

**House of Representatives Standing Committee  
on Transport and Regional Services**

**Inquiry into integration of regional rail and  
road networks and their interface with ports**

**Submission from Xstrata Coal**  
**May 2005**

## **Xstrata Coal Submission**

### **Introduction**

Demand for seaborne traded coal, both coking coal for steelmaking and thermal coal for electricity generation, has been particularly strong over the last two years. A significant factor has been the emergence of rapidly growing markets in China and India. Coking coal imports into China and India have grown, while strong domestic demand for thermal coal in China has limited thermal coal exports from that country.

As a result, thermal coal prices have doubled and coking coal prices have almost tripled in the last two years. The normal increased supply side response is underway from the major Asian suppliers (Australia, Indonesia, China and Russia), but investment in new mines and infrastructure is taking time as the demand increase was largely unanticipated. In parallel, a response from more distant suppliers (particularly South Africa) has been moderated by high ocean freight rates.

The strong demand has highlighted weaknesses in infrastructure in all Australian coal corridors (most visibly in the Hunter Valley Coal Chain exporting through Newcastle and the Goonyella Coal Chain exporting through Dalrymple Bay).

### **Coal Industry Perspective**

Australia is the most successful coal exporting country in the world, exporting some 225Mt annually (about 30% of world totals). The industry emerged in parallel with the development of the North Asian steel industry in the 60's, followed by the development of littoral coal fired power stations in the aftermath of the 70's oil shocks. These trading relationships remain critical: 83% of Newcastle's exports and 60% of Queensland's exports are shipped to just three countries, Japan, Korea and Taiwan.

Over three decades, the key strengths of the Australian coal industry have been:

- Resource endowment, particularly the availability of shallow coal measures close to the coast in NSW (principally thermal coal) and the availability of large coking coal resources at moderate distance to the coast in Queensland (Australia accounts for 53% of world coking coal trade).
- Country factors, such as relative openness to foreign investment, political, legal and social stability (particularly with respect to property rights).
- Joint infrastructure model, where individual mines achieve economies of scale by sharing rail and port infrastructure (the only significant single user facility is BMA's Hay Point coal terminal).
- Strong relationships between Japanese and Australian businesses (for example, Japanese companies have an equity interest equivalent to over 20% of Australian coal exports).

### **Role of Australia's regional arterial road and rail network in the export coal task**

The vast majority of Australia's coal exports are transported to specialised ports using the regional rail infrastructure. Coal transport on public roads has been progressively transferred to rail. Once the new Wambo coal terminal and associated rail extension

is completed in the Hunter Valley in early 2006, the only significant export coal movement on public roads will be in the Illawarra into Port Kembla.

The regional rail infrastructure is shared with other traffic. In Queensland, coal is the dominant use on most track that it traverses in that state. In NSW, the Hunter track is shared with numerous passenger and other freight services. Exports to Port Kembla, particularly from the Western District around Lithgow, fit within track path constraints around Sydney.

Rail traffic interaction is a major issue in the Hunter. Despite coal paying the majority of the cost in shared areas, it has the lowest priority. ARTC has recently taken over the Hunter track and has developed a corridor strategy. This strategy both identifies and addresses major track bottlenecks, notably at Sandgate, where coal trains have to pass over the passenger tracks to reach the main coal terminal.

### **The relationship and co-ordination between rail networks and connectivity to coal ports**

Generally, there is no contractual relationship between all of coal ports, track and above rail operations. Coal producers have contracts for port access and independently contract for above rail services from one of two operators, Pacific National and QR National. The below rail relationship is generally managed by the above rail operators.

Australia's responses at its four major coal chains (Goonyella, Hunter, Newlands, Blackwater/Moura) is complicated by widely varying arrangements for infrastructure provision:

- **Track.** There are two major track providers (ARTC for the Hunter and QRNA for Queensland). The NSW Government has two additional track organisations, RailCorp for the Illawarra and the Southern Hunter and 'Country RIC' for regional NSW supplying the Hunter.
- **Trains.** PN operate coal haulage in NSW; QR National operate in Queensland (and have commenced export riling on a small scale in NSW)
- **Ports (onshore ownership).** Abbot Point is owned by Port Corporation of Queensland, Dalrymple Bay by Prime Infrastructure, Hay Point by BHP Billiton Mitsubishi Alliance, Gladstone by Gladstone Port Authority, Newcastle by PWCS (coal industry), and Port Kembla by NSW Government.
- **Ports (onshore operation).** Several ports are operated by different entities than the owners: Abbot Point is operated by Xstrata, Dalrymple Bay by DBCT PL (coal industry) and Port Kembla by the PKCT (coal industry). Hay Point, Gladstone and Newcastle are operated by the asset owners.
- **Ports (other).** The various ports corporation are involved variously in offshore services (channels and navigation aids), towage/tugs and port ownership/operation. Many ports operate on land owned by the State Governments.

Lack of coordination is a potential weakness in these systems, exacerbated by increasing ownership fragmentation as assets have been privatised by governments. This has been a major contributing factor behind the key current bottlenecks, notably the Blackwater/Moura/Gladstone and Goonyella/Dalrymple Bay corridors. By way of

contrast, improved coordination of the Hunter Coal Chain by logistics providers provides an excellent example of the benefits that can be realised by concerted effort to cooperatively improve transport outcomes.

### **Goonyella Coal Chain (Dalrymple Bay).**

The immediate physical constraint in this corridor is transport from mine to port, being the combination of port dumpstation capacity and above rail capacity. This restriction has been complicated by the collapse of a shiploading reclaimer at DBCT in February last year (due to be replaced in early 2006). While there is sufficient equipment redundancy for DBCT to operate its shiploading streams at full rates, the loss of the reclaimer complicates stockyard planning. Last year, the coal chain railed 47.9 million tonnes and shipped 47.4 million tonnes. While this period incorporated the effect of some disruption associated with the collapse of a reclaimer in February 2004, the best three month period was an annual rate of some 52 million tonnes. YTD throughput is approximately 50 million tonnes annualised. Taking into account seasonal factors (such as cyclones and rainfall), Xstrata Coal is of the view that the demonstrated, sustainable coal chain capacity is currently 51 million tonnes per year. The replacement of the collapsed reclaimer, together with minor improvement works will, in Xstrata's view, have only incremental impact until the Phase 1 port expansion is complete (currently targeted for mid 07).

### **Gladstone/Moura/Blackwater**

The port at Gladstone is not a bottleneck of significance. Nominal port capacity is 45 million tonnes per year and CQPA has plans well underway to increase capacity to 72 million tonnes per year by mid 2007. CQPA itself suggests that there may be a restriction to inloading capacity from April 05 to June 2006, but this is both minor and temporary.

The rail capacity on the Blackwater system is the constraint. Despite the arrival of a 19<sup>th</sup> consist in February, YTD railings into Gladstone are only running at a 38 million tonne annualised rate and below contracted rates. While there are plans underway to add consists and address track path constraints, the industry has raised concerns with the rail provider about its ability to match rapidly increasing port capacity and demand.

### **Effect of Constraints**

Two forms of restriction have become apparent as a result of recent strong demand:

- **capacity restrictions**, which are medium to long term in nature, are caused by long term mine and infrastructure investment, apply at almost all coal supply systems around the world and restrict potential throughput, and
- **queuing**, which is generally short term in nature, is avoidable, is caused by planning weaknesses and relates to how coal producers and users plan vessel arrivals to match available capacity.

The impacts from capacity restrictions and queuing can be substantial. In the case of DBCT, the direct impact of constrained capacity on Xstrata's business, based on its latest 2005 forecast, is the loss of planned coking coal sales from Oaky Creek of some

700,000 tonnes, worth A\$110 million at current prices. Xstrata's demurrage in the first quarter of 2005 was US\$6.66/tonne shipped, (A11.8 million in total) and is now running at US\$9-10/tonne.

**Queuing** is a deadweight loss to the economy which can and should be avoided through coal chain coordination. While capacity restrictions are widespread, affecting places as widespread as South Africa, the Pilbara iron ore systems as well as the East Coast coal systems, loadport queuing is relatively rare. The reason is that in most ports, vessel arrivals are matched to available capacity. Queuing only arises from a failure of coordination, due to vessel bunching, competition for access or capacity imbalances. This manifests itself in the form of ship queues, which are expensive (as coal producers end up paying for the 'rent' or demurrage cost of ships waiting) and unproductive (in that queues do not increase the throughput of the corridors). Persistent queuing hence only manifests itself at large common user facilities which lack effective coordination mechanisms, recent examples being Newcastle and Dalrymple Bay. Queuing at single user facilities (for example the Pilbara iron ore ports or Hay Point) is rare and temporary, demonstrating the avoidable nature of the problem.

Solutions to improve queuing are in train and are not a restriction on throughput. It is consistent to have maximum throughput with minimal queuing. At PWCS, a Capacity Distribution System (CDS) was introduced in April 2004 and further improved, with a new system recently receiving a final authorisation from the ACCC. Tonnage has increased from 69Mt in 2002 to an estimated 84Mt forecast for this year, a 22% increase, in parallel with the introduction of a Capacity Distribution System that distributes the available capacity to coal producers in proportion to their requested demand. This system avoids queuing, fairly distributes the coal chain capacity restriction to all users and provides a sound foundation for expansion. The recent Interim Authorisation of the Queue Management System at DBCT has seen the queue there halve already.

Of the two problems, removal of underlying **capacity restrictions** is the most important as this will underwrite the long term health of the industry. The solution is simple in principle: targeted investment in removing bottlenecks within an effective pricing environment will provide "efficient capacity".

Funding is not the problem. The coal industry has regularly demonstrated its ability to fund infrastructure. The real bottleneck is the complexity and fragmentation caused by the wide variety of ownership and regulation. This has improved transport costs in the last five to ten years, but at the cost of investment. That said, the investment response must also be balanced. Overinvestment has the potential to create an infrastructure investment 'bubble' followed by years of high and inefficient costs, while underinvestment will cap returns to the coal industry and the Australian economy.

It is also important to put the effect of capacity restrictions in context. The increase in overall coal exports and dramatic improvement in pricing has had revenue and balance of trade effects that far outweigh the more minor opportunity costs of current temporary capacity restrictions. So long as infrastructure providers and the coal industry work together to maximise throughput and invest in "efficient capacity" to

meet underwritten demand, the temporary constraints will soon pass and the long term transport costs will remain efficient. Many of the solutions are well underway: for example, there is currently no infrastructure restriction at Newcastle, with capacity freely available to all shippers.

Capacity restrictions are quantifiable at DBCT and PWCS and amount to about 10% in 2005 compared to demand or contracted tonnage. There is evidence that actual mine production tends to fall behind forecasts, so the 10% is probably an upper limit for foregone capacity. The amount of “foregone” revenue from capacity restrictions is currently small compared with the improvement in total export revenue that has arisen from higher prices. Xstrata Coal’s estimate is that “foregone tonnage” is about 6.5Mt (3% of estimated 2004 exports), corresponding to a theoretical opportunity loss of some US\$0.5 billion. Against this, exports of coal from Australia have increased by some 30Mt (15%) in the last two years, and with increased prices, export revenue is set to double. Average Australian coal export revenues for 2001-2003 were A\$12 billion. Revenues in 2004 were an estimated \$14 billion and the figure for 2005 based on current trends could be as high as A\$24 billion. In other words, the overall gain in exports from price and volume increases is an order of magnitude larger than any opportunity loss from infrastructure restrictions.

### **Cause of Bottlenecks**

The symptoms of bottlenecks are queuing and capacity restrictions. The immediate cause of these bottlenecks is a lack of capacity in one or more parts of the complex transport systems in each corridor. However, the underlying cause is lack of coordinated investment and operation due to fragmentation of ownership and lack of alignment in coal chains.

Governments have indirectly contributed to this problem by:

- Privatising or selling former state assets (eg DBCT, NSW trains) without changing the one-sided government contracts to reflect the different drivers of new owners.
- Not including transport planning when approving new mines.
- Not coordinating efforts between government transport entities and other transport providers as part of coal chains.

This does not mean that further government intervention is required to fix these issues. While it may take up to three years to invest in sufficient capacity, the problem is largely self correcting if proper coal industry management of demand triggers (i.e. effective take or pay contracts) and effective coal chain planning is supported. Much of the necessary work is underway as laid out below.

### **Coal Industry Response**

There is no need for government investment support as capacity restrictions do not result from a difficulty in obtaining private sector funding. The coal industry and/or the private sector is quite capable of raising the funds required for properly underwritten projects so long as regulatory and investment rules are clear (examples are track for Xstrata Coal’s Rolleston project, PWCS’s investment of over \$700 million at Newcastle in the last decade and PN’s investment in trains in NSW).

The coal industry is not sitting on its hands. Xstrata Coal, as a leading Australian coal exporter, has been working closely with other coal companies and infrastructure providers to find long term, sustainable solutions to the various coal chain issues.

Xstrata Coal has supported efforts by port providers to remove queuing on a fair and equitable basis (PWCS at Newcastle and Prime at DBCT) through the introduction of temporary systems to moderate vessel arrivals while maximising throughput. In the case of PWCS in Newcastle, the 2004 Capacity Distribution System succeeded in rapidly reducing the queue from 56 vessels in March 2004 to a minimal level currently. This has saved the coal industry an estimated US\$174 million in only nine months, with flow on benefits in the form of lower ocean freight rates and an improved port reputation. At the same time, throughput increased from 74Mt to a record 78Mt in 2004 and an 83Mt rate in Q1 2005. Most exporters were hence able to significantly lift exports in 2004. A revised, temporary Capacity Distribution System has been introduced to bridge the gap until investment removes any throughput restriction and the ACCC has issued a Final Determination suggesting that this System creates a net public benefit.

Xstrata Coal has also strongly supported capacity planning and improvement by infrastructure providers. Recent successes at Newcastle provide a 'textbook' example of the results that can be achieved through cooperative focussed efforts. There, infrastructure providers, notably Pacific National, PWCS, Queensland Rail, Newcastle Port Corporation, ARTC and RailCorp have jointly formed a cooperative body to plan coal movements and capacity improvement. Known as the Hunter Valley Coal Chain Logistics Team (HVCCLT), this body has increased daily coal chain throughput capability by 15% with minimal capital. It has also developed an integrated capital plan to increase coal chain capacity to more than 110 mt, a 45% increase on last year's record throughput.

As a result of these efforts, the waiting time at Newcastle is minimal and in both January 2005 and Q1 2005, the coal chain achieved a record throughput. It is Xstrata Coal's view that there will be minimal restriction, if any, on coal producers for 2005 as coal chain capacity has increased rapidly through improvement.

Capacity planning efforts are also paying off. This week, PWCS announced a \$170 million investment as part of a coordinated plan to lift capacity of the Hunter Valley Coal Chain to 102 million tonnes, in conjunction with plans by ARTC and other logistics providers. ARTC has released its corridor strategy, which complements this work, as is well underway with capital investment. The investment plans unveiled by PWCS, ARTC and others ensures that capacity will continue to steadily increase and will be largely sufficient to meet underlying demand. Xstrata Coal strongly supports efficient investment in needed coal chain capacity.

At Dalrymple Bay Coal Terminal at Mackay, improvement efforts are at an earlier stage. Measures were introduced to restrict shipments from February 2004 following the catastrophic collapse of one of the major items of equipment, a reclaimer. These restrictions were largely removed later in 2004 as Prime has publicly stated the view that terminal capacity does not restrict throughput. In part as a result of these decisions, a large queue has formed off DBCT, currently averaging about 40 vessels

and leading to delays of almost a month in loading vessels. Demurrage costs in the first quarter were some US\$7/tonne shipped. Again, Xstrata Coal continues to support efforts by Prime and others to fix this coordination problem. Xstrata Coal is part of the Steering Group for the Gladstone Coal Chain Improvement Programme, which is seeking all opportunities to lift throughput in the short term.

A further issue at DBCT is the regulatory process. The Queensland Competition Authority have effectively swung from a rational and independent draft determination to a final decision that apparently simply matches the requirements of the port owner, Prime. It is essential that regulators act to balance the needs of the whole economy, providing infrastructure owners with reasonable returns reflecting risk while protecting coal companies from monopoly rents. In the case of DBCT, the coal industry is the operator of the port and Prime's main function is to manage revenue from low risk, long term, take or pay contracts and invest to expand as required. It is essential that firms who invest in infrastructure are willing to invest at the rate of return that is an appropriate compensation for the low underlying risk of the revenue streams from the asset.

While investment is important, industry and governments must avoid 'irrational exuberance'. One possible example is the so-called "Missing Link" to connect the Goonyella rail corridor to the Newlands corridor which exports through Abbot Point.

While the direct cost of the short link is superficially attractive, the economics do not stack up with the lower cost of capacity elsewhere. The Newlands system runs small, diesel trains and to upgrade for the large electric trains in use on the Goonyella system will require an upgrade to the whole corridor, not just a link. To make matters worse, the haul distances would increase by an average of 115km, necessitating high capital and operating costs for above rail operations. Proponents are calling for funding by government rather than specific industry users. Were it to proceed, either the government return would be sub-economic or the coal industry as a whole would wear the cost of inefficient investment. The Queensland Government and its logistics providers, PCQ and QR, have proceeded to feasibility without presenting the full mine to port capital and operating costs of the NCA link and comparing these costs to the likely lower cost options of moving coal to either Gladstone or DBCT. Further, QR has signalled its intent to change its rail pricing arrangements to recover costs of the link from Goonyella users who do not benefit from it.

### **Policies and measures required to assist in achieving greater efficiency in the Australian transport network**

Xstrata Coal's experience is widespread, as its global coal business exports through many major international coal chains. In its experience, good practice is characterised by:

- **Demand underwriting** in the form of long term binding contracts (i.e. take or pay) between infrastructure providers and coal producers. Above rail contracts and all major third party ports except Newcastle operate on long term take or pay terms. In the absence of these contracts, infrastructure providers have to 'second guess' demand. These contracts need also to impose effective (and symmetrical) obligations on infrastructure providers to perform.



- **Cooperative coal chain planning** is necessary for large integrated coal haulage systems to arrive at a common view of capacity and efficient operation. This is in place in Newcastle (the Hunter Valley Coal Chain Logistics Team provides these services as a cooperative venture between infrastructure providers) and to a lesser extent at the Blackwater/Moura/Gladstone corridor. It is just starting at the Goonyella coal chain centred on Dalrymple Bay.
- **Disciplined operation and investment** is required to ensure that once capacity is required, the infrastructure providers invest at the appropriate rate of return and proceed to deliver the capacity. The major areas of current uncertainty are Prime's plans at Dalrymple Bay and ARTC's plans for the Hunter Valley. Both bodies have in the past indicated that they will not invest unless the regulated rates of return are sufficiently high. Where an owner is unwilling or unable to invest, Xstrata supports direct coal industry ownership or investment.
- **Alignment of objectives**, which is relatively easy to achieve where the coal industry owns capacity, such as at PWCS, but more difficult to achieve with third party ownership such as government enterprises or private sector investors. Many of the infrastructure contracts now in place were negotiated with government and/or monopoly providers and these tend to favour the infrastructure providers to the extent that there is limited or no consequence in the case the infrastructure provider fails to provide the required capacity. This is in contrast to the binding take or pay obligations in place for the coal producers in most cases, which are not reciprocated.
- **Efficient pricing** which flows from competition (which only currently applies in the case of above rail operations in NSW), industry ownership (which only applies to PWCS in Newcastle) or regulation in the case of natural monopolies (which applies to most port and track). Reform is needed to ensure an effective, pragmatic and prompt regulatory environment: current regulatory arrangements are unwieldy, slow and still expose the coal industry to being 'held to ransom' on expansion. Direct negotiation with monopolies will lead to actual or potential monopoly rent extraction and consequent inefficiencies.
- **Regulatory oversight of capacity mismatch** is required where temporary mismatches in demand and capacity arise and there is uncertainty as to how available capacity should be distributed. This has been necessary at Newcastle and a similar mismatch is apparent at Dalrymple Bay. The ACCC has performed an effective and timely role in the case of Newcastle and, more recently, DBCT, carefully balancing competing claims to provide an outcome that is in the public interest.

## **Role of Ports**

The port operation is a critical feature in 'pull' coal systems operating in cargo assembly mode, rather than 'push' coal systems, where vessel arrivals are buffered from raiiling by dedicated stockpiles. In these systems, coal is assembled on a ship by ship basis and the entire coal chain operates as a single, high tempo operation with minimal stocks. The main cases are Newcastle and Dalrymple Bay.

In these operations, hour to hour coordination of a dynamic and constantly shifting planning task results in the potential for considerable loss of capacity if coordination

is not established and maintained. As the variability primarily results from the vessel task and arrival pattern, these coal chains require strong leadership from port operations to be effective. In practice, this creates an effective scale economy that would be dissipated if ownership and management is fragmented. This is reinforced by capital economics, which generally show strong scale economies.

Historically, the Hunter coal chain suffered just such losses when Carrington and Kooragang terminals were separately managed in the 1980s. Current lack of coordination of task between Hay Point and Dalrymple Bay leads to suboptimal system outcomes, although this is being discussed as part of the recent Goonyella coal chain improvement programme

Xstrata Coal is of the view that PWCS offers an effective private sector model for port operations. PWCS is an efficient, open access, industry owned port with a track record of expansion over several decades. A number of new mines have been accommodated at short notice as it is a common user facility. Charges are low as the coal industry shareholders receive a fixed \$24 million per year dividend stream, resulting in very low costs of capital. Just as importantly, PWCS has been able to play an effective role in working with other Hunter logistics providers to deliver improvement.

One current risk to the Hunter model is future port development. Development of a competing private sector port has the potential to cause a number of inefficiencies:

- Potential scale and scope economies will be lost compared with a single port owner/operator.
- Fragmentation of corridor management (like Hay Point and Dalrymple Bay) may lead to capacity losses.
- Competition between ports will dissipate responsibility for coal chain outcomes and enable anticompetitive outcomes in upstream service provision.
- Investment uncertainty with multiple port developments may lead to no investment.

Xstrata Coal believes that, given outcomes in other corridors, governments must carefully consider the coal chain impacts of port decisions and must mitigate the kinds of adverse outcomes that are possible at Newcastle by ensuring commercial or regulatory outcomes are in place before modifying tried and tested operating models.

### **The role of the three levels of Government and the private sector in providing and maintaining the regional transport network**

Xstrata favours a joint coal industry ownership model for key infrastructure, the best example being the PWCS structure for the port at Newcastle. This approach leaves the industry to manage its affairs itself, which given the complexities, significance and scale of the coal industry it is best placed to do.

Where governments choose to retain transport interests, it is critical firstly that the coal industry can use an access regulator to determine any disputes over monopoly pricing or access and secondly that the government owned corporations support cooperative planning models and invest as required to meet underwritten demand.

Governments should think carefully before deviating from a joint coal industry model. The privatisation of DBCT is one example of the effects of this approach. The potential to fragment coal interests at Newcastle is a current example.

## Summary

The Australian coal industry does face undesirable capacity restrictions at a number of corridors. Current impacts are expected to be temporary as responses are put in place and overall the industry is still expected to experience its best economic performance in decades. However, the apparent mismatch between the objectives of some infrastructure owners and the coal industry has the potential to create adverse economic outcomes if left unaddressed.

It is critical that investment in expansion is both prompt and efficiently targeted to ensure throughput restrictions are temporary while maintaining efficient long term pricing of infrastructure services.

The industry has the ability and track record in underwriting or directly investing in infrastructure where necessary.

Governments can best assist the industry by:

1. Ensuring **government owned entities** invest in efficient capacity, where full coal industry underwriting demonstrates the need (ARTC, QR, GPA and PCQ), but seek to avoid subsidies or uneconomic 'headline' projects.
2. Improving the speed, consistency and pragmatism of port and track. **regulatory processes**, while protecting the industry against extraction of monopoly rents.
3. **Seek alternatives** in logjams to ensure that the economy is not held back - for example, direct coal industry investment in expansion where infrastructure providers are unwilling to do so.
4. Providing the **role of 'umpire'** where competing interests result in market failure (e.g. queuing at Newcastle and Dalrymple Bay).

In all cases, where governments are proposing change to established models, such as privatisation or new owners, the implications of changes must be thoroughly tested in advance to ensure that exports are not adversely affected.

## Attachment: Estimated value of Australian coal exports



