An examination of the proposal to fund the regulator from mining royalties

Focus paper 4

NOT GOVERNMENT POLICY

Project Management Office

Queensland Government

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Introduction

The CWP Select Committee

On 15 September 2016, the Queensland Parliament established the Coal Workers' Pneumoconiosis Select Committee (CWP Select Committee) to conduct an inquiry into the re-emergence of coal workers' pneumoconiosis (CWP) in Queensland.

On 29 May 2017, the CWP Select Committee released its report no. 2 – *Inquiry into the re-identification of Coal Workers' Pneumoconiosis in Queensland.* The report made 68 recommendations, a number of which relate to structural changes and funding for the resources safety and health regulator, currently the Resources Safety and Health division within the Department of Natural Resources, Mines and Energy (DNRME) – formerly the Department of Natural Resources and Mines (DNRM).

A central tenet of the CWP Select Committee's recommendations is the proposal to establish a "dedicated and independent statutory mine safety and health body" in order to achieve a more effective system of oversight and compliance.[1]

A related issue is how such a body is funded. Currently, regulatory functions for mine safety and health in Queensland are funded through a safety and health fee paid by industry. The safety and health fee fully funds the Mines and Explosives Inspectorates within the Resources Safety and Health division and co-funds the Safety in Mines Testing and Research Station (Simtars). The safety and health fee also fully funds the Health Surveillance Unit and contributes to the corporate support costs of the division. A separate petroleum and gas fee is applied to fully fund the Petroleum and Gas Inspectorate and related corporate support costs.

The CWP Select Committee report does not challenge the principle that industry should bear the cost of regulatory functions. Rather, the CWP Select Committee makes recommendations to replace the existing safety and health fee model. In its report, the CWP Select Committee made the following findings regarding funding the regulator:

- the safety and health fee is not an appropriate method of funding a truly independent mine safety and health regulator with a fully functional mines inspectorate.
- the funding mechanism for these vital government functions should not be so closely tied to the number of workers employed in the mining industry at any given time. [2]

The CWP Select Committee report recommends abolishing the current safety and health fee in favour of a royalties-based funding model.

The CWP Select Committee recommendations

The CWP Select Committee report made 68 recommendations, three of which are recommendations for a revised funding mechanism for the regulator. Specifically:

- **Recommendation 16**: The safety and health fee currently provided for by part 2A of chapter 2 of the Coal Mining Safety and Health Regulation 2001 should be abolished.
- **Recommendation 17**: The Mine Safety and Health Authority should be funded by a dedicated proportion of coal and mineral royalties paid to the Queensland Government, to be determined in consultation with industry and unions after an assessment of the operating costs of the Authority is undertaken. The dedicated proportion of the royalties should be fixed by regulation and reviewed periodically by the parliamentary committee responsible for the Mine Safety and Health Authority.

[1] Coal Workers' Pneumoconiosis Select Committee, 55th Queensland Parliament, *Black lung white lies: Inquiry into the re-identification of Coal Workers' Pneumoconiosis in Queensland*, report no. 2, May 2017, p. 6

[2] As above, p. 77.

- **Recommendation 18**: Any surplus income derived from the dedicated proportion of royalties that is not allocated to, or expended from, the annual budget of the Authority should be invested with the Queensland Investment Corporation for the future research and operational needs of the Authority.

The recommendations in relation to funding need to be considered in the context of the CWP Select Committee's intention to deliver an improved regulatory framework. This is to say that the structural reform proposed by the CWP Select Committee is to be underpinned by a funding source that is appropriate to the needs of delivering regulatory services to the Queensland resources sector. Importantly an industry sourced funding approach is not at question.

The Queensland Government's response

On 8 September 2017, the Queensland Government tabled its response to the CWP Select Committee report no. 2. The government supported, or supported in principle, all recommendations, noting that some recommendations require further investigation and consultation with stakeholders.[3]

The government response identified recommendations 16, 17 and 18 in relation to funding for the regulator as recommendations requiring further consideration. It should also be noted that the CWP Select Committee's desire for an improved funding approach is not inconsistent with the government's views on this issue. The government acknowledged that reform of the funding model for the mine safety and health regulator is necessary and recognised the need for a revenue stream that better meets the needs of a dynamic and changing operating environment.[4]

The government has established a Project Management Office (PMO) to undertake further investigation and consultation on recommendations in relation to alternative regulator models and a revised funding approach.

The PMO has been tasked with providing options to the Minister for Natural Resources, Mines and Energy by mid-2018 on alternative regulator models and sustainable and effective funding models.

The PMO has already progressed work on potential regulator models (Discussion Paper 1 was released in March 2018) and is now undertaking further consultation on the CWP Select Committee's recommendations regarding funding the regulator.

Purpose of this paper

This focus paper examines recommendations 17 and 18 of the CWP Select Committee report. These recommendations propose a royalties-based funding arrangement. Accordingly, the question here is whether a royalties-based approach is the optimal mechanism for funding the regulator. This focus paper will address this issue. In particular, this paper will consider whether:

- using royalties to fund regulatory activities aligns with the intended purpose of royalties
- royalties are an appropriate vehicle for the cost recovery of regulatory services.

This paper will present the PMO's position on whether a dedicated proportion of coal and mineral royalties should be used as a source of funding for mine safety and health regulatory activities, as recommended by the CWP Select Committee.

This paper will also consider and present a position on the proposal to establish a dedicated fund to finance public research activities. This examination will include a consideration of the economic rationale for government supporting public research and whether a dedicated fund represents an appropriate funding vehicle for these activities – independent of whether or not the source of capital for such a fund is coal and mineral royalties.

[3] Queensland Government, Response to Coal Workers' Pneumoconiosis Select Committee report no. 2 – *Inquiry into the re-identification of coal workers' pneumoconiosis in Queensland*, September 2017, p. 33-44.

[4] As above, p. 22.

Recommendation 16 is not being considered in this paper. This recommendation will be considered in Discussion Paper 2, which will present options for an alternative funding model for the regulator and seek feedback from stakeholders on a preferred funding model. Discussion Paper 2 will take a principles-based approach, reviewing a number of possible funding models through the lens of best-practice public policy principles for cost recovery.

The positions presented in this paper are not government policy. Rather they reflect the analysis and assessment of the various issues undertaken by the PMO.

Analysis of recommendation 17

The Mine Safety and Health Authority should be funded by a dedicated proportion of coal and mineral royalties.

The rationale for royalties

The economic rationale for royalties derives largely from the notion of ownership of mineral resources in Queensland. Under Queensland legislation, coal and other minerals are considered the property of the Crown, separate to the ownership status of the surface land.[5]

The separation of the ownership of mineral resources from the ownership of the land itself is a long standing principle that has been adopted progressively by Australian states and territories since the end of the 19th Century. Significantly, the Crown's ownership of mineral resources has been exercised by state and territory governments, with only some exceptions where this has been exercised by the Commonwealth.[6]

Mining and mineral rights are not explicitly in the Constitution and, therefore, default to being a state responsibility. Thus, mineral resources enjoy a status in Queensland and Australia in which they are considered to be a valuable endowment to the community itself, with state governments conferring the right to extract and sell these mineral resources on private entities and earning a return to the community for doing so via royalties.

The findings of the CWP Select Committee

The principle that royalties represent a return to the Queensland community from the extraction and sale of mineral resources initially appears to be one that is shared by the CWP Select Committee. In its report, the Select Committee states:

> *Mining and petroleum royalties are payments made to the owner of resources for the right to extract them. As the State owns all petroleum and gas and most minerals, resource permit holders generally pay royalties to the Office of State Revenue, within Treasury. These payments are not a tax, but part of the cost of leasing the land – effectively, compensation to the State for the resource value extracted from the land. In setting royalty rates, governments aim to deliver an appropriate return for the sale of State mineral assets, while not unduly impeding the efficiency and competitiveness of the resources sector.*[7]

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[5] See Part 5, s8 of the *Mineral Resources Act 1989.*

[6] Exceptions include Commonwealth control over minerals (e.g. natural gas) found beyond the three nautical mile territorial limit. The Commonwealth also controls any minerals in external territories and, through the *Atomic Energy Act 1953* (Cth), Uranium in the Northern Territory.

[7] Coal Workers' Pneumoconiosis Select Committee, 55th Queensland Parliament, *Black lung white lies: Inquiry into the re-identification of Coal Workers' Pneumoconiosis in Queensland*, report no. 2, May 2017, p. 77.

Subsequently, however, the CWP Select Committee add a further dimension to their rationale for royalties that diverges from the common understanding. Following a consideration of the efficacy of the current safety and health fee, the CWP Select Committee conclude that a designated proportion of coal and mineral royalties would represent a more appropriate funding mechanism, noting that:

> *… this proposed change is consistent with the philosophical aim of the royalty regime – that is, to hold resource permit holders accountable for the costs of their extraction activities, including the often hidden costs associated with safety and health impacts. After all, as the mining workforce plays a crucial role in generating value from the State's resources, the funds required to safeguard the safety and health of that workforce should appropriately be drawn from the proceeds that result.*[8]

This assertion that royalties are also an accountability mechanism for extraction costs sits uneasily with the usual understanding of the purpose of royalties. The question of whether or not it is appropriate to utilise royalties to pay for the costs of mine safety and health regulation turns on consideration of two important points:

- The **nature of the economic return** from the extraction and sale of mineral resources. This is best explored through the concept of economic rent.
- Funding mine safety and health regulatory activities from royalties raises **equity concerns** regarding who is the most appropriate party to bear the costs of regulation. This is best explored through principles of cost recovery.

Economic rent

For the purposes of this discussion, the financial return to a mine operator on the sale of mineral resources is considered by economists to consist of what is known as economic rent. Economic rent represents an above-normal profit that can be earned from the sale of goods for which supply is limited.

In most competitive markets, any profit that is being earned over and above the costs of production (e.g. labour and capital) and the rate of return on investment will eventually attract new firms chasing these above normal returns. This can be expected to result in an increase in the supply of the goods in question that eventually reduces prices and erodes the above-normal profits earned by the firms in the market.[9] The market for mineral resources, however, is defined by the finite nature of the goods in question. Over the long-term, no further supply of a resource, such as coal or minerals, or petroleum and gas can be created beyond what exists already.

It should be noted that, over the short to medium term there are a range of factors that can approximate an increase in supply. These factors include resource exploration (e.g. the discovery of new deposits or reserves) and technological advancement, which can reduce the cost of accessing some deposits and improve the ability to utilise low-grade deposits. Nevertheless, economic rents tend to persist even over the short to medium term due to a number of other countervailing forces. These forces include:

- variable resource quality (e.g. some mining companies control higher quality resource deposits than others and can, therefore, command a higher price for their product)
- concentration of the ownership of extraction rights in relatively few companies
- sudden sharp increases in demand that lead to abnormally high prices because no further supply than what exists *right now* can be accessed by the market.

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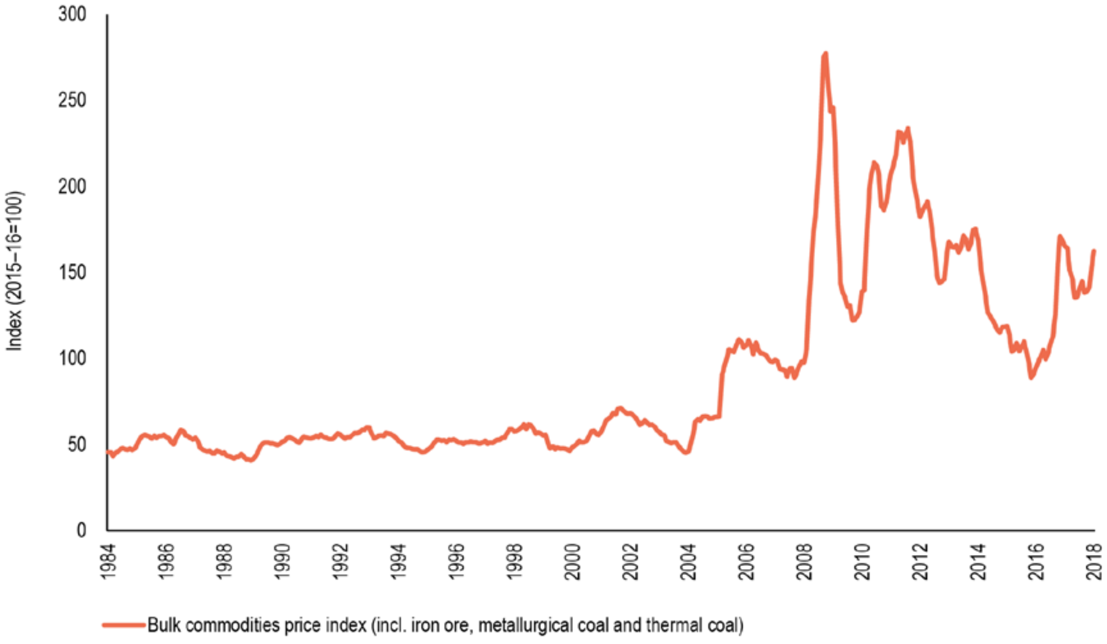
[8] Coal Workers' Pneumoconiosis Select Committee, 55th Queensland Parliament, *Black lung white lies: Inquiry into the re-identification of Coal Workers' Pneumoconiosis in Queensland*, report no. 2, May 2017, p. 78.

[9] Australia's Future Tax System Review, *Australia's Future tax System – Report to the Treasurer, Part Two Detailed Analysis*, December 2009, p. 218.

The last force in particular is familiar to both Queensland and Australia. As Chart 1 below demonstrates, Australia experienced a rapid increase in prices for iron ore, metallurgical and thermal coal between 2004 and the peak of the 'mining boom' in 2008 driven primarily by rapid economic growth in the economies of north Asia, particularly China.[10]

Chart 1: Price movements for Australian resource exports



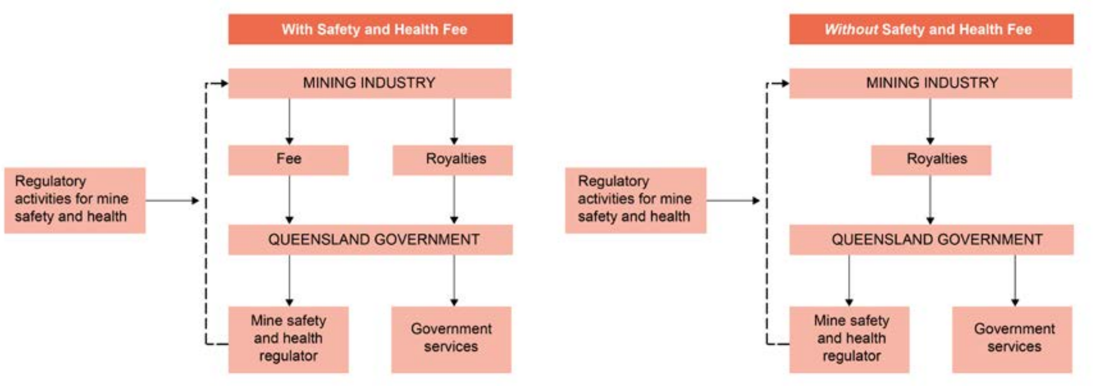
Source: Reserve Bank of Australia

Consequently, economic rents persist in resource markets. Accordingly, the resources in question are owned by the State with the rights to extraction granted to private entities, the royalties levied are focused on gaining a proportion of the economic rent from their sale.

The CWP Select Committee's recommendation 17, however, conflicts with the focus of royalties on extracting a portion of the economic rent earned from the sale of the State's mineral resources. By allowing a portion of royalties to be allocated specifically to pay for what is essentially a production cost (i.e. the costs of regulating mine safety and health) – as opposed to accounting for this production cost through a safety and health fee that is paid *in addition* to royalties – revenue would necessarily be eroded. Effectively, the CWP Select Committee's recommendation would represent an income transfer from the Queensland Government to the coal and minerals mining industries. Figure 1 below sets out this situation.

[10] For a more detailed explanation of the theory and evidence behind non-renewable resources see Krautkraemer, J (1998) 'Nonrenewable Resource Scarcity', *Journal of Economic Literature*, pp. 2065-2107 and Gaudet, G (2007) Natural Resource Economics under the Rule of Hotelling, *Canadian Journal of Economics*, Vol. 40 (4), 1033-1059.

Figure 1: Comparison of funding mine safety and health with and without a safety and health fee



This is a point that was noted in relation to the introduction of the safety and health fee in 2008 through the Mines and Other Legislation (Safety and Health fee) Amendment Bill 2008. During the second reading debate, the then Minister for Mines and Energy noted the following (emphasis added):

> *… royalties are an expression of the fair return to Queenslanders on the resources that are owned by all Queenslanders. Queenslanders are in a perpetual joint venture with the mining industry…whereby the mining companies and Queenslanders work together to materialise the wealth that these resources are to all of Queensland. <u>If we start from the position that royalties represent a fair return to Queenslanders on what is of value to them, then for the safety levy to be paid out of the royalties would be for Queensland taxpayers to continue to pay for the provision of mine safety services that are provided directly to the industry on effectively a de facto consultancy basis.</u>*[11]

In summary, the removal of the safety and health fee in favour of a royalties-based arrangement means that all Queenslanders are paying for the safety obligations of mine operators. In a practical sense this improves the economic rent outcome for the operator at the expense of the broader Queensland community.

There is a general view that there is a need for a funding model that maintains stable funding to support delivery of a best practice mine safety and health regulatory framework in Queensland. However, the PMO is of the view that a funding model that relies on coal and mineral royalties presents policy and legislative challenges. Essentially, the fundamental principle of the royalty regime is to ensure the community receives a return of some of the proceeds generated by resource companies from extracting non-renewable resources. This view is supported by the fact that royalties are administered revenue and must be paid to the Consolidated Fund which is used to fund the collective needs of the Queensland community.

This view echoes those expressed elsewhere by the Queensland Government. For example, it was noted in the 2017-18 State Budget that:

> *… the State earns royalties from the extraction of coal, base and precious metals, bauxite, petroleum and gas, mineral sands and other minerals. Royalties ensure some of the proceeds of the extraction of non-renewable resources are returned to the community.*[12]

In addition to the broad rationale for royalties outlined above, there is a general view that there is a need for a funding model that maintains stable funding to support delivery of a best practice mine safety and health regulatory framework in Queensland. The PMO shares this position, however, the PMO is of the view that a funding model that relies on coal and mineral royalties presents

[11] Queensland, Legislative Assembly, Mining and Other Legislation (Safety and Health Fee) Amendment Bill second reading debate, 26 August 2008, p. 2309.

[12] Queensland Treasury (2017), Queensland Budget 2017-18, Budget Paper No. 2 – Budget Strategy and Outlook, p. 90.

policy and legislative challenges. In particular royalties are an inherently variable funding source. The 2017-18 State Budget notes that:

> *There is a high degree of uncertainty associated with estimates of commodity prices, which can have significant impacts on royalty revenue. Price volatility and other issues such as the level of exposure of mining operations to the risk of natural disasters can cause a high level of volatility in royalty estimates…*[13]

This uncertainty potentially limits the regulator's ability to plan or manage its forward work programs.

Finding: Based on the analysis undertaken on this matter, the PMO is of the view that funding regulatory services for a discrete work process is out of step with the purpose and objectives of the payment of royalties to the Queensland community.

Cost recovery of regulatory activities

The proposal to fund regulatory activities for mine safety and health from royalties also raises equity concerns. These concerns are best understood by examining the policy principles surrounding government cost recovery for the delivery of services.

Governments will intervene in markets for a variety of reasons. The level of intervention may involve the direct provision of government services (such as health and education services, and public transport) or take place through legislative processes, such as safety regulation, to influence behaviour.

The question of who pays for government intervention often depends on the ability of government to identify those who benefit most from its actions. It is often the case that the costs of government intervention to correct market distortions are spread widely due to the indirect and dispersed nature of the benefits. As a result, public goods, such as national defence, public healthcare and some transport infrastructure tend to be paid for by all taxpayers from general government revenue. Government can, however, cost recover where the direct beneficiaries of intervention are easily identified – this is known as the "beneficiary pays" principle.[14]

In the context of this discussion, the relevant question from the "beneficiary pays" principle perspective is whether the use of royalties to cover the costs of a specific regulatory function is appropriate. In this case, the benefits are quite localised to mining activity and as such the cost recovery action should focus on that sector rather than spreading the cost burden across the broader Queensland community.

Queensland cost recovery principles

The beneficiary principle is reflected in current Queensland Government policy. As noted by Queensland Treasury's *Principles for Fees and Charges*:

> *…those individuals and groups who benefit from the provision of a good, product or service should pay for it. The beneficiaries of goods and services for which charges are made should be identified to assist in making decisions on how these groups can best be charged.*[15]

The beneficiary principle has two dimensions – that of efficiency and that of equity. In terms of efficiency, government cost recovery both encourages those who benefit directly from a service to recognise the costs involved and reduces the cost burden on those who do not benefit. A logical extension of this is that fees and charges for cost recovery should also not exceed what is required

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[13] Queensland Treasury (2017), Queensland Budget 2017-18, Budget Paper No. 2 – Budget Strategy and Outlook, p. 91.

[14] For a more detailed discussion of the beneficiary principle, or the beneficiary pays principle, see Productivity Commission (2001) *Cost Recovery by Government agencies*, Inquiry Report, p. 15 to 17.

[15] Queensland Treasury (2018) *Principles for Fees and Charges*, p. 4.

to deliver a government service efficiently. This is a particularly important consideration when government is delivering a service that is not a pure public good but rather one with the characteristics of a public good. Cost recovery helps governments to achieve horizontal equity. Horizontal equity refers to treating people in similar situations in similar ways – in this case, participants in the resource industry paying the associated costs of mine safety and health regulation.[16]

The Queensland Government's response to the CWP Select Committee raised concerns that the volatility of royalty revenue may pose a risk to the funding certainty for mine safety and health regulation. This is a valid concern. For example, between 2008-09 and the end of the current budget forecast period (2020-21), annual variations in royalties are expected to average approximately 21 per cent, compared to an average year to year variation in total Queensland Government revenue of around 6 per cent over the same period.[17] This is a concern that may become more pronounced in future years as coal prices in particular have demonstrated increased volatility.

In light of this analysis, it is the PMO's view that recommendation 17 does not conform to the principles of cost recovery as expressed by current Queensland Government policy. This is because utilising royalty revenue is not consistent with the beneficiary principle that underlies the rationale for cost recovery. While royalty revenue is drawn directly from the industry that is the subject of regulation, as the previous section established, this revenue is intended to represent a return to the people of Queensland earned on an economic gain (economic rent) that exists after the costs of regulation have been taken into consideration. Consequently, rather than the mining industry bearing the costs of regulatory compliance directly, utilising royalties would instead ensure that these costs are borne by the wider Queensland population.

Finding: The economic research undertaken by the PMO indicates that the use of a royalties-based funding approach does not conform to best practice principles regarding the recovery of costs by the government for the delivery of regulatory services.

Interjurisdictional analysis

Currently, no Australian jurisdiction utilises royalty revenue to pay for the costs of mine safety and health regulation. As outlined in Table 1 below, regulatory costs in other Australian states are paid for with industry-based cost recovery fees and levies. These fees and levies are generally a function of industry production variables (e.g. wages or hours worked) or based on the costs of the regulatory function that is required. For example, the National Offshore Petroleum Safety and Environmental Management Authority that regulates offshore oil and gas projects, recovers costs through a range of charges that are related to workplace health and safety, the structural integrity of gas and petroleum wells, and environmental management regulatory activities.

[16] For a more fulsome discussion of the economic principles underlying cost recovery, see Productivity Commission (2001) *Cost recovery by Government agencies*, Report No. 15, p. 11-33.

[17] Derived from Queensland Government Budget Paper No. 2 for the 2010-11 to 2017-18 budget cycles.

Table 1: Interjurisdictional Comparison

Jurisdiction	Type of cost recovery	Year introduced
Queensland	A safety and health fee that is based on employee numbers at a mine or quarry site	2008
New South Wales	A fee that is based on the percent of wages paid by a mine within the industry.	2005
Victoria	A fixed and variable charge. The variable charge is based on specific extractive activities while the annual fees are based upon the value/sale of usable commodities produced.	2014
Western Australia	A fee that is a function of employment and is calculated on the number of reported hours of mining operation	2010
Australian offshore oil and gas	A fee that consists of fixed and variable components	2003

PMO position regarding recommendation 17

This paper finds that recommendation 17 of the CWP Select Committee report which proposes that mine safety and health regulatory activities be funded from a dedicated portion of coal and mineral mining royalties lacks a convincing rationale.

The PMO has identified the following considerations:

- Utilising royalties does not align with their primary purpose, which is to capture a portion of the economic rent from the extraction and sale of a non-renewable resource to provide a return to the population of Queensland, for whom these resources are held in trust by the Queensland Government. The distribution of funding from royalties is intended to benefit all Queenslanders rather than a discrete cohort.
- Utilising royalty revenue to pay for regulatory costs would represent a transfer of income from the Queensland Government to the mining industry. Absent of any compensating increase in Queensland Government revenue (including through an increase in the current royalty rates on coal and minerals), paying for mine safety and health regulatory activities from coal and mineral royalties would necessarily result in a reduction in the overall funding available to deliver government services elsewhere in the Queensland community (e.g. hospitals, roads or schools).
- Funding regulatory activities for mine safety and health from royalties conflicts with best practice in cost recovery. It is the case that government often faces situations in which it is unable to recover the costs of service delivery directly because the benefits are too diffused amongst the community. This, however, is not the case with mine safety and health regulation where the direct beneficiaries of regulatory services are easily identifiable. Consequently, it is reasonable to expect that the costs of safety and health regulatory services should be met by the industry sector that generates the activity.
- Cyclical movements in coal and mineral markets can make royalties an unreliable funding source which impinges on forward planning and budgeting.
- The PMO could find no precedent in Australia for the use of coal and mineral royalties to fund safety and health regulatory services. While this in itself is not a barrier to such an approach, it would potentially create a precedent which may present challenges for future governments.

PMO position: Recommendation 17 is not supported. Royalty revenue should not be pursued as a viable funding option for mine safety and health regulatory activities.

Analysis of recommendation 18

> Any surplus income derived from the dedicated proportion of royalties that is not allocated to or expended from, the annual budget of the Authority should be invested with the Queensland Investment Corporation for the future research and operational needs of the Authority.

As an extension to the CWP Select Committee's proposal to utilise a dedicated proportion of coal and mineral royalties, the CWP Select Committee recommended further that any surplus income from royalties should be invested with the Queensland Investment Corporation (QIC).

Given the PMO's position that royalty revenue should *not* be pursued as a funding option for regulatory activities, the analysis of Recommendation 18 will focus on the merits of its stated objective, which is for funds invested with QIC to produce an income stream for future operational and (notably) research needs. In particular, this section will focus on the merits of a specific funding stream for the mine safety and health regulator undertaking scientific research activities.

Research activities regarding mine safety and health

Currently, scientific research regarding mine safety and health is undertaken by Simtars, within the Resources Safety and Health division in DNRME. Simtars was established in 1983 by the Queensland Government following the inquiries into the tragedies at the Box Flat Colliery and Kianga No 1 Colliery underground mines in 1972 and 1975, respectively.

The rationale for the establishment of Simtars included a focus on applied research into solving technical mine safety and health issues, particularly as they pertained to coal mining.

The Mining Inquiry into the events at Box Flat recommended that:

> *… a Safety in Mines Organisation be established. It is envisaged that the Organisation would not carry out the extensive research programmes dealt with in the establishments in the U.S.A., Great Britain or Europe, but rather that emphasis be placed on the practical demonstration of matters related to safety in coal mines and in giving mining personnel the opportunity of gaining first-hand experience in the correct methods of dealing with full scale underground mine fires and the hazards associated with the varying conditions that may occur.*[18]

While the Inquiry into the accident at Kianga No. 1 recommended that:

> *An autonomous Safety in Mines Research Organisation be established urgently in Queensland to examine among other items:*
>
> a) *Spontaneous combustion and the determination of proneness of the various coals*
> b) *Effective ventilation systems for pillar extraction in seams liable to spontaneous combustion*
> c) *Rapid means of effective sealing*
> d) *Early warning systems (including portable gas analysis instruments) for detection of heating*
> e) *Effective firefighting techniques in various underground mining conditions.*[19]

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[18] Queensland Government, "Mining Inquiry – Box Flat Colliery: Report, findings and recommendations", November 1972, p3 [online] http://www.mineaccidents.com.au/uploads/box-flat(1).pdf [Accessed 3 April 2018]

[19] Queensland Government, "Report on an accident at Kianga No. 1. Underground mine", December 1975, p16 [online] https://publications.qld.gov.au/storage/f/2014-06-13T04%3A38%3A33.219Z/kianga-mining-warden-report.pdf [Accessed 3 April 2018]

Simtars began operation in 1986, with purpose-built analytical and research facilities at Redbank, near Ipswich, commissioned in 1988. In 1997, Simtars opened an office and laboratory in Mackay to serve the Central Queensland region.

Economic rationale for publicly funded research

The rationale for Simtars is bound up in the economic justification for government supporting scientific research. A widely held economic justification for government financing and undertaking specific types of scientific research and development (R&D) is that the market, left to its own devices, will not invest sufficiently in R&D because individual firms are unable to capture the full economic rewards. This is because scientific research can have the properties of a public good.

Firms are often unable to fully capture the economic benefits of R&D due to: a) difficulties in excluding their competitors from using the scientific knowledge generated, and b) the fact that this knowledge, once created, is cheaply disseminated and then applied and re-applied without significant additional costs.[20]

The property of non-excludability is particularly relevant in relation to research relating to problems that impact on an entire industry. If no one firm in a particular industry can capture the full benefits and/or bear the full costs of the R&D effort required to solve an industry-wide problem the level of R&D spending may, as a result, be lower than is socially desirable.

This situation potentially creates a role for government either to undertake R&D activities itself or co-fund R&D with industry participants. These kinds of arrangements can be observed in the form of government-funded research bodies, such as the Commonwealth Scientific and Industrial Research Organisation (CSIRO). Some industries have partially negated the need for government intervention through the establishment of industry-led cooperative research bodies in which the costs of R&D are shared amongst industry participants. Examples of industry-organised bodies include the Australian Mineral Industries Research Association (AMIRA) and the Australian Coal Association Research Program (ACARP). It should be noted that collaboration exists between industry bodies and government bodies as part of a wider commercial R&D ecosystem.[21]

Finding: The PMO supports a view that there is a sound policy rationale for government facilitating scientific research in the area of mine safety and health.

Factors to be considered for a dedicated fund for future operational and research needs

The rationale for government supporting scientific research applies to Simtars. As noted, Simtars was established as a research body to develop and disseminate technical solutions to mining industry safety and health problems, following a number of mining-related tragedies.

The scientific research conducted by Simtars receives industry funding through both the safety and health fee and grant funding from ACARP. This arrangement is consistent with the cost recovery principles in which the most direct beneficiaries should, if possible, bear the costs of government providing a service that can be considered to have the characteristics of a public good.

[20] Economists refer to these public good qualities as non-excludability and non-rivalry.

[21] The Productivity Commission (2007) Research report *Public Support for Science and Innovation* provides a more detailed discussion on the role of government in scientific research (see Chapter 3) and industry-led research bodies (see Chapter 10). See Gans (2007) *The Economic Case for Public Support of Science and innovation* (submission to the Productivity Commission’s study on “Public Support for Science and Innovation) for a more fulsome discussion of the positive externalities/spill overs justification for government support for R&D, including its limitations as an argument for *all* government support of scientific research.

In terms of a dedicated fund from which the investment income finances R&D activities as well as future operational needs, as per recommendation 18 of the CWP Select Committee, consideration would need to be given to the same issues surrounding cost recovery, including the following:

Effectiveness

On the face of it, it is unclear whether or not a dedicated fund would provide a more effective source of funding for research activities than current arrangements. It is notable that the CWP Select Committee's rationale for the establishment of a fund does not appear to be based on a view that a dedicated fund would provide a better source of finance than current arrangements. Rather, recommendation 18 appears to present a practical solution to the problem that more money could be raised from a proportion of royalties than is required to fund regulatory activities from year to year.

Thought would need to be given to whether or not a fund could provide a source of finance that is more predictable and/or more substantial than current arrangements. In addressing the latter, thought would need to be given to the long-term research objectives of a mine safety and health regulator in Queensland.

In terms of operational needs, the questions regarding effectiveness are potentially more acute. Funding short-term operational obligations from the income obtained from long-term investments could present liquidity risks. As noted previously, royalty revenue can be highly variable. This variability would impact both on the amount of funding that is available year to year specifically for operational needs as well as what surplus (if any) is available to be invested to provide a further income stream. Consequently, particularly prudent financial planning would be required on the part of the a mine health and safety regulator and QIC to ensure that royalty revenue is sufficient to provide not only for operational needs but also the liquidity of any associated investment fund.

Equity

In accordance with the principle that the beneficiary should pay for public goods where possible, thought would need to be given to how industry contributions could help to capitalise a fund, including the magnitude of these contributions and whether or not issues of vertical equity needed to be considered (e.g. larger mines providing a large contribution to establishing the fund than smaller operators). It might ultimately be the case that contributions would be required from both government and industry to establish a fund that is able to generate sufficient income to pay for long-term research objectives. In this case, thought would need to be given to how much should be sourced from government and how much from industry.

From an equity perspective, the PMO is of the view that linking returns from QIC investments to a regulatory function and/or research activities that would directly benefit a specific cohort of the community would not align with existing frameworks.

Transparency

The establishment of a dedicated fund for publicly conducted research and to fund operational requirements would require consideration to be given to probity and governance requirements to appropriately guide decisions on expenditure and public reporting. This would introduce an additional level of management complexity to a mine safety and health regulator that would not be required under alternative funding arrangements, such as a safety and health fee.

> **Finding:** In the absence of more substantive evidence the PMO questions whether an investment fund would provide a more effective source of funding for scientific research into mine safety and health than current arrangements.

PMO position regarding recommendation 18

There is a sound economic rationale for Simtars providing research into mine safety and health and, therefore, some merit in examining how this research is funded. The PMO has identified the following considerations:

- There is a strong policy argument for the work being undertaken by Simtars. Simtars aligns with widely accepted arguments for public bodies performing scientific research activities that have public good characteristics.
- There is also a strong argument for the work of Simtars being funded in full or in part by those that benefit most directly, namely the Queensland resources sector. This aligns with widely held principles for cost recovery of public services.
- Whether an investment fund would improve current funding arrangements is unclear. Further work would need to be undertaken to establish whether or not an investment fund would provide funding arrangements that are superior in terms of efficacy, equity and transparency to current arrangements. However, in light of the view expressed in this paper that royalties are not supported, the allocation of surplus income to a QIC managed fund is essentially a moot point.

PMO position: Recommendation 18 is not supported. Although funding research activities has merit and should form part of an agreed funding model, the PMO position is that utilising a portion of royalties is not a preferred funding approach for regulatory activities. Therefore the proposal to allocate surplus income from royalties to a QIC managed fund is not supported.

Conclusion

Based on the research undertaken in relation to the issue of a royalties-based funding approach, the PMO is of the view that recommendations 17 and 18 of the CWP Select Committee are not supported.

The PMO has found no compelling evidence to indicate that a royalties-based funding model is an appropriate mechanism for funding regulatory services. To the contrary, the use of royalties would narrowly favour the participants of a specific industry at the expense of the broader Queensland community by diverting royalty revenue from paying for key government services to financing mine safety and health regulation. It would in effect be a disguised subsidy to the resources industry, which is ultimately responsible for the delivery of safe workplaces.

Critically, the PMO's lack of support for recommendations 17 and 18 brings recommendation 16 into sharp focus. Recommendation 16 (to abolish the current funding model) is presumptive of recommendations 17 and 18 (to use a portion of royalty revenue as a new funding model) being implemented. It becomes necessary then to consider alternatives to both the current funding model and the replacement identified by the CWP Select Committee – as per the Queensland Government's response to the CWP Select Committee.

The view that industry should (as a beneficiary of safer workplaces) contribute to regulatory services is not contested. It is important to note the position promoted by the CWP Select Committee is that a regulator should be funded by industry – albeit from a funding stream that the PMO considers to be inappropriate.

The PMO is taking this issue forward through a discussion paper that will examine alternative funding models against a backdrop of key principles of effectiveness, efficiency and transparency. Through this process, stakeholders will have an opportunity to consider alternative approaches to funding regulatory services in Queensland and to indicate a preferred approach.

Have your say

If you have any feedback or comments on the positions presented in this focus paper, these may be made in writing to the Project Management Office by email or post:

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Feedback closes 5 pm, Friday 27 April 2018

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