are so many views as to what it means or entails? How can a vision of sustainability be delivered in practice?

This presentation looks at how the gap between vision and reality is being bridged in the delivery of a planned integrated urban community for an estimated 7,500-8,000 resident on the site of the former Hobsonville airbase in north-west Auckland. This Government led project is firmly based on sustainable development principles and is setting out to create an urban environment that is successful in environmental, economic, social and cultural terms.

Hobsonville Land Company is the master-developer for the approximately 10 year project and is working with the private sector to plan and deliver in practical terms on the sustainability outcomes.

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## 1. What does sustainability mean?

Whilst explaining the nature and scope of the Hobsonville Development, from time to time I am challenged over the use of the term 'sustainability'. In response, I generally express the view that terminology should not be the focus; rather the objective is how we all behave and respond to the opportunities to lessen our impact. At the extreme, truly sustainable building is not building at all, but this is unrealistic given that the world population continues to grow and people need places to live and work. Auckland is no exception to that.

My argument is that whilst the substance of what sustainability means may be different for many of us, it remains imperative to all of us. For example, if you are poor and lack shelter, warmth and sufficient food to eat, you naturally want all of those put right so as to be able to sustain yourself. Will you care at all whether the food you eat is eco-sourced? Will you care that the roof on the shelter you find is made from unpainted zincalume? No, you'll be happy just to have food and somewhere to live. If you earn your living and sustain your family from running a petrol station, would you be an advocate for an action group promoting the benefits of cycling and walking? Perhaps not.

If the motorway provides a thin unprotected strip for you to walk or ride along whilst cars and trucks zoom past, will you feel safe and willing to use it, even if fully motivated to do so? In effect, sustainable actions are more than choice; they must also be embedded in the physical and societal structures which surround us.

Examples of difficulty are encountered in all aspects of our lives. I would challenge you to go to an electrical store and buy a truly energy efficient clothes dryer. It is not possible – but if we need to have dry clothes and we have no alternative – what do we do – we revert to the path of least resistance. This is a path well known to most of us and our peers.

So to say that we can share a common vision of what is sustainable and how we can act is in my view quite tenuous. What we can share and believe in, is that in some way we all care about how we live now and how future generations will live. A truly strong shared vision will ultimately influence behaviour; if it doesn't then it may be little more than an interesting topic of discussion.

The behavioural aspect is of great importance. How this translates in land development and housing is no different.

Some market researchers will tell you that what 'the market wants' (of house buyers) is exactly what is on the market today. The logic flaw, in my view, is that often there is no choice, or even more compelling is that speculative purchase is driven by the perception of how many bedrooms and bathrooms 'the market wants'. So in order to preserve market value you buy the same.

I worked on a regional housing project in Australia where this market paradigm was perceived to be true, however, the practical experience was that introduction of a new product into the market was quickly adopted by the other suppliers. So sometimes, a change which may be seen to be against a trend is not such a big step after-all.

A supporting and emerging global argument is the high cost of housing. Increasingly we hear and read about affordability; tomorrow's first home buyers do not or will not have the same purchasing choice that many of us had. This means that irrespective of fixed market perception of buyer preferences, innovation in built-form, ownership and tenure will emerge. And that affordability pressure will not readily wane.

I would also argue that a growing awareness of the reality of climate change is challenging our conventional notions of what is desirable. For example, some cliff top or seaside homes in New Zealand may not be as desirable today if prone to slips or erosion arising from extremes of weather and are uninsurable. Until recently, market research of past sales history would advocate that you could not go wrong with such property; current due-diligence and buyer-awareness is now challenging these notions.

Just like in any market analysis, the “early adapters”<sup>1</sup> have already spotted this trend and are changing their preferences. There is some evidence to suggest that there is also a lag between different countries, with Western Europe being largely at the forefront.

These trends are part of the continuum of change, extending to awareness of where homes are built, how the land is utilised, what services and facilities are provided, the choice of construction materials and quality of the build. Even more encouraging is that energy efficiency, water efficiency and recycling are creeping into our daily lives and starting to inform purchase decisions.

The concern is that this awareness is merely ‘creeping’, when in fact it needs to be galloping. I also see that the slow hand on the reins is quite often driven by buyers not at the “early adapter” stage but a large number at the “late follower” stage”. This is of grave concern given the overwhelming significance of climate change. This ‘market positioning gap’ is, I will argue, the most substantial gap between vision and reality.

## **2. What role does HLC have in bridging the gap?**

Having asserted that there is an awareness and response gap, what role does the Hobsonville Land Company – a humble subsidiary of HNZC have in this?

Created to be the development arm of the Corporation for the Hobsonville site, it is essential that we take a lead in the debate through our delivery. Awareness of what we do and building an open and translatable tool-kit is part of a bigger picture sustainable outcome. That is to say, we are focused on the future; anyone can do more of the same – it isn’t that hard! There are many who would assert that they could deliver a superior marketing outcome by selling more conventional product, the “tried and true” dare I say it, more of ‘what the market wants’.

The greatest challenge is to move the market; it is incremental, sometimes faster, sometimes, slower, but always forward. This is a key objective of a project such as Hobsonville which spans a number of years.

I recently saw a similar example of advancing the market incrementally at Nieuwlands in the Netherlands. Each new precinct advanced the use and adoption of photovoltaic energy as an integrated part of the housing delivery.

The ongoing closure of the sustainability gap is reliant upon a range of partnerships, a collaborative approach. For example, we are and will continue to work with the private sector in many ways. The initial sustainability framework, the concept plan, the low impact design inputs, transport modelling and service provision analysis, the recent masterplanning, engineering and a raft of technical inputs have all involved the private sector and been filtered through our delivery team.

The next phase will see civil works and housing delivered within our overall direction and control. That is what we call the long-term stewardship role of the Crown. As befitting a project focused on sustainability and being an exemplar, stewardship of the delivery function will remain with us.

There are many drivers for this strategic direction, but one in particular is worth highlighting. Essentially, it is the risk that unless we retain overall management, the ‘cash is king’ rule may subvert our aspirations and the goals which have seen this land re-zoned. The very principles which we are seeking to protect are also fundamental to why the Joint Hearings

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<sup>1</sup> Porter R, etc....profile of markets and how the market progresses from early adapters to late-followers...confirm reference

Panel under the Local Government (Auckland) Amendment Act 2004 (LGAAA) agreed to re-zone and bring the site within the Metropolitan Urban Limit (MUL)<sup>2</sup>.

Re-zoning proceeded on the clear undertaking that the land would:

- be developed in a sustainable manner
- integrate and support the public transport network
- be land efficient and developed in a manner which reflects the growth pressures facing Auckland today.

I regularly have conversations with a range of people who are not cognisant that Auckland's population is on track to double to 2 million by 2030, or that the Auckland Regional Policy Statement has key objectives, which must be integrated and consistent within all District Plans, such as the translation to the Waitakere City Council initiated Plan Change 13 which sets out the governing principles for the re-development of the former Hobsonville air-base.

Some of these conversations have been with key people in industries with a vested interest in knowing what is happening to Auckland. If there is a gap in their understanding or acceptance of some well publicised trends and supporting policies, then how well can we expect them to understand and agree to drivers of policy and sustainability in a global context? Or perhaps the question should be, how well could they deliver in the local context? I suspect for many, not well at all.

The "growth concept" contained in the RGS<sup>3</sup> for Auckland "provides a vision for what Auckland could be like in 50 years time with a population of 2 million. The purpose of the RGS is to ensure growth is accommodated in a way that meets the best interests of the inhabitants of the Auckland region. Key principles of the strategy are:

- *a compact urban form, with most growth within existing metropolitan areas focused round town centres and major transport routes to create higher density communities with a variety of housing and mixed use activities to provide for employment service and recreation*
- *limited managed expansion into greenfield areas outside of the current MUL where environmental quality, accessibility and infrastructure criteria can be met; and*
- *protection of the coast and surrounding natural environment*<sup>4</sup>.

Some of our, the Hobsonville Land Company, processes, objectives and benchmarks will and already are challenging conventional development practice, such as roading, shared services, parking allowances and the very approach of being a Crown-led development. This is a good thing, for if it were easy it would mean we had defaulted to 'more of the same'. It is pleasing, however, that a number of key and long-term parties have risen to the challenge and I suspect will find innovative solutions and provide the combination of intellectual and delivery strength and ability that bridging the gap really requires.

### 3. Project focus

Before continuing, it is important to frame up the Hobsonville project, and outline some of the "what is possible".

Geographically, the site is well connected to central Auckland, only 20-25 minutes by ferry and the same by road with counter peak flows. As such, it is a logical part of assisting with the growth facing Auckland as it moves toward doubling the current population. Consider

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<sup>2</sup> Refer Key Issues Recommendation Report of the Joint Hearings Panel under the LGAAA 28 May 2007.

<sup>3</sup> Auckland Regional growth Strategy (1999).

<sup>4</sup> North-West Sector Agreement, 2001, pg. 1

briefly the circumstance if the only solution was to spread by car-centric urban sprawl<sup>5</sup> (albeit well-engineered), relentlessly adding to the stresses and low economic payback on public infrastructure. Magnify this issue globally and it is easy to understand why 'eco' 'sustainable' or 'low carbon impact' communities are becoming popular with many European governments.

Fortunately, Hobsonville is part of the north-west growth corridor, a strategically planned growth area, now following the LGAAA process and decisions in August 2007 within an expanded Metropolitan Urban Limit, incorporating employment, residential and the full suite of education, recreational and community based activities. In effect, the opportunity exists to embed all four dimensions of sustainability<sup>6</sup> from the infrastructure to the built form, through to the way people interact as a natural part of their surroundings.

One of three Waitakere City District Plan changes<sup>7</sup> governing this growth corridor, and recognising the key underlying drivers of jobs and economic growth, the genesis of this project is complementary forward thinking by Waitakere City Council in concert with the objectives of the Auckland Regional Growth Strategy, and central Government recognising the multiplicity of opportunities presented by defence no longer requiring this prime and substantial piece of land.

In terms of economic growth, by way of example a report prepared for the ARC<sup>8</sup> identified that of the total amount of vacant business land needed to meet projected growth for the next 30 years, only 14% was appropriately zoned and vacant – essentially – a huge barrier to business growth. Added to the argument for getting more appropriately zoned business land in WCC, is the balance across the region. For example, at the time of the report some 1,615ha was available across Auckland but only 76ha of which was in Waitakere with around 875ha in Manukau. So is it any surprise that over 60% of workers commute out of the WCC region on a daily basis? What is the environmental and social impact of this mass-worker migration and is this sustainable or even desirable?

WCC has planned land use change in an integrated way in anticipation of key infrastructural works being completed (such as the connection of SH18 through Brigham Creek to SH16), primarily so that the economic development potential created by the infrastructure can be capitalised on upon completion, not lagged until a decade later. The concentration of development around a transport node is also a more efficient use of land. The qualifier is however, not to design it as a car-based feature of modern day engineering.

As identified earlier, Hobsonville, with its amalgam of sustainability drivers, is a long term project - at least 10 years, so there is the opportunity to incorporate new and emerging ideas and technologies to help reduce the environmental footprint of the project. It is essential therefore, to look to the future and provide an ongoing sustainable community framework and not set down a fixed or inflexible masterplan; to do so will effectively plan-out any innovation within the development life of the project which could assist the sustainability objectives.

Planning for an integrated community<sup>9</sup> is consistent with the notion of providing<sup>9</sup> jobs within Waitakere in proximity to where people live, but it is also based on the origins of how viable communities have evolved<sup>10</sup>. These are almost organic and are inclusive of the diversity of people who comprise our community. The trend toward segregation is an engineered

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<sup>5</sup> "The five components of sprawl", Duany A, Plater-Zyberk, Speck J, The Rise of sprawl Suburban and the Decline of Nation the American Dream, 2000, North Point press, New York, pp 5 – 6.

<sup>6</sup> Environmental, economic, social and cultural dimensions of sustainability.

<sup>7</sup> Plan Changes 13 (Hobsonville Airbase), 14 (Hobsonville Village) and 15 (Massey Town Centre at Westgate), refer [www.waitakere.govt.nz](http://www.waitakere.govt.nz)

<sup>8</sup> "Auckland Business Location Strategy: Progress Report (2004)", refer ARC website.

<sup>9</sup> A community of around 3,000 homes, predominantly in private ownership. This **includes** up to 15% for affordable home ownership which assists housing in the area for key workers like teachers, nurses, and police. A number of the European models classify a key worker as 'anyone who lives and works' in the council area.

<sup>10</sup> "When nearby is still far away", Duany et al, pp 24 – 37, *ibid*.

solution that is not healthy, or desirable. NIMBYS or BANANA's<sup>11</sup> are modern day town planning outcomes, and not a desirable one at that!

Overall, the masterplan provides for around 25ha of land for on-site employment and quality space for schools, conservation and reserve areas; it is about reducing the impact of people and cars on our environment and society. Again, the inclusion of employment adds to the activity '24 x 7', and increases the economic viability of public transport, localised retail and a range of recreational and community activities. It also adds, for example to the business case for broadband and enabling fibre to the premises as part of the core infrastructure for the site.

#### 4. "The climate is changing" and leading to a continuum of change

The last twelve months have heralded many changes on the sustainability horizon. To say it is changing is truly to use the double-sens<sup>12</sup> of climate change. From an industry and delivery perspective the following confirms this view within New Zealand:

- emergence of the Green Building Council (GBC) and introduction of Green Star Rating Tools for commercial buildings
- central Government mandating new Government office accommodation to be 5 Green Star (NZ excellence) rated and refurbished to be 4 Green Star (Best Practice)
- work being undertaken by the New Zealand Green Building Council (NZGBC) to understand how to deliver and then promote the mainstreaming of sustainable buildings
- the Department of Building and Housing sponsoring changes to the Building Act 2004 which mandate improved thermal qualities in homes such as – double glazing and insulation (specifications varied according to region) etc
- a recent press release by the Minister for Construction and Building, Clayton Cosgrove, suggesting a future requirement for the life cycle carbon footprint of buildings to be assessed<sup>13</sup>
- the Smarter Homes Initiative launched in June 2007 designed to offer advice on homes which are "... more sustainable both environmentally and financially"<sup>14</sup>, the site outlines best practice, energy calculators and a range of service links from the design stage of a new home to retrofitting an older home)
- a range of other initiatives that have been or are being launched, for example, in September this year the Energy Efficiency and Conservation Authority (EECA) will be bringing out its Home Energy Rating Scheme (HERS)<sup>15</sup>, linking this to point of sale will be, in my view, a powerful motivator to the market.

Globally, investment capital funding into renewables such as wind power has climbed from €80 billion in 2005 to €100 billion in 2006 (equates to around \$NZ144 - \$180 billion), according to a report from the UN Environment Program. By comparison, "renewables are only around 8% of the installed power mix, but they now account for around 18% of world investment in power generation, with wind generation at the forefront.<sup>16</sup>

Overall, the trend which is emerging is clearly a move away from oil based market investment drivers. This is a good sign for the future although the local cost-effective

<sup>11</sup> "Not in my back yard", or "build absolutely nothing anywhere near anything", Duany, et al, introduction pg x, ibid.

<sup>12</sup> As a double-entre a word or phrase with two meanings

<sup>13</sup> Refer: <http://www.dbh.govt.nz/news-index>

<sup>14</sup> Refer: [www.smarterhomes.org.nz](http://www.smarterhomes.org.nz)

<sup>15</sup> Refer: [www.eeca.govt.nz](http://www.eeca.govt.nz)

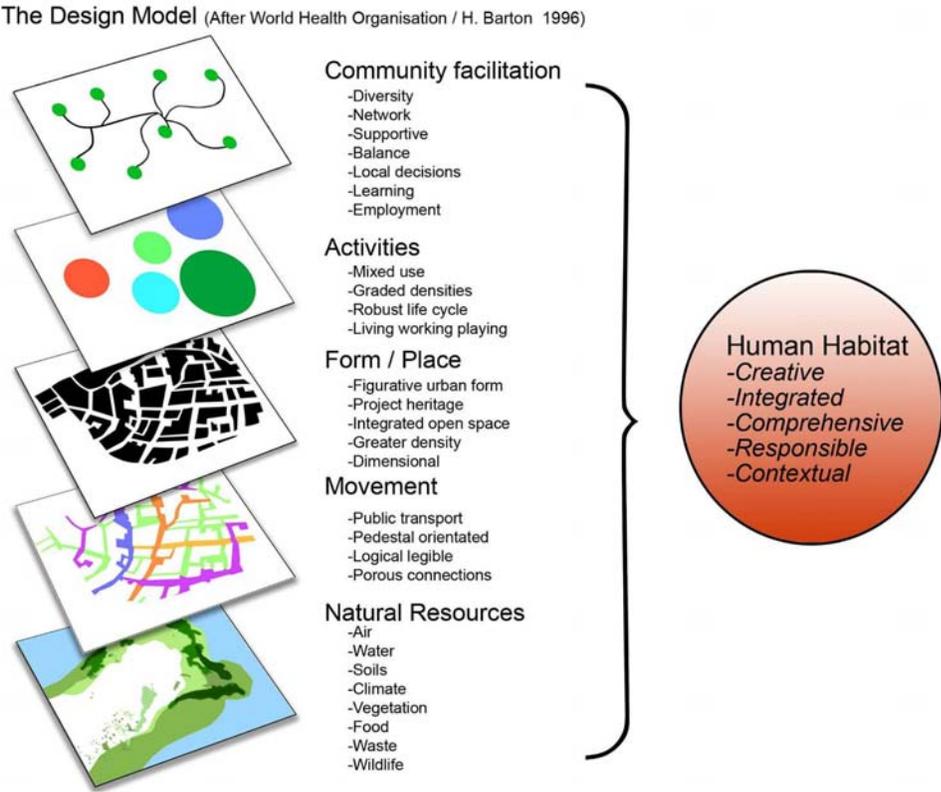
<sup>16</sup> Source: ENS, 21 June 2007, France.

spread of these new technologies has a delivery lag which poses substantial challenges for HLC as it does for the whole of the development and construction industry here in New Zealand.

This global trend is becoming known as “decarbonising” the economy, although in reality it is just in its infancy.

What the ENS report also identifies is that “governments and politicians are introducing legislation and support mechanisms to enable the sector’s development.” As demonstrated by the UK Carbon Neutral Homes Initiative.<sup>17</sup>

Whilst legislation can provide strong support for the delivery of new initiatives, it is important not to revert to a singular focus. Again, I have recently seen a number of projects which have lost sight of good urban design, CPTED<sup>18</sup> and other community based sustainability objectives<sup>19</sup>. What this highlights is that a multi-faceted approach to delivering a sustainable vision is often challenging and complex. Flexibility in rising to the delivery challenge which supports innovation should also be an important dimension of enabling legislation.<sup>20</sup>



The above work is derived from work undertaken by Barton<sup>21</sup> and shows how each of the layers of sustainability relate to the physical dimensions of the project. It is also a way of cross-checking at each stage that what we envisaged is being delivered and a way of supporting the argument I outlined earlier that the gap between vision and reality is often recognising the multi-dimensional approach.

<sup>17</sup> Source: AFX, London December 2006.

<sup>18</sup> CPTED is crime prevention through environmental design and is a well recognised body of knowledge which is embedded in the urban design and layout stages of development.

<sup>19</sup> Study tour by author of residential and mixed use developments in UK, Netherlands and Germany, June 2007, a range of Building for Life CABE and other developments including solar cities and English partnership projects.

<sup>20</sup> Discussion points from workshop on delivering carbon neutral homes, attended by author, Harrogate Housing conference, Harrogate, UK, June 2007.

<sup>21</sup> Schematic representation adapted by Isthmus, Auckland, from Barton 1996, as developed for the World Health Organisation.

Arguably, while the weight and momentum of climate change will assist projects such as Hobsonville, there is a counter issue that the expectation of delivery precedes the actual local industry and commercial ability to deliver. Hence another gap between vision and reality. Another role, therefore of our project is to cultivate supply lines and to explore whether economies of scale can act as a catalyst or enable other projects to leverage off the initiatives of a larger scale project. Part of the cross-checking is to examine what is possible under each dimension or indeed to pursue what might be possible. The element of “future proofing” is also very important.

## 5. Removing the path of least resistance

Enabling choice and empowering an emerging community is not just about the physical environment, it is also about how people will live through a range of opportunities. To remove the ‘path of least resistance’, actions need to make a difference to how every day New Zealanders live and their environmental impact.

Positioning HLC as having a long term stewardship role for the project requires a clear vision of development for the future.

Essentially, we are dealing with a concept which many people have turned their minds to over many years – the difference today, is that more are recognising that action is an imperative – not an option, and that it does not come without some level of risk.

A very good practical example of this is the Nieuwlands development in the Netherlands<sup>22</sup>, as one of the first solar-cities in Europe. It is a large master-planned redevelopment (over 30,000) resident, which set about ensuring that all – that is 100% - buildings, both private and public uses, contained solar energy, from an extensive use of photovoltaic as a standard feature to two demonstration “balanced homes” which self-generated 100% of the electricity needs of the occupants.

As a completed development, what was striking to me was the evolution of technology, the risk and failures, an openness to learn from this and to progressively adapt. In context, the photovoltaic and solar industry in Europe is substantially advanced compared to where we are today here in New Zealand. The opportunity to learn from what has been proven on a large scale exists now, the reality gap or lagging factor is economic and the access to suitable supply.

In addition to the compelling argument of responding to climate change, actions which reward innovative behaviour are also effective in removing the path of least resistance. These can include incentives and grants, reduced consenting time through priority treatment, and simply the recognition through awards and celebrating the success of those who grapple with the challenge of raising the level of response.

Another dimension is where widely used benchmarks contain targets which enable innovation. A good example, is the New Zealand Green Building Council ‘Green Star’ rating scheme where 15 of the current maximum 145 points under Version One reward innovation. Whilst this may seem only a small portion it can make the difference between a star rating, so it important to receive due consideration.

Importantly, the innovation category is an ongoing evolution, what is innovative today may become part of the base level for a future project, so gradually the bar is raised and the broader benefits of innovation are adopted. A powerful motivator for following what is essentially a voluntary scheme, is that the tangible benefits of working in buildings with good indoor air quality are being appreciated by employees and employers alike, so much so, that market evidence suggest property managers are starting to seek out green star rated buildings as part of their investment decision arising from the commercial benefits

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<sup>22</sup> Nieuwlands, visited by the author in June 2007.

which have been identified<sup>23</sup> This to me is a great example of how the performance gap can be closed.

## 6. Economic motivation

This is a dimension with which you are all probably familiar, but as we are essentially on a continuum of change, the salient question is when to get on or even how?

The basic options in land development and housing construction of good solar orientation, the majority of materials used in the home, the roading, and the services under the ground are proven and readily accessible. But, by way of warning, if a future view is not adopted, then the consequences are likely to be significant, for example:

*“The long life-time of infrastructure, subdivision layouts, and built structures means that poor energy practice has implications for decades to come.”<sup>24</sup>*

In my view, the core gaps for land development in NZ fall into three broad categories:

- a) renewables – broader use and acceptance of proven technologies such as solar and photovoltaic as a minimum, before even considering emerging technologies such as wind which in its broader context appear to have tremendous potential for New Zealand;
- b) efficient land use – the market maturing to accept well planned, well-designed and delivered, land efficient development which is masterplanned and not ad-hoc and poorly serviced; and
- c) public transport – viable options which really do enable public transport to be an option of choice and thereby provide the greatest gains in terms of mitigating the environmental footprint of individuals.

All three have supply chain challenges and will not materialise overnight. Strengthening the shared vision is a key way in which we can all achieve better, sustainable development outcomes.

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<sup>23</sup> Myers G, & Bannon K, Jones Lang LaSalle Ltd, “Future-Proofing New Zealand’s Commercial Property For A Sustainable Tomorrow”, July 2006.

<sup>24</sup> SNZ HB 44:2001, ibid, Energy Smart Lots, Energy Victoria, pg 137.

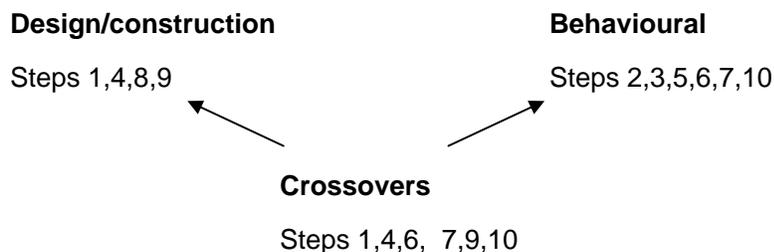
It is important that actions apply throughout the supply chain, they need to begin with individuals and then flow upwards, for example, I find the following very simple steps from Dr. David Suzuki<sup>25</sup> a fresh reminder of individual action which can make a difference:

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So, what will you do? The Suzuki Foundation lists ten steps that everyone can do in the Nature Challenge:

1. Reduce home energy by 10 percent
2. Eat meat-free meals once a week
3. Buy a fuel efficient, low-polluting car
4. Choose an energy efficient home and appliances
5. Stop using pesticides
6. Walk, bike, or take transit to regular destinations
7. Prepare your meals with locally produced food
8. Choose a home close to regular destinations
9. Support alternatives to the car
10. Get involved, stay informed

What this means in terms of development can be summarised as falling into two broad categories, some of which we as individuals can directly influence, other elements we are reliance on others, to provide the leadership or stewardship to enable them. Other cross-over and can be a combination or many parties can contribute.



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These elements have different levels of economic motivation and investment. The larger scale, more successful development models around the world (both public and private) are including developer led actions such as:

- > place management - running community based events, retail and cultural, to build the sense of place and community connection
- > Travel Management Associations - education and incentives to employers and residents to adopt public transport as a choice
- > Utilities provision - bulk purchasing of energy or other commodities, on-selling and `incentivising' resident and business behaviour; delivery managed through for example, "Smart metering"
- > Technology connections – fibre to the premises used not only for business or triple play (e.g. voice, data and video), but connections to community portals, local retail, virtual classrooms, home health-case monitoring and service deliver among many other innovative applications.

All of these may seem small steps, but any one of them can have powerful economic outcomes and serve to yield the all compelling payback on investment, with real consequences which are part of bridging the sustainability gap. The outcome is that they ultimately become embedded in the physical and community infrastructure which surrounds us.

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<sup>25</sup> Dr David Suzuki, information from the Nature Challenge web-site, link: [www.davidsuzuki.org/NatureChallenge/](http://www.davidsuzuki.org/NatureChallenge/)

## 8. Conclusions

The Hobsonville project is all about outcomes – whilst there are a considerable number of emerging international examples or trends, the challenge is incorporating what is possible in New Zealand today and at the same time being quick to adapt to what is emerging. To bridge the gap between vision and reality, I would argue that the “do nothing option” is no longer the least risk option.

The range of gaps which I have identified and which we need collectively to tackle are summarised as follows:

- the inherent gap arising from supply often focused on the “late follower” rather than the “early adapter”, which is not a good match where substantial and often radical climate change impact how we live and behave.
- strategic vision at risk of being undermined by short term financial gains
- the knowledge gap of some key decision makers in industries with direct interests in or impact upon a sustainable future
- engineering led development, which is short-sighted and based on ‘solving today’s problems’ rather than innovation to meet emerging issues
- technology delivery lag between Europe and the Australasia
- expectations about delivery preceding industry capability and commercial reality
- initiatives which are so focused on a singular outcome that they overlook the other lessons of good urban development and the human needs of the occupants
- land development gaps not involving widespread adoption of renewable energy, more efficient land use and integrating public transport
- overlooking best practice developer lead sustainability initiatives which can yield tangible benefits, embed sustainable futures into the infrastructure and assist the overall payback
- not tapping into what will influence behaviour as a collective force.

In the discussion raised in this paper, there are a number of recurrent themes which emerge, starting with the recognition that global population growth is a key driver for sustainable development and Auckland is facing the same pressure. The logical implication is that the substance of what is delivered is the correct focus, not the nomenclature, and at the end of the day responding to climate change and our impact on the planet is an imperative.

Practical reality dictates that the scale and nature of change facing us requires innovation and significant re-design. Whilst awareness and motivation are the first steps, there is much more to do. Sometimes it is prudent to wait for others to deliver, however, in this case it is not a valid response – it is time to get off the couch!

How we deliver sustainable futures includes the physical structures, and long term infrastructure decisions which are beyond the control of an individual. To close this gap and encourage forward thinking, it is vital to enable innovation, as it plays a substantial role in addressing the gap.

Often it is easier to follow others. But in this case, it is important not to choose ‘the path of least resistance’. Doing so merely compounds the issue, as such a change in approach is fundamental. Building upon this, recognising that strength comes from a shared vision, disparate or lone voices will not be sufficient, it an important step.

Thankfully, seizing upon key economic imperatives will enable change to occur, but given that the size and nature of a continuum of change requires a rapid response, sooner than later is critical. Being supportive of responses, the steps can be incremental, but they should seek to advance solutions. Simple actions such as celebrating innovation will encourage others to participate. It will not always be without risk, for that is what innovation entails.

Clearly there is significant work to be done to align best-practice and early recognition of how to respond. In closing I would leave you with the challenge to exceed today's benchmarks, recognising that they may already be obsolete and insufficient to make a change. Why compromise and perpetuate the path of least resistance when you could embark on a better – voluntary one – which benefits more than just yourself?