

# **The Yo-Yo experiment: The case of CASBE implementing sustainability in the built environment**

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Conference theme: Local and urban transitions

Description: This paper evaluates the work of an urban experiment and its role in shifting practices across local governments to improve the delivery of a more sustainable built environment. We reflect on conceptualisations and evaluations of sustainability transitions experiments, and the process of those involved in the experimenting.

## **Introduction**

There is an emerging body of literature focusing on the role of cities and local-scale actors in addressing climate change challenges. In particular, research focusing on ‘urban experiments’, ‘urban living labs’ and ‘governance by experiment’ seeks to better understand the “processes and pathways” that connect place-based experiments to systemic change (Evans et al. 2016, 209). When experimenting for sustainability transitions, society becomes the laboratory, the place where actors and organizations try and test things out to improve and re-shape systems, and most importantly learn from their successes and failures (Sengers et al. 2016b). Transition laboratories offer a forum for innovation to develop new products, systems, services, or processes through co-creation to explore and evaluate new ideas in complex and real-world contexts (Bulkeley et al. 2017). There is an emerging body of literature focusing on the role of cities and local-scale actors in addressing climate change challenges. While accounts of urban climate change governance are growing (Castán Broto & Bulkeley 2013; Karvonen et al. 2013; Moloney & Horne 2015; Bulkeley et al. 2017), there is a need for further conceptual and empirical work to better understand processes of change and uptake across a range of local responses.

This paper focuses on a group of local government actors in Melbourne, Australia who became known as the Climate Alliance for a Sustainable Built Environment (CASBE). The purpose of this paper is to evaluate CASBE as an urban experiment over a 20-year period, and investigate their role in shifting practices across local governments to improve the delivery of a more sustainable built environment. We present an evaluation of CASBE drawing on Luederitz et al.’s (2017) tentative evaluative scheme for sustainability transitions experiments. The scheme is guided by four evaluative categories: outputs, outcomes, process, and inputs, which we use to frame the analysis. We then compare CASBE against Sengers et al.’s (2016a) conceptualisations of experiments in sustainability transitions literature. We seek to reflect and respond to the proposed evaluative scheme, as well as contribute to understandings of urban experiments over time.

## **Experiments**

There has long been an emphasis on bottom-up innovations and interventions in sustainability transitions to support systemic change (see Weber et al. 1999; Geels 2002, 2005; Smith 2007; etc.). In particular, the notion of experimentation appears frequently in sustainability transitions literature, and “urban experimentation is firmly on the policy, planning and scholarly urban agenda” (Caprotti & Cowley 2016, p. 2). Experiments are seen as potential sites where visions, strategies, and action can emerge (Caprotti & Cowley 2016). Experimental activities can help to “reinterpret and reframe the trajectories of contemporary urban development” towards a more sustainable future (Evan et al. 2016, p. 2-3). Within this field of research there is a strong emphasis on evaluation and reflexivity (Karvonen and van Heur 2014; McFarlane 2011a, 2011b). It is important to learn from

both the successes and the failures of experiments (Sengers et al. 2016a), and to formalise what was learned from those changes for future action (Karnoven & van Heur 2014). Urban experimentation offers a way to organise and arrange instruments, materials, and people to induce change, usually within a controlled manner (Evans et al. 2016; Karvonen & van Heur 2014). Finally, there is an increasing focus “on how to embed experimentation into cities in long-term and more meaningful ways, paying attending both to the micro-scale social and political practices, impacts, and implications of experimentation, as well as to larger-scale networks and policies that sustain them” (Evans et al. 2016, p. 9).

Urban experiments have been conceptualised in different ways. For instance, in their review of experiments in sustainability transitions literature, Sengers et al. (2016a) conceptualise five different experiments: Niche, grassroots, bounded socio-technical, transitions, and sustainability. Niche experiments are experiments that support more radical regime change and are often developed in protected environments by “regime-outsiders” (Weber et al. 1999; Sengers et al. 2016a). Bounded socio-technical experiments attempt to “introduce a new technology or service on a scale bounded in space and time” (Vergragt & Brown 2007, p. 1110), which then leads to social learning and system change. Grassroots experiments generate “novel bottom-up solutions for sustainable development; solutions that respond to the local situation and the interests and values of the communities involved” (Seyfang & Smith 2007, 585). Transitions experiments are innovation projects with a societal challenge as a starting point for learning aimed at contributing to a transition” in a socio-technical system, and are typically lead by frontrunners (van den Bosch 2010, p. 58). Sustainability experiments are planned novel, socio-technical initiatives that will hopefully lead to lead to substantial sustainability gains (Berkhout et al. 2010).

In addition to recent work on reviewing and interrogating experiments (see Caprotti & Cowley 2016; Hossian 2016; Sengers et al. 2016a, 2016b), Luederitz et al. (2017) offer a scheme to evaluate experiments that seek to support and appraise sustainability transitions. The scheme follows a basic logic model of evaluation, with four dimensions: outputs, outcomes, processes, and inputs. Following this, they propose a set of characteristics that are “to be broadly applicable, practical, comprehensive and used to improve the performance for contemporary and future experiments” (p. 74). The scheme itself can be used in *ex-ante*, *formative*, and *ex-post* evaluations to “appraise the contribution of experiments to sustainability” (p. 64). The authors’ encourage other researchers and practitioners to “apply, question and improve this framework to expand the evidence base for designing and conducting the next generation of sustainability transition experiments” (p. 74).

Other schemes and frameworks have been developed to evaluate, compare, characterise different types of bottom-up innovations and interventions in sustainability transitions. These include Gorissen et al.’s (2017) conceptual framework that tries to understand the acceleration dynamics of transitions through five mechanisms: replicating (uptake), partnering, upscaling (growth), instrumentalism, and embedding. In particular, they seek to answer if transitions initiatives actually contribute to accelerating sustainability transitions. Another is Schäpke et al.’s (2018) scheme for comparing real-world laboratories, which they hope will enable learning across different approaches and support experimental research for societal transformation. Their scheme investigates the lab approach, characteristics, as well as the main differences in research method and mode, orientation and scalability, and learning and reflexivity. Voytenkoa et al.’s (2016) five characteristics of urban living labs, which they argue underpin the design, practices, and processes of these labs include: geographical embeddedness, experimentation and learning, participation and user involvement, leadership and ownership, and evaluation and refinement.

## Methodology and methods

Here we draw upon Luederitz et al.'s (2017) tentative evaluative scheme for appraising sustainability transitions experiments, to assess CASBE as an experiment. The scheme is divided into four evaluative categories and guiding questions, which are supported by a series of sub-questions and evaluative dimensions (see Table 1.). The aim of the scheme is to facilitate, not only the evaluation of experiments, but also learning across experiments. Therefore, we also aim to contribute to discussion on evaluation efforts, critically reflect on the use of the scheme, and support further development of the scheme and evaluation of experiments. The research itself draws on a desktop review of relevant documents and qualitative data from a focus group held on the 16th November 2016, involving six key participants who had, or have, been involved in some way with the emergence and development of the CASBE network. We reference below any comments or quotes from the focus group as (FG Comment) and do not attribute them to particular participants.

Table 1 Tentative evaluative scheme for appraising sustainability transitions experiments (adapted from Luederitz et al. 2017)

Evaluation	Outputs	Outcomes	Process	Inputs
Guiding questions	What was generated?	What was accomplished?	How was it completed?	What was invested?
Dimensions	Built capacities Actionable knowledge Accountability Structural changes Changes in physical structures Changes in societal realms Facilitate up-take Transferability Scalability Accounting for unintended consequences associated with up-take	Socio-ecological integrity Livelihood sufficiency and opportunity Intra- and intergenerational equity Resource maintenance and efficacy Socio-ecological stewardship and democratic governance Precaution and adaptation	Sequence of actions Sound methodology Collaboration Reflexivity and learning Transparency	Awareness Commitment Expertise Trust Support

*Outputs* and related features of interventions include built capacity through the results of the learning process; actionable knowledge, whereby evidence is provided to generate a sustainability transition; accountability in the form of participant commitment; structural changes, including physical and societal change that foster rapid transformation, and the facilitation of up-take, transferability, and scalability of experiments and lessons learned.

*Outcomes* generated changes that support a sustainability transition. Outcomes include socio-ecological integrity, the recognition of the interdependence of humans and the bio-physical world, and socio-ecological stewardship and democratic governance; livelihood sufficiency and opportunity, such as access and availability of potable water; intra- and intergenerational equity; resource

maintenance and efficiency, essentially thinking within a one-planet mindset; and precaution and adaptation, the importance of acknowledging uncertainty and anticipating and avoiding risks.

*Process*, is interested in the processes that led to the outputs and outcomes. For instance, the sequence of actions, including the structure of the experiment, the timeline, and meaningful sequence of actions; sound methodology; the facilitation of collaboration; reflexivity and learning, whether it was fostered throughout the process; and transparency, which refers to the open reporting of intentions and actions relating to the experiment.

*Inputs* enable the actions and processes of the sustainability transition. These related features include initial awareness from the participants of the need for radical, real-world change; the commitment of participants to explore, radical changes; trust amongst participants to collaborate and acknowledge differences; expertise critical for experiments; and support, in the form of structural, financial, and non-financial resources.

## **The Council Alliance for a Sustainable Built Environment**

The story of CASBE began long before it was formally established in 2009. In the late 1990s there was a growing frustration with the inadequacy of the planning and building system amongst local government officers and other design and planning professionals. Following a period of deregulation in the 1990s in Victoria the system for achieving ecologically sustainable development (ESD) outcomes in the built form has been inadequate. The State Government in Victoria is responsible for developing state wide planning policies and regulations with local governments largely responsible for implementation. Initially organised as an informal network of local government (sustainability and planning) officers, CASBE have been working together to build the capacity to implement ESD in the built environment through planning processes, through the development of assessment tools, processes, policy and support materials. Since becoming a formal alliance in 2009, CASBE's objective is to empower and build local institutional capacity to embed and effectively implement ESD in the built environment in the context of an obdurate planning and building regime.

### **Outputs - What was generated?**

Societal change can be related to "the creation or transformation of existing networks and organisation, values and norms, rules and policies, decision-making processes, behaviour and practices" (Luederitz et al. 2017, p. 66). Here we identify the outputs that are a direct result of CASBE (see Table 2). Over time CASBE and other advocates have enabled the development and implementation of a range of ESD assessment tools, local policies and decision-making processes. All were developed in response to identified gaps and weaknesses in the existing system. This 'bottom-up' and 'learning by doing' approach emerged from both the skills and commitment of key actors over time. The capacity of the CASBE network was strengthened through its role in advocating across councils and in its role in training and educating ESD and planning officers, councillors and other relevant actors in policy decision making processes. The roles of policy and instrument design, education, training and advocacy are important in the ongoing work of shifting institutional practices to improve the system for delivering ESD outcomes in the built environment.

Table 2 CASBE structural change outputs

Structural change output	Output type
1. Informal ESD network	Network or organisation
2. Sustainability Design Scorecard (SDS) (non-res)	Decision-making processes
3. Sustainable Tools for Environmental Performance Strategy (STEPS) (residential)	Decision-making processes
4. ESD Advocacy group	Network or organisation
5. Sustainable Design Assessment in the Planning Process (SDAPP)	Decision-making processes
6. Council Alliance for Sustainable Built Environments (CASBE)	Network or organisation
7. Local Planning Policy Clause 22.05 Environmentally Sustainable Design	Rules and policies
8. Built Environment Sustainability Scorecard (BESS)	Decision-making processes

The first output was the creation of an informal network for councils and council officers in the late 1990s who were leading the way in developing a more effective response to meeting the ESD challenge in the built environment. The second output was the development of the Sustainability Design Scorecard (SDS) by the City of Port Phillip and the City of Moreland who were leading councils in the network. This was followed by the Sustainable Tools for Environmental Performance Strategy (STEPS), which was taken up by the City of Moreland. While Moreland would own and develop STEPS and Port Phillip would own and develop SDS (non-residential), each would use both tools and offer them to other councils to use. Both tools were promoted across Victoria, and in 2012, a total of seven councils had adopted both STEPS and SDS, and two other councils had developed their own ESD assessments (Collia & March 2012).

Commitment can be demonstrated in a number of ways. During the early period of tool development and implementation, there were a number of key councils driving these processes, but over time different councils varied their commitment to the process. Some took strong roles, while others dropped off, so the need to develop leadership and ongoing momentum was identified. By the late 2000s, Moreland City Council was managing STEPS tool and Port Phillip the SDS tool, both of which had gone through various updates. One of the important reasons identified in why particular councils took a key role was the commitment and involvement of Councillors (including at Moreland, Port Phillip and Darebin city councils who had also come on board). Another council who demonstrated leadership was the City of Knox, who, in 2007, included in their Municipal Strategic Statement (MSS) a sustainability section which included a statement that council would assess planning applications based on best practice industry sustainability tools. This was an important step in strengthening the confidence of planners who were fighting for ESD outcomes in the Victorian Civil and Administrative Tribunal (VCAT).

Around the mid-2000s an ESD Advocacy group formed (the fourth output), hosted by the Municipal Association of Victoria (MAV), where participating councils could meet. With the coalescing of both the 'participating councils' and the ESD Advocacy group, there was increasing interest in developing effective and consistent decision-making processes, which lead to the development of the fifth output, the Sustainable Design Assessment in the Planning Process (SDAPP). In 2009/10 those councils who had played a leading role to date discussed the need to formalize their alliance to progress their work strategically. The CASBE was formed, and it initially operated through the active council officers of participating councils and the support of the Municipal Association of Victoria. It was not until 2012 that a coordinator was appointed through funds from member councils. This formalization process also led to the network developing a strategic plan to guide their work and

formalized their role in the SDAPP role out project in leading the training and education of councils along with a key partner the Moreland Energy Foundation (MEFL). The SDAPP rollout involved an 18-month project initially involving 16 Councils with 25 involved by its conclusion. This demonstrates CASBE's ability to facilitate up-take and the transferability of SDAPP as a decision-making process.

In 2013 the State Government Planning Minister appointed an Advisory Committee to provide advice to the Minister "on the applicability and suitability of including environmental sustainability in planning schemes generally as proposed by the local policies" submitted by six Councils (Banyule, Moreland, Port Phillip, Stonnington, Whitehorse, and Yarra). This involved hearing submissions and advising on whether environmental sustainability should be considered at the planning stage rather than the building stage<sup>1</sup> and hearing submissions on the amendments proposed by the six councils.

The Committee concluded that:

*... "sustainability had a long history in planning; and that consideration of the issue has evolved to the point where many Councils are seeking to advance sustainable outcomes. The Committee considers that in principle, a State-wide approach is the best way to facilitate increased focus on sustainability. In the interim the Committee is supporting the six Amendments and has recommended accordingly in this report. The Committee also notes, and comments on the strong linkages between planning and building in the area of sustainability. The Committee has concluded that, whilst there should be improved clarity in roles, the two systems need not be in conflict and both have important roles to play" (Advisory Committee and Panel Report (2014) Environmentally Efficient Design Local Policies, Planning Panels Victoria, p.vii)*

The State government approved and gazetted the six Council Amendments in November 2015 (Local Planning Policy Clause 22.05 Environmentally Sustainable Design). This provides further evidence of CASBE's ability to facilitate up-take of their outputs, this time by scaling out and up. Table 3 lists all CASBE member councils, noting the year each council joined and whether the council has the ESD policy gazetted. In Australia, local governments (councils) do not have legislative powers, meaning the ability to truly scale up CASBE's efforts needs to be done through State Government intervention.

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<sup>1</sup> A planning permit is a legal documents issued by a local government giving that allows a certain use and/or development on land. A building permit is an official approval issued by a local government to allow a person to proceed with a construction or remodelling project on their property. A planning permit is normally required before a building permit can be issued.

Table 3 CASBE Member Councils

CASBE Member Councils	Year joined	ESD Policy
Banyule City Council	2015	Gazetted 2017
Bass Coast Shire council	2015	
Brimbank City Council	2017	
Darebin City Council*	2014	Gazetted 2017
Greater Bendigo City Council	2017	
Greater Dandenong*	2011	
Hobsons Bay City Council*	2012	
Hume City Council	2015	
Kingston City Council*	2011	
Knox City Council	2014	Gazetted 2017
Manningham City Council*	2012	Gazetted 2017
Maribyrnong City Council	2015	
Maroondah City council	2016	
Monash City council	2017	Gazetted 2017
Moonee Valley City Council*	2011	
Moreland City Council*	2011	Gazetted 2016
Port Phillip City Council*	2011	Gazetted 2016
Stonington City Council	2014	Gazetted 2016
Strathbogie Shire Council	2017	
Whitehorse City Council*	2011	Gazetted 2016
Whittlesea City Council*	2012	
Wyndham City Council	2015	
Yarra City Council*	2011	Gazetted 2016

\*Officers from these councils played a significant role in establishing CASBE

While this was an important milestone there continues to be ongoing challenges in implementing ESD in the built environment. The local policies have a sunset clause, while they were supposed to expire at the end of 2017, they are operational. CASBE is continuing to play a lead role in coordinating councils and ensuring that the momentum to embed ESD into planning processes continues. One way this is happening is through the use of BESS, the Built Environment Sustainability Scorecard, which was designed to support the SDAPP framework “providing a consistent and streamlined process for Councils and planning permit applicants” (<http://bess.net.au/>). BESS was developed and owned by a number of Victorian Councils which ensures that it can be updated and adapted as required. While local governments continue to develop their capacity in implementing ESD they do so in conditions of uncertainty due to a lack of effective state planning policy, regulations and leadership. This however is not impeding the momentum of CASBE to continue to drive change.

These tangible outputs also led to non-tangible outputs related to norms, values, behaviours, and practices, as focus group participants involved in this process stated:

*“Just everyone accepted it.... A lot of the ESD stuff is just logical, and makes intuitive sense to everyone... it just reflects, I think, the attitudes out there in the building community, that this is kind of something that needs to happen. You’re doing it for kids. It’s not too expensive. It’s achievable. We just haven’t really had any pushbacks.”*

*“I think CASBE’s seeing a little bit of a tipping point recently. There are enough people and enough local governments across Victoria who care about the sustainability in the built environment. That isn’t going to go away.”*

Finally, while we did not investigate the physical outcomes of CASBE’s outputs, in a separate analysis of VCAT decisions, we found evidence of CASBE and other advocates having enabled better ESD outcome in the built environment through the development and implementation of a range of ESD assessment tools, local policies, and decision making processes (Hurley et al. 2017).

## **Outcomes - What was accomplished?**

Since 1999, the group of councils who went on to establish CASBE have been working together to develop the capacity to implement ESD in the built environment through planning processes. Despite this period of capacity building and developing and then upscaling the use of the ESD tools, early in the experiment, it was apparent that it was sustainability officers, rather than planners, were more involved across different councils. To remedy this, there was a concerted effort to try and involve more planners in the process, and led to a focused effort to develop effective local planning policies that could be adopted across all Councils. A key issue for embedding effective processes in Council decision making was ensuring planners and the planning department were on board, and to look at the extent the environment and planning departments are well integrated in Councils. For example co-locating both departments has emerged as a key factor in building capacity of Council in implementing ESD. The role of planners as advocates for ESD has been clearly identified:

*“I think the point at which a planner becomes part of the advocacy, is a key theme for the council. Because I’m finding that most of the approaches to CASBE at the moment come through the environment team. The first people we’ll see at the meeting from a council, will be the environment person. Moreland [City Council] is a case in point. Even though they have a policy. She was from the environment team.... Then the point at which they get the planners involved as the advocates, is when they, I think is the tipping point really for the council.” (FG Comment).*

In the Victorian context, the CASBE councils have played an important role in seeking to “realise sustainable urban places” which as Ernst et al. (2016) argue is part of sustainable urban transformation (SUT). SUT relates to a range of urban sustainability issues across developing and developed countries including the adequacy of infrastructure, over-population, local traffic problems, waste generation and the consumption of energy and materials (Ernst et al. 2016). This situates the realisation of sustainable urban places as multi-scalar, complex and challenging. According to Ernst et al. (2016) SUT is a sub-set of urban sustainability transitions which incorporates outcomes listed above identified by Luederitz et al. (2017) such as resource maintenance and efficiency and so on. In recognising that “actual SUT” is likely to occur at the sub-city scale, within this conceptual framework, CASBE can be understood as an ongoing (niche) experiment that seeks to change “the culture, structure and practices” of the urban development regime “which is needed to realise sustainable urban structures” (Ernst et al. 2016, p. 2990). CASBE is playing a necessary role in contributing to these processes of change by “connecting and empowering local authorities” and affecting change in cultures and practices around development decisions and importantly seeking to change the structures such as standards, planning schemes, policies and regulations influencing ESD outcomes in the urban development regime.

Improving the system has been an ongoing challenge over many years. CASBE councils have been able to counter many of the arguments against ESD requirements in development assessments. Through ongoing advocacy and submissions to government, they are now influencing state strategy

and action. This case of CASBE illustrates de Haan and Rotmans (2011) 'empowerment' transition pattern – and the concept of 'substitution' where niches scale up and "become empowered in spite of the regime" (Ernst et al. 2016). Over time CASBE and other advocates have enabled the development and implementation of a range of ESD assessment tools, local policies, and decision making processes. While local governments continue to develop their capacity in implementing ESD they do so in conditions of uncertainty due to a lack of effective state planning policy and leadership. This however is not impeding the momentum of CASBE to continue to drive change.

### **Processes - How was it completed?**

The particular actions and their sequence are understood to be critical for initiating and implementing change. While there were particular actions that helped CASBE towards their goal of building local institutional capacity to embed and implement ESD in the built environment, the sequence of their actions was more organic than planned. This is because CASBE began as an informal network, and not as a deliberate experiment. As a grassroots experiment the emphasis was on "committed activists experimenting with social innovations" (Seyfang & Haxeltine 2007, p. 585), and less on the sequence of actions and methodology. However, the structural change outputs outlined in Table 1 were developed in similar circumstances to niche experiments.

The two leading councils, the City of Moreland and the City of Port Philip began their collaboration on ESD tools and guidelines when both councils were on a State Department of Sustainability and Environment stakeholder working group as the department was looking to develop a residential assessment scorecard in the early 2000s. It was through this working group process that Moreland and Port Phillip officers developed a working relationship and established an informal agreement to share resources. As stated previously, while Moreland owned and developed STEPS and Port Phillip owned and developed SDS, each would use both tools and offer them to other councils to use. Not long after the City of Darebin became involved, and together with Moreland and Port Philip released an investigation report in 2007 titled "Sustainable Assessment in the Planning Process" (Hansen et al 2007). This report was significant in providing a detailed analysis of the current state of play (i.e. urban development regime and limitations), reviewing learning from existing council practices and use of tools and clearly identified the need to develop effective local planning policies.

At this time, key officers in lead Councils were acting as knowledge brokers and advisers to a range of other councils interested in understanding the implications of adopting ESD tools and decision making processes for their particular contexts. Officers from Moreland, Darebin and Port Phillip were being invited to present to different Council's planning departments, managers, executives and councillors. There was a growing appetite from Councils to develop a 'how to' (i.e. process) for their particular needs. There were also a number of consultants working with local governments in developing their skills and capacity. As one focus group participant described it, during this period in the late 2000s, there was culture of good faith and knowledge sharing amongst consultants and council officers in developing ideas and improving outcomes.

This process of changing the culture amongst planning and sustainability officers across councils involved the development of a common language for planners and ESD officers which was important in progressing from developing and using tools to developing and implementing effective decision-making processes in planning. The development of local policies and consistent language became a key focus for leading Councils. In 2009/10 those councils who had played a leading role to date discussed the need to formalize their alliance to progress their work strategically. The act of giving the network a name was considered to be an important step in legitimising their role, formalizing the relationship between Councils and encouraging other councils to become members of CASBE. This formalisation and inclusion of annual membership fees created an opportunity to employ an executive officer who has lead the coordination and strategic planning activities for the network.

## **Inputs - What was invested?**

CASBE benefited from the commitment of several individuals with relevant professional skills and experiences to conduct the different experiments, as well as advocate for change. In particular, there were two or three key people originally involved in developing ESD requirements from the City of Manningham who later moved to City of Moreland which led to a continued focus on developing ESD assessment tools in Moreland. At the time Mike Hill was the Mayor of Moreland (1996-97) who had a strong belief in the rights of local government to govern – not “as a sub-set of state government” but rather they had a “right and responsibility” to act for their communities (FG Comments). The importance of Moreland’s work in the planning space at this time was also due to the leadership and support of key people who occupied key roles including the Mayor, the Manager of Strategic Planning and ESD along with other ESD officer roles. This, to a significant extent, accounts for the strong leadership from all levels in Moreland building the capacity of local government and the role of planning in driving ESD outcomes in the built environment.

Early on there was strong support from The City of Moreland and the City of Port Philip in supporting ESD related initiatives and capacity building. When the ESD advocacy group formed in the mid-2000s, it was hosted by the MAV who provided space for the group. When the group formalised to become CASBE, the alliance initially operated through the active council officers of participating councils and the support of the MAV. But, it was not until 2012 that a coordinator was appointed through funds from member councils. Membership to CASBE is open to all councils in Victoria, with annual membership rates ranging from \$500-6,000AUD depending on the council’s income from rates and planning permit applications, and subscription to BESS ranges from \$1000-7,500AUD<sup>2</sup>. With an increase in memberships, CASBE has been able to hire additional staff and create a research fund.

There has always been a strong commitment from CASBE to explore new ways of advancing and embedding ESD in the built environment. The initial tools (SDS and STEPS) were always understood to be a starting point in achieving ESD outcomes. The tools themselves needed to be updated, and eventually new tools or processes would need to be created. CASBE’s motivation was not the up-take of a single tool, but shift institutional practices to improve the system for delivering ESD outcomes in the built environment. So far, they have done this through the development of assessment tools, processes, policy, support materials, and the formation of a formal alliance. They have been able to do this work through the mutual willingness of collaborators and stakeholders (Councils and council officers across Victoria) to co-create outputs. A number of key factors were identified as important from experiences across a range of different councils regarding their commitment to the experiment, these include: the politics and culture of Councils and Councillors; the leadership role of managers; and the involvement of planners in the process.

## **Discussion**

Current literature on defining or conceptualising urban experiments does not necessarily account for time frames. Sengers et al.’s (2016) conceptualisation of sustainability transition experiments includes definitions, normative orientation, theoretical foundation, analytical emphasis, and main actors, but not time. Luederitz et al.’s (2017) scheme is intended to be used in different stages of the experiment (prior, during, and after), but does not explicitly mention how the scheme is to be used for the different evaluations. Perhaps this will develop as more researchers test the scheme. However, it does acknowledge the importance of the evaluation timeframe; that “the successful on-

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<sup>2</sup> Not all CASBE members are BESS subscribers, but a council must be a CASBE member to subscribe to BESS.

going up-take of experiments may exceed the scope of the evaluation timeframe” (p. 72). Temporal scales help to assess the rate of change and impact of transition initiatives. For instance, in transition management, long-term strategic thinking to support system change is understood to be more than 25 years, while mid-term tactical or short-term operational initiatives follow shorter timelines (5-15 years or 0-5 years ) (Loorbach 2010).

Time is important to our evaluation and conceptualisation of CASBE as an urban experiment. Using Sengers et al.’s (2016a) five variations, we found CASBE had elements of both niche (Smith 2007) and grassroots (Hossain 2016) experiments. While CASBE was formalised in 2009, its origins (beginning in the late 1990s) are grassroots, as it began as a network of activists “generating novel [locally-based] bottom-up solutions for sustainable development” (Seyfang & Smith 2007, 585). Then, at different times it has worked strategically in “laboratory-like conditions” developing niches, which are then exposed to real word conditions and diffused amongst other councils or extended into the state government (the regime) (Weber et al. 1999). We, therefore categorise CASBE as an ongoing and evolving experiment because its orientation, emphasis, and actors are dynamic. In the case of CASBE, we found an experiment that operated as a niche experiment when it was actively trying to influence the regime and change the system. But, in between these active and explicit confrontations, CASBE operated like a grassroots experiment where they would reflect and work to create opportunities to develop new directions. CASBE were essentially yo-yoing between the two types of experiments, depending on where they saw the benefits and strength of their work.

Luederitz et al. (2017) have developed a framework to evaluate experiments to help address an ongoing challenge within the sustainability transitions literature. This was created to enable more systematic learning across experiments. The framework has some limitations for those experiments that may not be ‘carefully designed’, a notion that underpins the evaluation framework. Luederitz et al. (2017) state that experiments, “if carefully designed, provide significant learning opportunities for making progress on transition efforts” (p. 61). The logic model of evaluation applied in this framework is useful for those experiments that establish goals, strategies, and actions that can be ‘measured’ perhaps against baselines and against clearly stated objectives. For program roll outs or interventions, this type of evaluation makes sense. For experiments such as the one explored in this paper, that evolve over time, including evolving objectives, expectations, strategies, and interventions evaluation becomes more challenging. Attributing outcomes directly or indirectly to experiments and their interventions is also difficult within bounded timeframes.

In our initial effort to apply the framework here we can identify key outputs, inputs, and processes over time, but outcomes involve factoring in temporal issues as well as more extensive data (interviews with a range of actors involved in or outside the CASBE network to better understand their impact on changing practices and decision-making). Tracking outcomes in the built environment as a result of the CASBE’s interventions is also challenging and would require further research. In our case presented in this paper, some of CASBEs outputs and evolution could be considered as having made significant progress; particularly as it evolved from an informal network of knowledge sharing and tool development to one where local planning policies have been taken up and gazetted by State Government by many councils in Victoria. These clauses have a sunset period (which has now lapsed) and so their long term inclusion in planning policies is not guaranteed. While the state government has a critical role to play in changing planning policies, recent decades suggest that this may not occur in the near future. While there is little doubt that CASBE has built momentum across many councils in changing their practices and decision-making processes, other research suggest that there is still some way to go to achieve more consistent ESD outcomes in the built environment (Hurley et al. 2017). Operating within an uncertain and changing political and policy regime to an extent shapes the evolution of CASBE as an experiment in terms of its processes and future strategies – the design of which will change depending on their members’ needs and the

regime within which they operate. The capacity to capture the regime-niche dynamic over time is not easily captured in this evaluation framework.

While characterised as a niche CASBE does not operate in a protected environment. At particular points in time in their tool and policy design phases, for example, they did create a protected space of sorts to foster new tools and initiatives in collaboration with key councils. More characteristically a grassroots experiment CASBE does seek to create solutions for sustainable outcomes in planning decisions, while not radical in terms of their approach, the tools, processes and local policies have played a key role in 'upscaling' new and improved planning decision-making practices across many councils in Victoria and the development community (i.e. the BESS tool that CASBE maintains is available to developers for use prior to submitting their applications). This is an ongoing process of changing practices in the development industry and within planning and evaluating outcomes takes time. As CASBE's strategic directions and goals evolve, more consideration is needed around how to effectively capture and evaluate this more dynamic process of change which is less 'designed' but rather agile and responsive to changing conditions.

## **Conclusion**

CASBE highlights the role and importance of networks in building capacity across councils and mobilising support for new tools, policies, and practices. Over time, CASBE and other advocates have enabled the development and implementation of various ESD assessment tools, local policies, and decision-making processes. This bottom-up and learning-by-doing approach emerged from both the skills and commitment of key actors over time. The roles of policy and instrument design, education, training, and advocacy are important in the on-going work of shifting institutional practices to improve the delivery of ESD in the built environment. Our case study also raises questions over organisations and actors who yo-yo in and out of formal and informal positions as well as between niche and grassroots style experiments. Although, perhaps what is most important is not the conceptualisation of experiments, but the process of the experiment, or the agency, politics, and narratives (Smith & Raven 2012) of those involved in the experimenting.

There is a need to better understand and learn from sustainability experiments and as such a number of evaluative schemes have emerged recently to assist in this exercise. As with all evaluation processes it is necessary to clarify the purpose for undertaking an evaluation and understand the complexities in evaluation design, including time bound initiatives as opposed to more evolving grassroots 'experiments' such as the one examined in this paper. While there is value in evaluating experiments to enable comparison and learning across experiments, the extent to which a framework such as this can assist in revealing the political, social, and institutional complexities influencing (and constraining) the potential of experiments is not clear. While our application of the tentative evaluative scheme developed by Luederitz et al. (2017) offered some useful insights and identified particular outcomes and outputs achieved by CASBE over time, the extent to which we can evaluate the likelihood of significant change in the regime is more difficult and is something that is ongoing in our research. The logic model of evaluation while useful for designed program or initiative evaluations within a bounded time frame, applied to evolving experiments is more challenging as we have found with our CASBE case.

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