

Identification of opportunities to support Structural Adjustment in the Latrobe Valley

Briefing Report Four – Scenario Methods

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About this Report

In January 2012, the Commonwealth Department of Regional Australia, Local Government, Arts and Sports commissioned the Centre for Sustainable Organisations and Work (based within RMIT University) to examine opportunities for investment and job growth in the Latrobe Valley region. This Briefing report outlines one of the methodological approaches utilised in this examination, that being scenario analysis. the organisation, conduct and evaluation of scenario analysis. Furthermore, this report contextualises the organisation, conduct and evaluation of scenario analysis as well as its application to the project.

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Introduction

Part of the “Identification of Opportunities to Support Structural Adjustment in the Latrobe Valley” project is the conduct of a number of scenario workshops. These workshops will engage a range of stakeholders from relevant industries, organisations and the public sector. These scenario workshops will provide a more detailed understanding of how stakeholders in the Latrobe Valley region view their own futures and key issues with regard to the transition to a low carbon economy, as well as providing information for future planning and policy making.

This briefing explains and outlines the rationale behind scenario methodology, its aims and outcomes, how the workshops will run for this project, and how these scenario workshops differ from other kinds of scenario analysis used previously in regard to studies of the Latrobe Valley (e.g. Earth Resources Development Council, 2010; Gippsland Private Forestry, 2005; Weller *et al.*, 2011). This project will employ an ‘extreme scenario’ approach, which is best suited given the time and participation constraints, and previously conducted research.

Background and Context

The use of the scenario method represents a particular way of thinking, it is “a mode of inquiry and analysis that enhances knowledge and understanding in order to inform and support planning” (Wright and Cairns, 2011: 14). The scenario workshops in this project are designed to facilitate ‘strategic conversation’ (van der Heijden, 1996) amongst groups of involved and affected stakeholders on the possible and plausible futures that may unfold over a particular timeframe (in this case, the period to 2022) in relation to a focal issue of mutual concern (in this case, the future of the Latrobe Valley region and the transition to a low carbon economy). For the best use of the scenario method, the topic examined should be one that is of central interest to the participants, but one that is subject to considerable uncertainty as to how it might unfold over the coming months and years.

There is a wide variety of types of scenarios and the methods that are used to construct them. These range from long-term global scenarios prepared by futurists to short- to medium-term local scenarios prepared by involved parties, with or without external facilitation. Here, the approach is to engage involved and affected stakeholders in discussion of medium-term scenarios that are outlined by the project team and which are designed to push stakeholders’ thinking to the extremes of possibility and plausibility for the future of particular local industries in the region. On the basis of these presentations, the aim is to explore likely impacts of these scenario end states on the broader regional society and economy, and to stimulate consideration of the effectiveness and/or limitations of current and possible future policy and planning to bring about positive outcomes.

The scenario method selection for the workshops in this project is based upon consideration of the project focus and the time available for completion. The 'basic method' (Wright and Cairns, 2011) of scenario development enables involved and affected stakeholders – with or without external facilitation – to work together to develop a set of four scenarios that, taken together, define the 'limits of possibility and plausibility' for how the future is likely to unfold.

Due to time and place constraints, one of several alternative methods will be used in this project. The method that will be employed here invites the involved and affected stakeholders to respond to one or two, 'extreme scenarios' – outlined by the external facilitator – in terms of a critical analysis of their degrees of possibility and plausibility in order to address the above aims.

Previous scenario studies involving Gippsland

The approach adopted for this project differs from those used in previous studies. The scenarios used in *The Timber Industry in Gippsland: A socio-economic assessment* (Gippsland Private Forestry, 2005), for example, focuses primarily on economic modelling. The scenarios used in this case were not focused on stakeholder engagement, as is proposed for this project, but were rather developed by modellers to try and determine likely outcomes in terms of gross value of output and socio-economic impacts for the forestry industry in Gippsland. Such scenario modelling offers comparatively narrow options for further analysis and does not provide insight into how stakeholders perceive the current situation or their future plans.

The *Regional Effects of Pricing Carbon Emission: An adjustment strategy for the Latrobe Valley* report (Weller *et al.*, 2011) draws on scenarios first proposed by Victoria's energy regulator Vencorp in 2008, to "identify the possible effects of the carbon pricing for transmission system planning" (Weller *et al.*, 2011: 64). Workshops were initially held with representatives of various sectors of the energy industry to help identify factors that might affect transmission investment (Vencorp, 2009). This followed the 'basic method' (Wright and Cairns, 2011) of scenario analysis and produced four plausible scenarios. In their analysis of the Vencorp scenarios, Weller and colleagues argue that:

The future of the Latrobe Valley will depend on decisions that State and Federal Governments make about the extent that they are willing to fund new transmission networks

(Weller *et al.*, 2011: 69)

Scenario workshops of this type, therefore, clearly provide important insights. However, it must be emphasised that the scenarios put forward by Vencorp were focused

around one industry and did not offer an 'extreme scenario' possibility, as is the approach of this project.

Finally, scenario workshops were also central to the *Boom or Bust: Possible futures for Victorian brown coal in a carbon constrained world* report (Earth Resources Council, 2010). Again, the 'basic method' was employed and four scenarios regarding the future of brown coal are proposed, based on over seven months of research and consultation with participants. According to the Earth Resources Council, these participants were "leaders from Victoria's energy sector" including suppliers, environmental groups, NGOs, unions, technology developers, financiers and government.

The scenario workshops proposed here, however, will be much more broad-based in terms of participants than previous studies. The aim will be to talk to a cross-section of stakeholders related to the four major industries which are central to this project (coal, oil and gas, agriculture/agrifood, paper and forestry) as well as additional stakeholders from NGOs and the public sector. The aims, therefore, are much more tied to the future of the Latrobe Valley as a region, and how the futures of various industries are inter-related, rather than focusing on the specific fate of one industry. Also, as mentioned above, and discussed further below, the workshops for this project will focus on 'extreme scenarios' which have also not been trialled in previous studies.

Scenario Method

The aims of scenario method, as applied in this project, are to elicit a shared understanding of:

- The boundaries that define the limits of possibility and plausibility for the future
- The full range of 'driving forces' – political, economic, social, technological, ecological and legal (PESTEL) factors – that will impact on the future
- The causal and chronological relationships of events and actions, driven by these forces, that link the present to each of these futures
- The degree to which the future that does unfold may be influenced or shaped by the involved stakeholders, either directly or indirectly through others
- The implications of an emergent future over which the involved stakeholders have little or no control or influence

The development of a shared understanding is not predicated upon the existence or emergence of a shared set of beliefs and values about the 'good' or 'bad' of any particular future. Rather, the method is designed to acknowledge and embrace differences in value systems, priorities and expectations.

It is important to note that *an individual scenario is not a prediction of a likely or probable future*; the method does not deal with issues of probability, only plausibility. A scenario is merely a representation of one possible and plausible future from an infinite set of possibilities. The scenarios developed in this project outline possible futures that are designed to sit at the 'limits of possibility and plausibility'. This focus and approach stretches participants' thinking and analysis on the nature of possibility in relation to impact at the local level.

The “Backward Logic” Method of Constructing Extreme Scenarios

The scenario approach that will be used is the 'backward logic method of constructing extreme scenarios' (Wright and Cairns, 2011: 132-141). Rather than moving from analytic consideration of the present, in terms of the driving forces that currently exist, in order to construct systemically logical scenarios of some future end state, this approach involves the initial presentation of an end-state extreme scenario. This end-state may be one of 'best possible and plausible outcomes' – where the group aspires to be at the scenario horizon year. Or, it may outline 'the worst of all possible worlds' – the future that the group wishes to avoid at all costs.

This approach is designed to support structured analysis of the key strategic aims of the organization, or group of individuals and organizations, here:

- Enabling economic diversification in the Latrobe Valley region;
- Identifying current and projected job opportunities in the Latrobe Valley region and wider Gippsland;
- Identifying and fostering skill- and role-development for transition to a low carbon economy.

Achievement of these aims over the scenario timescale, here taken as the decade to 2022, will be influenced and impacted by a wide range of PESTEL factors and related driving forces. These will range from the local to the State, Federal, regional and global. Some will be capable of being controlled, influenced or informed by key 'players' – those stakeholders with both an interest in the issues at hand and power to affect them. Others will be beyond the control of those with direct interest in the aims.

Participants will consider the range of extreme, but still plausible outcomes that might emerge over the next decade for the Latrobe Valley region for the above strategic aims, and in relation to selected industry groupings. Such extremes might include, for example: global financial turmoil and reversion to protectionist economic policies, a new model of global economic cooperation that transcends national interests, regional stagnation and decline within an uncompetitive Australian economy, or

emergence of new businesses and business models in an Australia that has a world-leading low carbon economy.

Advantages of 'backward logic' and extreme scenarios

The backward logic to scenario analysis has the advantage of focusing participants' attention on the possibility of extreme impacts on an organization's or group's objectives. Forward causal reasoning – that underpins the 'basic method' of scenario development - may fail to identify these possible impacts since the development of the scenarios, particularly in a short and necessarily superficial exercise, tends to progress along a non-disruptive trajectory from the present. The use of extreme scenarios for such quick-fire exercises can disrupt linear thinking, with both a discomforting but also an insightful opening up of minds to new possibilities.

The types of challenging question raised by extreme scenarios has the potential to reveal different stakeholder groupings' likely reaction to both changes in the contextual environment, and the self-interested actions of other stakeholder groupings as the events within a particular scenario start to unfold. The steps of the backward logic approach to scenario development are focused on identifying causality, but causality that is established by going backwards from an extreme, but still plausible, outcome through to its precursor causation in the present day.

The Scenario Workshop Process

The extreme scenarios outlined will be clearly qualified as neither 'predictions' nor 'probabilities' for any likely future. Rather, they will be offered only as contemplations of extremes of possibility and plausibility, to prompt discussion and exploration of:

- What might cause the worst extreme direction to unfold?
- Who would take what decisions that might accelerate this trajectory?
- What decisions and actions can be taken and what policies implemented in order to attenuate this development?
- What decisions and actions can be taken and what policies implemented in order to guide the future towards the best extreme?

This mode of exploration of extreme scenarios in the context of a strategic conversation is designed to enable a deeper understanding of issues of causality, chronology, control and lack thereof.

Workshop ground rules

The workshops are organised on the basis of rigorous ground rules. The strategic conversation will be held under 'ground rules' that state:

- No suggestion can be challenged as 'nonsense' or 'rubbish'
- Questions of clarification of 'Who would...?', 'How might...?', 'Why would...?' etc. are encouraged and supported
- All viewpoints are open to expression and discussion
- The aim is not to reach consensus, but to elicit understandings of difference

These ground rules will be assertively applied by the facilitator during the scenario workshops.

Engaging stakeholders in critical analysis

Participants will first be asked to give a 'gut reaction' response to the presented scenario outlines. Does this seem possible and plausible? If the answer is 'yes', the discussion will then be directed at pushing the scenario boundaries further out to reach the 'limits of possibility and plausibility'. If the answer is 'no', critical discussion will be initiated in order to explore and challenge the notion that this scenario has gone beyond these boundaries – a challenge pushed to its limit by the facilitator as agent provocateur. The four individual stages by which the process of scenario analysis proceeds are explained below (adapted from Wright and Cairns, 2011, Chapter 8).

Step 1: Identify the objectives that the group wishes to achieve through its activities. Here, as outlined above, these are taken as: *enabling economic diversification in the Latrobe Valley region; identifying current and projected job opportunities in the Latrobe Valley and wider Gippsland; and identifying and fostering skill- and role-development for transition to a low carbon economy.* For profit-seeking organizations, achievement of these objectives may be viewed as requiring: improved market share, improved short-term profitability, improved cash-flow, improved long-term profitability, improved return on investments, and so on. For non-profit organizations, they might be seen as requiring: enhanced public awareness of issues, greater access to the political arena, long-term commitment to action, and so forth. For governments, their objectives may involve reconciling conflicting interests, securing positive working relationships with a range of employers in an area, promoting change and defending what seems to work, achieving equitable outcomes, and so on.

Step 2: Imagine the range of extreme – but still plausible – levels of achievement of each of the objectives of importance to the group. The extremes should be high and low, under- and over-achievement, poor and good performance, as well as other

relevant dichotomies. Here the facilitator will present hypothetical extremes of achievement, or non-achievement, of objectives for the various stakeholder groups represented in the workshops in 'extreme scenario' outlines. To reiterate from above, these are *not* offered as predictions of any likely future, but merely as prompts to critical discussion of issues. However, they are designed to challenge 'business-as-usual' thinking about the future.

Step 3: Explore the PESTEL factors that could cause these levels of (non-)achievement of the group's key objectives. An extremely negative view of future job opportunities, for example, could arise from: weak global economic conditions, poor Australian technological competitiveness, complex impacts on productivity levels, or severe local impacts of climate change and extreme events. Conversely, an extremely positive transition to a low-carbon economy could be caused by international agreement on carbon pricing, oil production weakness in Middle East conflict zone, targeted Australian investment in renewables, or tax policy on energy use. A line of questioning should be enacted that identifies the causal chain that results in the extreme achievement, or non-achievement, of a particular key objective.

Step 4: Consider how the achievement or non-achievement of a particular key objective could, with further deliberation, plausibly be taken to an even more extreme outcome than that identified at Step 2. If so, Step 3 will be repeated to explore the causal reasoning for this more extreme (non-)achievement of the relevant objective. If not, participants will be required to develop explicit reasons as to why this is viewed to be the case.

After a range of plausible scenarios have been critically debated, the focus of discussion must shift to debate on the policy and planning implications of the issues raised.

Going Forward

The scenario workshops, along with the interview data and relevant statistical analysis of ABS and other relevant data, will feed into the final report for this project. The sequence of scenario workshops begin with an initial trialled one focusing principally on one sector, but with a range of diverse participants; the following workshops build on this experience and focus and comprise participants from the range of sectors covered by the project. Once the scenario workshops are completed, the final report will provide a summary of the range of key issues identified from the scenarios. It will identify those that are deemed open to influence and direction through intervention by local, State and Federal stakeholders, and point to relevant policy implications for positive action. It will identify those that are not open to such direction and will point to policy implications for mitigation of, and adaptation to negative outcomes. Thus, the workshops offer a new perspective on how key stakeholders see opportunities and constraints unfolding in the Latrobe Valley region in the next decade.

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