Scope for advancing building sustainability in NZ

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Plan

1. Why the concern about sustainability rules for buildings in Aotearoa-New Zealand? [Chapman]

2. The legal issues [Bennett]

3. Findings from interviews [Chapman]

4. Conclusions
1 Why the concern about sustainability rules for buildings in New Zealand?

- Carbon emission reductions & other sustainability concerns
- Urgency of mitigating via buildings & transport
- Findings of initial lit review
Latest IPCC report: transition to sustainable cities & transport is a race against time

**IPCC (2018):**
cut emissions ~45% by 2030 if we are to have a reasonable chance of limiting warming to around 1.5°C….
Mitigation urgency & the policy context

- Prob of going >2°C is very high (~95%?)
- High risk of tipping points between 1.5°C & 2°C
- High risk of catastrophic impacts around 2°C & beyond
- Globally, NDC commitments so far pointed over 3°C; so is NZ’s

- We can be sure:
  a. not aiming well below 2°C is indefensible
  b. we’ve not seen the last of nasty climate ‘surprises’
  c. political pressure on NZ to mitigate will intensify
  d. while other sust’y concerns are important, CC is critical
Mitigation urgency & cities

NZ’s urban CO₂ emissions path to date is an embarrassment

• Unless rapid action taken, **NZ could miss by miles its interim goal of a 30% emissions cut by 2030** (let alone IPCC’s recommended 45% for 1.5C)

• Urban emissions encompass both buildings & transport
  – So far, gains in buildings, but not transport. Our decisions betw. now and 2030 will largely lock in our emissions path to 2050
  – We must aim for zero emissions by 2050 in both these key sectors

• **Greater effort by both major urban sectors is essential**
Findings of initial lit. review on sustainable building

• **Aim**: to assess *scope* under existing or amended legislation for building performance assessment tools or other related provisions to advance a goal of sustainable building

• Literature says little about CC mitigation to date
• Wide range of concerns including building quality
• Emphasis in NZ on voluntary ‘green’ building codes (incentive systems)
• This approach has merit, but also risks
Findings of initial lit. review (2)

Advantages:
- Can surmount barriers / compensate for financial or other barriers
- carrots for early innovation in building
- can tip decisions towards ‘building green’.

Disadvantages:
- Where there’s uncertainty, developers see higher cost
- or potentially, inconsistency in decision making
- any uncertainty can be unhelpful to, or deter developers.
Findings from the lit (3)

• ‘The task currently facing local councils is how to overlay on the traditional spatial focus of district plans a new layer related to the quality and sustainability of individual buildings and activities.’ - Easton et al., 2008

• ‘a territorial authority will be free to promulgate conditions and rules concerning the use of a building even if those rules affect the construction of buildings, provided of course that such rules are "appropriate and necessary" to "promote the sustainable management of natural and physical resources".’ - Warnock, 2005
2 The legal issues

• Scope for regulatory provisions to advance sustainable building performance
  – Is section 18 of the Building Act 2004 an impediment?
Sustainable design requirements in District Plans: are they legal?

Mark Bennett
Faculty of Law
Te Herenga Waka
Question

• Can a territorial authority create a rule prescribing sustainable design requirements that are more stringent / demanding than the building performance requirements set out in the Building Act/Building Code?

• Question of interaction between Building Act and Resource Management Act
Resource Management Act

• Rules in District Plans
  – Territorial authorities can limit the use of land for environmental / land use purposes
  – “to achieve integrated management of the effects of the use, development, or protection of land and associated natural and physical resources of the district”

• Eg Christchurch Replacement District Plan (2014-2017); Auckland Unitary Plan (2013-2017)
How could the RMA / District Plans be used to impose SDRs?
<table>
<thead>
<tr>
<th>Feature</th>
<th>Sustainable Building Standards Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>b. Recessed down lights</td>
<td>No recessed down lights penetrating the thermal envelope.</td>
</tr>
<tr>
<td>c. Windows.</td>
<td>Thermally broken double glazing insulation R value 0.31.</td>
</tr>
<tr>
<td>d. Wall insulation.</td>
<td>Insulation R value 2.8.</td>
</tr>
<tr>
<td>e. Concrete slab.</td>
<td>Raft / pod with slab edge insulation R value 2.2, 25mm XPS with 9mm fibre cement board glued to the face.</td>
</tr>
<tr>
<td>f. Ventilation.</td>
<td>i. Dedicated extraction installed in kitchen and bathrooms.</td>
</tr>
<tr>
<td></td>
<td>ii. Provision to vent a clothes drier to the outside of the residential unit.</td>
</tr>
<tr>
<td>g. Water efficiency.</td>
<td>WELS 3 Star Shower.</td>
</tr>
<tr>
<td></td>
<td>WELS 4 Star Toilets.</td>
</tr>
<tr>
<td></td>
<td>WELS 4 Star Taps.</td>
</tr>
<tr>
<td>h. Gas heating.</td>
<td>No installed un-flued gas heating.</td>
</tr>
<tr>
<td>i. Lighting.</td>
<td>Low energy lighting capable.</td>
</tr>
<tr>
<td>j. Materials.</td>
<td>No non FSC certified tropical hardwoods.</td>
</tr>
</tbody>
</table>
Building Code - insulation

<table>
<thead>
<tr>
<th>Building element</th>
<th>Climate zone 1</th>
<th>Climate zone 2</th>
<th>Climate zone 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roof</td>
<td>R 2.9</td>
<td>R 2.9</td>
<td>R 3.3</td>
</tr>
<tr>
<td>Wall</td>
<td>R 1.9</td>
<td>R 1.9</td>
<td>R 2.0</td>
</tr>
<tr>
<td>Floor</td>
<td>R 1.3</td>
<td>R 1.3</td>
<td>R 1.3</td>
</tr>
<tr>
<td>Windows and glazing</td>
<td>R 0.26</td>
<td>R 0.26</td>
<td>R 0.26</td>
</tr>
<tr>
<td>Skylights</td>
<td>R 0.26</td>
<td>R 0.26</td>
<td>R 0.31</td>
</tr>
</tbody>
</table>

NZS 4218:2009
## BC / SDR comparison

### NZS 4218:2009

#### Table 2 – Construction R-values

<table>
<thead>
<tr>
<th>Building element</th>
<th>Climate zone 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roof</td>
<td>R 3.3</td>
</tr>
<tr>
<td>Wall</td>
<td>R 2.0</td>
</tr>
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<td>Floor</td>
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</tbody>
</table>

### Chch 2014 Replacement Plan proposals

- R 3.2
- R 2.8
- R 2.2
- R 0.31
Such SDRs were proposed for the Auckland Unitary Plan
Sustainable Design

“Poorly designed and constructed homes are inefficient to operate, create unhealthy living and working environments and therefore can negatively impact on the amenity of development and its surrounds. By improving the sustainability of new homes and commercial development, such buildings will be more comfortable and healthier to live in. Running costs are reduced therefore improving affordability and economic performance.”
“New development can create adverse environmental effects and contribute to the causes of climate change. By designing building to incorporate best practice sustainable design, such as the use of water efficiency devices or thermal insulation, the effects on the environment can be minimised. In particular, efficiencies in energy use can assist in reducing greenhouse gas emissions.”
In the Auckland Independent Hearings, many argued that the proposed SDRs were unlawful under the Building Act.
Building Act 2004

18 Building work not required to achieve performance criteria additional to or more restrictive than building code

(1) A person who carries out any building work is not required by this Act to—

(a) achieve performance criteria that are additional to, or more restrictive than, the performance criteria prescribed in the building code in relation to that building work; or

(b) take any action in respect of that building work if it complies with the building code.

(2) Subsection (1) is subject to any express provision to the contrary in any Act.
What does section 18 mean?

Does it rule out putting SDRs into Plan?
Arguments for SDRs in Plans

(in the PAUP process, Auckland Council)
Tipping J in *Christchurch International Airport Ltd v Christchurch City Council* [1997] 1 NZLR 573 (HC) at 576

“the Building Act allows a council to control building work in the interests of ensuring the safety and integrity of the structure, whereas the Resource Management Act allows the council to impose controls from the point of view of the activity to be carried out within the structure and the effect of that activity on the environment and of the environment on that activity.”
Auckland Council submissions [5.7]

“where the additional or more restrictive performance criteria are imposed in a plan for a legitimate RMA purpose, rather than a Building Act purpose. / The Council’s position is that to the extent that there is any overlap with matters addressed by the Building Code ... the PAUP sustainable design rules in H6.4 are not contrary to section 18 of the BA04”
Arguments against SDRs in Plans

(in the PAUP process, the Independent Hearings Panel, Housing New Zealand Corporation (HNZ), Ryman Corporation, the Ministry of Business, Innovation and Employment, and Federated Farmers)
Independent Hearings Panel concern

• “the RMA can address the control of effects of activities (including building work which will be used for such activities) that may or may not occur in certain locations, or may address the control of effects where the BC does not regulate building work for that purpose, but cannot duplicate or exceed any BC controls on building work itself.” [13]-[14]
“even where a resource management purpose... can be established, that is in itself not sufficient to bring it outside of the restrictions in section 18. That is, it must be for a resource management purpose that is not a purpose of the Building Act."
Legal conclusion?

- It’s complicated
- BA s 18 is not that clear in excluding SDRs under the RMA...
- ... and the Christchurch Airport decision gives strong reasoning for SDRs being allowed for RMA purposes...
- But there is a purposive argument that the BA was meant to exclude other building performance requirements...
- ... and there is case law emphasising that point
Lessons?

Law is often unclear, even if clear on first glance

“I. A Fast-Fish belongs to the party fast to it.
II. A Loose-Fish is fair game for anybody who can soonest catch it.

But what plays the mischief with this masterly code is the admirable brevity of it, which necessitates a vast volume of commentaries to expound it.”
3 Findings from interviews with practitioners

- An investigation of the opinions / experiences of selected
  - planners
  - local government officers and
  - central government officials

- on advancing goals of sustainable building in NZ
Findings from the interviews

• There is **scope for active regulation through District Plans** consistent with the purpose of the RMA to ensure a more sustainable built environment or neighbourhood.

• This encompasses (e.g.) streetscape, building integration, and ensuring climate change mitigation through urban form and design.
Findings from the interviews (2)

• However, updating Plans takes considerable time

• Meanwhile, a conservative interpretation of the issues around the domain of the Building Act has acted to impede some councils in promoting more sustainable building, and

• Incentives can help fill the gap
Findings from the interviews (3)

• Interviewees wanted to see councils being more proactive in promoting sustainable building and supported the use of incentive arrangements, alongside stronger provisions in District Plans to ensure more sustainable built environments
Findings from the interviews (4)

- Greater clarity on the legal matters would be **helpful** for progressing more sustainable building design.
- NZ is not at the international edge of sustainable building promotion and design!
- Meanwhile, active changes to Plans and clarificatory legislative changes could usefully supplement incentive provisions.
Conclusions (1)

• No time to lose on carbon emissions reduction if wish to retain our current form of ‘civilisation’

• Paris ‘stay well below 2°C’ → Be well on way (CO$_2$ 30%) in 1 decade

• Urban systems (urban form, housing and transport) must be rapidly transformed, in an integrated way
Conclusions (2)

Urban & housing policies to cut emissions

- Compact development in accessible locations, to intensify cities and avoid trips, with excellent PT access

- More sustainable building (insulation; space & water heating; orientation; section usage...)

- To improve building quality and sustainability, rapid changes to Plans and clarifying legislative changes would usefully supplement incentive provisions
Thanks
Happy to take questions or comments during the session panel discussion

Regent Park, Newtown, Wgtn