

Simple in Theory, But Not in Practice: A ‘Warts and All’ Reflection on the Use of Visioning Exercises in Urban Contexts

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Abstract: To-date little research has examined visioning as a practice, including its theoretical underpinnings. In particular, published cases tend to tell high-level positive ‘stories’ rather than consider the tensions and challenges that must be negotiated during a visioning process and that can constrain the impacts of a visioning exercise. In contrast, this paper presents a critical reflection on two visioning exercises run as part of the Visions and Pathways 2040 project – which is funded by the Cooperative Research Centre for Low Carbon Living – focussed on the key tensions and process challenges that were faced and how we attempted to address them. We identify seven main tensions/process challenges, describe how they manifested during the design and convening of the exercises, and evaluate the strengths and weakness of specific strategies that were used to address them. Whilst strong claims of generalisability are not made, the identified tensions/process challenges and strategies are likely to be of relevance to others convening visioning exercises in urban contexts. Five underlying themes are also identified that visioning practitioners need to be aware of, particularly in urban contexts: (i) the complexity and normativity challenges inherent to envisioning new urban systems and low-carbon transitions; (ii) the barriers to systemic thinking and related process design considerations; (iii) the strong barriers to original or breakthrough ideas; (iv) the need for technical or specialised knowledge and to equip workshop participants, whilst being aware of the limitations of experts; and (v) interactivity challenges (involving stakeholders in the research process).

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Introduction

This paper reflects on two visioning exercises that were run in Melbourne and Sydney in 2014 as part of an Australian project called Visions and Pathways 2040 (hereafter, VP2040) which is funded by the CRC for Low Carbon Living. VP2040 is developing visions, scenarios, and pathways for low-carbon resilient futures with a focus on major southern Australian cities. As per this longer-term focus, the workshops sought to envision such cities in 2040. VP2040 is one of an increasing number of projects which views cities as an intervention point for climate change action and views the challenge of reducing emissions and generating resilience as primarily a system innovation challenge.

The main objectives of this paper are to critically discuss these two visioning workshops (both the process and the outputs) and consider the strengths and weaknesses of the approach that was used. The longer-term focus (i.e. out to the year 2040), emphasis on discontinuous change, and normative orientation introduced major methodological and process challenges which needed to be carefully addressed. This paper identifies seven key tensions and process challenges – based on both the reflections of the research team and a review of relevant theoretical and methodological considerations – and then evaluates the strategies that were used to address them.

These objectives can also be considered in relation to the nature of visioning as a practice. On the one hand, a visioning exercise is a simple group activity: a group is convened with the aim of articulating a desirable future (or futures) and constructing images of the future. On the other hand, considering the longer-term future is a challenging task, particularly when focussed on something as complex as cities and low-carbon transitions and when the exercise emphasises discontinuous change (as VP2040 does). Issues can also arise due to the fact that one person’s desired future is often undesirable to others. This is clear in the case of urban contexts, as seen for example in the conflict between those who promote or oppose higher density (as per the vision of compact, transit-oriented cities). Consideration of low-carbon futures is also contested, as seen in the conflict between those arguing that it requires shifts in political economy towards a non-capitalist economic system

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(e.g. Trainer 2007) and others who dispute this (e.g. ClimateWorks Australia et al. 2014).

We proceed by outlining the VP2040 visioning exercises and introducing some methodological and theoretical considerations that are relevant to reflecting on these exercises. Whilst this paper is not the product of a formal evaluation, a number of sources of data inform the paper: observations made by workshop facilitators and researchers during the visioning exercises, meeting notes, emails sent during the design and execution of the exercises, and informal feedback from participants and project partners. The analysis that follows aims to exhibit good reflective practice whilst being conscious of the limited data it is based on.

Description of the visioning exercises

In the first half of 2014, two invitation-only visioning workshops were convened as an initial VP2040 engagement process. Participants from government, business, academia, and the community sector attended – including attendees from project partners (AECOM, Aurecon, Brookfield Multiplex, City of Melbourne, City of Sydney, Hassell, ICLE, and Sydney Water). 103 people participated: 66 in Melbourne and 37 in Sydney (see Table 1). Potential participants were identified through a review of the existing networks of project staff and web-based research. Potential participants were screened by the project leader to consider their suitability using non-formalised criteria. Broadly, this considered perceived compatibility with the workshop objectives (e.g. perceived capacity to envisage more ‘radical’ or transformative change); level of activity and/or interest in urban climate change action; diversity (e.g. gender, age); and inclusion of urban actors, including project partners.

Table 1: Breakdown of sectoral representation in the workshops

Sector	Number of Participants
Business sector (built environment sector: e.g., urban design, engineering; renewable/clean energy, etc.)	27
Research (university-based researchers; and non-university based researchers)	22
Local Government	15
NGO (e.g., WWF Australia)	11
State Government	10
Peak bodies (e.g., the Green Building Council of Australia)	6
Media/creative arts	4
Utilities	3
Social enterprises	3
Financial bodies/institutions	2

Outline of the visioning processes

Two elements of pre-engagement were conducted before the workshop. First, participants were asked to complete an online survey which sought to prompt some future-oriented thinking in the lead-up to the workshop. For example, one question asked respondents to imagine they are living in 2040 (either in Melbourne or Sydney, depending on the workshop) and to consider what key features of this future city and way of life now exist so that it is “a global model of a super-low-carbon city that can bounce back from extreme weather events and other shocks”.

A briefing pack was also sent to participants. This included a short report entitled (in the Melbourne workshop) “Melbourne 2040 and the last 25 years of change: Lessons for future innovations policy”, which was a fake extract from a report released by the government in 2040 (Ryan 2014a), and a briefing document (Ryan 2014b). The briefing document outlined the proposed task for workshop participants: participants were asked to develop and share ideas for the “reconceptualization of the city in all its dimensions”, i.e. “new low-carbon, resilient configurations for urban life and form as well as for the infrastructures of provision (energy, water, food, transport, information)” (Ryan 2014b). Such a “reconceptualisation” was argued to entail far more than changes to urban form.

A two-stage workshop process was then conducted, which used the following procedures:

- An initial half-day workshop was conducted in which participants shared and discussed their visions for a low-carbon resilient Melbourne or Sydney (depending on the workshop) in the year 2040. In small groups participants moved through five themed discussion tables: shelter, energy, transport, food and water, and lifestyle and behaviour. This workshop was also

attended by designers who played central roles in the next two steps. The designers were asked to treat the workshop dialogue and workshop outputs as a design brief;

- The designers were then tasked with developing rough visualisations of the future(s) that were discussed in the initial workshop. These visualisations were termed 'glimpses' given that they are partial, vague snapshots of possible futures (not a blueprint or detailed vision); and
- A second focus group style workshop was then held in which the designers presented the glimpses. This was followed by table-based small group dialogue in which participants responded to the glimpses (e.g. commenting on their desirability and plausibility).

Workshop participants were also instructed to consider two normative targets. The future city had to achieve an 80% reduction in greenhouse gas emissions by 2040 (on 2014 levels), consistent with recommendations made by the Climate Change Authority. Secondly, the future city had to be one that is resilient to the future challenges that may be generated by climate change and has the ability to cope with related environmental 'shocks'.

Methodological and theoretical considerations

Sustainability research and transitions theory

Participatory approaches to sustainability research have become more common and often incorporate forward-looking components such as visioning (Miller et al. 2014; Robinson et al. 2011; Talwar, Wiek & Robinson 2011). Two related methodological considerations are that such exercises must grapple with value-laden, complex issues and, secondly, these exercises often fail to effectively connect analysis to real world action (Robinson et al. 2011). Many sustainability scientists argue that participatory approaches are called for when values are recognised as part of the research agenda (e.g. Miller et al. 2014).

Some sustainability researchers further argue that sustainability-oriented research has an inherent 'interactivity' challenge and needs to adopt a 'post-normal' science approach (Talwar, Wiek & Robinson 2011). In practice, Talwar et al (2011) suggest that this entails far greater collaboration between researchers and research users *throughout* the research process, i.e. when defining research problem(s), when designing a research strategy, during the research, and when using the results. Talwar et al (2011) note three supporting arguments which are relevant to VP2040: 1) sustainability-related research should acknowledge the normative aspects of sustainability and needs to better link knowledge and action; 2) there is a need to better take account of uncertainty, contingency, and the incompleteness of knowledge; and 3) non-academic sources of knowledge and values are important inputs for sustainability research. Two related issues are control of the process and ownership of the outputs (Talwar et al. 2011). Additionally, many other relevant challenges stem from participatory and integrative research approaches including, but not limited to, challenges associated with knowledge integration, bridging disciplinary cultures of research practice, and involving stakeholders in the process as active agents in framing and directing research (Lang et al. 2012; Polk 2014; Ramadier 2004; Schauppenlehner-Kloyber & Penker 2015).

In the related sustainability transitions field, transitions towards sustainability are typically "framed from a systems perspective" (Farla et al. 2012, p. 991). That is, changes are seen as being required and as unfolding at the broader system-level (e.g. entire mobility systems not only new vehicles). These transitions are theorised to occur through interconnected technological, organisational, social and institutional change (Elzen, Geels & Green 2004; Geels 2002, 2004). Transitions also involve a broad range of actors and historical cases (such as the case reported in Geels 2002) have found that they unfold over long periods of time, often 25 years or significantly longer (e.g. over multiple generations). This conceptualisation of transitions also introduces methodological challenges. Some scholars have pointed to related challenges, such as fostering complexity thinking (Rogers et al. 2013), but no literature specifically addresses the challenge of fostering systems thinking in transitions.

Sociological perspectives on future-oriented thinking and research

Social scientists are increasingly studying the use of future-oriented research methods and related future-oriented thinking. For example, exploration of potential discontinuities is often poor (van Notten, Slegers & van Asselt 2005). Researchers in the field of Science and Technology Studies (STS) have also paid increasing attention to how knowledge claims about the future are produced (e.g. Borup et al. 2006; Brown, Rappert & Webster 2000; van Lente 2012). For example, Williams (2006) outlined ways that prevailing cultural understandings and 'linear' models of innovation pathways and outcomes often constrain consideration of the social implications of new technologies and often impair thinking

about high technology futures. Williams (2006, p. 330) also notes that “historical experiences show that initial conceptions of the implications of a technology are often so far removed from ultimate outcomes as to be uninformative”, a point which is too rarely kept in mind when people confidently speculate about the implications of new and emerging technologies such as additive (3D) printing, battery energy storage, or self-driving vehicles. Studies reported in the sociology of expectations literature reveal the myriad ways that future expectations are socially structured (van Lente 2012). For example, van Lente (2012) argues that human agents “draw from and add to a repertoire of images, statements and prophecies – and by doing so they contribute to a particular dynamic”. Additionally, van Lente (2012, p. 779) argues forward-looking studies have dual social vulnerabilities: if the findings are consistent with existing conceptions of the future then the exercise “is not seen as adding much news”; on the other hand, if the findings diverge from actors’ existing repertoires they are “vulnerable and less forceful”. Overall, this sociological research points to process challenges, in particular if the process aims to produce novel perspectives and/or participants are exploring the future implications of emerging technologies, along with factors that can constrain process impacts.

Visioning practices and related urban planning studies

Visioning practices are based on a range of underlying assumptions. For example, most practitioners argue that the clearer the picture of the desired future the better it will be as a guide (Shiple 2002). Additionally, they argue that the more deeply people are involved in creating a vision the more likely they are to accept and be motivated by the vision (also see Shiple 2002). Such assumptions, if they are valid, have a range of methodological and planning implications. Evaluation of participatory urban planning exercises that used tools such as MetroQuest (see Robinson et al. 2011) raise additional issues including whether participants are adequately equipped with necessary technical knowledge, whether participants are enabled to contribute equitably and effectively, and the impact of time or other process constraints which, for example, can prevent multiple iterations.

Our practical experience in the VP2040 workshops

In the preceding literature review we pointed to both potential methodological or process challenges related to the aims of the VP2040 workshops that are indicated by relevant theory and existing literature (e.g. related to the emphasis on exploring discontinuities and to sustainability-oriented research in general). These challenges or tensions were discussed when designing the workshops and considering the process outputs/outcomes, in addition to practical issues (e.g. time constraints). Subsequent discussions synthesised these in a smaller set of core tensions and process challenges. These are further defined below and then reflected on.

Major tensions and process challenges

Three main categories of tension/process challenge were identified: 1) general tensions/challenges regarding visioning exercises (and sustainability research more broadly) that seek to advance urban low-carbon and resilience-enhancing transitions; 2) challenges or tensions related to process design choices and trade-offs; and 3) challenges or tensions related to the connection with subsequent decision-making/action. In total seven were identified. Each is briefly described below.

General tensions/challenges faced in the visioning exercises:

1. *Extent of user and stakeholder involvement in the research process:* the level of collaboration between research partners/users and researchers during the research process and related questions around control of the research were a source of tension;
2. *Tensions between the scope of the exercise and the requirements of stakeholder participation:* the scope of the exercise was vast but participants’ time and availability was limited; and
3. *Challenge of generating novel perspectives on potential low-carbon resilient urban futures:* in the project team there was disagreement around the feasibility and intention of generating novel perspectives (i.e. envisioning new possibilities rather than “collecting” existing ideas).

Tensions or challenges related to process design choices:

4. *Generating sufficiently ‘systemic’ thinking in a short space of time:* A major process design challenge was identifying ways of inducing or prompting sufficiently systemic visions (which in the workshop briefing was termed “thinking about new models for the whole system”);
5. *Relative importance of technical knowledge and stakeholder views and related consideration of the plausibility of the visions:* this tension was related to who to invite (e.g. domain experts or various urban actors), how ‘plausibility’ was defined, and how seriously it was taken; and
6. *A heterogeneous or homogenous group of participants?* Related tensions included what level of

contention was welcome in the workshops and who was welcome to participate (e.g. should only people with particular views on desirable urban density/forms be invited, such as those preferring 'new urbanism' models, or those holding opposing or contrasting views?).

Key tension/challenge related to the uptake of outputs or process outcomes

7. *Connection with subsequent decision-making/action*: this is both a general challenge (linking inquiry and action) and related to questions around salience and target audiences.

Assessment of tensions and challenges and strategies used to deal with them

Extent of user and stakeholder involvement in the research process

Extent faced in these visioning exercises? How manifested? Aspects of this tension were strongly debated during the research process (e.g. at team meetings, in emails between team members). Some researchers argued that project partners and/or workshop participants should be given greater control (e.g. regarding problem definitions, normative targets, etc); others argued that the researchers should have/maintain greater control throughout the research process.

Strategies used to deal with this tension/challenge? The tension was resolved by the project leader who determined a lower-level of participant and user control and set the main normative targets (e.g. 80% reduction of greenhouse gas emissions by 2040 on 2014 levels). Prior to the start of the project partners were also able to review the project proposal and, additionally, as an iterative four year-long project, a core design feature is to give stakeholders opportunities to provide feedback and suggestions. Nevertheless, researchers maintained control of the problem definition, research strategy selection, and execution (e.g. workshop design and facilitation, selection of designers, etc). Through their workshop attendance potential research users and stakeholders participated in the production of research results.

Impact on the process, outputs and/or outcomes? The problem definition strongly shaped the outputs. For example, the emphasis on resilience (as well as emissions reduction) likely influenced the outputs, such as the strong emphasis on distributed food systems. The low level of user control may have reduced the ownership and salience of the outputs.

Overall effectiveness? Possible research users (e.g. project partners) were only superficially engaged and this likely limited the ownership and subsequent use of process outputs.

Tensions between the scope of exercise and requirements of stakeholder participation

Faced in these visioning exercises? How manifested? The team contemplated a choice between running a longer workshop (or series of workshops), which may have resulted in less participation, and restricting the length of the workshops with the hope of enabling strong participation.

Strategies used to deal with tension/challenge? A decision was made to conduct a half-day workshop. 'Pre-engagement' activities (e.g. survey and workshop briefing) aimed to get participants thinking about the issues *prior* to the workshop.

Impact on the process, outputs and/or outcomes? Many participants struggled to situate themselves in 2040, e.g. as a "whole-person" or imaginatively, which may have resulted in a loss of quality and quantity of breakthrough ideas, and people reverting back to thinking about barriers.

Overall effectiveness? Shorter workshops supported good workshop attendance. Process design choices may have contributed to lower quality/quantity of breakthrough ideas.

Challenge of generating novel perspectives on potential low-carbon resilient urban futures

Faced in these visioning exercises? How manifested? Some members of the team were concerned that the existing "repertoire of images, statements and prophecies" (van Lente 2012, p. 772) would constrain the envisioning process. There was also disagreement around the feasibility and intention of generating novel perspectives versus using the workshops as a *means* of collecting existing ideas.

Strategies used to deal with tension/challenge? The main strategy involved designing a process that sought to enable a more systemic perspective and identification of connections between relevant systems – energy, food, transport, etc – and related possibilities (see systemic thinking below).

Impact on the process, outputs and/or outcomes? Some participants reported gaining insights related to ‘whole system’ perspectives, but few original ideas were articulated. Many glimpses represent or extrapolate current innovations and policy agendas or otherwise are unoriginal ideas such as elevated cycling highways and service drones (see Figure1), co-located services for a “20 minute city” (Figure 2), shared driverless “pods” for short trips (Figure 3) and smart ‘connected’ household appliances (Figure 4). Some participants described many of the glimpses as "very today in a lot of ways".



Figure 1: New elevated cycling highways and service drones

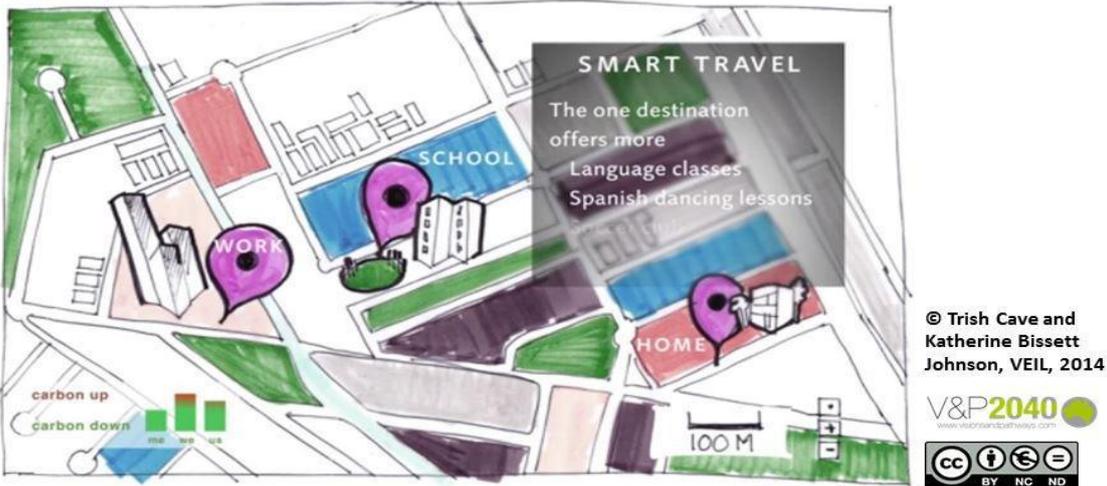


Figure 2: Co-located services for a “20 minute city” (which, for example, is similar to the local living

concepts in Plan Melbourne released by the former Liberal Victorian State Government)



Figure 3: Shared driverless “pods” for short trips (e.g. within precincts)



Figure 4: Smart ‘connected’ appliances

Overall effectiveness? Some participants reported new thinking through making new connections between multiple sub-systems. However, most of the ideas exhibited limited originality. Most ideas are rooted in current innovations and/or existing policy agendas.

Generating sufficiently ‘systemic’ thinking in a short space of time

Faced in these visioning exercises? How manifested? The process was designed around the concept of “systems of provision” (Ryan 2002). The tension existed as a worry within the research team and efforts were made to address it through the process design.

Strategies used to deal with tension/challenge? A “layered” process was designed so that people

started from their “comfort zone” sub-system (e.g. energy) and then moved on to other sub-systems (e.g. food and water), carrying insights from other sub-systems to build-up a whole system view.

Impact on the process, outputs and/or outcomes? The process design assisted, to a certain extent, the output from each table to be systemic (i.e. highlighting interrelationships with other sub-systems). For example, see: <https://vimeo.com/110845826>, or <https://vimeo.com/111481492>.

Overall effectiveness? Overall, participants tended to struggle with the scope and task they were set. The depth of systems thinking was constrained by time and process limitations.

Relative importance of technical knowledge and stakeholder views and related consideration of the plausibility of the visions

Faced in these visioning exercises? How manifested? A stated goal for the process was to produce outputs that are plausible, based on “an active, open and multi-disciplinary assessment of ideas of the possible, including, of course, an assessment of their (bio)physical limitations” (Ryan 2014b). Related to this aim, tensions emerged over the appropriate weighting of technical knowledge as a criterion for participant selection. For example, few participants were energy experts or transportation experts but participants needed to draw on related knowledge when envisioning ways of decarbonising cities and economies. The low weighting given to technical knowledge introduced a risk that the visions would be poorly informed.

Strategies used to deal with tension/challenge? We aimed for broad coverage of diverse urban transition and resilience topics (i.e. participants with knowledge of these topics and related issues) to support a ‘multi-disciplinary assessment of ideas’. However, this limited the depth of knowledge on any given topic (e.g. on energy futures, transportation, food production, etc).

Impact on the process, outputs and/or outcomes? The plausibility of some ‘glimpses’ is questionable, such as those presenting a large shift in Melbourne (in 2040) towards living underground and repurposing of abandoned buildings (see Figure 5 and Figure 6), and widespread “solar roads” which embed power generation in roads (Figure 7). Although we invited creative thinking and see value in provocative glimpses like these, the ideas are somewhat inconsistent with the stated focus on considering plausible futures (Ryan 2014b). Some of the concepts are also reflective of media attention and hype at the time of the workshops (e.g. the concept of solar roadways).

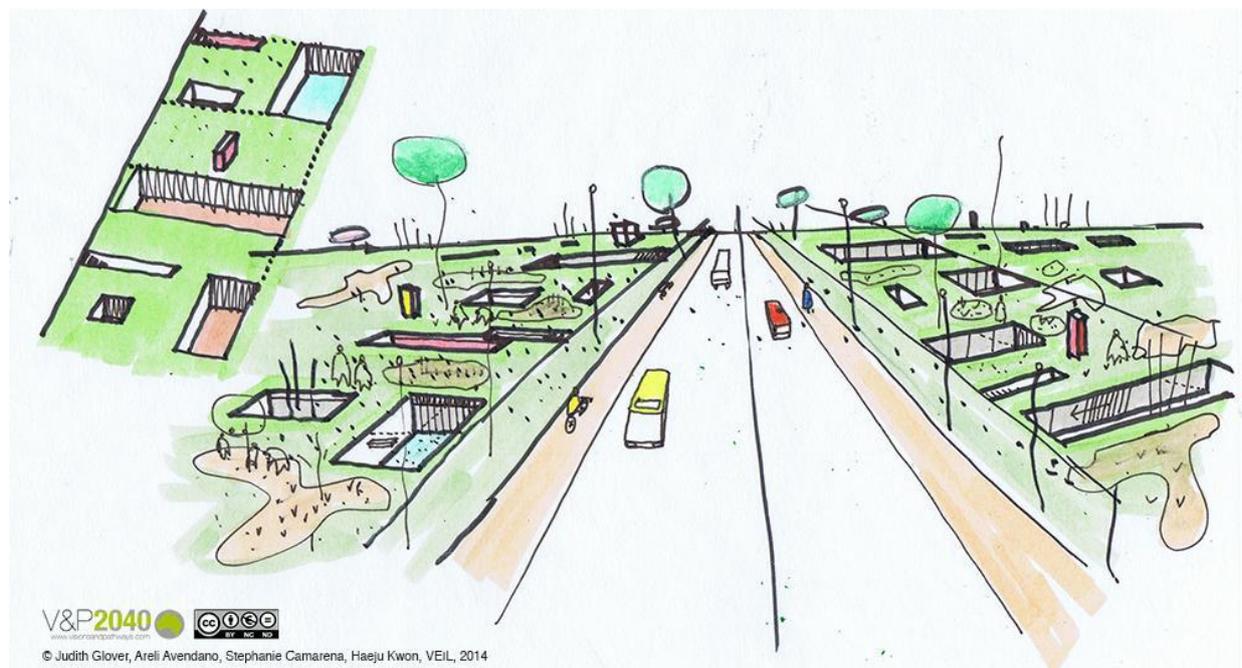


Figure 5: The concept of “burrowing” and building houses underground. This suburb of Melbourne consists of underground houses that escape the extremes of heat and bushfires on the urban fringe. The backyard is the “top yard” and is used for recreation, food production and natural habitats.

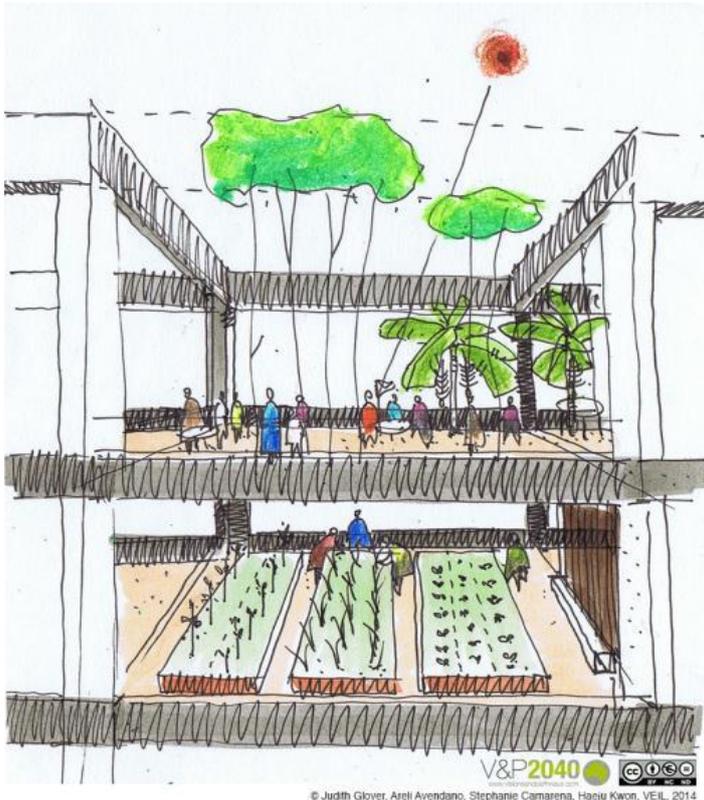


Figure 6: An abandoned building used as an urban greenhouse.



Figure 7: solar roadways

Overall effectiveness? The technical and social plausibility of some glimpses was questionable and necessitated subsequent attention (e.g. to the role of “glimpses”, investigating technical issues).

A heterogeneous or more homogenous group of participants?

Faced in these visioning exercises? How manifested? This choice and related tensions were strongly debated within the research team. Questions around who to invite and who should participate in the workshops was the focus of contention. Debates were had about the extent to which we should invite people who have different views/visions, such as people with different views on how decarbonisation should be approached (e.g. people that wish to see a major shift to decentralised renewable energy systems or who advocate different energy futures), or people with different views on urban futures (e.g. people that desire the ‘new urbanism’ model of more walkable, ‘local’, dense cities or envision different urban futures). Should the workshops be ‘open’ or ‘closed’ (invitation-only)?

Strategies used to deal with tension/challenge? The workshops were closed. Participants were carefully screened in ways that, broadly, are consistent with the concept of “frontrunners” – defined as ‘visionary’ people who are “able and willing to engage in a creative process of out-of-the-box thinking” (Neuens et al. 2013, p. 118). Subjective judgements about the ‘suitability’ of potential invitees were made by the lead research organisation (specifically by the project leader). Although the groups were diverse in some respects (e.g. demographic, sectoral, etc) they were fairly homogenous in terms of participants’ thinking on urban futures (e.g. strong emphasis on compact, denser, walkable cities), worldviews, and related visions (e.g. preferred energy futures).

Impact on the process, outputs and/or outcomes? The homogeneity of the groups (in some respects) reduced the potential for conflict and likely reduced idea diversity.

Overall effectiveness? Mixed outcomes: similar participant views supported rapid vision development and enhanced ‘cohesiveness’ (e.g. group cohesion, cohesiveness of process outputs), but also reduced idea diversity and, potentially, also reduced plausibility of some glimpses.

Connection with subsequent decision-making and action

Faced in these visioning exercises? How manifested? The research team discussed this process challenge whilst recognising that the workshop outputs were an initial output from a longer research process. Two aspects were considered: 1) how to enhance awareness of, and possible future use of, the outputs; and 2) utility/relevance.

Strategies used to deal with tension/challenge? We held meetings with project partners to present the outputs, developed a project website, and generated media coverage.

Impact on the process, outputs and/or outcomes? To our knowledge there has been limited use of the glimpses and few project partners were demonstrably excited by the outputs. As part of a larger project, the outputs were also considered in subsequent research decisions.

Overall effectiveness? The limited use of the glimpses by partners or others (that we are aware of) is indicative of low effectiveness. However, the outputs were not intended to *directly* inform action).

Reflections and conclusions

Reflections on process choices and the visioning workshops

Key themes revealed by the above assessment are briefly discussed below:

Challenges inherent to envisioning new urban systems and low-carbon transitions: many of the trade-offs and challenges we faced are related directly to the focus of the workshops. We had to grapple with inherent complexity (e.g. envisioning low-carbon cities entails considering energy, transport, buildings, and infrastructure, and ‘embodied’ greenhouse gas emissions such as in consumption choices) and normativity. Process and time constraints were particularly problematic given the

complexity. Normativity also required consideration of values, including which values are privileged (or not), which means visioning workshops or similar projects are not simply technical exercises.

Barriers to systemic thinking: whilst the layered approach was helpful for some participants and could be built-on, time and process limitations constrained the depth of systemic thinking.

The lack of original or breakthrough ideas: To the extent that this is a problem – and there is disagreement on this in the research team – our experience underlines the importance of measures to address the barriers to original ideas. Better addressing this issue could have entailed different process design choices as well as different decisions around workshop participation (e.g. level of diversity). Key issues raised by sociological perspectives on future-oriented research were evident in the workshops, such as the tendency to reproduce already-circulating ideas/assumptions. Many participants also struggled to situate themselves in the year 2040. This is related to time constraints but participants also need to be adequately supported when attempting such ‘time-shifting’.

Equipping participants with necessary technical knowledge: consistent with other evaluations (e.g. Robinson et al. 2011) the workshops raise questions around whether participants had sufficient technical knowledge. The discussion of many topics lacked depth, reflecting both participants’ knowledge and process limitations (also see challenges inherent to the envisioning new urban systems and low-carbon transitions above). Convenors of similar workshops need to consider the need for technical or specialised knowledge and ways of supporting participants, whilst also being aware of the potential for expert knowledge to constrain creativity and out-of-the-box thinking.

Involving stakeholders in the research process (e.g. as active agents in framing research): stakeholders played minor roles in framing and directing the workshops which may have reduced the relevance and ownership of the outputs (see future research below). An online deliberative platform was planned – which may have assisted with uptake and vision elaboration – but wasn’t implemented due to funding constraints. Some aspects were also out of the control of the researchers, such as team member changes in partner organisations and the existence of project ‘champions’.

Implications

Our experience leads us to conclude that the visioning literature insufficiently addresses the tensions and challenges faced when designing and convening such exercises. The literature tends to present a simplistic “positive” picture of these activities and their outcomes. Whilst visioning can be creative and socially powerful it should also be understood to be a complex and uncertain process.

Those convening sustainability-related urban visioning exercises could learn from our experience and ensure that inherent tensions/challenges are “named” and therefore addressed. If the central goal of the process is to express, further explore or debate already-circulating ideas – or to give them greater visibility – some of these tensions/challenges will be less important. If the ambitions are greater than this the challenges should not be underestimated.

The unpredictability of longer-term innovation trajectories, out to the year 2040 in our case, also raises questions about the aspirations and purpose of such processes. Participants necessarily tend to extrapolate existing innovation trajectories when envisioning the future and any detailed picture of “2040” is not expected to be accurate. Like the common problems faced when a visioning exercise is run to develop a consensus vision – as is often attempted (see the critical discussion in McGrail et al. 2015) – perhaps, instead, the goals should be more modest.

Suggestions for future research

Visioning practitioners argue that the clearer the picture of the desired future the better it will function as a guide. Related to this, the vague, high-level nature of the ‘glimpses’ may have been a barrier to deeper engagement. This hypothesis is speculative and assessment requires a formal evaluation. Consideration of related hypotheses around the impact of researchers’ control of the research process is another topic for future research.

Existing literature also doesn’t address the development of systemic thinking in visioning processes or in transition management. Future research should further consider these methodological dimensions and the roles of systemic visions in enabling transitions to low-carbon and resilient cities.

Future research should also focus on effective ways of incorporating design practices into process design and the development of related theories of design practice. Recently, a body of knowledge has developed about the role of design in facilitating participatory processes for deliberative approaches to addressing systemic challenges. Whilst a portion of design practice is shifting from generating outputs of artefactual nature to strategic knowledge, little research has examined or theorised the incorporation of design practices into process design.

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State of Australian Cities Conference 2015

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