

# Identification of opportunities to support Structural Adjustment in the Latrobe Valley

Briefing Report Two –  
Brown coal and  
power generation:  
Industry futures,  
skills and worker relocation

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# About this Report

In January 2012, the Commonwealth Department of Regional Australia, Local Government, Arts and Sports commissioned the Centre for Sustainable Organisations and Work (based within RMIT University) to examine opportunities for investment and job growth in the Latrobe Valley region. Utilising existing data from key reports and research, this briefing report outlines the current situation facing the brown coal power generation industry in the Latrobe Valley region, focusing on workforce and skills issues. The briefing also analyses future prospects for the current workforce in this industry in light of the transition to a low carbon economy.

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# Introduction

This briefing considers the impacts of Latrobe Valley power generator closures on the workforce and the challenges that workers associated with the power industry confront. It discusses the different skills sets, qualifications and types of employment found in the industry and the types of interventions that are needed to assist potentially displaced workers. The briefing is based on the "*Jobs and Skills Transition for the Latrobe Valley: Phase 1: Benchmark occupations and skill sets*" (Fairbrother et al., 2012) report which was submitted to the Commonwealth Department of Education, Employment and Workplace Relations (DEEWR) in early 2012. The research was conducted under the auspices of the National Centre for Sustainability (NCS) at Swinburne University of Technology, the Centre for Sustainable Organisations and Work (CSOW) at RMIT University, and the Centre for Global Labour Research (CGLR) at Cardiff University. Further, this report is informed by other studies in the region. The future of the region's brown coal industry and the opportunities for investment, job growth and skill development will be explored more fully in the final project report.

## Background and Context

The Latrobe Valley's lignite reserves are some of the largest in the world with an estimated 500 years of use at current levels of extraction; over 53,000 million tonnes (GHD Pty Ltd., 2005). The high moisture content of the coal, ranging from 48-70 per cent, makes it far less efficient and CO<sup>2</sup> intensive than other fuels (DPI, 2011). This high moisture content contributes to low calorific values and has the risk of spontaneous combustion.

Some 60 million tonnes are mined per annum at the Yallourn, Hazelwood and Loy Yang mines for the four coal-fired power generators located nearby: Hazelwood Power Station, Yallourn Power Station, Loy Yang A, and Loy Yang B. Other current commercial uses of the region's brown coal include the production of char and briquettes. A number of alternative applications for brown coal have been considered, including: gasification; diesel-type fuels; drying for export; and as fertiliser supplements. The possibility of heating and chemically treating the coal to create material similar to coking coal for steel production is also being considered (see Brown Coal Innovation Australia, 2012). To date, however, these projects have not moved beyond the research and development stage or attracted major investors, despite policy and financial support from local and State governments.

Unlike other States, where black coal, natural gas, hydro, and other energy sources are utilised for electricity production, Victoria's electricity (and half the State's carbon emissions) is derived from the region's brown coal seams with gas and renewable energy sources comprising around 6 and 4 per cent respectively (Earth Resources Development Council, 2010; Climate Group, 2009). This coalfield provides nearly 80 per cent of Victoria's electricity (Latrobe City, 2010).

Three of the coal-fired generators and the associated mines are owned by internationally-based companies. The Paris-based GDF Suez owns Hazelwood Power Station, the

Hazelwood Mine (also known as the Morwell Mine) and Loy Yang B. Yallourn Power Station (as well as TruEnergy electricity retailing) is owned by the Hong Kong-based China Light and Power while the Tokyo-based Tokyo Electricity and Power Company maintains a 32 per cent ownership stake in Loy Yang A (the State's largest power station). Energy Brix is owned by HRL and represents the only solely Australian-owned facility in the region. The three largest power station companies have received State and Federal Government funding to assist them to develop ways to lower emissions, including carbon capture technologies. As Australia takes steps to introduce climate change mitigation policies, the behaviour and future of all these Latrobe Valley power generators and their associated communities has featured heavily in public debate.

Three generators - Hazelwood Power Station, Yallourn Power Station and Energy Brix - have expressed interest in the Federal Government's contract for closure programme. Any closure will have significant social and economic ramifications, well beyond the generator workforce.

## Understanding the Power Generation Industry

The Latrobe Valley power industry is best conceptualised as a 'flexible organisational network' – lead firms and layered contractors providing goods, services and maintenance. The **lead** or core firms are the generators. These generators tend to take direct responsibility for mining and power station operations and rely upon a range of contract companies for all other activities including mine and power station maintenance, security, fire and emergency services, and road and building construction.

- **First**, a number of contract companies have a continuous presence on site, for the duration of their contracts, on average 3-5 years. These continuous presence contractors (CPCs) undertake business activity that is closely aligned with the needs of the lead firms (i.e. generators). Multinational corporations, such as Alstom and Silcar, have historically been well represented among the CPCs.
- **Second**, a particularly strong version of a CPC operates as an alliance contractor, where the activity of the contractor is a *de facto* element of the core business and thus whose profits are tied to the economic fortunes of the generators.
- **Third**, a more removed diverse grouping of independent contractors is still closely linked to and dependent upon the on-going operations of the lead firms. These contractors tend to rely upon procuring tender contracts with the power station owners, although they also seek similar contracts with other lead firms in other industries (e.g. oil and gas industry). In addition, they may or may not be on fixed-price arrangements.
- **Fourth**, a group of contractors do not work directly to the lead firms. Rather, they are sub-contractors that provide services to CPCs and/or independent contractors such as specialised painting or harmful materials services).

This conceptualisation provides the basis for an understanding of the industry as both integrated and cohesive. It allows for a more comprehensive analysis of the nuances and specific skills within the power industry. Geographically, this organisational network involving

generators/mines and various contractors is located in a relatively restricted geographical area, around the conurbations of Traralgon, Churchill, Morwell, Newborough, and Moe.

The power industry employs around 4000 workers (around 6 per cent of the regional workforce), and nearly two thirds live in the Latrobe City area. While the figures are not available, it is likely that this is an underestimate because of the *ad hoc* employment of workers in outage, maintenance and related work. These workers constitute a significant cluster of workers who are among the highest earners in the region and who now face an uncertain future.

Different forms of employment and skills profiles are features of the industry's organisational design:

- Generator employees tend to be older, less formally qualified but highly skilled. The work is well paid and many of these workers began with the State Electricity Commission of Victoria (SECV) and continued on afterwards.
- Employment among contract companies varies from relatively stable to highly casualised, depending upon the nature of work and contractual arrangements. Workers tend to be slightly younger and more formally qualified in a range of trades (e.g. boiler making, electrical, fitters, etc.). Most have had multiple employers, often in other industries.
- Across the industry, male employment (90%) is the norm. Workers employed in the power industry tend to be the primary breadwinner for their households.

## Power generators and their workforce

The workforce in the power generator industry is skilled and relatively stable, aged and, for many, approaching retirement. Most of these workers have been in the industry for ten years or more. Entering the workforce at a young age, and often in the pre-privatisation period, has meant that there is frequently a discrepancy between qualifications and skills, with many employees skilled, but holding no formal qualifications or skilled beyond the level of their formal qualifications; in other words, skills are not aligned with national competencies.

The prospects for power station and mine operators to find work outside the sector are extremely limited due to the nature of their skills and the lack of formal qualifications. Many expect to encounter some difficulty in transitioning to a similar job in another power station due to their specialised on-the-job training and the technological, organisational and job specification differences between power generation plants. In most cases, power station and mine operators have highly specialised skills, which have been developed 'on the job', with the generators preferring to train their staff in the particular nuances of each business. This professional development is typically non-accredited which means that many of the skills learnt on the job do not easily and clearly demonstrate transferability. In a situation involving the displacement of power industry workers, those directly employed by generators are likely to confront the greatest difficulty in securing future employment; narrow skill sets, limited qualifications, few experiences outside the industry and age, all constitute barriers to securing alternative employment.

Recently, steps have been taken by two generators to formally credentialise unit controller skill sets through a process of Recognition of Prior Learning. If these workers are made redundant, holding a formally recognised qualification may assist them to secure work with other generators. However, within the context of declining job opportunities for this type of work some workers are sceptical about the benefits of having formalised credentials. Further, there is no evidence that the remaining generators will feel obliged to take these workers on, for age reasons, skills deficits, seniority, or some other factor.

The direct employees of generator companies are relatively highly paid, well above the regional average. Because of this remuneration pattern and the skill profile in the industry, there is a complex inverse relationship between acquired skill and remuneration, which in the power generation industry centres on relatively high wages for many and a highly skilled although often poorly credentialed workforce. Nonetheless, despite much negative stereotyping of the workforce and their remuneration levels, it must be recognised that these rates reflect national trends.

## Contract companies and their workforces

Since privatization generator companies have come to rely upon contractors to perform a range of economic activities including maintenance of the mine and generation units, emergency services, security, road construction and earthmoving. According to a 2004 KPMG report, power generators contract out 85 per cent of their maintenance, shut-down, mine and facilities management work to contract companies (cited in Buchan Consulting, 2005, p. 56). Many of these contract companies have substantial workshop facilities located both on the generator's site and/or in the neighbouring towns. CPCs tend to have a larger permanent workforce (20-100 workers), rely less on casuals, and employ apprentices directly. Where companies provide training for apprentices, it is frequently delivered through a group-training provider, although 'poaching' by generating companies and other contractors often present these companies with challenges in meeting their skill needs. This practice can undermine company commitment to training and staff development. Of consequence for training and security of employment, CPC contracts are rarely shorter than 4-5 years, independent contractors rarely receive a contract longer than several months.

Most contractors associated with the power industry have business outside the Latrobe Valley power generator sector, servicing other Latrobe Valley industries (e.g. pulp and paper, food manufacturing) and/or similar industries outside the region and interState (including power industries in other States). Thus, it is not easy to be precise about the number of 'power industry' contractors or their level of dependence on the Latrobe Valley power generators. A number of CPCs, often subsidiaries of multinational corporations, are only located in the region to service the power industry.

The independent contractor workforce often undertake highly skilled work, although remuneration levels tend to be lower than those directly employed by the generation companies. Their position in the labour market is the inverse of that of the power generator workforce, with high levels of casualisation and small numbers of permanent employees. The contractor workforce also face similar lifecycle issues to those in the power generators,

however there are specific features to contracting work. Contract workers tend to be younger than the power generator workforce, and have spent more of their career actively competing within the labour market, they tend to be more resilient and accustomed to transition and change. Many hold trade qualifications in the areas of boiler making, fitting, electrical and/or hold a range of rigging, crane driving, scaffolding, sheet metal fabrication and welding tickets. These workers are familiar with the processes of searching for new work and of promoting themselves and selling their skills. As a result, they are more likely to have confidence in their existing skills and be more self-aware about the skills they would like to develop and the type of training they might need in the future.

Many of the skills held by these workers are in short supply in other parts of the country and it is not uncommon for them to have worked in the mining regions of Queensland or Western Australia for parts of their career. Their persistence in staying in the region and accepting only peripheral positions within the labour market, despite the potential for improved access to training or higher rates of pay outside the region, demonstrates their embeddedness within the community and the importance of family and community connection for these people. Relocating to skill shortage areas or becoming involved in Fly-in-Fly-out working arrangements are not desirable options for most workers.

There are signs that contract workers (particularly part-time and casual workers) are already being displaced as power generators reduce their maintenance requirements. The loss of jobs and the displacement of workers brought about by these changes are likely to intensify over the coming years.

## The Importance of Households

Critically, the focus of the analysis presented in "*Jobs and Skills Transition*" locates individual workers within their household, for it is here, that the circumstances that enable individuals to work, relax and develop play out. Household data show that just over half the power industry workers live in couple families with children and a further quarter live in couple families without children. While suggesting a traditional family structure, the data indicates that half the men in the sector in couple families with children provide 60 per cent or more of the family income and 20 per cent provide 100 per cent of the household income. Similar patterns apply to couples without children. In contrast, women's wages are more likely to constitute less than 60 per cent of household incomes. While attention has to be given to other family formations such as single parent households, the reliance on a male wage is clear.

These patterns of employment set the scene for the analysis of skills and job roles within the industry. In the case of the power generator industry, households rely disproportionately on men's wages. However, as the region moves increasingly towards a service-based economy (in common with national trends), the labour market in terms of job growth is tending to favour female workers. While job demand in the power industry has steadily declined over the past decade, jobs in the retail, social services, education and hospitality industries, which employ a high proportion of women, have witnessed significant growth. For this reason, it is necessary to consider the gendered configurations of households in any discussion of transition and change, including the prospects and possibilities of economic diversification.

# Prospects and opportunities

Power generation workers are anxious and feel vulnerable. Overall, there is a fearful apprehension about the future amongst workers and their managers and technical support staff. This anxiety is evident irrespective of qualification, skill and place within the companies. Such feelings are also evident among contract managers and workers. Many organisations and workers are hopeful that new 'clean coal' power plants or alternative coal-based industries will emerge and help stabilise their future job prospects. The likelihood of these major projects emerging in the short-term, however, is unlikely. Despite considerable research, technological development and government support for 'clean coal' and alternative uses of the region's brown coal, the viability and costs associated with these technologies remain significant barriers to implementation on a commercial scale (see Earth Resources Development Council, 2010).

While there may be anxiety about the future in the contract companies, a number of these companies have taken steps to protect their business, via diversification. A number are successfully tendering for energy maintenance jobs in other parts of the country. In some cases, this involves sending Latrobe Valley workers to work on these jobs and/or bringing the work back to their workshops. In other cases, companies have sought to move into the training field by providing training to workers in other companies, occasionally in overseas locations. Thus, the contract companies have already supported their employees to expand their skill sets.

The level of dependency on the power generation industry varies among these companies but all are likely to suffer a loss of revenue with the closure of one or two power generators. Assisting these companies in diversifying their businesses and in finding ways to make up for revenue shortfalls will be crucial in minimising job losses. The proactive activities of the companies and skills associated with the region's energy maintenance and servicing sector needs to be more formally recognised as an asset connected to but distinct from the power generators.

One particular fear among all workers is that they may be 'forced' into Fly-In-Fly-Out arrangements to survive in an uncertain economic future. Given the contested history of privatisation and memories of its aftermath in the area, as well as the seemingly constant comment about a two-tier Australian economy, there is a very strong, and well-grounded awareness of the social consequences of such arrangements.

# Requirements for realising opportunities

Over the last two decades, the Latrobe Valley region has experienced social hardship, following privatisation of the electricity sector, and in the context of disadvantage in relation to employment opportunity, education, housing and other facilities. Governments at every level have proposed a number of initiatives to address these circumstances. The current concern regarding the implementation of carbon futures and other related policies, such as the 'Securing a Clean Energy Future' package, have led governments to commission a number of reports (including Fairbrother *et al.*, 2012), develop programs of

change and commit financial and other resources to the area. Unfortunately, these initiatives often have been informed in *ad hoc* ways by those enquires.

When proposing policy to address displacement and transition, it is important to recognise that there are three distinct types of policy response – reactive, dispersed and comprehensive. Reactive policies are those that deal with the direct impact of displacement, with little attempt to focus on long term development strategies; dispersed policies are effective practices that go beyond simply dealing with initial impacts, but they are not co-ordinated in ways that amount to an overall strategic response; while comprehensive policies have a shared vision and strategy by actors within the region, as well all levels of government and are implemented by and across multiple workforce and economic development agencies (see Fairbrother *et al.*, 2012, Section 6.3.2). Each have different implications for outcomes, although international comparison confirms that a comprehensive approach is the only one that is likely to result in a shift to a ‘just’ transition, particularly for those who are displaced and their households.

A comprehensive policy approach for the transition of the power generation sector would involve:

- 1. The development of policies on skills acquisition, skills recognition and upskilling.** These policies should be premised on the understanding of socio-demographics of the workforce and the organisational design of the power generation industry. A critical and essential focus is one that recognises and understands the household composition and the remuneration patterns that sustain these households.
- 2. Immediate development of programmes for workers in the power generation sector who are being displaced.** Special attention should be given to contract companies, particularly those that have taken initial steps to anticipate closure of at least one generator. A core part of such a program would be a job transfer scheme within the industry for workers displaced following the closure of a power generator and any associated contract companies. This scheme should be considered as part of the contract for closure and structural adjustment package, with skills at its core. Further, companies that receive a contract for closure should be required to complete a comprehensive skills audit of their workforce and assist workers to obtain accreditation for the skills they have acquired on-the-job.
- 3. A requirement on policy makers to outline and publicise a planned, managed and ‘just’ transition, with skills at its core.** As part of a just transition, governments should examine options for the development of a ‘Workers’ Transitional Centre’. Such a Centre could provide a locally-based and focused resource for counselling and training. Further, it could also promote re-training of displaced workers for meaningful long-term work. However, of considerable importance, it should not only address displaced employees but also households. The Latrobe Valley Transition Committee could oversee such a Centre.
- 4. Promotion of the transition of the power generation sector as the core element of an employment adjustment program.** Already transition is underway and thus the need for such a program is self-evident. This program should be designed with the whole

region, including the development of regionally focused plans that address all sectors.

5. **Specific attention and support should be provided to contract companies, especially those that have already taken steps to diversify and expand their markets within and beyond the region.** These companies are the future in this sector. Steps should be taken to ensure that they can flourish and expand, thereby utilising the resources and capacities that are in an embryonic form at present.
6. **In the event of closure of one or more generators, attention should be given to alternative site development and use.** This could include (i) rehabilitation of mining and power generation sites as part of closure arrangements, with appropriate staff training and (ii) the redesign and retrofitting of disused power generation facilities (e.g. workshops) for alternative purposes. International evidence is uniform on the value of such an initiative.

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