



# Analysis of potential coordination and planning models for the Latrobe Valley brown coal mines

Hazelwood Mine Fire Inquiry

Final Report

26<sup>th</sup> October 2015



Review of potential coordination models for the rehabilitation of Yallourn, Loy Yang and Hazelwood Coal Mines in the Latrobe Valley



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### Document history and status

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## Executive Summary

The "Hazelwood Mine Fire Inquiry" (the Inquiry) was re-opened by the Victorian Government on 26<sup>th</sup> May 2015 and given specific Terms of Reference. Terms of Reference Eight and Nine asked the Inquiry to examine future rehabilitation options for three Latrobe Valley coal mines - Yallourn, Loy Yang and Hazelwood. The Inquiry engaged Jacobs Group (Australia) to identify short, medium and long term rehabilitation options.

Jacobs was further engaged by the Inquiry on 9<sup>th</sup> October 2015 to review potential coordination models for rehabilitating the mines. The Review identifies three potential coordination models for consideration by the Inquiry. They are:

- Self-Governing;
- Lead Agency;
- Established Authority.

This Review describes attributes of each model and examines three relevant case studies:

1. Great Barrier Reef coordination arrangements (an example of a Lead Agency coordination model);
2. Revitalising Central Dandenong (an example of an Established Authority coordination model);
3. Upper Hunter Valley coal mining rehabilitation (an example of a Self-Governing coordination model).

### Establishing the need for coordination

First and foremost, matters requiring potential coordination between stakeholders were discussed in Section 3. Eight matters requiring coordination are nominated:

1. Viability of moving material between mines and/or access materials from another source;
2. Managing valuable water sources;
3. Planning for potential climate change impacts;
4. Responding to changes in the timing of mine closures;
5. Providing for community safety, especially safe and stable final landforms;
6. Transitioning to beneficial and productive post mining land uses to support future economic growth;
7. Fostering community liveability and amenity;
8. Continuing mine rehabilitation planning and execution.

The Inquiry is examining options for best meeting the needs of all stakeholders in the coal mine closures. Stakeholders and their interests are identified.

### Leading practice in coordination models

There is an extensive and well developed body of literature concerning coordination models for situations such as those facing the Latrobe Valley. The literature review clearly established 'functional' attributes and 'structural' attributes.

Functional attributes describe roles and responsibilities for a coordination entity over its lifetime. Structural attributes describe how a coordination entity is established and managed.

### Examples of coordination

Three case studies were selected to explore real world applications of the functional and structural elements of coordination, including challenges and features of leading practice.

They are:

1. Great Barrier Reef coordination arrangements;
2. Revitalising Central Dandenong;
3. Upper Hunter Valley coal mining rehabilitation;

### Primary functional elements of coordinating bodies

All three case studies are successful in responding to the real world challenges of their operating environments. The analysis indicates coordination approaches evolve and are most effective when they are "fit for purpose". Each case study is discussed to illustrate strengths and weaknesses in respect of four primary functional elements of coordinating bodies:

1. Planning;
2. Delivery and implementation;
3. Information and reporting;
4. Performance management and continuous improvement.

### Potential mine rehabilitation coordination models

This Review identifies three potential models of coordination for the Latrobe Valley. These models are the outcome of the literature review of network governance/coordination; the needs analysis; and an examination of the three case studies.

**Self-governing:** responsibility for internal relationships and managing engagement with external parties is accepted by a significant number stakeholders (if not all) and depends on their active, sustained involvement and commitment. There is no stand-alone entity accepting responsibility for overseeing the coordination program. Power is symmetrical and decision making is shared.

**Lead agency:** all major activities and decision making are coordinated through and by a single participating party. Coordination arrangements are "brokered". This model is best suited to resolving differences of opinion between stakeholders, such as where all are not fully committed to the same goals. It applies where trust is not shared but is centred on one or two organisational members.

**Established authority:** an independent entity is established specifically to govern the network and its activities, but sits external to the network. This model has a clear authorising legal framework. It is established either under legislation, by high-level governmental agreement or as a private legal entity.

The key structural attributes of each coordinating model are shown in the Figure 1-1 below.

Review of potential coordination models for the rehabilitation of Yallourn, Loy Yang and Hazelwood Coal Mines in the Latrobe Valley

Figure 1-1 : Key structural attributes of potential coordination models

	SELF-GOVERNING	LEAD AGENCY	ESTABLISHED AUTHORITY
Authorising environment	Self-generated	Cabinet or Ministerial	Cabinet or Ministerial or Board of Directors
Legislative mandate	N/A	Work within existing legislation	Yes if public entity, no if private entity
Leadership and decision-making	Shared with elected or revolving chair drawn from membership	Rarely independent, usually appointed from the Lead Agency	Appointed Chair, independent of involved parties and funding entity
Structure and membership	Ad hoc structure, all affected parties involved	Distributed structure, with lead agency working on behalf of all affected parties	Hierarchical structure, nominated core with representatives from affected parties
Tenure	As long as shared objectives continue and trust is maintained	Long term entity, oversees full implementation of plan	Finite – expires after certain outputs are achieved
Participation (collaboration, engagement, consultation)	Cooperation/collaboration among parties. Information sharing outside of the network requires collective approval	Coordination, with identified clearinghouse/information broker for the network	Overseen by independent entity, requires certain information to be produced and establishes rules for sharing/publishing information outside of the network
Funding	Membership levy or fees (financial or in-kind)	Funds provided by authorising environment (comes from relevant Department(s))	Can solicit funding from Government and/or private sector

The Review examines the advantages and disadvantages of each of the three models in the context of coordinating the short, medium and long term rehabilitation of the three coal mines. Every model is capable of undertaking the short, medium and long term planning function and identifying requisite information for reporting on mine rehabilitation progress.

The models differ in their relative abilities to deliver successful outcomes for agreed initiatives, and to undertake appropriate performance management with continuous improvement. In this respect, the Lead Agency and Established Authority models can perform effectively if they are given appropriate resources and sanctions to coordinate network stakeholders.

This review demonstrates coordination bodies work best when they are:

- Fit for purpose;
- Vested with appropriate resources and power;
- Capable of review and renewal in response to additional information and changing community priorities.

## Glossary

Table 1.1 : Acronyms used in this report

Acronym	Description
CMA	Catchment Management Authority
CCER	Canadian Council of Ministers of the Environment
COAG	Council of Australian Governments
DDB	Dandenong Development Board
DELWP	Department of Environment, Land, Water and Planning
DEDJTR	Department of Economic Development, Jobs, Transport and Resources
EPA	Environment Protection Authority
GBRMPA	Great Barrier Reef Marine Park Authority
OHS Act	<i>Occupational Health and Safety Act 2004 (Vic)</i>
MNES	Matters of National Environmental Significance
PPV	Planning Panels Victoria
SECV	State Electricity Commission of Victoria

Table 1.2 : Technical terms and definitions used in this report

Technical term	Description
Batter	The sloped part of the mine face in an open pit. The term “batter angle” is used to refer to the slope of the face.
Instability	Any movement or potential movement of a mass of rock, debris, or earth within any open cut pit slope, cliff, cutting, or fill embankment that had the potential to impact on mine workers, mine infrastructure, general public, public and private infrastructure adjacent to the mine site and the environment. This movement could occur as a result of local geological and groundwater conditions, but can be exacerbated by inappropriate rehabilitation activities, exceptional weather, earthquakes and other factors. The hazards included movement and landslides which have their source in both the area under consideration and also those that may have their source outside the area but might travel onto or regress into the area.
Mine rehabilitation	The return of disturbed land to a stable, productive and self-sustaining condition after taking into account beneficial uses of the site and surrounding land. (Department of Industry, 2006)
Mine void	A mine void is an area of excavation that remains after all rehabilitation of a mine is complete.
Overburden	Barren in situ rock or soil which overlays the coal deposit.
Sequential land use	enabling land to be used later for another purpose once the current land use has ended or been terminated
Stakeholder	A person, group or organisation with the potential to affect or be affected by the process of, or outcome of, mine closure. (Department of Industry, 2006)

## Important note about report

The report on potential coordination models for the rehabilitation of the Yallourn, Loy Yang and Hazelwood coal mines in the Latrobe Valley has been produced for the Hazelwood Mine Fire Inquiry to inform the Inquiry's consideration of short, medium and long term rehabilitation options. Jacobs have prepared the report in accordance with the terms of reference provided by the Hazelwood Mine Fire Inquiry. The terms of reference requested Jacobs to review potential coordination models and give consideration to:

- a) Role/terms of reference;
- b) Structure, membership and reporting arrangements;
- c) What if any legislative changes were required and powers afforded;
- d) Tenure;
- e) Funding arrangements;
- f) Interrelationships with other agencies or entities;
- g) The overall advantages and disadvantages of each model.

In compiling the report Jacobs has not interviewed or consulted with any individual or entity outside of the Jacobs study team. The report has relied solely on information available in the public domain and confidential information provided to the Inquiry from the mine operators and the Victorian Government.

The report has drawn upon findings of the review of future mine rehabilitation options for the three Latrobe Valley coal mines completed by Jacobs for the Hazelwood Mine Fire Inquiry. The final version of this report will be submitted to the Hazelwood Mine Fire Inquiry on November 10<sup>th</sup> 2015. A draft version of this report was submitted to the Hazelwood Mine Fire Inquiry on October 12<sup>th</sup> 2015.



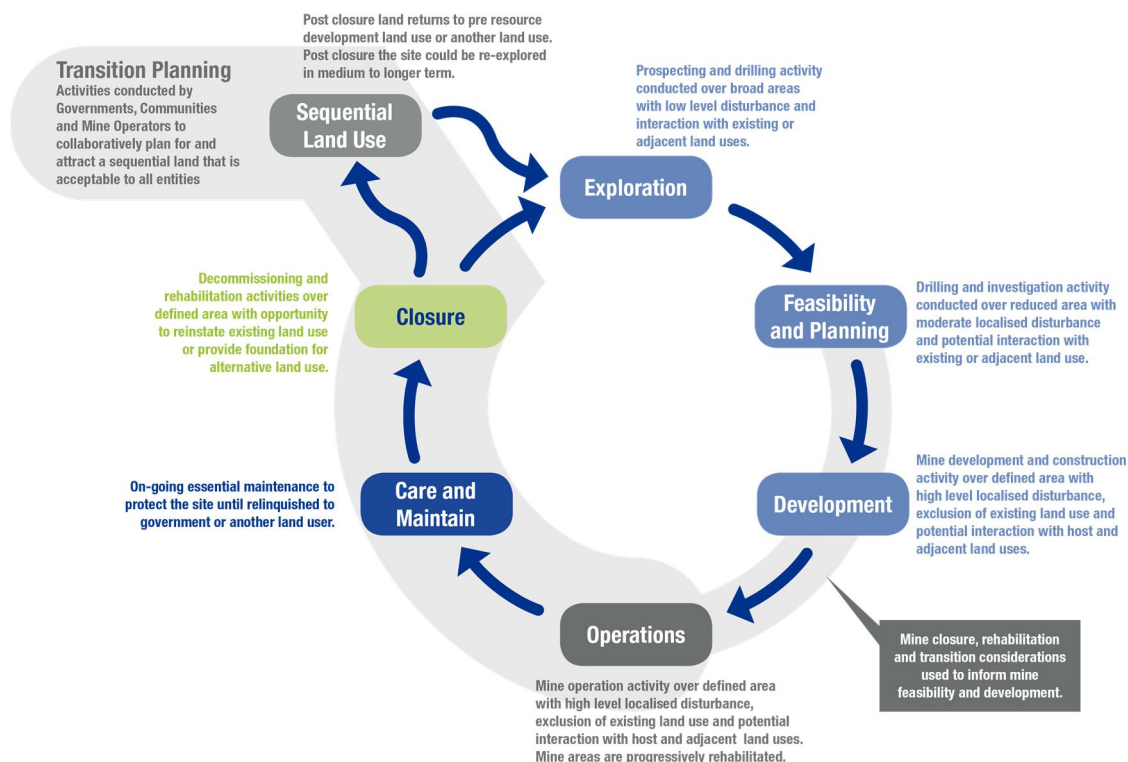
## 1. Introduction

Three large open-cut mines currently operating in the Latrobe Valley will potentially cease operations in relatively close succession<sup>1</sup>, presenting unique rehabilitation and transition challenges and opportunities (at both a Latrobe Valley and individual mine site scale).

A wide range of potential post mining land uses exist each offering possible economic, community and environmental opportunities for the Latrobe Valley. Multiple stakeholders/entities will be involved or impacted. Effective solutions are needed to highly technical issues (e.g. long term stability, use of scarce water resources etc.).

Figure 1-1 illustrates that closure, rehabilitation and transition planning is a key consideration of earlier phases (Feasibility and Planning, Development) and should get underway during mine operations (COAG SCER, 2013). Realising opportunities and addressing technical challenges across the three mined areas is likely to require careful and integrated short, medium and long term rehabilitation, transition planning and co-ordination.

Figure 1-1 : Mine lifecycle and post mining rehabilitation and transition planning



### 1.1 Terms of Reference

On the 24<sup>th</sup> July 2015 Jacobs was engaged by the Hazelwood Mine Fire Board of Inquiry ('the Inquiry') to review future rehabilitation options for the three Latrobe Valley mines under Terms of Reference 8 and 9 of the Hazelwood Mine Fire Inquiry<sup>2</sup>.

On the 9<sup>th</sup> October 2015 Jacobs was commissioned by the Inquiry to conduct an independent review of potential coordination models for rehabilitation of Yallourn, Loy Yang and Hazelwood coal mines. Jacobs submitted this report to the Inquiry on 26<sup>th</sup> October 2015.

<sup>1</sup> Possible closure dates are Yallourn – 2032, Hazelwood – 2033 and Loy Yang – 2048.

<sup>2</sup> The Terms of Reference for the Inquiry are available on the Inquiry's website at: <http://hazelwoodinquiry.vic.gov.au/terms-of-reference/>

The Inquiry requested Jacobs to review potential coordination models and give consideration to:

- a. Role/terms of reference;
- b. Structure, membership and reporting arrangements;
- c. What (if any) legislative changes were required and powers afforded;
- d. Tenure;
- e. Funding arrangements;
- f. Interrelationships with other agencies or entities, and
- g. Overall advantages and disadvantages of each model.

The scope of the review did not include any:

- Examination of the effectiveness of existing coordination bodies operating the Latrobe Valley;
- Recommendations as to whether a coordination body to oversee the rehabilitation of the three coal mines should be established or not;
- Identification, description or recommendation of a preferred coordination model/body.

## 1.2 Report structure

The report is structured as follows:

### Section 1 – Introduction

Outlines the terms of reference for the review, report structure, approach used to undertake the review, history of key coordination entities in the Latrobe Valley and conflict of interest statement from the report's authors.

### Section 2 – Coal Mining in the Latrobe Valley

Provides a brief overview of three coal mines in the Latrobe Valley including their current proposed closure date, final landform and progressive rehabilitation activities.

### Section 3 – Need for coordination of rehabilitation of the Latrobe Valley Coal mines

Summarises the need for coordination of the rehabilitation of the Latrobe Valley coal mines by outlining the important issues that could benefit from coordination and the wide array of stakeholders potentially involved in rehabilitation.

### Section 4 – Leading Practice in coordination

Reviews leading practice and articulates key functional and structural attributes of a coordination model and identifies three potential coordination models. Examines three case studies regarding how coordination models have been applied to achieve short, medium and long term outcomes from the redevelopment/rehabilitation/revitalisation of a designated area with similar challenges and opportunities to the Latrobe Valley.

### Section 5 – Assessment of potential mine rehabilitation coordination models

Presents and assesses the advantages and disadvantages of three possible conceptual coordination models for the short, medium and long term rehabilitation of the Latrobe Valley coal mines.

### Section 6 – Conclusion

Summarises the key differences between the possible coordination models and their potential applicability to the Latrobe Valley.

### Bibliography

### Appendices

- Appendix A – Aerial image of current Loy Yang coal mine and surrounding areas;

## Review of potential coordination models for the rehabilitation of Yallourn, Loy Yang and Hazelwood Coal Mines in the Latrobe Valley

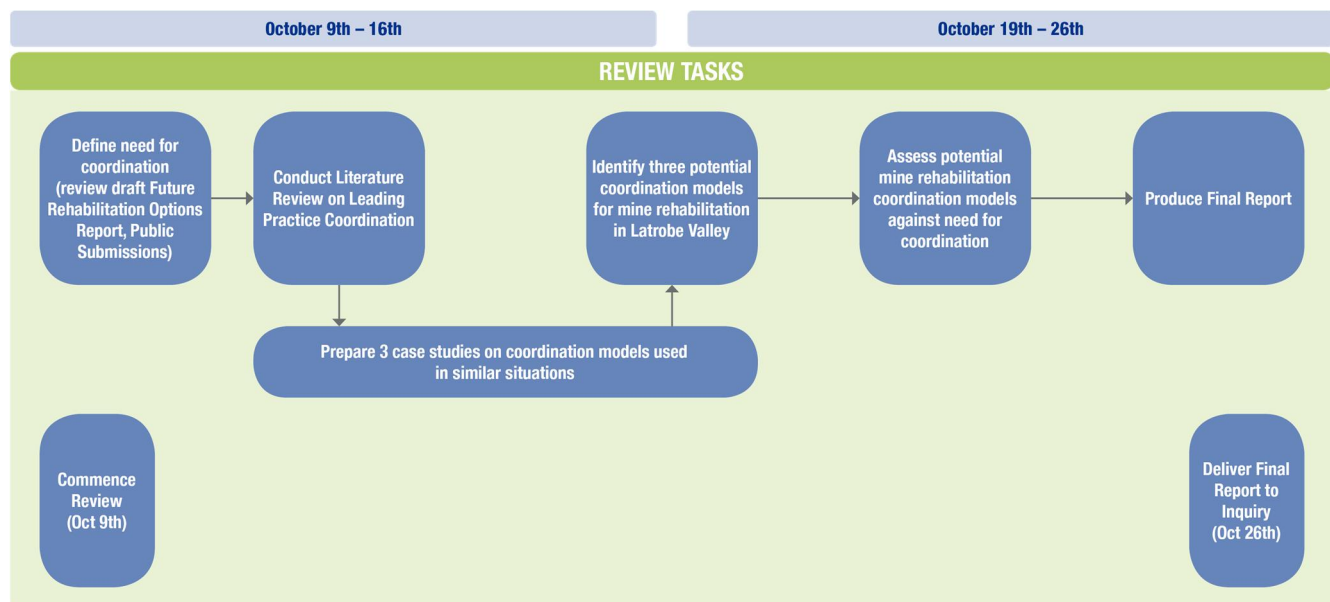


- Appendix B – Aerial image of current Yallourn coal mine and surrounding areas;
- Appendix C – Aerial image of current Hazelwood coal mine and surrounding areas;
- Appendix D - List of stakeholders potentially involved in or impacted by short, medium and long term rehabilitation.

### 1.3 Review Approach

Figure 1-2 illustrates the approach used to conduct the review.

Figure 1-2 : Overview of Review Approach



The approach involved:

- A review of findings from the Jacobs' report on Future Mine Rehabilitation Options for the three Latrobe Valley coal mines and public submissions provided to the Inquiry. This information was used to inform the need for coordination of the rehabilitation of the coal mines and areas that may benefit from potential coordination;
- A literature review of leading practice in coordination. An extensive body of literature exists regarding key attributes of effective coordination models for network governance (e.g. span public, private and community interests and pursues shared outcomes);
- A review of three publicly available case studies on coordination arrangements (planning and management of the Great Barrier Reef Marine Park, planning and delivery of the Revitalisation of Central Dandenong and coordination of actions related to potential impacts of coal mining in the Upper Hunter Valley);
- A literature review to identify three recognised coordination models, their unique structural attributes and possible advantages and disadvantages of each model in being able to coordinate the important rehabilitation issues.

### 1.4 Brief history of coordination bodies in the Latrobe Valley

Coordination of initiatives, investments and programs across the Latrobe Valley is a central role of the Latrobe Valley City Council. Working with other spheres of Government, private sector, community groups and individual residents the Latrobe Valley City Council plays a vital role in improving the economic, social and environmental conditions of the Latrobe Valley.

Prior to the Latrobe Valley City Council, six individual local government areas existed – City of Moe, City of Morwell, City of Traralgon, Shire of Traralgon and parts of the Shire of Narracan and Shire of Rosedale. In 1984 the Latrobe Valley Regional Commission was established in recognition of the need to coordinate activity across the different local government areas.

Its purpose (as ascribed in Section 6 of the *Latrobe Regional Commission Act 1983*), was:

- (a) *to co-ordinate the planning of the economic, physical, environmental and social development of the Latrobe region;*
- (b) *to improve the coordination of and to facilitate the development of major projects in the region;*
- (c) *to assist the implementation of State policies in relation to the region;*
- (d) *to assist in the economic development of the region; and*
- (e) *to involve the regional community in decision-making in relation to the region.*

The Commission composed of representatives from each local government area in the region, as well as the Latrobe Valley Water and Sewerage Board. An amalgamation of the six local government areas in 1994 removed the need for the Commission and was disbanded in 1995.

Regional Development Australia (RDA) Gippsland is a not-for-profit body, part of a network of 55 regional agencies that provide a link between Commonwealth, State and local government and communities (RDA, 2015). It is jointly funded by Australian and Victorian State Government.

RDA Gippsland works with industry bodies, businesses, research, education and training providers and community members (RDV, 2015). A key priority for RDA Gippsland is the on-going implementation of the 2010 Gippsland Regional Plan<sup>3</sup>:

## 1.5 Conflict of interest statement

No member of the Jacobs study team nor their sub-consultants have in the period between 2009 and 2015 directly advised one or more of the Latrobe Valley Power Stations owners or operators on how to rehabilitate or close their mine pits and associated over-burden/stock-piles. In 2012 Andrew Tingay contributed to production of a high-level roadmap for the development of a Latrobe Valley Mine Closure Strategy for Clean Coal Victoria.

A number of mechanisms were put in place by Jacobs Australia and its sub-consultants to prevent any unauthorised disclosure of the study findings prior to their release to either the Latrobe Valley Power Station owners/operators, Victorian Government departments and general public.

<sup>3</sup> This Plan identified a vision: *By 2020 we will have harnessed our diversity to create a sustainable and economically confident Gippsland.* This Plan explored the impact of a low carbon future on the Latrobe Valley including utilising the region's brown coal assets through 'clean coal technology' and the potential to develop coal derivatives. Five main drivers were identified: (1) developing economic resilience; (2) addressing growth; (3) protecting natural assets; (4) supporting community well being; and, (5) improving accessibility. The vision challenges the Region to be proactive about transitioning and repositioning industry.

## 2. Coal Mining in the Latrobe Valley

This section provides a brief overview of each mine. Figure 2-1 shows the proximity of the three coal mines to each other and the surrounding land uses. More detailed descriptions of each of the coal mines can be obtained from the Hazelwood Mine Fire Inquiry website. Each mine operator provided a public submission to the Inquiry describing their mine operations, closure and rehabilitation plans and activities (Hazelwood Mine Fire Inquiry, 2015c).

The three brown coal mines in the Latrobe valley — Hazelwood, Loy Yang and Yallourn — were originally developed, managed and operated by the State Electricity Commission of Victoria (SECV), and privatised in the 1990s. They are currently operated by electricity generation companies and continue to supply a significant proportion of Victoria's power (Energy and Earth Resources, 2010).

### 2.1 Yallourn Coal Mine

#### 2.1.1 About Yallourn Coal Mine

Yallourn is the oldest of the three Latrobe Valley mines. Yallourn covers 5595ha, maximum depth of 95m below ground (Energy Australia, 2015). Mining at Yallourn comprises of a single seam open pit and internal waste dump. Approximately 18Mt/annum of coal is extracted from the site (refer to Appendix A – Aerial image of Yallourn coal mine and surrounding areas).

#### 2.1.2 Closure and Rehabilitation

On current estimates Yallourn is expected to cease operations in 2032 (Hazelwood Mine Fire Inquiry, 2015b).

Yallourn's approved final landform<sup>4</sup> is a fully flooded mine void. The key features of the flooded mine void/final lake system include:

- Landscaping and public access around lake perimeter;
- Water supply from Latrobe River by lowering flood levees and rain fall run off;
- Remaining topsoil will be used to stabilise above the water line of the proposed future flooded mine void;
- River diversion remain in place surrounded by lakes.

Progressive rehabilitation proposed for Yallourn involves:

- Transfer of overburden during mining and placement into the mine void (the East Field and East Field Extension);
- Establishment and maintenance of native vegetation offsets.

### 2.2 Hazelwood Coal Mine

#### 2.2.1 About the Mine

Hazelwood Mine was established by the SECV in 1949 and mining commenced around 1955. Covers 1260ha of which 836 ha comprises mine floor. Produces about 18 million tonnes of brown coal annually (GDF Suez Australian Energy, 2015) Artesian aquifer pressures at the mine site require management through significant dewatering of the mine pit.

The southern urban boundary of Morwell is located approximately 900m to the north of the Hazelwood open cut, with the Princes Highway running in between (refer to Appendix B – Aerial image of Hazelwood coal mine and surrounding areas).

<sup>4</sup> Yallourn Mine Work Plan Variation, documentation sourced from the Hazelwood Mine Fire Inquiry

## 2.2.2 Closure and Rehabilitation

On current estimates the expected closure date for Hazelwood coal mine is 2033 (Hazelwood Mine Fire Inquiry, 2015b).

Currently, the final landform proposed for Hazelwood coal mine is a lake in the base of the pit (GDF Suez 2015). This involves:

- Pit void to fill with water to create a lake (initially by aquifer depressurisation and then naturally over the decade until equilibrium is reached);
- Ash placed in the eastern end of the void;
- Overburden batters reshaped to 3:1, seeded and grassed;
- Coal batter faces reshaped 2.5 to 3:1.

Progressive rehabilitation is proposed to include<sup>5</sup>:

- Place sands from the original Morwell River into the South East field internal overburden dump;
- Bulldozing and seeding of some permanent void batters;
- Planting of native trees and grasses on eastern overburden dump.

## 2.3 Loy Yang Coal Mine

### 2.3.1 About the Mine

Loy yang: Mining operations have disturbed some 2070 ha of land. The mine is currently about 175 m deep, 4 km long and 2.5 km wide at its widest. At the completion of mining the pit is expected to be some 6 km long and 4.5 km at its widest (AGL, 2015).

Covering approximately 500ha, the Loy Yang coal mine comprises a 200m deep multiple mine seam and inter-seam open pit, with external waste dump. As the mine extends below water table, the mine pit requires significant dewatering. Approximately 30Mt/annum of coal is extracted from the site.

Traralgon is located approximately 2km to the north of Loy Yang. In the future the proposed Traralgon bypass will be located between the mine and the township (refer to Appendix C – Aerial image of Loy Yang coal mine and surrounding areas).

### 2.3.2 Closure and Rehabilitation

On current estimates Loy Yang coal mine may cease operations in 2048 (Hazelwood Mine Fire Inquiry, 2015b).

Loy Yang's approved final landform is for the mined void to be partially water-filled and lowered landform. The Western end of the pit will be battered and made safe with overburden from across the mine. There is insufficient overburden to cover the pit and therefore it's proposed to partially flood the Eastern end of the pit to form a lake. The current proposed land use for the Loy Yang mine is agricultural grazing on non-flooded areas of the pit.

Rehabilitation is occurring progressively within the Loy Yang mine in accordance with operational needs. To date, over 80% of areas available for rehabilitation have undergone some form of remediation (AGL, 2015).

<sup>5</sup> Hazelwood Mine Progressive Rehabilitation Work Plan Variation 2008, documentation sourced from the Hazelwood Mine Fire Inquiry.

Review of potential coordination models for the rehabilitation of Yallourn, Loy Yang and Hazelwood Coal Mines in the Latrobe Valley



Figure 2-1: Aerial image of the three Latrobe Valley coal mines and surrounding areas



### 3. Need for coordination in the rehabilitation of the three Latrobe Valley Coal Mines

#### 3.1 A diverse array of important mine rehabilitation issues

Proactive coordination of networks is needed when:

- Priorities and timeframes are unclear;
- Stakeholder views are diverse;
- Information bases and rules for decision making are contested;
- There is a lack of clarity on preferred outcome(s).

These are characteristics of the proposed rehabilitation of the three Latrobe Valley coal mines.

In their submission to the Hazelwood Mine Fire Inquiry, engineering firm GHD highlighted the need for coordination due to *“at this time there are a number of known unknowns some of which have regional significance”* (GHD, 2015). GHD indicated that regional opportunities or requirements may not be addressed and wider public benefits lost if there is solely a focus on individual mine rehabilitation plans.

This section outlines a number of important mine rehabilitation technical, economic, environmental and community issues. The diversity of issues creates the need for coordinated planning, allocation of resources, implementation of actions and monitoring of rehabilitation progress.

##### 3.1.1 Obtaining access to sufficient material needed to achieve final proposed landforms

To achieve their final proposed landform each mine will require access to a reliable volume of non-polluting material to place into the mine void. Current indications are that this material will be a mixture of solid cover (such as overburden or mine by products) and water. Water is considered in the next section.

The Latrobe Valley coal reserves have a relatively thin layer of soil (overburden) covering coal seams (up to 100m thick). Low overburden to strip ratios has facilitated cost-effective extraction of coal. However this also means there is limited solid material to backfill mined voids.

There may be a requirement for a coordinated approach between mines to use and share material (e.g. can material from one mine be moved to another mine?).

Figure 3-1: Issues that may benefit from coordination

**Coordination of the viability of moving materials between mines and/or accessing materials from another source.**

##### 3.1.2 Managing valuable water resources

Each mine will require on-going access to a substantial volume of water to achieve their proposed final landform (e.g. Loy Yang - partially water-filled and lowered landform, Hazelwood - lake in the base of the pit, Yallourn - fully flooded mine void).

Obtaining access to sufficient water resources in the Gippsland region will be a key issue. The three Latrobe Valley coal mines have a significant role in the water balance in the Latrobe River catchment and the Latrobe Valley aquifers. All proposed final landforms will alter the water balance to differing degrees (West Gippsland CMA, 2015).



As well as water availability issues, partially or fully water filled mined voids can raise specific water quality challenges (e.g. acidification and salinization).

Understanding the potential groundwater and surface water impacts associated with the mines using a substantial volume of water over the long term will require a strong coordination across the mines, other water users<sup>6</sup> and statutory authorities such as Southern Rural Water. Latrobe Valley coal mines share the same sedimentary and water basin. Therefore actions by one mine may have repercussions on baseline conditions for other mines, with potential compounding effects for other water users and important environmental values.

Figure 3-2: Issues that may benefit from coordination

**Coordinate regional water resource goals and studies to inform:**

- Allocation and management planning for the mines' potential long term use of a substantial volume of water;
- How water quality issues could be addressed.

### 3.1.3 Planning for potential climate change impacts

Coordination of climate change research into understanding how final proposed landforms could be impacted by potential climate change and associated risk controls (e.g. sustainable water planning, bushfire management plans) could be beneficial.

In the West Gippsland region there has been a notable decline in rainfall over the past decade and an increase in average daily maximum temperatures (DSE, 2008). It will be necessary to understand for each mine and the Latrobe Valley how the following trends could impact medium to long term mine rehabilitation outcomes:

- An average 4% reduction in annual rainfall, most notably in Spring (-7%) by 2030;
- An increase of 1.4 to 2.6 degrees centigrade under lower and higher emission scenarios, respectively;
- Declining average annual runoff in the Latrobe River of around 20% by 2030.

Figure 3-3 : Issues that may benefit from coordination

**Coordinate the results of regional climate change research to inform the design and on-going management of final proposed landforms.**

### 3.1.4 Being prepared and ready for mine(s) closure

Monitoring of the factors that may lead to one or more of the coal mines choosing to bring forward or delay ceasing of mining operations will be critical to the effective transition of the Latrobe Valley to a potential post mining future. Responding in a timely manner to changes in estimated closure dates should be an important transition planning capability.

There is a possibility that the one or more of the coal mines could close earlier or later than their current estimated dates. Market demand is a key determinant for the on-going viability of the mines and will be heavily influenced by the pace of change in the composition of Victoria's energy mix.

<sup>6</sup> Other water users include Maryvale Paper Mill (Australia Paper) and irrigated agriculture for dairying, beef and fodder production. Offshore oil and gas activities also affect the availability of water.

Figure 3-4: Issues that may benefit from coordination

**Ensure that mine rehabilitation and transition planning (short, medium or long term) is responsive to changes in estimated mine closure dates.**

### 3.1.5 Providing for community safety – safe and stable final landforms

Collaborative planning and research is needed to understand and communicate the implications of ensuring final landforms pose an acceptable risk to community safety. The achievement of safe final landforms may have implications for the final landform's capability to contribute to other economic, community and environmental outcomes.

Priority focus areas would include flooding, mine pit wall and floor stability and fire.

Mine stability is an area that will require considered research and investigation. In the Latrobe Valley coal seams make up a substantial proportion of the mine slopes. Unlike many hard rock coal mines, the contained coal is very light and jointed and therefore water is a trigger for potential mine instability.

Excavation in the mining process causes the movement of coal slopes and a pathway for surface water to enter joints and force them apart, causing the coal to start to move. Groundwater can generate mine instability, as water contained in aquifers below the mine void or in slopes above the floor of the mine void exert pressure and create uplift or wall failures. Unless pressure is reduced (such as through continuous pumping), or the pressure is balanced in some way, then major land movement can occur.

Therefore, a key technical challenge confronting each of the three mines is what represents an appropriate weight balance (Jacobs, 2015). Determining the mechanisms and processes needed to re-establish an appropriate aquifer pressure over the period of cessation of dewatering and preventing landscape heave is highly complex.

A collaborative process between stakeholders can help to coordinate research into stability issues and reach agreement on long-term sustainable solutions. In particular coordination of groundwater pressure control will be required as pumping at one mine site can and frequently does influence pressures at other mines.

Coordinated mine rehabilitation planning involving mine operators, Victorian Government regulators, emergency services and other agencies focused on economic and community outcomes will be critical. All entities will need to be clear on what constitutes an acceptable community safety risk and what are appropriate short, medium and long term risk controls.

Figure 3-5: Issues that may benefit from coordination

**Coordinate research into potential for flooding, mine instability and fire (likely events that may cause a flood, mine instability or fire, what controls are needed to address the risks, how should controls be designed etc.)**

**Coordinate research into mine stability/weight balance issues including:**

- **What is the likely recovery level of the regional groundwater in the main aquifers?**
- **What will be the interaction between the key mine areas and other groundwater users (e.g. offshore petroleum industry)?**
- **What are the appropriate long term stability factors of safety that should be adopted?**

**Coordinate planning and communication with community and other relevant entities regarding the implications of the final landforms requirement to be safe and stable for achieving other desired economic, environmental and community outcomes.**

**Coordinate sharing of sensitive data and information in a confidential manner between different entities involved in defining and agreeing sustainable solutions**

**Provide guidance to Government, Mine Operators and Local Council on substantial impediments to achieving desired mine rehabilitation outcomes**

### **3.1.6 Transition to beneficial and productive post mining land uses and support future economic growth**

Latrobe City Council (2010) has identified three key themes to underpin its approach to Latrobe Valley's economic future. These are the attraction and retention of businesses, contingency planning to respond/support the community during the transition period and working collaboratively with community, businesses, industry, neighbouring municipalities and State and Federal Government.

This view was widely shared by a number of entities and individuals who provided public submissions to the Hazelwood Mine Fire Inquiry. Coordinated planning and action is needed to transition to post mining land uses capable of supporting the economic future of the Latrobe Valley.

Latrobe City Council highlighted the need for improved information sharing and collaborative planning in their submission to the Hazelwood Mine Fire Inquiry, stating that:

*"As reflected in the Municipal Strategic Statement of the Latrobe Planning Scheme...there is a need for co-operation between all levels of government, the private sector and the community with regard to the development of the coal resource [...] Council requires greater clarity and involvement in coal allocation and mine planning to ensure Council can plan for orderly and safe development of the municipality both now, and in the future as the mines are rehabilitated."* (Latrobe City Council, 2015)

Coordinated and collaborative action will be needed to attract and retain future viable industries identified for the Latrobe Valley including:

- Ongoing development of the coal industry either through improved coal to energy processes or through diversified uses for coal such as fertiliser production. Ongoing research into clean coal technologies and alternative uses of coal represent new market opportunities, such as coal gasification, production of synthesis gas for transport fuels, hydrogen and other chemical products (Energy and Earth Resources, 2007);
- Growth and strengthening of the agricultural and food production sector, taking advantage of the relative climate security and the opportunity to increase the number of food processing industries located within the Latrobe Valley;

- Building on the existing opportunities to grow the education and training sector with both local and international students across both TAFE and University education.

Figure 3-6 : Issues that may benefit from coordination

**Coordinated planning and action could include:**

- Review of future viable industries (land uses) for the Latrobe Valley and match with the rehabilitated landforms needed to support different future viable industries;
- Assess the costs and benefits (in regards to regional economy, private entities and individuals) of different future land uses and rehabilitated final landforms;
- Develop a long term vision for the mined rehabilitated areas informed by the Latrobe Valley's desired economic future;
- Develop clear and achievable short, medium and long term economic outcomes that can be used to assess the merits and implications of different final landforms for the mined areas;
- Devise and execute investment attraction strategies to provide the financial and human resources to achieve final landforms capable of supporting future viable industries (including provision of other required enabling infrastructure, skilled labour, land use zones etc.);
- On-going reporting to the general public regarding progress towards implementing rehabilitation plans;
- Guidance to Government, Mine Operators and Local Council regarding addressing substantial impediments to achieving desired mine rehabilitation outcomes.

### 3.1.7 Fostering community liveability and amenity

A coordinated, collective and continuous approach to engagement with communities would be needed to understand how future landforms could contribute to improved community liveability and amenity.

Hopes and aspirations of current Latrobe Valley residents may well be different to those residing in the Latrobe Valley in mid 2040's.

Population growth in the Latrobe Valley region is predicted to grow at 0.9% per annum through to 2031 (Latrobe City Council, 2014). Young families are drawn to the area by lower cost of housing and semi-rural living environment. A slightly higher proportion of people in the 0-15 age bracket exist in the Latrobe City Council area (20.8%) as compared to the State average of 19.9% (REMPPLAN, 2014).

The Victorian Council of Social Services recommended in their submission to the Hazelwood Mine Fire Inquiry (2015) the need for a collective approach to mine rehabilitation to help address social disadvantage in the Latrobe Valley by working with "*representatives of all sectors within the community, including community and social service organisations*" (VCOSS, 2015).

Figure 3-7: Issues that may benefit from coordination

**Coordinated planning and action could include:**

- Ongoing engagement with local communities regarding how rehabilitated mined areas could contribute to improved community liveability and amenity in the short, medium and long term;
- Assess the costs and benefits (in regards to regional economy, private entities and individuals) of different future land uses and landforms and how they contribute to improved community liveability;
- Develop a long term vision for the mined rehabilitated areas informed by the community's hopes and aspirations for the future liveability of the Latrobe Valley;
- Develop clear and achievable short, medium and long term community orientated outcomes that can be used to assess the merits and implications of different final landforms;
- Devise and execute community engagement strategies to provide the financial and human resources to achieve final landforms capable of contributing to improved community liveability;
- On-going reporting to the general public regarding progress towards implementing rehabilitation plans;
- Guidance to Government, Mine Operators and Local Council regarding addressing substantial impediments to achieving desired mine rehabilitation outcomes.

### 3.1.8 Continuing mine rehabilitation planning and execution

Continuity and certainty regarding mine rehabilitation planning and execution will be essential to achieving the desired community safety, economic, environmental and community outcomes in a manner acceptable to key stakeholders (community, mine operators, governments etc.).

Dramatic future change in those desired outcomes (due to political or societal influences) will create uncertainty. Uncertainty may result in key stakeholders choosing not to participate in the overall rehabilitation planning and implementation in the manner needed.

The Victorian division of the Minerals Council of Australia indicated that at present *“there are often policy and regulatory inconsistencies either within the one Act or between related Acts. An issue also identified in the Board of Inquiry 2014 report”* (MCA, 2015). Strong coordination of the short, medium and long term rehabilitation planning and implementation is likely to be needed to mitigate against the risk of stakeholders' actions adversely disrupting the rehabilitation effort.

Figure 3-8: Issues that may benefit from coordination

**Strong ongoing coordination to mitigate against the risk of future stakeholder decisions and actions that are inconsistent with the agreed rehabilitation outcomes and process.**

### 3.2 Stakeholders potentially involved in mine rehabilitation

Addressing the important mine rehabilitation issues identified will require the involvement of the different spheres of government, wide range of private entities, NGOs and the community.

Broad engagement and participation across a range of organisations, communities and disciplines is a prerequisite for effective mine closure (Department of Industry, Tourism and Resources, 2006). For long and complex rehabilitation processes broad engagement and participation is needed to achieve enduring outcomes appropriate to local conditions.

David Langmore, who formerly held senior roles with the Latrobe Regional Commission and Department of Infrastructure in Gippsland stated in his public submission to the Hazelwood Mine Fire Inquiry:

*“Rehabilitation is a bit of many organisations interests, but it seems to be no organisation’s particular interest. [...] There is certainly no agency with well-qualified staff in the Latrobe Valley which are providing oversight, vision, research and investigation coordination, planning, monitoring, public information and consultation, on rehabilitation.”*



Figure 3-9 : Stakeholder groups potentially involved in mine rehabilitation

An overview of stakeholders is provided in Table 3.1. Refer Appendix D for a summary of their role or interest in mine closure and rehabilitation. The table below is not an exhaustive list of all potential stakeholders involved in the mine rehabilitation but rather illustrative of the wide range of stakeholders.

Table 3.1 : Key stakeholder groups and stakeholders potentially involved in the rehabilitation of the three Latrobe Valley coal mines

Stakeholder group	Stakeholders
Commonwealth Government	<ul style="list-style-type: none"> <li>• Department of the Environment</li> <li>• Department of Industry, Innovation and Science</li> <li>• Clean Energy Regulator</li> <li>• Australian Energy Market Operator</li> </ul>
State Government (Policy Departments, Statutory Authorities, Regulators)	<ul style="list-style-type: none"> <li>• Department of Economic Development, Jobs, Transport and Resources</li> <li>• Mine Stability Technical Review Board (advisory group to Victorian Government)</li> <li>• Department of Environment, Land, Water and Planning</li> <li>• Southern Rural Water</li> <li>• Gippsland Water</li> <li>• Environment Protection Authority</li> <li>• Department of Health and Human Services</li> <li>• Victorian WorkSafe Authority – Earth Resources Unit</li> <li>• Planning Panels Victoria</li> <li>• Invest Victoria</li> <li>• Emergency Management Victoria</li> <li>• Coal Resources Victoria</li> <li>• West Gippsland CMA</li> <li>• Parks Victoria</li> </ul>

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Stakeholder group	Stakeholders
Mine operators and power generators	<ul style="list-style-type: none"> <li>• GDF Suez</li> <li>• AGL Energy Ltd</li> <li>• Energy Australia</li> </ul>
Local council	<ul style="list-style-type: none"> <li>• Latrobe City Council</li> </ul>
Community	<ul style="list-style-type: none"> <li>• Individual residents</li> <li>• Community Representative Groups</li> </ul>
Indigenous	<ul style="list-style-type: none"> <li>• Gunaikurnai Land and Waters Aboriginal Corporation</li> </ul>
Emergency services	<ul style="list-style-type: none"> <li>• Country Fire Authority</li> </ul>
Industry associations	<ul style="list-style-type: none"> <li>• Minerals Council of Australia – Victoria division</li> <li>• Victorian Farmers Federation</li> <li>• Victorian Council of Social Services</li> </ul>
Current and future industry	<ul style="list-style-type: none"> <li>• Agriculture (irrigated dairying, crop, fodder production, potato producers)</li> <li>• Forestry (e.g. Australian Paper)</li> <li>• Tourism (e.g. Advance Morwell)</li> <li>• Other mining interests</li> </ul>
Political economy	<ul style="list-style-type: none"> <li>• Victorian Premier and Cabinet</li> <li>• Local Commonwealth Government Member of Parliament (House of Representatives and Senate)</li> <li>• Local State Government Member of Parliament (Legislative Assembly and Legislative Council)</li> <li>• Mayor and Latrobe City Council Members</li> </ul>
Academia/research	<ul style="list-style-type: none"> <li>• Federation University – Geotechnical and Hydrogeological Engineering Research Group</li> <li>• RMIT – Future Morwell project</li> </ul>
Unions	<ul style="list-style-type: none"> <li>• Electrical Trade Union</li> <li>• The Construction, Forestry, Mining and Energy Union</li> <li>• Gippsland Trade and Labour Council</li> </ul>
Non-governmental organisations	<ul style="list-style-type: none"> <li>• Friends of the Earth</li> <li>• Environment Victoria</li> <li>• Latrobe Valley Groundwater Monitoring Group</li> </ul>
Sporting clubs and recreational groups	<ul style="list-style-type: none"> <li>• Latrobe Valley Water Ski Club</li> </ul>
Media	<ul style="list-style-type: none"> <li>• Local, State and National Media</li> </ul>

## 4. Leading practice in co-ordination models

### 4.1 Co-ordination Model Theory – Functional and Structural attributes

There is an extensive and well developed body of literature concerning coordination models for situations such as those confronting the Latrobe Valley. The body of literature includes:

- Council of Australian Governments Best Practice Regulation Principles (COAG, 2007);
- Australian National Audit Office 2014 Public Sector Governance Best Practice Guide (ANAO, 2014);
- Australian Government response to the report of the independent review of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act; Commonwealth of Australia, 2011);
- Recommendation of the Council on Regulatory Policy and Governance (OECD, 2012);
- World Bank's Land Governance Assessment Framework (World Bank, 2011);
- Canadian Regional Strategic Environmental Assessment Framework (CCME,2009);
- The National Multiple Land Use Framework (COAG SCER, 2013);
- Modes of Network Governance: Structure, Management, And Effectiveness. *Journal of Public Administration Research and Theory* (Provan and Kenis, 2008);
- "Governing through collaboration" from *Setting the scene: challenges and prospects for collaboration*, ANZOG, ANU Press (Shergold, 2008);
- Governance models for Location Base Initiatives (Australian Social Inclusion Board, 2011).

Based on the literature review, a coordination model has functional and structural attributes. Functional attributes are summarised in Table 4.1 and structural attributes are summarised in Table 4.2 .

Table 4.1: Key functional attributes

Attribute	Description
Short, medium and long-term planning	<ul style="list-style-type: none"> <li>• The ability to establish an overarching vision and a set of specific objectives/outcomes.</li> <li>• The ability to develop enabling strategies/plans. Models vary on the basis of frequency, scope of planning, and authorisation to initiate and undertake planning. Engagement in planning can take many forms and the nature of the engagement should depend on the issues and challenges confronting the area/region.</li> <li>• Identifying legislative gaps or overlaps and assisting in developing plans to achieve agreement among participants on how to manage any overlap or inconsistency in legislation.</li> <li>• Identifying knowledge, information and data gaps that need to be addressed in order to improve decision-making by relevant stakeholders. Early identification and understanding of the potential cumulative impacts can assist communities, proponents and government industry development agencies redesign projects increasing likelihood of timely regulatory assessment and approval and lower project design re-work costs.</li> </ul>
Delivery and Implementation	<ul style="list-style-type: none"> <li>• Oversight of delivery and implementation of plans and strategies by assigning clear accountabilities and responsibilities.</li> <li>• Assuming accountability and responsibility for selected actions where the coordination entity could produce the required outputs more efficiently, effectively and economically than the existing responsible stakeholders.</li> </ul>
Information and reporting	<ul style="list-style-type: none"> <li>• Gathering, collection and collation of data and information from participants (either voluntarily or via a legislative requirement) concerning progress made towards achieving specific milestones.</li> <li>• Provision of reports to stakeholders (typically including general public) regarding progress made towards achieving agreed outputs and milestones.</li> <li>• Capacity to enable selected participants to share confidential data and information with other entities without risk of data and information being disclosed.</li> </ul>



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Attribute	Description
Performance management and continuous improvement	<ul style="list-style-type: none"> <li>Monitoring of whether agreed outcomes are likely to be or have been achieved.</li> <li>Identification of issues that have or may impede achievement of agreed outcomes.</li> <li>Facilitating changes in strategies and actions of different stakeholders to improve performance and overcome identified impediments to achieving outcomes.</li> </ul>

The structural attributes shown in Table 4.2 below illustrate considerations in establishing and managing a coordination entity.

Table 4.2 : Key structural attributes

Attribute	Description
Authorising environment	<ul style="list-style-type: none"> <li>Provides a rationale and legitimacy for the coordination entity. The role of the entity should be clear in terms of outcomes to be achieved and should be able to be held to account for the effective discharge of the functions and powers its exercises.</li> </ul>
Legislative mandate	<ul style="list-style-type: none"> <li>Whether the coordination entity has powers conferred on it by an Act to perform certain functional requirements.</li> <li>The objectives, scope, and approach to discharging any legislative powers should be defined in legislation and progressively explained in greater detail using other legislative instruments e.g. second reading speeches, explanatory memorandum, regulations, codes of practice and guidelines.</li> </ul>
Leadership and decision-making	<ul style="list-style-type: none"> <li>Leadership provides clear strategic direction for the coordination entity. Initiate strong leadership and articulation of responsibilities between government, industry and the community to produce outcomes that are informed and accepted.</li> <li>Transparent mechanisms are in place which set the framework for engagement between participants, their roles and responsibilities in relation to the pursuit of shared objectives.</li> <li>Trust amongst members and hierarchy shapes decision making procedures. Integrity, accountability, and trust can be achieved by: <ul style="list-style-type: none"> <li>Separating the regulatory assessment, approvals, enforcement and policy/legislative development functions for coordination functions in order to demonstrate competitive neutrality and impartiality, and engender public confidence in the independence and transparency of the coordination arrangements</li> <li>Consulting and engaging all relevant stakeholders in the planning, delivery, reporting and monitoring functions</li> <li>Periodically reviewing and adjusting particular coordination functions as required for predictability and effectiveness.</li> </ul> </li> </ul>
Structure and membership	<ul style="list-style-type: none"> <li>Resourcing of the coordination entity has the necessary blend of domain specialist, project management and administration skills and experience.</li> <li>Clear and agreed criteria define the composition (skills and experience) of any Board and/or advisory committee.</li> <li>Membership is fit for purpose ; based on a blend of individuals capable of representing, understanding and resolving issues and realising opportunities confronting the relevant stakeholder groups.</li> </ul>
Tenure	<ul style="list-style-type: none"> <li>The commencement and end dates of the coordination entity. Durability should be explicitly considered in its design and key dependencies are identified and managed, where possible.</li> </ul>

Attribute	Description
Participation (collaboration, engagement and consultation)	<ul style="list-style-type: none"> <li>Establish procedures for consultation, facilitation and engagement and provide for tailored participation by a broad spectrum of stakeholders at relevant stages.</li> <li>The body providing the facilitation should have a detailed understanding of the regional issues and needs.</li> <li>Models can vary in terms of level and timing of support provided to relevant entities.</li> <li>Facilitation involves more than just supporting entities through the rehabilitation process but also includes building relationships and positively influencing the rehabilitation process.</li> </ul>
Funding	<ul style="list-style-type: none"> <li>Funding arrangements are established at an early stage, including the source of and responsibility for management of funds, and how additional funds will be sought.</li> <li>Outgoings are monitored and reported to ensure transparency and financial integrity.</li> </ul>

## 4.2 Types of coordination models

The literature on coordination suggests three main models of coordination:

1. Self –governing;
2. Lead organisation;
3. Established authority.

### 4.2.1 Self-Governing model

The self-governing model depends on the involvement and commitment of all parties, or a significant number of participants that are involved in the network. Participants are selected to join the coordination model on the basis of their willingness to participate, their relative importance to achieving the desired outcomes and the range of broader stakeholder interests and views they represent. Coordination model member participants are themselves responsible for internal relationships and external engagement with other stakeholders and interested parties (Provan and Kenis, 2008).

Legitimacy for the coordination model is drawn from the recognition and acceptance amongst impacted stakeholders that there are challenges and opportunities to be addressed and uni-lateral action will not be an effective means of addressing them. A Self-Governing coordination model will not have legislative powers or recognition. It will exist solely on the basis that the participating entities perceive there is value to be gained from collaboration. As soon as the costs of participating begin to outweigh the benefits, members are likely to cease their involvement.

No distinct entity exists that is responsible for overseeing coordination activities. Power is symmetrical and decision making shared.

Funding of a Self-Governing coordination model relies solely on participating members contributing to the costs of undertaking agreed actions (this includes direct financial and in-kind contributions).

A Self-Governing coordination model develops and maintains relationships only with entities it believes to be important to achieving the agreed outcomes.

The key structural features of the model are summarised in Figure 4-1.

Figure 4-1 : Key structural features of the Self-Governing model

SELF-GOVERNING						
Authorising environment	Legislative mandate	Leadership and decision-making	Structure and membership	Tenure	Participation (collaboration, engagement, consultation)	Funding
Self-generated	N/A	Shared with elected or revolving chair drawn from membership	Ad hoc structure, all affected parties involved	As long as shared objectives continue and trust is maintained	Cooperation/collaboration among parties. Information sharing outside of the network requires collective approval	Membership levy or fees (financial or in-kind)

#### 4.2.2 Lead Agency

In a lead agency model, all major activities and decision-making is coordinated through and by a single participating party – resulting in brokered coordination arrangements. It is better suited to situations where there are (Provan and Kenis, 2008):

- Differences of opinion between parties;
- Parties are not fully committed to the same goals or;
- Trust, rather than being shared among parties, is centred on one or two member organisations.

The role of lead organisation may emerge by consensus among parties or may be mandated by an external funding source or authorising environment (e.g. Premier or Minister etc.). Formal agreements are typically entered into between different entities to clarify accountabilities, responsibilities and expectations.

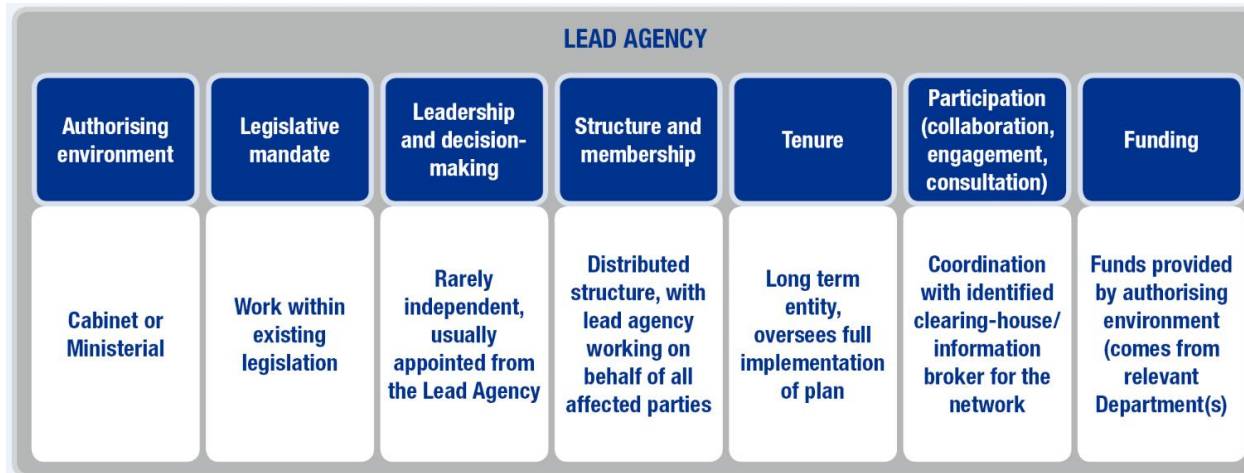
Lead Agency coordination is a well utilised model by the public sector. Lead Agency coordination model seeks to provide a single overarching interface between public sector, private entities and individuals to enable challenges and opportunities to be understood and analysed in a holistic and integrated manner.

Decision making is structured and transparent to all parties involved. The Lead Agency will usually establish a series of consultative forums and groups to gather relevant objective advice and input. Highly respected individuals (often independent of stakeholders and issues) may be appointed to chair consultative and advisory groups. Oversight of the Lead Agency can be assigned to a Board. Membership of the Board will be approved by the Authorising Environment and take into account the skills, experience and stakeholder representation needed to find sustainable long term solutions. A chair will be appointed typically from the Lead Agency.

A Lead Agency by itself will not have any legislative authority or power. It will work within and draw upon existing legislative obligations that apply to different entities in terms of their role and purpose. The Lead Agency will strive to identify gaps and overlaps in the overall legislative framework and work with entities to address those.

It may assume administration costs itself or accept contributions from other participants and has the capacity to pursue external resourcing in the form of grants/government funds.

Figure 4-2 : Key structural features of the Lead Agency coordination model



#### 4.2.3 Established Authority Coordination Model

Under an Established Authority model, a separate administrative entity is specifically established to govern the network and its activities, and sits external to the network (Provan and Kenis, 2008).

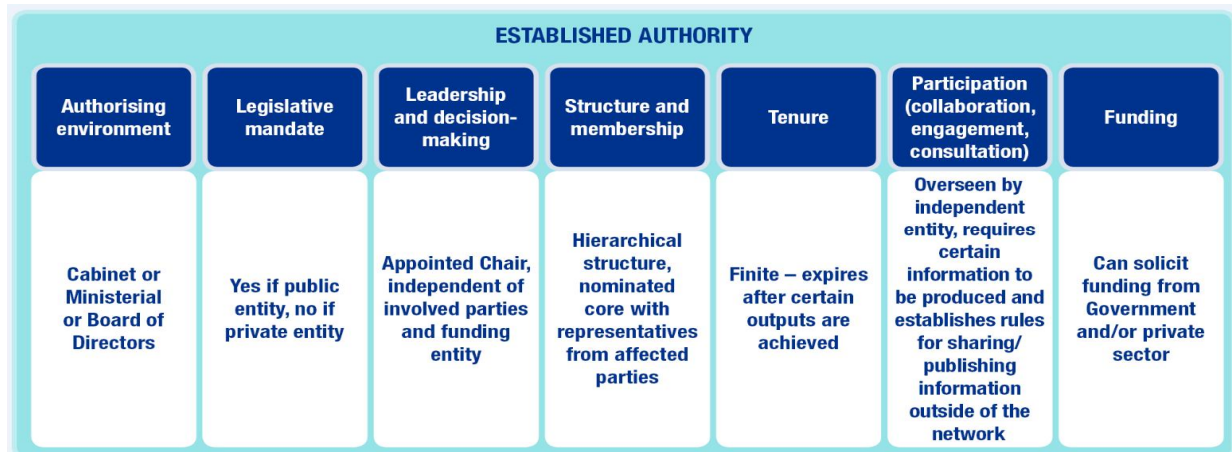
An Established Authority can be created either by legislation or by the establishment of a private company. The Established Authority will report to either a Minister or Secretary of a Government Department or a Board of Directors. Typically an independent chair is appointed to oversee the operations of the Established Authority and is accountable for the performance of the Established Authority. Board membership will be drawn from stakeholders with the relevant skills, experience and stakeholder insights to guide the Established Authority in achieving its desired outcomes.

As a legal entity its operation will be bound by laws relating to financial, contractual, employment and health and safety management etc.

Its tenure can be ongoing. In the public sector context, an Established Authority is often referred to as a Special Purpose Entity. Its tenure will usually last only as long as it takes to deliver the required outputs (e.g. typically some form of public infrastructure/redevelopment etc.). As a legal entity the Established Authority can enter into contracts with service providers. Under legislation or its constitution the Established Authority will have clear powers to perform certain delivery and implementation functions (conducted in accordance with the necessary financial and contractual delegations). In the public sector context the Established Authority may be granted powers to approve private proponent activities (e.g. granting planning approvals for new or redeveloped infrastructure).

Participation and collaboration with other relevant entities will take the form of consultative workshops, forums and in some cases formalised partnerships.

Figure 4-3 : Key Structural Features of the Established Authority coordination model



### 4.3 Examples of coordination models

Three case studies exploring real world applications of the three coordination models are presented below:

- Self-Governing Coordination Model – Upper Hunter Valley;
- Lead Organisation Coordination Model – Great Barrier Reef;
- Established Authority – Revitalising Central Dandenong.

The functional and structural elements of example coordination models are presented below. An overview, review of challenges and leading practice features provide context for an assessment of the advantages and disadvantages of the Self Governing, Lead Organisation and Established Authority coordination models in the context of the rehabilitation of three Latrobe Valley coal mines.

#### 4.3.1 Upper Hunter Valley (Self-Governing Coordination Model)

##### Overview

The Upper Hunter Valley is similar to the Latrobe Valley with an economy based on coal mining and electricity production. Hunter Valley has black coal, which creates different challenges for environmental management and rehabilitation.

##### Challenges

The Upper Hunter is a constrained physical environment, with the wide river flats historically used for agriculture including luxury equine properties. The communities of the Upper Hunter have increasingly come to rely on the economic growth associated with the expansion of the coal production, which is moving from open cut to underground operations further away from the Valley floor.

Water is an important shared resource. The NSW government's Upper Hunter Salinity Trading Scheme was one of the first cap and trade environmental management initiatives in Australia.

As the number of mines grew a requirement for coordination also increased. Over recent decades different coordination models have been used. Currently the Upper Hunter Mining Dialogue, led by industry undertakes coordination.

Previously (in the late 1990's) NSW Department of Urban Affairs and Planning was the lead agency to develop and implement the Upper Hunter Cumulative Impact Study. This Study identified four strategic directions and 39 actions to improve management of cumulative impacts:

- Strengthening the planning process;

- Strengthening environmental monitoring and data bases;
- Strengthening environmental management practices;
- Improve coordination liaison and participation.

An evaluation of implementation of the Study in 2000 found implementation of the 39 actions generally fulfilled the original Study objectives and highlighted on-going opportunities for adaptive approaches to managing cumulative impacts.

### Leading Practice Coordination Features

Eight coal-mining companies and the NSW Minerals Council have established the Upper Hunter Mining Dialogue to address concerns about pressures on infrastructure and services, land rehabilitation, water, affordable housing and air quality. The 70 members of Dialogue include coal producers as well as community and business leaders, environmental groups, residents, regulators and other industries.

The Dialogue is overseen by an Executive Steering Committee of senior mining company executives, an Industry committee of environmental and community relations managers and a Joint Advisory Steering committee comprised of mining, government and community representatives. The Advisory committee has the following objectives:

- Shape through strategic advice the direction of the Dialogue, its purpose, outcomes and service to the community;
- Provide oversight of the activities of the Dialogue and insights on how to achieve the best outcomes;
- Ensure the Dialogue remains effective and valued by all stakeholders;
- Continually improve the Dialogue and its contribution to the community and industry;
- Promote awareness about the work of the Dialogue and strengthen confidence within the community that areas of importance are being well managed and taken seriously.

The Dialogue was established in response to a stakeholder survey, which highlighted concerns about cumulative impacts of mining. Stakeholders agreed collaboration was necessary to address cumulative impacts. A workshop identified 83 ideas and ten immediate priorities for action. Some of the land management concerns have subsequently been addressed through the NSW government's strategic regional land use plan for the Upper Hunter.

Joint Working groups were established in 2011 and have been operating since to address the broader range of issues raised, through mining led projects and advocacy with government. Air quality, effective mine site rehabilitation and housing affordability are priorities of the Dialogue.

Currently the priorities are expanding beyond identified stakeholders to ensure the broader Hunter Valley community is aware of the Dialogue's progress.

The Upper Hunter Mining Dialogue is industry led. Operating since late 2010, it is based on collaboration, collective identification of problems and active participation in targeted projects. Information is transparent with annual workshops and joint working groups on:

- Emissions and health;
- Water;
- Land management;
- Social impacts and infrastructure.

Agendas, minutes, project notes and news reports are on the Dialogue's website.

Table 4.3 : Summary of leading practice functional attributes - Upper Hunter Mining Dialogue

Attribute	Summary of leading practice functional attributes
<b>Planning</b>	<ul style="list-style-type: none"> <li>Air quality is a major factor and daily pollution and weather predictions are on the Dialogue's web site. Annual workshops with reporting by Joint working groups, agendas and meeting minutes; specific project and news reports.</li> </ul>
<b>Delivery and Implementation</b>	<ul style="list-style-type: none"> <li>Air quality is a major factor and daily pollution and weather predictions are on the Dialogue's web site. Annual workshops with reporting by Joint working groups, agendas and meeting minutes; specific project and news reports.</li> </ul>
<b>Information and reporting</b>	<ul style="list-style-type: none"> <li>Air quality is a major factor and daily pollution and weather predictions are on the Dialogue's web site. Annual workshops with reporting by Joint working groups, agendas and meeting minutes; specific project and news reports.</li> </ul>
<b>Performance management and continuous improvement</b>	<ul style="list-style-type: none"> <li>Annual workshops offer opportunity to reassess progress and priorities; Urgency has moderated over the 4 years of the Dialogue, new and emerging challenges are identified and lack of implementation progress questioned facilitating shared performance review.</li> </ul>

Table 4.4 : Summary of leading practice structural attributes - Upper Hunter Mining Dialogue

Attribute	Summary of leading practice structural attributes
<b>Authorising environment</b>	<ul style="list-style-type: none"> <li>Auspiced by NSW Minerals Council</li> </ul>
<b>Legislative mandate</b>	<ul style="list-style-type: none"> <li>No legislation used to establish or operate Upper Hunter Mining Dialogue. Mines have worked collectively (by signing on as individual corporations) with the NSW government to undertake specific activities such as a strategic assessment of biodiversity under NSW and commonwealth legislation (outputs from which are used to inform Upper Hunter Mining Dialogue).</li> </ul>
<b>Leadership and decision-making</b>	<ul style="list-style-type: none"> <li>Industry leadership; spokespersons have changed over the 4 years of the Dialogue. Clear management hierarchy brings together senior executives, environmental managers and then the Joint Advisory Steering committee includes community and government representatives as well. Each management level of the Dialogue has a role statement and clear expectations on members' roles, responsibilities and accountabilities. For example all joint working group members have to sign up to a code of conduct to ensure they are willing to work collaboratively for common goals.</li> </ul>
<b>Structure and membership</b>	<ul style="list-style-type: none"> <li>Membership covers industry, government and community bodies.</li> <li>Involvement in the Upper Hunter Mining Dialogue indicates an organisation's interest in working with the industry to minimise the cumulative impacts of mining and does not necessarily signal an endorsement of the industry as a whole.</li> </ul>
<b>Tenure</b>	<ul style="list-style-type: none"> <li>Not specified; original goals for five years.</li> </ul>
<b>Participation (collaboration, engagement and consultation)</b>	<ul style="list-style-type: none"> <li>Inclusive – Anyone in the community can join a working group or attend annual workshop; Significant outreach through community accessible monitoring and reporting; Regular News reports and daily weather and air quality reports; Minutes and agendas for Working Groups on Web, Currently broadening engagement to reach members of the broader community through an additional engagement initiative.</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>All mining companies pay levies to NSW Mineral Council for collective projects; individual mining companies sponsor specific applied research and lead joint working groups with community and government involvement. Mining companies continue to pay for projects, monitoring and other Dialogue' activities.</li> </ul>

### 4.3.2 Great Barrier Reef Coordination Arrangements

#### Overview

The Great Barrier Reef is one of the largest World Heritage Areas on Earth stretching over 2,300km from just North of Bundaberg to the Northern top of Queensland.

Well known for its coral reefs but also a diversity of marine habitats such as coastal mangroves, sand, algal and sponge gardens, inter-reef communities and deep oceanic waters over 250km offshore), the Reef has rich natural beauty, heritage, and important social and economic values.

It is a significant contributor to the Queensland and Australian economy, attracting over 1.6 million visitors a year, contributing more than \$5 billion and supporting around 70,000 jobs (Department of the Environment, 2015).

#### Challenges

The Great Barrier Reef is roughly the same size as Italy or Japan, and its ecological diversity, long-standing multiple uses and susceptibility to external influences makes effective management challenging (Department of the Environment, 2015).

Management issues arise from direct and indirect human impacts, which may be short, medium or long-term in their effects including climate change (particularly sea level warming), agricultural runoff, coastal development and direct use. Impacts may be localised and related to a specific threat such maintenance dredging for ports or wide spread such as the quality of agricultural runoff. Hundreds of people are practically involved on the ground in implementing management practices (Jacobs, 2014).

Protection and management of the Reef is provided for in 26 separate Acts and Regulations, administered by 12 Commonwealth and State government departments (Jacobs, 2014). The Australian government is responsible for regulating activities that have or are likely to have a significant impact on Matters of National Environmental Significance (MNES) including the Great Barrier Reef Marine Park under the *Environmental Protection and Biodiversity Conservation Act (1999) (EPBC Act)*. Since 1975 the Great Barrier Reef Marine Park Authority has operated under specialist legislation, *The Great Barrier Reef Marine Park Act (1975)*.

GBRMPA reports to Australian Government Minister for the Environment (GBRMPA, 2015b). As its remit does not extend outside of the Marine Park, the Authority works closely with Australian and Queensland government departments, industries and communities whose actions have the potential to affect the ecosystem.

Despite its significant scale and complexity, the Great Barrier Reef Marine Park is one of the best managed marine areas in the world (Department of the Environment, 2015). It has embraced a risk-based, adaptive management approach to challenges facing the Reef and to improve resilience (GBRMPA, 2014), recognising that scientific certainty cannot be assured.

From 2011 to 2015 the Australian and Queensland governments have been working closely together to respond to the concerns of the United Nations World Heritage Committee over the adequacy of protection and management of the Reef.

#### Leading practice coordination features

Well established and effective coordination arrangements over the Great Barrier Reef are in place, formalised at a high-level between the Australian Prime Minister and Queensland Premier through the 2009 Great Barrier Reef Intergovernmental Agreement, which succeeds the original 1979 Emerald Agreement. The Agreement sets a strong framework for effective governance of the Reef between both spheres of government, with a set of objectives, guiding principles, and protocols for ongoing operation of the Great Barrier Reef Ministerial Forum.

Over the past 4 years the Ministerial Forum has overseen a comprehensive strategic assessment leading to development of Reef 2050 A Long Term Sustainability Plan for the Reef. This Plan was endorsed by the World



Heritage Committee and the Reef was not listed in danger. Implementation of this Plan is also the responsibility of the Ministerial Forum.

The Ministerial Forum is supported by a Standing Committee of senior officials from relevant Queensland and the Australian government departments. Both jurisdictions have nominated lead agencies to coordinate and deliver on Reef commitments including the Reef 2050 Plan.

Importantly Reef 2050 established two stakeholder committees to guide implementation of Reef 2050's 139 actions:

- A Reef Advisory Committee is comprised of representatives from a broad range of stakeholders to advise on development of policies and prioritisation of actions. It has an independent chair, Her Excellency Penelope Anne Wensley, and members include World Wildlife Fund, Ports Queensland and the Queensland Farmers Federation as well as GBRMPA and researchers;
- An Independent Expert Panel chaired by Australia's Chief Scientist advises on monitoring and reporting and the likely efficacy of specific proposed actions.

In reviewing the planning and management arrangements for the Great Barrier Reef World Heritage Area, there is evidence of effective working practices between Australian and Queensland government agencies at senior, executive and operational level. At an operational level for instance, joint management activities are planned and agreed upon over 12 months in advance. A high degree of trust is suggested by reef management positions being funded by the Queensland government, yet reporting directly to the Commonwealth (Jacobs, 2014)

Table 4.5: Summary of leading practice functional attributes - Great Barrier Reef coordination arrangements

Attribute	Leading Practice Functional Attributes
<b>Planning</b>	<ul style="list-style-type: none"> <li>• Major planning exercise for Reef 2050 Long Term Sustainability Plan led by Australian government with GBRMPA and Queensland, drafts worked through by multi-stakeholder partnership group, with participation from other stakeholders. Plan is based on a Vision, 7 Thematic Outcomes and performance targets.</li> <li>• The Intergovernmental Agreement defines roles for government authorities including GBRMPA State and national governments have identified lead agencies. The Reef Advisory Committee has its own Terms of Reference.</li> <li>• Planning is informed by risk based adaptive principles to help address inherent uncertainty in medium to long term planning.</li> </ul>
<b>Delivery and implementation</b>	<ul style="list-style-type: none"> <li>• Under the Reef 2050 Plan an Independent Expert Panel and Reef 2050 Advisory Committee have been established to advise on the implementation and review of Reef 2050 Plan. The majority of Actions are for governments through agency work plans coordinated through the nominated lead agencies Industry-led and indigenous initiatives are also being advanced.</li> </ul>
<b>Information and reporting</b>	<ul style="list-style-type: none"> <li>• Requirement under <i>Great Barrier Reef Marine Park Act 1975 (s.54)</i> is a 5 yearly publication of the Great Barrier Reef Outlook Report, examining health, pressures and likely future.</li> <li>• In 2014 a new integrated monitoring and reporting program was announced by GBRMPA, in association with partners including Australian Institute of Marine Science, CSIRO, James Cook University, industry and community groups; overseen by Independent Expert Panel. This commitment is also reflected in the Reef 2050 Plan, with specific advice from the Independent Expert Panel.</li> <li>• Information is sourced from Federal research programs, academic institutions, research agencies, community members and Traditional Owners.</li> <li>• The Reef 2050 Advisory Committee and Independent Expert Panel will report twice yearly to the GBR Ministerial Forum. Stakeholder working groups will report back to the Reef 2050 Advisory Committee.</li> </ul>

Review of potential coordination models for the rehabilitation of Yallourn, Loy Yang and Hazelwood Coal Mines in the Latrobe Valley



Attribute	Leading Practice Functional Attributes
<b>Performance management and continuous improvement</b>	<ul style="list-style-type: none"> <li>Review of Reef 2050 will be based on information from Outlook 2019 on the health of Reef values and management effectiveness. An adaptive management framework is included in Reef 2050 to track performance against specified targets in the Plan.</li> </ul>

Table 4.6 : Summary of leading practice structural attributes - Great Barrier Reef coordination arrangements

Attribute	Leading practice structural attributes
<b>Authorising environment</b>	<ul style="list-style-type: none"> <li>Intergovernmental Agreement on the Great Barrier Reef 2009 was signed by the Prime Minister and Queensland Premier.</li> </ul>
<b>Legislative mandate</b>	<ul style="list-style-type: none"> <li>The Intergovernmental Agreement is the primary mandate for policy directions.</li> <li>State and national legislation share similar objectives and cover all significant threats (except climate change) and provide appropriate protection for GBR values.</li> </ul>
<b>Leadership and decision-making</b>	<ul style="list-style-type: none"> <li>The Great Barrier Reef Ministerial Forum<sup>7</sup> oversees implementation of the Intergovernmental Agreement and Reef 2050.</li> <li>Independent Expert Panel is chaired by Australia's Chief Scientist to provide the required independence and credibility.</li> <li>The Reef Advisory Committee is currently chaired by former Queensland Governor General and appointed by Ministerial Forum to provide the necessary collaborative and inclusive environment.</li> <li>Charter of Operation sets out the procedures for functioning of committees – their reporting requirements, members' responsibilities, attendance and relationship. Reef 2050 was added as a schedule to the IGA in June 2015.</li> <li>Meetings of the Reef Advisory Committee and Independent Expert Panel are attended by senior executives of state and national lead government departments and GBRMPA.</li> </ul>
<b>Structure and membership</b>	<ul style="list-style-type: none"> <li>The formal mechanism for membership is established in the intergovernmental agreement that nominates roles and members for the Ministerial forum. The members of the standing committee of officials are those departments supporting the member ministers. Lead agencies in both jurisdictions are the environment departments along with GBRMPA.</li> <li>The Reef 2050 Advisory Committee membership includes senior representatives from Traditional Owners groups, agricultural industry, tourism and port operators, scientific bodies, local government, fisheries, NGOS and other special interest groups. Membership is nominated by the Ministerial Forum and publically listed.</li> </ul>
<b>Tenure</b>	<ul style="list-style-type: none"> <li>Directed by the Commonwealth and Queensland Governments through the Ministerial Forum; related to the 5 year focus of delivery of the initial tranche of actions in the Reef 2050 Plan.</li> </ul>
<b>Participation (collaboration, engagement and consultation)</b>	<ul style="list-style-type: none"> <li>Extensive participation in Reef 2050 plan development; grassroots participation in implementation through 12 Local Marine Advisory Committees, Reef Guardian Councils and Indigenous Reef Advisory Council in addition to more formalised Reef 2050 bodies.</li> </ul>
<b>Funding</b>	<ul style="list-style-type: none"> <li>National and Queensland government funding for joint actions, including responsibilities for secretariat for Committees and Ministerial Forum. Departmental and GBRMPA budgets and work plans cover actual implementation of actions.</li> </ul>

### 4.3.3 Revitalising Central Dandenong (Established Authority Coordination Model)

#### Overview

The City of Greater Dandenong is located approximately 30 kilometres out from Melbourne's Central Business District, and forms part of the south-east employment corridor stretching from Caulfield in the North to

<sup>7</sup> Previously known as the Great Barrier Reef Ministerial Council

Dandenong in the South, encompassing industrial, retail and manufacturing businesses. It is easily accessible by rail and major road network to eastern Victoria.

## Challenges

In the past twenty years Dandenong's urban centre has suffered declining economic prosperity and employment opportunities. Ageing buildings in the town centre and segmentation by the Princes Highway have depressed growth and reduced the amenity of the area (Department of Environment, 2014).

In contrast, suburbs beyond have experience rapid population growth. The City of Casey's population increased nearly 70% between 1996 and 2011 and remains one of the fastest growing regions in Australia with an expected annual growth rate of around 2.49% through to 2026 (Forecast id, 2014).

Figure 4-4 : Lonsdale Street, Dandenong prior to redevelopment (Domain, 2010)



## Leading practice coordination features

Revitalising Central Dandenong was a government-led initiative launched in 2003 to address growing unemployment, skills gaps and social and economic disadvantage in Central Dandenong. Its stated objectives were:

- Attracting over \$1.17 billion of private sector investment and new development as a stimulus for the revitalisation;
- Establishing it as a thriving service and economic hub for the south-east growth corridor;
- Strengthening the centre's capacity to sustain long-term growth by expanding opportunities for residential and commercial development in the centre, and by improving the physical infrastructure;
- Improving the overall amenity of the urban environment and strengthening the capacity of the city to respond to longstanding economic and social issues affecting the image and liveability of Dandenong.

Over its 7 year tenure, the DDB completed or facilitated over 50 projects focused on infrastructure, social, economic and community development (DPCD, 2010). A review conducted the year after it was wound down found that the depression in labour markets had been reversed, with 400 new jobs created since 2005, increase in patronage of Dandenong railway station of 30% and over 500 new dwellings built, with a corresponding 20% increase in the number of residents (since 2006) (VAGO, 2011). The RCD initiative was featured in the Commonwealth Department of the Environment's *Best Practice Case Studies for the Planning and Delivery of Employment Precincts in Suburban Locations*, published last year.

The Revitalisation of Central Dandenong was managed by the Dandenong Development Board (DDB). DDB was established under the *Dandenong Development Board Act 2003* and was the statutory authority responsible for facilitating its redevelopment. DDB received over \$1 million in funding per annum to cover staff costs and minor consultancy work.

DDB's membership comprised:

- The then Department of Planning and Community Development;
- Former Department of Transport;
- Former Department of Business and Innovation;
- Places Victoria (formerly VicUrban) as the land development agency;
- The City of Greater Dandenong;
- Business representatives from the private sector;
- The Office of Housing.

Through a single delivery authority (DDB) an integrated approach to land use planning, transport planning, urban infrastructure development resulted in a range of early actions to attract private investors to the area.

Upfront capital spending in land acquisition and in upgrading of local infrastructure sent a clear message '*Dandenong was open for business*'. DDB recognised that private sector investment would only arise if negative perceptions were addressed, including safety and ageing of the urban fabric (Department of the Environment, 2014).

Better integration of transport links was pursued in a coordinated way. DDB worked with a range of Government agencies (VicUrban, Department of Planning and Community Development, VicRoads, the Office of the Victorian Architect (Architecture AU, 2013)) on the \$25 million redevelopment of Central Dandenong's main thoroughfare, Lonsdale Street pictured in Figure 4-4 prior to redevelopment and Figure 4-5 following its redevelopment.

Multiple stakeholders worked together on revitalisation works schedules, delivering upgrades to the Monash Freeway, the opening of Eastlink in 2008 and the completion of Stockman's Bridge in 2010. Improved transport linkages have resulted in quicker access times to Melbourne CBD and are likely to have provided an additional draw to investors.

DDB was able to operate in a stable and clear policy environment. The Victorian Government recognised Dandenong as a major centre important to the State economy in 2002 (Melbourne 2030), designating it as a transit city for redevelopment. The State Government also sought funding from Infrastructure Australia for road and rail upgrades to Dandenong rail line and M1.

The *Dandenong Development Board Act 2003* expired on the 30<sup>th</sup> June 2010, ending the tenure of the DDB.

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Figure 4-5: Lonsdale Street, following redevelopment (City Green, 2015)



Table 4.7: Summary of Leading Practice Functional Attributes - Revitalising Central Dandenong

Attribute	Leading Practice Functional Attributes
<b>Planning</b>	<ul style="list-style-type: none"> <li>• Stable long term planning and policy environment provided certainty for investors (e.g. Melbourne 2030) and gave the DDB clear direction for the long term revitalisation.</li> <li>• Development of a long term masterplan by Places Victoria provided a clear strategic direction for the long term redevelopment of central Dandenong.</li> <li>• DDB worked closely with local council, State Government Agencies and academic institutions to develop a diversified and holistic economic development strategy.</li> </ul>
<b>Delivery and Implementation</b>	<ul style="list-style-type: none"> <li>• Projects were agreed and implemented via partnerships with local and state governments, businesses and community groups.</li> <li>• DDB had powers to enter into contracts, agreements or arrangements, including spending of money.</li> <li>• In addition to the primary construction focus, DDB along with other partners (e.g. local council, academic institutions) worked with existing businesses through delivery of business support and skills development training to improve their capacity to employ more people. For example: <ul style="list-style-type: none"> <li>- Improving access to training (Chisholm Institute of TAFE) and integration of training opportunities with government and private sector projects (including apprenticeships);</li> <li>- Engaging with business alliances to identify employment gaps and skills needs.</li> </ul> </li> </ul>
<b>Information and reporting</b>	<ul style="list-style-type: none"> <li>• DDB provided regular progress reporting on schedule, time and outputs to relevant government agencies.</li> </ul>
<b>Performance management and continuous improvement</b>	<ul style="list-style-type: none"> <li>• Vic Urban developed an evaluation framework for the revitalisation that included interim performance indicators for investment, land use, employment, and resident's perceptions. Evaluation framework was applied early in the revitalisation to develop a baseline.</li> <li>• A Victorian Auditor General Office audit in 2011 reported on the effectiveness of the RCD initiative.</li> </ul>

Table 4.8 : Summary of leading practice Structural Attributes - Revitalising Central Dandenong

Attribute	Description
<b>Authorising environment</b>	<ul style="list-style-type: none"> <li>The appointment of the Minister for Planning as the responsible authority expedited the planning process for approval of major developments, and gave greater confidence to investors that major development applications would be assessed consistently against strategic revitalisation objectives.</li> </ul>
<b>Legislative mandate</b>	<ul style="list-style-type: none"> <li>Revitalising Dandenong was supported by several pieces of legislation enacted in 2003 that provided the statutory powers to secure public and private investment, undertake all planning decisions and use early works to create “<i>development ready land</i>”: <ul style="list-style-type: none"> <li>Under the <i>Dandenong Development Board Act 2003</i> the DDB was established as the statutory authority responsible for facilitating development of Central Dandenong;</li> <li>The <i>Urban Renewal Authority Victoria Act 2003</i> provided the conduit through which the Victorian Government could channel investment in the initiative;</li> <li>Under s.34 of the <i>Victorian Urban Development Authority Act 2003</i>, 170 hectares of land were designed as a ‘declared project’ enabling Vic Urban (now Places Victoria) to acquire land compulsorily or by private treaty, levy an infrastructure recovery charge for new development, open and close roads and restrict/condition land use (Department of the Environment, 2014).</li> </ul> </li> </ul>
<b>Leadership and decision-making</b>	<ul style="list-style-type: none"> <li>Legislation and policy established clear lines of decision making and leadership.</li> <li>The Minister for Planning was appointed Responsible Authority for planning approvals.</li> <li>Places Victoria had clear responsibility for: <ul style="list-style-type: none"> <li>The Revitalising Central Dandenong Masterplan, including consolidating, re-servicing, subdividing and tendering the land for sale (Department of Environment, 2014);</li> <li>Acting as the referral authority for certain development applications going through the planning process.</li> </ul> </li> <li>DDB was responsible for industry and community consultation, undertaking studies and making recommendations to the Minister on works required to facilitate redevelopment.</li> </ul>
<b>Structure and membership</b>	<ul style="list-style-type: none"> <li>DDB was made up of representatives from local businesses, VicUrban, two Council representatives as well as representatives from several State Government departments. This provided for a coordinated and integrated approach to the redevelopment that considered the readiness of new and existing businesses to take advantage of the revitalisation.</li> </ul>
<b>Tenure</b>	<ul style="list-style-type: none"> <li>The DDB was a special purpose entity set up to oversee and deliver the revitalisation. Its role and purpose was clear. Therefore its tenure was set (commencement to the conclusion of the main works).</li> <li>The <i>Dandenong Development Board Act 2003</i> expired in 2010 and DDB was dissolved. Revitalisation continued to be progressed by City of Greater Dandenong with support and participation from Places Victoria and the former Department of Transport, Planning and Local Infrastructure.</li> </ul>
<b>Participation (collaboration, engagement and consultation)</b>	<ul style="list-style-type: none"> <li>Undertook community consultation at an early stage to assist in developing a shared vision for Central Dandenong.</li> <li>DDB worked closely with the Committee for Dandenong. Committee for Dandenong provides the impetus for local businesses, industry and the Council to pursue additional investment and attract complementary and strategic growth.</li> </ul>

Attribute	Description
<b>Funding</b>	<ul style="list-style-type: none"> <li>• Overall, the RCD initiative attracted substantial public and private sector investment, including:               <ul style="list-style-type: none"> <li>- \$290m from the State Government over a 15-20 year period (Places Victoria, 2015) with the aim of attracting \$1.17 billion in private sector investment;</li> <li>- Over \$100m from the City of Greater Dandenong to support revitalisation of Central Dandenong (Department of Environment, 2014, such as the \$26 million revitalisation of Dandenong Market);</li> <li>- From September 2006, an infrastructure levy charge was instated on all new commercial scale developments at 5 percent of their development value.</li> </ul> </li> </ul>

#### 4.4 Summary of lessons learnt from Case Studies

All three case studies are successful in responding to the real world challenges of their operating environment(s). The analysis indicates coordination approaches evolve over time and are most effective when 'fit for purpose.'

##### 4.4.1 Short, Medium and Long Term Planning

Developing plans to respond to the current objectives in the short and medium term was a strength of all three case studies. The Great Barrier Reef (Lead Agency) example is the only one with a long-term time frame to 2050.

Upper Hunter Mining Dialogue (Self-Governing) developed three year work plans that primarily involved identification of key issues and short term actions that could be taken to better understand the issue and therefore mine operators of potential changes in on-site mine management practices.

In all three case studies there was clear need for coordination. Opportunities and challenges were clearly articulated to the stakeholders. The nature of the opportunities and challenges were clearly shared. Uni-lateral action was shown to be ineffective.

##### 4.4.2 Delivery and implementation

The three case studies demonstrate various levels of success on actual delivery and implementation. The most capable body for delivery is illustrated with the Revitalising Central Dandenong (Established Authority) where the specially created Dandenong Development Board had statutory responsibility for delivery and implementation.

In the Upper Hunter Mining Dialogue (Self-Governing), clear accountability for delivery of identified research projects was allocated to specific mining companies. Results are shared on websites and annual forums, providing public accountability.

Over the years the Queensland and Australian governments have required relevant departments to undertake and report on allocated actions to protect the Great Barrier Reef in their work plans.

Both Upper Hunter Mining Dialogue (Self-Governing) and Great Barrier Reef Coordination Arrangements (Lead Agency) are examples of entities coordinating the actions of public and private entities without requiring a legislative mandate. The role and importance of overseeing the implementation of actions is agreed by members.

##### 4.4.3 Information and Reporting

Developing appropriate protocols for information gathering and reporting was evident in all three case studies. All coordination entities reported both directly to their Authorising Environment (e.g. Ministerial Forum, Industry led Executive Steering Committee or a specific Minister of the Government) and the general public.

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The Great Barrier Reef (Lead Agency) is known for the quality and timeliness of its integrated reporting on specified Reef attributes through Reef report cards and 5 yearly Outlook reports.

In the Upper Hunter Mining Dialogue (Self-Governing) mining companies have linked mine site monitoring data to provide up to date air quality data for the community.

#### **4.4.4 Performance management and continuous improvement**

There is variable evidence of performance management and continuous improvement amongst the case studies. The Great Barrier Reef (Lead Agency) is the most mature, with the Reef 2050 plan highlighting its approach to adaptive management. In the Upper Hunter the 4<sup>th</sup> annual Dialogue workshop (Self-Governing) reviewed progress and identified priorities that had not progressed sufficiently and emergent challenges for further consideration.

Due to the tenure of the Dandenong Development Board (Established Authority) being only seven years there was not an opportunity for the Board to have a key role in performance management. An evaluation framework was established early in the revitalisation and Local Council and relevant State Government Departments continue to monitor the effectiveness of the revitalisation investment.



## 5. Assessment of potential mine rehabilitation coordination models

This section outlines:

- Potential mine rehabilitation coordination model terms of reference/role;
- Identifies the advantages and disadvantages of using a Self-Governing, Lead Agency and Established Authority coordination model to undertake the potential coordination terms of reference/role;
- Assesses the possible applicability of the three coordination models to the situation confronting mine rehabilitation in the Latrobe Valley.

### 5.1 Potential mine rehabilitation coordination models terms of reference/role

Based on analysis of the issues that may benefit from coordination (refer section 3) and the literature review of coordination model's functional attributes, a potential terms of reference for a possible mine rehabilitation coordination entity/body can be formulated.

Analysis of the issues that may benefit from coordination showed a strong need for coordinated short, medium and long term planning. The table below summarises the mine rehabilitation issues that could potentially benefit from coordination in regards to:

- Development of short, medium and long term rehabilitation plans - coordinate the respective actions of individual mine operators (who have regulatory responsibility for their own mine rehabilitation plans), Latrobe City Council, Government Departments and Agencies with Economic Development, Regional Development, Water Resource Planning, Community Development, Health etc. responsibilities;
- The delivery/implementation of short, medium and long term rehabilitation plans - need to coordinate or undertake the execution of plans to help ensure efficient use of resources to achieve the desired outcomes;
- Information and reporting - coordination of information sharing between different entities (information may be commercially sensitive) and general public reporting on progress towards implementing rehabilitation and transition plans;
- Performance management and continuous improvement - the oversight of how effective, efficient and economical the overall rehabilitation and transition effort is and what can be done to achieve desired rehabilitation outcomes with more efficient use of resources.

Regulation (assessment and approval) of individual mine operator work plans and variations and/or water allocations was not identified from the research as needing to be within scope of any coordination entity. Based on the literature review and case studies regulatory assessments and approvals should remain at arm's length (to protect integrity and neutrality of the regulatory function) from entities with a policy development or coordination functions.

The table below represents a possible terms of reference for any future body or entity charged with the role of coordinating the short, medium or long term overall mine rehabilitation effort.

Table 5.1 : Summary of issues that may benefit from coordination and possible terms of reference/role for any future entity coordinating the overall rehabilitation effort

Attribute	Potential mine rehabilitation coordination terms of reference
<b>Short, medium and long-term planning</b>	<ul style="list-style-type: none"> <li>• Review future viable industries (land uses) for the Latrobe Valley and match with the rehabilitated landforms needed to support different future viable industries.</li> <li>• Ongoing engagement with local communities regarding how rehabilitated mined areas could contribute to improved community liveability and amenity in the short, medium and long term.</li> <li>• Coordinate planning and communication with community and other relevant entities regarding the implications of the final landforms need to be safe and stable for achieving other desired</li> </ul>

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Attribute	Potential mine rehabilitation coordination terms of reference
	<p>economic, environmental and community outcomes.</p> <ul style="list-style-type: none"> <li>• Review current and future land use zoning to identify constraints to potential land uses and rehabilitated landforms in planning and environmental regulatory processes and engage with relevant regulators to address issues.</li> <li>• Develop a long term vision for the mined rehabilitated areas informed by the Latrobe Valley's desired economic, liveability and environmental future.</li> <li>• Develop clear and achievable short, medium and long term community orientated, economic, environmental and community safety outcomes that can be used to assess the merits and implications of different final landforms.</li> <li>• Coordinate the viability of moving materials between mines and/or access materials from another source.</li> <li>• Develop an integrated and holistic mine rehabilitation research plan that can be used to guide research in the areas of regional water resource management, water quality, climate change, flooding, mine stability/weight balance and fire.</li> <li>• Assess the costs and benefits (in regards to regional economy, private entities and individuals) of different future land uses and rehabilitated final landforms based on vision, outcomes and research findings.</li> <li>• Devise community engagement strategies to provide the financial and human resources to achieve final landforms capable of contributing to improved community liveability.</li> <li>• Devise investment attraction strategies to provide the financial and human resources to achieve final landforms capable of supporting future viable industries (including provision of other required enabling infrastructure, skilled labour, land use zones etc.).</li> <li>• Devise an overall mine rehabilitation and transition plan (short, medium and long term) that can inform the coordination and sequencing of the individual actions of stakeholders involved in mine rehabilitation.</li> </ul>
<b>Delivery and implementation</b>	<ul style="list-style-type: none"> <li>• Execute community engagement strategies to secure the financial and human resources to achieve final landforms capable of contributing to improved community liveability.</li> <li>• Execute investment attraction strategies to secure the financial and human resources to achieve final landforms capable of supporting future viable industries (including provision of other required enabling infrastructure, skilled labour, land use zones etc.). This could include a role in promoting, attracting and facilitating investment from private entities seeking to use rehabilitated land.</li> <li>• Coordinate research effort and findings across stakeholders to find regional solutions to technical mine rehabilitation issues (water, stability etc.).</li> <li>• Ensure that mine rehabilitation and transition planning (short, medium or long term) is responsive to changes in estimated mine closure dates.</li> </ul>
<b>Information and reporting</b>	<ul style="list-style-type: none"> <li>• Solicit information from relevant stakeholders on progress in the implementation of mine rehabilitation and transition plans (mine operators, relevant Government Departments, Local Council etc.).</li> <li>• Produce public reports regarding the progress of implementation.</li> <li>• Provide a forum or mechanism for different entities to share commercially sensitive and confidential mine planning and rehabilitation data and information to inform their planning.</li> </ul>
<b>Performance management and continuous improvement</b>	<ul style="list-style-type: none"> <li>• Provide advice and guidance to Government, Mine Operators and Local Council regarding addressing substantial impediments to achieving desired mine rehabilitation outcomes.</li> <li>• Review effectiveness of the coordination entity at sharing information, reaching agreement, stakeholder collaboration, sourcing funds.</li> </ul>

Review of potential coordination models for the rehabilitation of Yallourn, Loy Yang and Hazelwood Coal Mines in the Latrobe Valley

Attribute	Potential mine rehabilitation coordination terms of reference
	<ul style="list-style-type: none"> <li>Strong ongoing coordination to mitigate against the risk of future stakeholder decisions and actions that are inconsistent with the agreed rehabilitation outcomes and process.</li> </ul>

## 5.2 Assessment of advantages and disadvantages of potential mine rehabilitation coordination models

This section outlines the advantages and disadvantages of using either a Self-Governing, Lead Agency or Established Authority coordinating model to undertake the potential terms of reference (functional attributes) of a Latrobe Valley Mine Rehabilitation Coordinating entity/body.

### 5.2.1 Self-Governing Coordination Model

Table below summarises the key structural attributes of Self-Governing coordination model (refer to section 4.2.1).

Figure 5-1 : Summary of key structural attributes of Self-Governing Coordination Model

SELF-GOVERNING						
Authorising environment	Legislative mandate	Leadership and decision-making	Structure and membership	Tenure	Participation (collaboration, engagement, consultation)	Funding
Self-generated	N/A	Shared with elected or revolving chair drawn from membership	Ad hoc structure, all affected parties involved	As long as shared objectives continue and trust is maintained	Cooperation/ collaboration among parties. Information sharing outside of the network requires collective approval	Membership levy or fees (financial or in-kind)

### Advantages and disadvantages of the Self-Governing Coordination Model

Table 5.2 : Advantages and disadvantages of the Self-Governing Model

	Advantages	Disadvantages
<b>Planning</b>	<ul style="list-style-type: none"> <li>Flat structure conducive to visioning and developing plans as all stakeholders involved in rehabilitation participate on an equal basis.</li> <li>Low cost to operate, doesn't require legislation to be developed and implemented and requires minimal overhead/secretariat resourcing.</li> </ul>	<ul style="list-style-type: none"> <li>Rehabilitation outcomes and planning priorities may not be evidenced based as planning process may not follow a systematic planning methodology (government, operators, council brings with them their own planning methodology).</li> <li>Unlikely to have sufficient resources to undertake level of community consultation needed. Would need to rely on members to undertake community consultation on its behalf.</li> <li>Lack of power to force conversations on difficult or entrenched rehabilitation issues or potential conflict between economic, social, environmental outcomes and regulatory obligations.</li> <li>Self-governing model may be poor at conflict resolution in a contestable environment (e.g. sustainable solution to long term water use).</li> </ul>

	Advantages	Disadvantages
		<ul style="list-style-type: none"> <li>Relies on strong leadership from a member entity capable of setting aside their own self-interest to pursue broader rehabilitation outcomes unless all entities can agree to independent chair/leadership structure. Independent chair will only remain as long as member entities respect chair's opinion and direction.</li> </ul>
<b>Delivery and implementation</b>	<ul style="list-style-type: none"> <li>More effective in facilitating coordination where there are asymmetries in capabilities/resources between key parties (e.g. local council, large Government departments, small community organisations, mine operators etc.).</li> <li>Use member's power or skills to implement efficiently and effectively short term research style projects (individual mines and individual Departments take lead specific research projects concerning stability, water, fire etc.).</li> <li>Low cost to operate, doesn't require legislation to be developed and implemented and requires minimal overhead/secretariat resourcing.</li> </ul>	<ul style="list-style-type: none"> <li>Lack of enforcement mechanisms to deter non-cooperative behaviour.</li> <li>Lack of clarity of accountability regarding actions to be taken and by when (e.g. no influence over entities assigned responsibility to conduct or procure research, develop land use plans for mined areas etc.).</li> <li>Lack of structure and certainty of tenure to oversee delivery and implementation of scale "capital" projects (if mine rehabilitation requires upgrading of some non-mine site infrastructure to help attract future private or public investors will not have capacity to coordinate or oversee).</li> <li>Lack of legal entity prevents entering into contracts to secure services or third party funding. Relies of individual members to use their own legal entity to secure required services.</li> <li>Potential to suffer from lack of transparency as formal decision making structures and processes not apparent to all members (e.g. reasons for changing of research priorities, choosing not pursue a certain final landform or future land use may not be as apparent to general public).</li> </ul>
<b>Information and reporting</b>	<ul style="list-style-type: none"> <li>Can collectively identify information needs and optimal reporting frameworks (e.g. entities report on progress in terms of completing research, attracting potential investors, completing rehabilitation plans etc.).</li> <li>Low cost to operate, doesn't require legislation to be developed and implemented and requires minimal overhead/secretariat resourcing.</li> </ul>	<ul style="list-style-type: none"> <li>Absence of a central entity means format and timing for information reporting may not be standardised and limit useability (e.g. reporting could be limited to half yearly/yearly so as to create an unreasonable burden).</li> <li>Inefficiencies and information asymmetries are likely in the absence of formal agreement on information sharing (e.g. entities will not share confidential data with other entities due to lack of legal protection regarding unauthorised use).</li> </ul>
<b>Performance management and continuous improvement</b>	<ul style="list-style-type: none"> <li>Conducive to honest reporting and feedback as cooperative arrangements are self-administered and do not directly link to public funding.</li> <li>Low cost to operate, doesn't require legislation to be developed and implemented and requires minimal overhead/secretariat resourcing.</li> </ul>	<ul style="list-style-type: none"> <li>Capacity and appetite for performance review may wane, or fall to particular entities.</li> <li>Trust and willingness for rigorous evaluation may be become eroded over time.</li> </ul>

## 5.2.2 Lead Agency Model Coordination Model

Table below summarises the key structural attributes of Lead Agency coordination model (refer to section 4.2.2).

Figure 5-2 : Key Structural Features of Lead Agency Coordination Model

LEAD AGENCY						
Authorising environment	Legislative mandate	Leadership and decision-making	Structure and membership	Tenure	Participation (collaboration, engagement, consultation)	Funding
Cabinet or Ministerial	Work within existing legislation	Rarely independent, usually appointed from the Lead Agency	Distributed structure, with lead agency working on behalf of all affected parties	Long term entity, oversees full implementation of plan	Coordination with identified clearing-house/ information broker for the network	Funds provided by authorising environment (comes from relevant Department(s))

Table 5-3: Advantages and disadvantages of the lead agency model

	Advantages	Disadvantages
<b>Planning</b>	<ul style="list-style-type: none"> <li>Strong as lead agency establishes framework for coordination and shoulders administrative responsibilities to bring rehabilitation parties together.</li> <li>Can appoint the necessary independent and skilled board advisers (e.g. rehabilitation, regional development, community development, water etc.) through the formal authorising environment (e.g. appointed by Ministers).</li> <li>Plans able to reflect priorities without self-interest of specific stakeholders unduly influencing priorities.</li> <li>Certainty of tenure enables more robust long term planning (e.g. develop a 50 year rehabilitation plan).</li> <li>Likely to have the resources to undertake community consultation required in collaboration with key partners.</li> <li>Able to apply a consistent and robust planning methodology capable of delivering long term plans.</li> </ul>	<ul style="list-style-type: none"> <li>May not be able to achieve the same degree of buy-in as a fully self-governing model.</li> <li>Incurs overhead costs to establish and manage clear agreements between entities involved.</li> <li>The selected lead agency will require additional skills and experience to work collaboratively with other agencies.</li> </ul>
<b>Delivery and implementation</b>	<ul style="list-style-type: none"> <li>More effective in facilitating coordination where there are asymmetries in capabilities/resources between the rehabilitation parties.</li> <li>Use of legal structures to enter into contracts with service providers and receive third party funding (e.g. secure Commonwealth and State Government</li> </ul>	<ul style="list-style-type: none"> <li>May be perceived to be duplicating or confusing roles and existing functions e.g. uncertainty amongst stakeholders how does role of lead agency relate to the role of Earth Resources Regulation Victoria or Southern Rural water in terms of work plan variations and water allocations.</li> <li>Transfer of responsibilities and resources from</li> </ul>

	Advantages	Disadvantages
	<p>funding from different programs).</p> <ul style="list-style-type: none"> <li>As a legal entity can receive and protect confidential information to enable sharing with other agreed parties.</li> <li>Use independent and skilled board advisers through the formal authorising environment.</li> <li>Formal decision making structures and processes and engenders confidence in stakeholders by making them transparent and visible.</li> </ul>	<p>existing agencies may be contested (e.g. water, rehabilitation, health, community development, regional development, land use planning etc.)</p> <ul style="list-style-type: none"> <li>Implementation subject to priority within each agency (lead agency has oversight but only controls its own resources). Incurs overhead costs to establish and manage clear agreements between entities involved.</li> <li>Lack of meaningful sanctions for inadequate implementation.</li> </ul>
<b>Information and reporting</b>	<ul style="list-style-type: none"> <li>Brokered arrangement may help to ensure best available information is available to participants.</li> <li>Identification of information gaps easier and lower risk of duplication. Provides a single point of reference for Academic Institutions undertaking research into rehabilitation issues.</li> </ul>	<ul style="list-style-type: none"> <li>While information format may be agreed; lack of meaningful sanctions for inadequate or inaccurate or late reporting. Incurs overhead costs to establish and manage clear agreements between entities involved.</li> </ul>
<b>Performance management and continuous improvement</b>	<ul style="list-style-type: none"> <li>More likely to have the resources/to commission independent review.</li> <li>Opportunity for lead agency to demonstrate leadership and competence in working effectively in a contested rehabilitation effort.</li> </ul>	<ul style="list-style-type: none"> <li>Performance reporting and continuous improvement may be limited unless actively prioritised by lead agency and relevant stakeholders.</li> <li>Lack of meaningful sanctions for inadequate performance and incentives for review. Incurs overhead costs to establish and manage clear agreements between entities involved.</li> </ul>

### 5.2.3 Established Authority Coordination Model

Table below summarises the key structural attributes of Established Authority coordination model (refer to section 4.2.3).

Figure 5-3: Key structural features of Established Authority Coordination Model

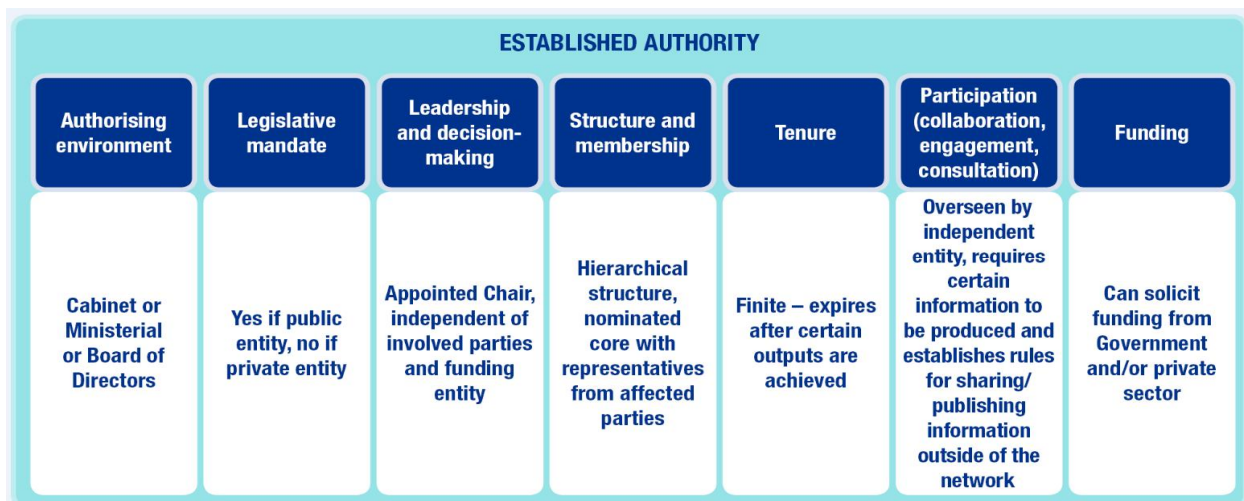


Table 5.4 : Advantages and disadvantages of the Established Authority model

	Advantages	Disadvantages
<b>Planning</b>	<ul style="list-style-type: none"> <li>• Strong as establishes authority for coordination and shoulders administrative responsibilities to bring parties together.</li> <li>• Membership of coordination can bring complementary skills to that of other participants e.g. investment facilitation, community engagement, conflict resolution etc.</li> <li>• Typically a final single approving entity for all major plans, provide certainty as to who is approving plans and on what basis.</li> <li>• Certainty of tenure enables more robust long term planning (e.g. develop a 50 year rehabilitation plan).</li> <li>• Likely to have the resources to undertake community consultation required in collaboration with key partners.</li> <li>• Able to apply a consistent and robust planning methodology capable of delivering long term plans.</li> <li>• Structure can be devised to seek multiple inputs into key planning issues from different perspectives (e.g. independent technical and scientific advisers, independent energy market advisers etc.)</li> </ul>	<ul style="list-style-type: none"> <li>• May not be able to achieve the same degree of buy-in from stakeholders (perceived as either a government or industry lead or run authority).</li> <li>• Can become overly complex and potentially unrepresentative (perceived to reflect the interests of Government or Board of Directors and approval of plans lost in too many checks and balances).</li> <li>• If only performing a planning function is likely to be an inefficient use of resources (establishing authority through legislation/legal structure, resourcing authority, setting up necessary internal systems etc.).</li> <li>• Can be perceived as an additional regulatory burden by private sector entities if not delivering clear value for private sector entities (e.g. finding practicable, effective and sustainable solutions to technical issues, providing clarity regarding desired economic, social and environmental rehabilitation outcomes etc.).</li> </ul>
<b>Delivery and implementation</b>	<ul style="list-style-type: none"> <li>• Functional responsibilities are articulated in legislation or constitution. If a public sector agency, acts as one-stop shop by providing some regulatory approvals (e.g. land use planning) and helps to streamline the implementation process.</li> <li>• Legal entity able to enter into contracts with service providers and able to accept and manage confidential data from entities to help inform short, medium and long term planning and implementation.</li> <li>• Provides brokering role where there are low levels of trust among participants</li> <li>• Formal structure and role is less susceptible to change (e.g. harder to change as requires change in legislation or in constitution).</li> <li>• Can commit financial resources to progress implementation.</li> <li>• Can attract other public and private sector funding to offset costs.</li> <li>• Can build in appropriate sanctions (e.g. withholding of information, exclusion from planning and operations meetings, redirection of funding etc.).</li> </ul>	<ul style="list-style-type: none"> <li>• May be perceived to be duplicating or confusing roles and existing functions e.g. may have some land use approval powers which could be perceived as a conflict of interest by some stakeholders.</li> <li>• Transfer of responsibilities and resources from existing agencies may be contested.</li> <li>• Implementation subject to priorities within collaborating agencies.</li> <li>• High cost coordination model – requires full range of management and administrative functions (e.g. procurement, probity advisers, legal advisers, project managers etc.).</li> </ul>

	Advantages	Disadvantages
<b>Information and reporting</b>	<ul style="list-style-type: none"> <li>Formal data and information sharing protocols and systems may help to ensure best available rehabilitation information is made available to participants with the necessary controls and caveats.</li> <li>Impartial external entity means information is less likely to be challenged by external stakeholders, yet could be independently reviewed before release.</li> </ul>	
<b>Performance management and continuous improvement</b>	<ul style="list-style-type: none"> <li>If established as a public sector entity is subject to review by other areas of Government (e.g. Victorian Auditor General Offices).</li> <li>If private sector entity subject to minimum oversight, disclosure and reporting requirements</li> </ul>	<ul style="list-style-type: none"> <li>More limited in its capacity for evolution in response to changing demands.</li> </ul>

### 5.3 Additional Comparative Factors for Coordination Models

Research into participatory decision-making (e.g. agreeing long term vision and outcomes for rehabilitated mined areas) suggests that in addition to structural and functional design, attention should be paid to three underlying tensions in coordination between parties (Provan and Kenis, 2008):

- How to balance administrative efficiency against the objective of participatory decision-making? This is likely to be particular concern with planning for mine rehabilitation, where broader indicators of effectiveness are needed for long-term outcomes (e.g. 30 – 40 years away) that may appear inefficient in the short-term.
- How to reconcile internal legitimacy (parties' internal goals and accountabilities) versus external legitimacy (understanding community expectations, securing funding, commissioning research and studies, developing viable potential post mining industries at some or all of the mined areas)? A Self-Governing model will tend to favour internal legitimacy whilst a Lead Agency structure will prioritise external legitimacy needs. The established authority model addresses both, but typically separately.
- How to achieve resilient coordination arrangements, characterised by both flexibility and stability? The Self-Governing model will naturally be most amenable to change, whilst the other two models will favour durability.

Self-Governing (decentralised) arrangements may initially be effective as a result of shared enthusiasm among participants to address important rehabilitation issues. As activities and involvement shift from high-level strategic planning into executing actions contained in short to medium term plans, oversight of execution may pose a strain on the Self-Governing coordination arrangements. It may be necessary to shift to a more resourced and structured coordination model such as a Lead Agency model (greater centralisation) (Provan and Kenis, 2008).

### 5.4 Coordination Models in the context of the Latrobe Valley

Each of the coordination models has advantages and disadvantages for application in different situations. The analysis below summarises overall strengths and weaknesses of the coordination models in the context of the Latrobe Valley Mine Rehabilitation.

#### 5.4.1 Comparative analysis of structural attributes

##### Structure, membership and reporting arrangements

Clarity of responsibility for Structure and Membership is most evident in the more hierarchical models such as the Established Authority or Lead Agency. Alternatively members who volunteer to be involved such as in the



Self-Governed model may be more motivated than those who are co-opted under the Lead agency or Established Authority model.

Depending on the pace and scale of action needed to address the issues, each model is capable of designing structures that provide forums and mechanisms to engage all stakeholders (e.g. Executive Steering Committee, Independent Advisory Committees focused on specific issues etc.). If urgent action is needed the Established Authority or Lead Agency models are most suitable as it has the dedicated resources. If there is sufficient time to develop vision, outcomes and plans, the Self-Governing model is suitable as the frequency and extent of stakeholder involvement can be spread over a period of time.

Clarity of purpose including terms of reference and functional roles comes from the Authorising Environment. The Established Authority is the strongest because of the explicit specification of role and responsibilities (e.g. exact planning, delivery/implementation, information and reporting and performance monitoring functions). The Lead Agency model may be strengthened through task clarification as illustrated with the intergovernmental agreement for the Great Barrier Reef (e.g. formal agreements between Latrobe Valley City Council, Victorian State Government and Commonwealth Government regarding rehabilitation and transition planning etc. with regards to resourcing etc.).

Responsibility for Leadership and Decision-making may be situational or specified. Models with appointed and, particularly with an independent chair, are seen as the most robust approaches for leadership. The role of the Australian Chief Scientist in chairing the Independent Scientific Advisory Committee for the Great Barrier Reef is interesting in the context of the mine rehabilitation given the contestability and complexity of issues such as water availability, stability, fire controls etc.

## Legislation

A Lead Agency utilises existing legislation to specify responsibilities and authority within the network. The strongest legislative mandate is illustrated by the legislative or clear policy mandate for Established Authorities.

Legislation is not required for the coordination model to perform planning or performance monitoring functions. The following planning functions don't appear to warrant specific legislation:

- To set a long term vision for the rehabilitation of the mined areas;
- Determine clear economic, safety, community and environmental outcomes for post mining land uses;
- To undertake the assessments of different potential final landforms and to produce robust plans to help achieve the desired outcomes (focused on long term solutions to address technical issues, attracting investment into post mining land uses).

A clear mandate and consensus from stakeholders appears sufficient to legitimise planning and performance monitoring.

Specifically delivery and potentially information and reporting may benefit from legislative powers. If the Authorising Environment for coordination entity wishes for it to take a direct role in the delivery of rehabilitation outcomes the coordination entity would require specific legislative powers (e.g. leading and implementing the redevelopment of infrastructure located in close proximity to mines and not on the mine site to attract potential investment in post mining land uses) An example of this is Dandenong Development Board.

Presently statutory planning powers largely reside with the Latrobe City Council (depending on the size and scale of the project) as the responsible authority<sup>8</sup>. A number of other statutory land use planning controls exist in regards to the Latrobe Valley coal mines (Special Use Zone – Schedule 1 – Brown Coal<sup>9</sup>, State Resource

<sup>8</sup> The Latrobe Planning Scheme comprises both the Victorian Planning Provisions and local planning provisions established by Latrobe City Council, the responsible authority. The Council sets zone and overlay controls for land use and determines whether to permit certain land use and development applications (DELWP, 2015).

<sup>9</sup> Its purpose is to provide for brown coal mining, electricity generation and associated uses, and interim, non-urban uses that protect the brown coal resource. Land use applications have to demonstrate there is a strong benefit or need to establish close to brown coal mines. In determining an application, regard is to be had to the effect of the proposed use on brown coal mining and residential zones, and the effect of brown coal use on the proposed use (DELWP (2015d) Latrobe Planning Scheme: Schedule 1 to the Special Use Zone [http://planningschemes.dpcd.vic.gov.au/schemes/latrobe/ordinance/37\\_01s01\\_latr.pdf](http://planningschemes.dpcd.vic.gov.au/schemes/latrobe/ordinance/37_01s01_latr.pdf))

Planning Zones Overlay<sup>10</sup>, and Environmental Significance Overlay<sup>11</sup>). The review has not assessed the appropriateness of existing statutory land use controls in regards to enabling mine rehabilitation and transition to potential post mining land uses.

Closure and rehabilitation of the Hazelwood, Yallourn or Loy Yang mines may require reconsideration of the current land use controls aimed at protecting the brown coal resource and nearby communities. A coordination entity tasked with facilitating the transition to potential post mining land uses would need to work closely with Latrobe City Council, or could assume a strategic and/or statutory land use planning function for a specified area that would encompass the three brown coal mines.

Effective management will be dependent on the entity's understanding of its role and longevity, which could be strengthened with a legislative mandate.

## Tenure

The proposed duration of an entity may be determined through a specific tenure for an Established Authority or be organic, according to the urgency of the objectives, especially in the Self-Governing model. The nature of the coordinating body may alter over time as illustrated by the Upper Hunter case study or may have a finite tenure as for an Established Authority. A Lead Agency may be allocated a coordination role as long as it performs effectively and political will for the role is maintained. A Lead Agency can continue indefinitely, although they may change from department to department with political or machinery of government changes.

Given the duration of the rehabilitation effort (upwards of 30 – 40 years) it is highly unlikely that one coordination model can be used to perform all required functions over that period of time. It is essential that the vision and outcomes for the rehabilitated mined areas are strong and stable. The structure and tenure of any potential coordination model will most likely evolve based on the phase of the rehabilitation effort (e.g. early high-level planning may best suit a Self-Governing type model, detailed planning and execution of actions needed to resolve technical issues and identify potential post mining land uses may best suit a Lead Agency model and the physical implementation of new post mining land uses could best suit an Established Authority model).

## Funding

Funding mechanisms vary between the models. A Lead Agency may have a specified budget for the purpose or may be expected to deliver the coordination activity along with its other statutory requirements.

Concerns about cost shifting may emerge from network stakeholders. Setting up an Established Authority requires budget allocation and is the most costly. However this commitment could be reconsidered over time or with political or legislative changes.

The Established Authority has the resources and potential authority to source funding from multiple sources including:

- Potential development levies on post mining land uses (e.g. similar to Revitalising Central Dandenong);
- Commonwealth funding from relevant programs and initiatives targeting regional areas;
- State Government funding from relevant programs and initiatives targeting regional areas;

<sup>10</sup> Its purpose is to provide for the protection of the Gippsland Coalfields. Effectively restricts development that would inhibit, including development that would impose significant cost on, extraction of the resource. Development applications within 1km of a Mining Licence must submit a fire management plan that is to the satisfaction of the responsible authority. Certain types of applications<sup>10</sup> must be referred to the Secretary of the Department responsible for administering the *Mineral Resources Development Act* i.e. DEDJTR. (DELWP (2015b) Latrobe Planning Scheme: Schedule 1 to the State Resource Overlay. [http://planningschemes.dpcd.vic.gov.au/schemes/latrobe/ordinance/44\\_07s01\\_latr.pdf](http://planningschemes.dpcd.vic.gov.au/schemes/latrobe/ordinance/44_07s01_latr.pdf))

<sup>11</sup> Its purpose is to provide an urban buffer that provides for 'mutual protection of urban amenity and coal resource development and continued social and economic productive use of land'. It effectively protects settlements from changes to the environment generated by the coal industry, and provides for development that is compatible to Brown Coal Open Cut land use (including reserves, plantations and farming or forestry works, except dwellings). (DELWP (2015c) Latrobe Planning Scheme: Schedule 1 to the Environmental Significance Overlay [http://planningschemes.dpcd.vic.gov.au/schemes/latrobe/ordinance/42\\_01s01\\_latr.pdf](http://planningschemes.dpcd.vic.gov.au/schemes/latrobe/ordinance/42_01s01_latr.pdf))

- Local Council funding from relevant programs and initiatives;
- Allocation of mining royalty payments received from the coal mines;
- Use of other infrastructure financing mechanisms being considered at the relevant time by Commonwealth and State Governments.

The Self-Governing model requires participants to prioritise and fund activities of the entity. This is suitable for early stages of planning where funding is primarily used to undertake research studies and investigations.

### Inter-Relationships

Participation, engagement and consultation are a challenge for all three models. While Self-Governing appears to inherently facilitate participation, transparency of decision-making and flexibility of membership are potential drawbacks. Both formal structures, Lead Agency and Established Authority, require a clear strategy to ensure engagement and participation.

The role of the Lead Agency and Established Authority must be explicit in regards to the roles of existing regulators. There is potential for stakeholders (particularly general public) to blur the roles of the coordinating entity and the regulators. In their eyes, a lack of clarity would create further uncertainty about the capacity to achieve the desired rehabilitation outcomes.

Provision of independent expert scientific advice is likely to be a key inter-relationship. Each coordination model can be tailored to be fit for purpose for the mine rehabilitation issues. Given the importance of mine stability/weight balance, water availability and quality and fire prevention issues, a coordination model would most likely involve the use of expert scientific advisers (e.g. similar to the models set up for Upper Hunter valley Mining Dialogue and Great Barrier Reef). This could involve thematic based advisory groups (e.g. one for fire, one for mine stability/weight balance etc) or a multi-disciplinary advisory group.

There are several bodies that already provide scientific technical advice to parties involved in the Latrobe Valley coal mines (e.g. Mine Stability Technical Review provides advice to the Victorian Government, Federation University's Geotechnical and Hydrogeological Engineering Research Group).

Each party with a direct interest in the Latrobe Valley coal mines is fully entitled to obtain and retain their own scientific technical advisers. In the interests of the coordination model's independence, scientific advisers engaged to advise the coordination model would most likely need to declare their other advisory interests to protect the integrity and objectivity of their advice.

Coordination models with sufficient resourcing (e.g. Lead Agency and Established Authority) are best placed to produce, enforce and track disclosure requirements (especially important given the timeframes proposed for the rehabilitation).

A stakeholder's acceptance of the integrity and accountability of the coordinating entity will change over time. At the commencement of any new coordinating entity stakeholder perception will vary from believing the new entity has all the necessary accountability and transparency measures through to stakeholders believing the entity is designed with pre-determined outcomes.

Ultimately and within the context of the existing legislative framework, it is the performance of the coordinating entity that will either create and maintain or diminish their standing with stakeholders. As shown in the Great Barrier Reef Case Study (e.g. appointment of a former Queensland Governor General to head the Advisory Committee), leadership will be central to effective and productive inter-relationships.

### 5.4.2 Comparative analysis of functional elements

#### Planning (short, medium and long term)

All three models are able to perform the planning function adequately. A coordinating organisation forms with a priority to respond to the objectives and urgent issues it was established to manage. This results in an initial

focus on planning functions. The effectiveness of planning is likely to be reflective of the skills and experience of the members rather than determined by the model.

### **Delivery and Implementation**

The largest discrepancy between models emerges in terms of actual delivery and implementation. The structural elements of the Self-Governing and Lead Agency models do not provide sufficient direction to ensure delivery of specific large scale (e.g. major capital investment) activities by the various members of the network in a timely and effective manner.

Early delivery phases of mine rehabilitation coordination will be typified by the relative “easier wins” achieved in short times frames. In contrast long term mine rehabilitation coordination requires participants to remain committed and potentially give up short term gain for longer term returns. The strongest model for implementation is the Established Authority that has the stability to overcome concerns regarding forgoing short term gain for longer term returns.

### **Information and Reporting**

Depending on the focus of role and responsibilities all models are capable of specifying information for reporting and even collating and presenting information. The Upper Hunter Mine Dialogue demonstrates Self-Governing groups can perform adequately on the information and reporting function. The more formalised approaches such as either Lead Agency (which can require accountability from other agencies) or the Established Authority with a command and control function are strongest for information and reporting.

### **Performance Management**

Performance management and continuous improvement is a mature organisational approach to identifying and optimising changing priorities over time. Performance management and continuous improvement will be a challenging coordination function to perform in the context of mine rehabilitation in the Latrobe Valley.

A Self-Governing model often emerges to deal with particular priorities at a specific time and place and therefore may not include in its functions any medium to long term evaluation. Alternative objectives in the broader operating or political environment may overtake the Lead Agency model. An Established Authority is likely to have a limited life span (deliver the required outputs to aid the physical transition activities).

To counteract the potential evolving nature of coordination a robust mine rehabilitation evaluation framework needs to be established at the outset (soon after key mine rehabilitation outcomes are defined and agreed). Similar to the Great Barrier Reef and Revitalising Central Dandenong case study, an evaluation framework that sets out how each outcome is to be measured and what data is needed can be passed between different coordinating entities.

If the coordinating entity receives substantial public sector funding, the effectiveness and efficiency of the coordinating entity should attract independent scrutiny from Government (e.g. application of Department of Treasury and Finance’s Lapsing Program Evaluation Guidelines, audit by Victorian Auditor General Office).

A notable exception here is the Great Barrier Reef where the legislated requirement for 5 year Outlook Reports results in regular and thorough reviews of management effectiveness by the lead government agencies.

Mine rehabilitation issues requiring coordination functional requirements will change over time as the entity deals with urgent planning issues in the initial stage, moves into delivery and reporting and then through performance management recognises an opportunity for additional planning to facilitate continuous improvement.

## 6. Conclusion

### 6.1 Coordination for mine rehabilitation in the Latrobe Valley is needed

Recent analysis of future rehabilitation options for the three coal mines in the Latrobe Valley identifies a need for coordination to develop clear direction and deliver on:

- Obtaining access to sufficient material needed to achieve final proposed landforms;
- Managing valuable water resources;
- Planning for potential climate change impacts;
- Being prepared and ready for mine(s) closure;
- Providing for community safety – safe and stable final landforms;
- Transitioning to beneficial and productive post mining land uses to support future economic growth;
- Fostering community liveability and amenity;
- Continuing mine rehabilitation planning and execution.

Working effectively with involved stakeholders will be fundamental to developing future strategies for mine rehabilitation in the Latrobe Valley. Collaborative planning and research is needed to understand and communicate the implications of ensuring final landforms pose an acceptable risk to community safety. Priority focus areas include flooding, wall and floor stability and fire.

The achievement of safe final landforms may have implications for the final landform's capability to contribute to other economic, community and environmental outcomes.

### 6.2 Functional Roles of Coordination Bodies

The literature and theory on network coordination highlight four main functional roles for coordination bodies. The roles often evolve over the duration of the organisation, with initial planning followed by delivery and reporting. Performance management and continuous improvement may or may not occur depending on the maturity and terms of reference of the entity.

Table 6.1 : Functional roles for coordination bodies

Functional Attribute	Description
<b>Short, medium and long-term planning</b>	<ul style="list-style-type: none"> <li>• The ability to establish an overarching vision, a set of specific objectives/outcomes and develop enabling strategies/plans; including information gaps.</li> </ul>
<b>Delivery and Implementation</b>	<ul style="list-style-type: none"> <li>• Oversight of and/or active of delivery and implementation of plans and strategies by assigning clear accountabilities and responsibilities.</li> </ul>
<b>Information and reporting</b>	<ul style="list-style-type: none"> <li>• The gathering, collection and collation of data and information from participants (either voluntarily or via a legislative requirement) concerning progress made towards achieving specific milestones and provision of reports to stakeholders.</li> </ul>
<b>Performance management and continuous improvement</b>	<ul style="list-style-type: none"> <li>• Monitoring whether agreed outcomes are likely to be or have been achieved.</li> <li>• Identification of issues that impede achievement of agreed outcomes.</li> <li>• Facilitating changes in strategies and actions of different stakeholders to improve performance and overcome identified impediments to achieving outcomes</li> </ul>

### 6.3 Findings from Coordination Case Studies

Three leading practice case studies, Great Barrier Reef, Central Dandenong and the Upper Hunter Mining Dialogue, illustrate practical real world approaches to coordination. In all three case studies there was clear need for coordination. Opportunities and challenges were clearly articulated and shared with stakeholders. Uni-

lateral action was shown to be ineffective. Short, medium and long coordinated plans were needed to make best use of limited financial, information and human resources. Each approach had its strengths and weaknesses.

Developing plans to respond to current objectives in the short and medium term was a strength of all three case studies.

The three case studies demonstrate various levels of success on actual delivery and implementation. In the Upper Hunter, clear accountability for delivery of identified projects was allocated to specific mining companies. Over the years the Queensland and Australian governments have required relevant departments to undertake and report on allocated actions for the Great Barrier Reef in their work plans. The most capable body for delivery is illustrated with the Central Dandenong case study, where the specially created Board had direct responsibility for delivery and implementation.

Developing appropriate protocols for information gathering and reporting was evident in all three case studies. There is variable evidence of performance management and continuous improvement amongst the case studies.

The case studies highlight real world coordination is fit for purpose, based on the complexity of issues and power and trust in the network. Roles, responsibilities and chosen approach can evolve over time.

## 6.4 Models for Coordination

This review of literature and leading practice case studies suggest there are three main models for network coordination. The primary structural elements of each model are illustrated below:

Figure 6-1 – Key structural attributes of potential coordination models

	SELF-GOVERNING	LEAD AGENCY	ESTABLISHED AUTHORITY
Authorising environment	Self-generated	Cabinet or Ministerial	Cabinet or Ministerial or Board of Directors
Legislative mandate	N/A	Work within existing legislation	Yes if public entity, no if private entity
Leadership and decision-making	Shared with elected or revolving chair drawn from membership	Rarely independent, usually appointed from the Lead Agency	Appointed Chair, independent of involved parties and funding entity
Structure and membership	Ad hoc structure, all affected parties involved	Distributed structure, with lead agency working on behalf of all affected parties	Hierarchical structure, nominated core with representatives from affected parties
Tenure	As long as shared objectives continue and trust is maintained	Long term entity, oversees full implementation of plan	Finite – expires after certain outputs are achieved
Participation (collaboration, engagement, consultation)	Cooperation/collaboration among parties. Information sharing outside of the network requires collective approval	Coordination, with identified clearinghouse/information broker for the network	Overseen by independent entity, requires certain information to be produced and establishes rules for sharing/publishing information outside of the network
Funding	Membership levy or fees (financial or in-kind)	Funds provided by authorising environment (comes from relevant Department(s))	Can solicit funding from Government and/or private sector

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The analysis illustrates all three models have advantages and disadvantages. Every model is capable of undertaking the short and medium term planning function and identifying requisite information for reporting.

Variability between the models is in their relative abilities to deliver successful outcomes for agreed initiatives, and to undertake appropriate performance management with continuous improvement. In this respect, the Lead Agency and Established Authority models can perform effectively if they are given appropriate resources and sanctions to coordinate network stakeholders.

This review demonstrates coordination bodies work best when they are:

- Fit for purpose;
- Vested with appropriate resources and power;
- Capable of review and renewal in response to additional information and changing stakeholder priorities.

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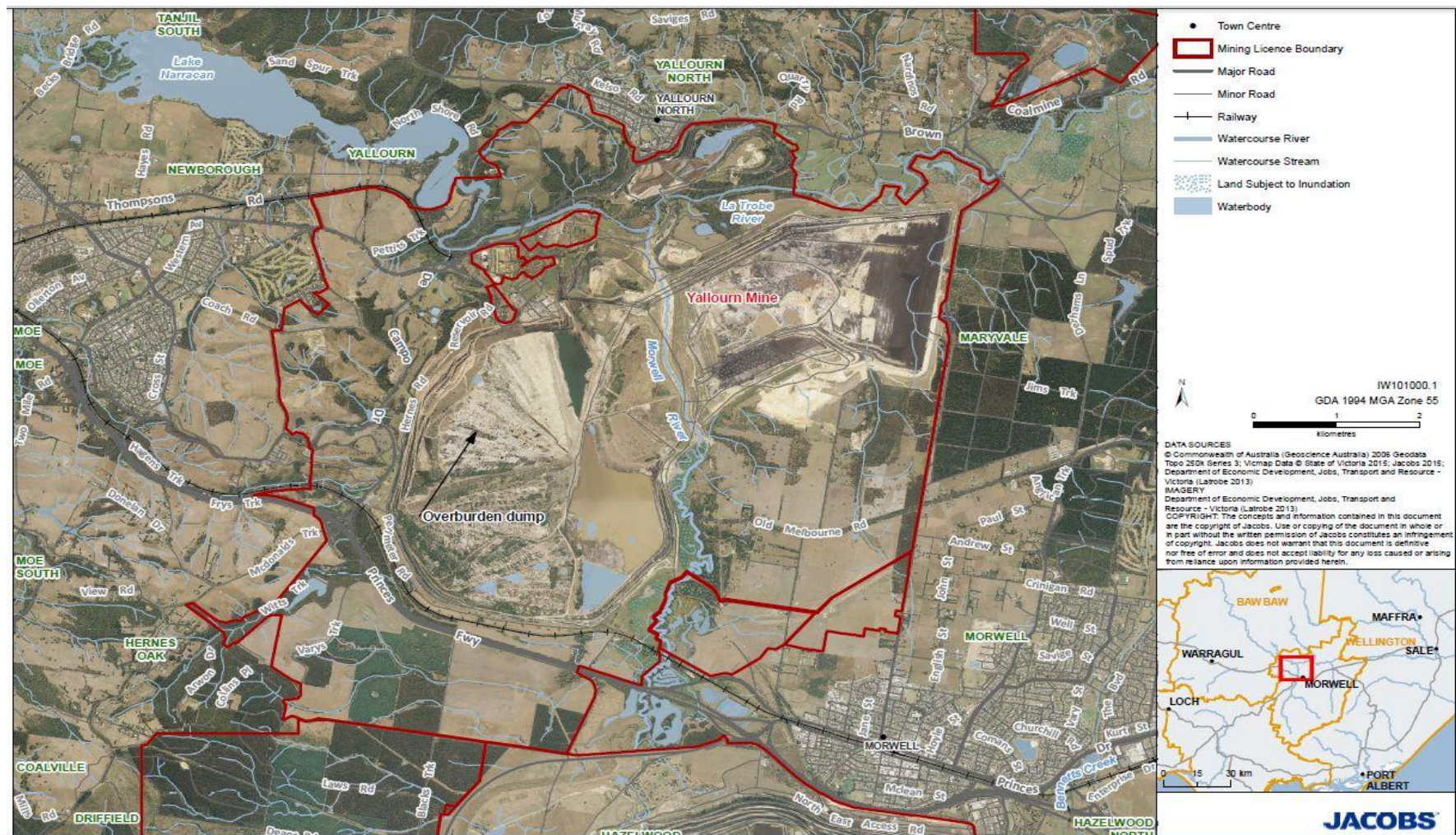
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## Appendix A. Yallourn coal mine

Figure 0-1 : Aerial image of Yallourn coal mine and surrounding areas



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## Appendix B. Hazelwood coal mine

Figure 0-2 : Aerial image of Hazelwood coal mine and surrounding areas

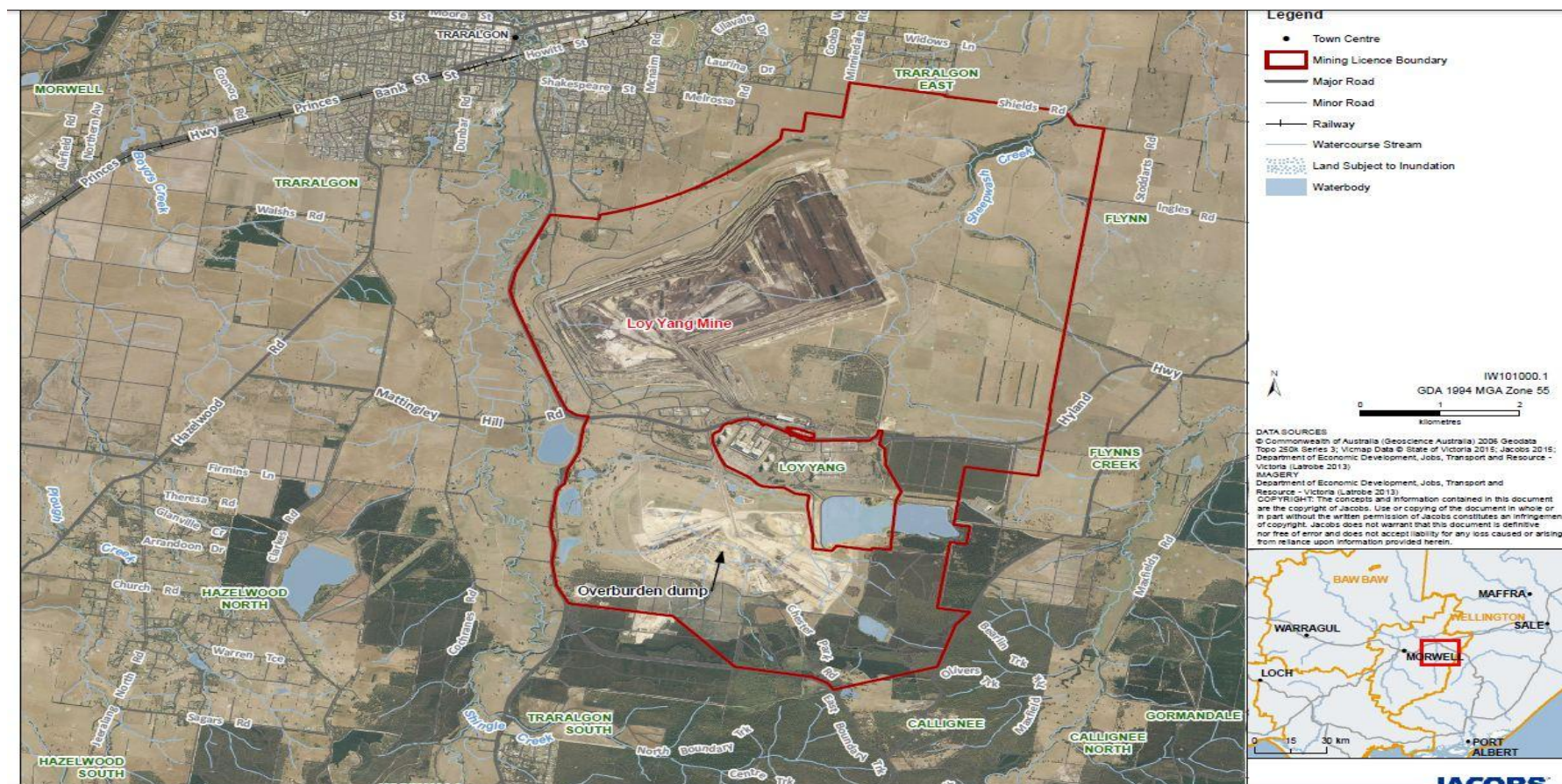


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## Appendix C. Loy Yang coal mine

Figure 0-3 : Aerial image of Loy Yang coal mine and surrounding areas



## Appendix D. Stakeholders that may be involved in planning, implementation, information and performance review

Table D.1 : Potential stakeholders and their interest/roles in coordination

Stakeholder group	Stakeholders	Role/interest
Commonwealth Government	Department of the Environment	Responsible for Australia's Direct Action Policy on climate change and how current and future policy may impact on coal fired power stations.
	Department of Industry, Innovation and Science	Enhancing Australia's resource sector. Provides guidance and direction on mine rehabilitation and closure practices in Australia and provides policy direction on energy generation.
	Clean Energy Regulator	Established under the <i>Clean Energy Regulator Act 2011</i> . Remit for acceleration of carbon abatement in Australia.
	Australian Energy Market Operator	Oversees the strategic development of the national electricity grid. Produces the Victorian Annual Planning Report, which identifies future development requirements.
State Government Departments and Agencies (Regulators, Statutory Authorities, Policy and Program)	Department of Economic Development, Jobs, Transport and Resources	DEDJTR has delegated authority for the regulation of coal mining, maintaining the earth resources database and providing scientific and strategic policy advice to government. DEDJTR also provides licensing, monitors environmental standards and supports significant projects. Minerals Development Victoria is the lead unit for earth resources project facilitation, attracting investment, strategic resource planning and community engagement.
	Coal Resources Victoria	Interest in the sustainable development of coal resources and associated infrastructure.
	Regional Development Victoria	Responsible for setting policy, designing and implementing programs to improve the economic and social wellbeing of Victoria's regional and rural areas.
	Department of Environment, Land, Water and Planning	Administers <i>Environment and Planning Act 1987</i> , regulating land use planning in Victoria Assessment of works under the <i>Environment Effects Act</i> that is capable of having a regional or state-significant effect on the environment. Assessment of projects for potential significant effect to MNES consistent with <i>Environmental Protection and Biodiversity Conservation Act</i> under Assessment Bilateral Agreement with the Commonwealth Department of the Environment.
	Southern Rural Water	Responsible for water supply in the Latrobe Valley—providing water to irrigators, licensing and monitoring surface and groundwater extractions.
	Gippsland Water	Responsible for developing a Water Plan and Regional Integrated Water Cycle Strategies, and making public current availability of water, expected seasonal changes, and delivery of significant projects identified in the water

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Stakeholder group	Stakeholders	Role/interest
		plan. In the Statement of Obligations is required to engage with public authorities and agencies on integrated water cycle management.
	Environment Protection Authority	Monitoring of and reporting on air, soil and water quality issues associated with mine rehabilitation.
	Department of Health and Human Services	Health implications of mining and transition to post-mining land uses over the short, medium and long term.
	West Gippsland CMA	Management of land and water resources in the West Gippsland region Land stewardship obligations under the <i>Catchment and Land Protection Act 1994</i> Input on Regional Catchment Strategy under the <i>Water Act 1989</i>
	Parks Victoria	Manager of Ramsar listed Dowd Morass and Sale Common wetlands.
	Victorian WorkSafe Authority – Earth Resources Unit	Primary responsibility for facilitating the avoidance and prevention of workplace injuries and enforcement of <i>Occupational Health and Safety Act 2004</i> , including overseeing fire risk in Victorian coal mines.
	Planning Panels Victoria	Adjudicates independent planning panels, advisory committees, Ministerial call-ins relating to planning permit applications and environment effects inquiries.
	Invest Victoria	Invest Victoria is an investment promotion agency providing free confidential services and professional advice to international investors.
	Emergency Management Victoria	Established under the <i>Emergency Management Act 2013</i> . Interest in joined up emergency management outcomes that are community-focused.
	Mine Stability Technical Review Board	Advisory group to Victorian Government on matters relating to the stability of brown coal mines in the Latrobe Valley.
Mine operators and power generators	GDF Suez - Hazelwood mine	Compliance with terms of their Mining Licence. Work Plan (and subsequent variation) supports Mining Licence conditions and provides additional detail to government around commitments, management and rehabilitation plans.
	AGL Energy Ltd - Loy Yang mine	
	Energy Australia - Yallourn coal mine	
Local council	Latrobe City Council	The Council is the planning authority for the Latrobe Planning Scheme, and under ss.13 and 14 of the <i>Planning and Environment Act</i> as the 'responsible authority' sets zone and overlay controls for land use and determines applications for use of land in the district. The Council has embarked on 'Future Morwell', a state government funded visioning project in collaboration with RMIT, and will deliver five priority projects over the coming years (Future Morwell, 2015). Responsible for regional economic development, improvement to community liveability and service



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Stakeholder group	Stakeholders	Role/interest
		provision.
Community	Individual residents	Interest in the long-term economic, social and environmental wellbeing of the Latrobe Valley.
	Community Groups	Local community advocacy group. Objectives include advocacy on health needs, identification of risks and funding requirements to address needs and collection/dissemination of information to Latrobe Valley community.
Indigenous	Gunaikurnai Land and Waters Aboriginal Corporation	Gunaikurnai people are the Traditional Owners of Gippsland their territory includes the coastal and inland areas to the southern slopes of the Victorian Alps.
Emergency services	Country Fire Authority	Has a duty to take steps to prevent and suppress fires in Victoria
Industry associations	Minerals Council of Australia – Victoria division	Represents mining, minerals processing member companies operating, exploring and providing services in Australia. Advocates on public policy and operational practice
	Victorian Council of Social Services	Peak body for the community services sector. Interest in the social implications and opportunities associated with mine closure and rehabilitation.
	Victorian Farmers Federation	Peak body for the Victoria's farmers and interest in opportunities and challenges arising from mine rehabilitation.
	Gippsland Regional Development Australia	Regional Development Australia (RDA) Gippsland is a not-for-profit body, part of a network of 55 regional agencies that provide a link between Commonwealth, State and local government and communities (RDA, 2015). It is jointly funded by the Australian and Victorian State Government.  RDA Gippsland works with industry bodies, businesses, research, education and training providers and community members (RDV, 2015). A key priority for RDA Gippsland is the on-going implementation of the 2010 Gippsland Regional Plan.
Other industry	Agriculture (irrigated dairying, crop, fodder production, potato producers) Forestry (e.g. Australian Paper) Tourism (e.g. Advance Morwell) Other mining interests	Interest in post-closure land uses and decision-making over water needs for rehabilitation of mined areas.
Political economy	Victorian Premier and Cabinet	Political interest in economic, social, community and environmental outcomes that could be achieved for the Latrobe valley.
	Local Commonwealth Member	
	Local State Government Member	
	Mayor and Latrobe City Council Members	
Academia/research	Federation University – Geotechnical and Hydrogeological Engineering	Established as a joint initiative with the Victorian Government to foster innovation, and provide

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Stakeholder group	Stakeholders	Role/interest
	Research Group	geotechnical and hydrogeological research and development support to Latrobe Valley coal mines.
	RMIT – Future Morwell project	Committee comprising RMIT, Latrobe City and Morwell community groups to workshop ideas on future urban design of Morwell
Unions	Electrical Trade Union (ETU)	Represents members in the electrical and communications contracting and power industries. Interest in the social implications of mine closure and rehabilitation activities.
	The Construction, Forestry, Mining and Energy Union (CFMEU)	Principal trade union in construction, forestry, mining and energy production industries
	Gippsland Trade and Labour Council (GLTC)	The GTLC's stated aim is to achieve social and economic justice for all workers in the Gippsland Region.
Non-governmental groups/ organisations	Non-governmental groups or organisations concerned with specific impacts of proposed mine rehabilitation.	Interest in the rehabilitation of mine faces, review of mine bonds, implement jobs creation plan and identify measures to implement to mitigate future fire risk in coal mines (e.g. Friends of the Earth, Environment Victoria)
Sporting clubs and recreational groups	Sporting clubs and recreational groups interested in potential use of mine rehabilitated areas.	Post closure land uses and access to mined lands following rehabilitation (e.g. Latrobe Valley Water Ski Club).
Media	Local, State and national media	Communication of rehabilitation plans/actions to local communities and raising awareness of coordination body.