

Design of the Risk Assessment Process for the Financial Assurance Scheme

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KPMG in association with Australia Ratings

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1. Background and purpose of this report

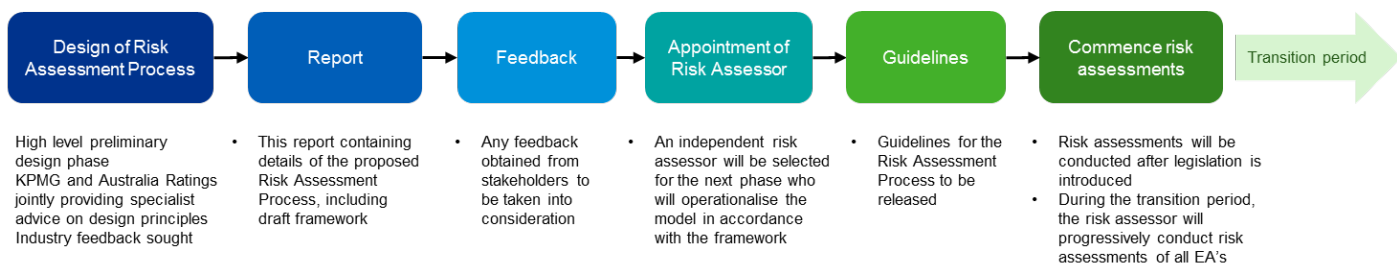
In 2016 the Queensland Government established a Financial Assurance (**FA**) Interdepartmental Committee to conduct a review of Queensland’s FA framework (the **Review**). FA provides a source of funds the State may draw on in the event it incurs costs or expenses for land remediation because of the failure to do so by an Environmental Authority Holder (**EA Holder**), or any other entity required under the Environmental Protection Act 1994.

The recommendation of the Review was for Government to consider implementing the ‘Tailored Solution’, as detailed in the Review of Queensland’s FA Framework report dated April 2017. The Tailored Solution proposes an FA scheme that, amongst other things, segments the current portfolio of operators based on size and risk and provides a pooled fund approach for a number of operators. The framework has been amended following feedback obtained during the public consultation period in respect of the above report.

The proposed new FA scheme (**the Scheme**) is an innovative and progressive adaptation of Government financial assurance for mining rehabilitation obligations, which would generate material benefits for the State, the resource industry and the wider community in comparison to the identified deficiencies of the current scheme. The preliminary design of the Scheme has been structured to allow it to be implemented in a reasonable timeframe (aiming for commencement by July 2018) and for the Scheme to evolve as additional information and refinements to the State’s various related processes are further developed.

KPMG Australia ABN 51 194 660 183 (**KPMG**), in association with Australia Ratings Pty Ltd (**Australia Ratings**) have prepared this report on the design of the risk assessment process for resource projects under the Scheme. The actual implementation of the risk assessment process will follow separately, at the determination of the State, as shown in Figure 1:

Figure 1: Implementation of the risk assessment process



The development of the proposed framework involved numerous consultations with various Government bodies and departments, as well as consultation with various industry representative bodies and select individual EA Holders. This report is not itself intended to be the final design of the framework but to provide a set of guiding principles, prior to the operationalisation of the underlying framework model and the initial implementation of the Scheme.

2. Risk assessment framework

2.1 Overview of the process and framework

The risk assessment process is intended to cover the mining, oil & gas industries, as per the Review.

Purpose of the risk assessment process

The purpose of the risk assessment process is to assess the financial risk to the State of an EA Holder(s) not meeting its rehabilitation or environmental management obligations.

Risk Category Allocations

The intention of the risk assessment process is to assist the Scheme Manager to categorise the risk to the State (associated with an EA) into one of the four following Risk Category Allocations:

- Very low risk
- Low risk
- Moderate risk
- High risk.

Risk Assessments

The risk to the State is to be assessed by way of:

- **a Financial Risk Assessment** – which is a credit risk assessment of the applicable entity associated with the EA as nominated by the Scheme Manager (**Relevant Entity**) to determine its financial capacity to pay based on an assessment of the Relevant Entity’s probability of default on its financial obligations, and
- **a Resource Project Risk Assessment** – to assess features of the EA site and the likelihood that it may be sold in the event of the failure of the EA Holder(s).

The rules regarding selection of the Relevant Entity is to be confirmed by the State separately to this report.

The risk assessments will be based on a framework as proposed in this report. Whilst the framework details set risk factors/criteria, the Scheme Manager will have the ultimate decision regarding any of the framework outputs, as well as the application of any modifiers and overriding factors the Scheme Manager considers relevant in forming a Risk Category Allocation decision.

Figure 2: Summary overview of the risk assessment process



Weightings

In order to inform the Risk Category Allocation for each EA, based on a combination of two separate risk assessments (one for Financial Risk and one for Resource Project Risk), a weighting needs to be applied to each risk assessment.

It is anticipated the Financial Risk Assessment will represent the significant majority of the total risk weighted assessment in the initial years of the risk assessment process. This may change over time once further data and information is obtained in respect of the resource project risks. The initial weightings are subject to the final build and testing of the underlying framework model.

Risk Divisions

The Risk Category Allocations decided by the Scheme Manager will be used to determine:

1. the Risk Division that an EA may be eligible for (i.e. surety in its various forms, versus contributions to a Pool)
2. if the EA is allocated to the Pool, the relevant contribution rate payable to the State.

Figure 3: Contribution to the Pool



It is proposed that an EA allocated to the 'High' Risk Category Allocation will be required to pay surety, with the remaining three Risk Category Allocations requiring contributions to the Pool, but subject to an overriding decision by the Scheme Manager as set out below.

An example of the Risk Category Allocation being subject to a Scheme Manager's discretion relates to the Pool threshold. A Pool threshold will be set to limit the Pool's exposure to any one Relevant Entity. Where the total rehabilitation costs for all EA's for one Relevant Entity exceed the Pool threshold, the Scheme Manager may require an EA, which was otherwise assessed as eligible for the Pool, to provide Surety.

It should be noted that the estimated rehabilitation cost (utilising the State's ERC Calculator) is captured separate to the Risk Category Allocation. Therefore, Industry should be sufficiently incentivised to progressively manage, mitigate and complete rehabilitation costs in order to reduce the estimated ultimate rehabilitation cost. Therefore the Risk Category Allocation has been purposely designed to consider the relative risk to Government and seeks to avoid double counting.

Assistance to the Scheme Manager

The Scheme Manager will determine the Risk Category Allocation but may seek to engage an independent and appropriately qualified risk assessor to assist with tasks such as:

- Build the underlying framework model and operationalise the risk assessment process
- Assist with the initial and ongoing annual risk assessments, and
- Review and recalibrate the underlying framework based on new data and information obtained.

2.2 Initial filters

The following filters are recommended prior to commencing any full risk assessments:

- **Estimated Rehabilitation Cost** – EA's with an estimated rehabilitation cost (as determined by the Department of Environment and Heritage Protection (**DEHP**)) below the relevant threshold (currently set at \$100,000) would not be subject to the risk assessment process and the holder will provide surety in the amount of 100% of the estimated rehabilitation cost for the EA
- **Insufficient track-record for Financial Risk Assessment** – where a Relevant Entity, without an acceptable external rating (see Section 2.3.3), is unable to provide a minimum of 3 years audited

financial statements, the Scheme Manager will not be able to satisfactorily complete a Financial Risk Assessment

- **Provision of minimum information requirements** – where the minimum information requirements, as required by the Scheme Manager, are not provided by a Relevant Entity / EA Holder, the Scheme Manager will need to determine the implication on any Risk Category Allocation and the contribution rate payable to / surety required by the State in respect of the EA.

2.3 Financial Risk Assessment

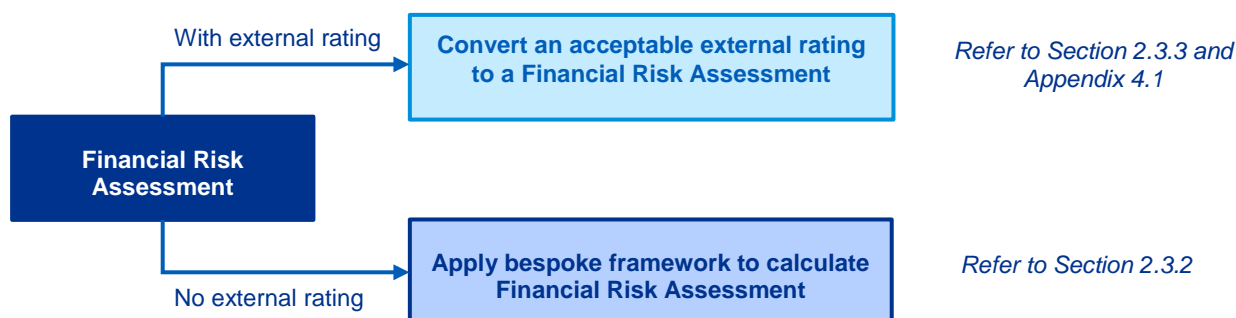
Financial (credit) risk assessments typically focus on historical data to assess an entity’s financial strength to withstand shocks. A typical external credit rating process comprises an assessment of the entity’s financial metrics, supplemented by a variety of qualitative risk factors, features a significant number of data points and upwards of 25 different rating outcomes. These forms of detailed rating processes are expensive and time consuming and would not meet the objectives of the Scheme.

In order for the proposed Financial Risk Assessment to be effective and efficient for a repeatable assessment process covering the State’s EA portfolio, the proposed framework will focus on quantitative risk factors where possible, given they are typically less subjective and comparatively easier to measure. Notwithstanding the above, the framework will retain flexibility for the Scheme Manager to consider qualitative risk factors and apply discretion in the Allocation decision.

2.3.1 Financial Risk Framework

The Financial Risk Framework is intended to measure the financial risk of the Relevant Entity in respect of an EA. The framework is designed to be efficient and leverage any external rating that has been applied by acceptable credit rating agencies (see Section 2.3.3 for details):

Figure 4: Overview of the Financial Risk Assessment and Framework



2.3.2 Financial Risk Assessment (no external rating)

If a Relevant Entity does not have an acceptable external rating, Table 1 outlines the methodology used to assess the Financial Risk Assessment:

Table 1: Overview of the Financial Risk Assessment (no external rating)

Risk factors	Risk factor weightings	Modifiers and overriding factors	Output
Relevant Entity financial metrics	[Significant]	Determined by Scheme Manager	Financial Risk Assessment
Industry sector	[Minor]		
Domicile of the Relevant Entity	[Minor]		

As shown above, the risk factors are primarily weighted towards the financial metrics of the Relevant Entity followed by its predominant industry sector and finally the domicile of the Relevant Entity.

The weightings are indicative only and are to be refined once the underlying model for the framework is built and back-tested by a risk assessor with sample data to determine predictive accuracy.

2.3.2.1 Financial risk factors and criteria

The Financial Risk Assessment is underpinned by a variety of risks which are considered relevant for assessing and measuring the financial risk of the Relevant Entity. For simplicity, the financial risk criteria are grouped into three risk factors, being financial metrics, industry and domicile of the Relevant Entity.

Relevant Entity financial metrics

The financial metrics risk criteria include various key financial ratios of the Relevant Entity, a sample of which are detailed in **Appendix 4.2**. The ratios, to be obtained from the past 3 years audited financial statements, can be categorised into the following key areas:

- **Debt serviceability** – assessment of the entity’s ability to service its debt, if any
- **Balance sheet** – a point in time assessment of an entity’s financial position and strength, focusing on the net value and nature of its assets and its ability to withstand negative cash flows through economic and industry specific cycles
- **Gearing / leverage** – assessment of the level of debt an entity has compared to other forms of capital and its residual borrowing capacity
- **Profitability** – assessment of the profitability of the entity and if the earnings are sustainable to ensure a viable business operation
- **Other** – captures any other relevant ratios that do not align to the categories above.

Each risk assessor has their own established method to rate entities into defined risk factors/criteria and, whilst the State has an expectation around appropriate risk factors/criteria, ratios and weightings, the Scheme Manager intends to engage a risk assessment expert to assist in refining the final approach adopted and in making the assessments.

It is intended that the final framework will attempt to match, on a consistent basis and within a reasonable degree of accuracy, the probability of default as specified for entities with acceptable external ratings. The proposed framework is to utilise relevant ratios and weightings focused on the resource industry as a benchmark. Any unrated but diversified entity (whose total revenues are not primarily derived from the resource industry) may be subject to a more relevant corporate methodology framework to ensure no perverse outcome is obtained.

Industry sector

The underlying data of the model is to be aligned to the Relevant Entity’s industry and operational sectors to ensure a higher degree of relevance when assessing the financial characteristics of the entity. This is to be achieved by the use of Global Industry Classification Standard (**GICS**) which is an efficient tool to capture the breadth, depth and evolution of industry sectors. The relevant GICS sector for a particular entity is primarily based on the sector deriving the majority of revenue, however earnings (i.e. profitability) and market perception may also be taken into account.

It is expected that a different outcome will be achieved for different industry sectors based on the factors that contribute to its relevant industry dynamics (i.e. different outcomes will apply for the different industry sectors).

An example of the most relevant industry sectors expected to be used based on GICS is detailed below. Further details on GICS are enclosed within **Appendix 4.3**.

Table 2: List of most relevant industry sectors (based on GICS)

Industry	Definition
Coal & Consumable Fuels	Companies primarily involved in the production and mining of coal, related products and other consumable fuels related to the generation of energy. Excludes companies primarily producing gases classified in the Industrial Gases sub-industry and companies primarily mining for metallurgical (coking) coal used for steel production
Steel	Producers of iron and steel and related products, including metallurgical (coking) coal mining used for steel production
Diversified Metals & Mining	Companies engaged in the diversified production or extraction of metals and minerals not classified elsewhere. Including, but not limited to, nonferrous metal mining (except bauxite), salt and borate mining, phosphate rock mining, and diversified mining operations. Excludes iron ore mining (Steel Sub-Industry), bauxite mining (Aluminium Sub-Industry), and coal mining (either Steel or Coal & Consumable Fuels Sub-Industries)
Precious Metals & Minerals	Companies mining precious metals and minerals not classified in the Gold Sub-Industry. Includes companies primarily mining platinum
Oil & Gas Exploration & Production	Companies engaged in the exploration and production of oil and gas
Gold	Producers of gold and related products, including companies that mine or process gold
Silver	Company's primarily mining silver. Excludes companies classified in the Gold or Precious Metals & Minerals Sub-Industries
Copper	Companies involved primarily in copper ore mining
Aluminium	Producers of aluminium and related products, including companies that mine or process bauxite and companies that recycle aluminium to produce finished or semi-finished products.

Domicile of the Relevant Entity

The underlying data of the benchmark model to be used is to be aligned to the domicile of the Relevant Entity to ensure a higher degree of relevance when assessing the financial characteristics of the entity.

This risk factor is designed to account for any (additional) risks associated with domicile of the Relevant Entity, as compared to Australia (given the resource projects are located in Australia and predominantly directly owned by Australian domiciled entities). This variable will reflect macro-economic differences between various economies, which will differentiate between developed and emerging economies, for instance.

For completeness, as the Scheme is based on Queensland resource projects only, the sovereign risk of the projects themselves are all considered the same.

2.3.2.2 Modifiers and overriding factors

It is typical of a financial (credit) risk assessment that a risk assessor providing the rating retains an ability to modify the outputs generated from a model-based system. This is to ensure that any outliers, or obscure results, are identified and corrected.

It is intended the Scheme Manager may take into consideration any other relevant material factor that may impact the perceived risk of the Relevant Entity as compared to the Financial Risk Assessment as calculated under the framework (e.g. the Relevant Entity, or related parties, have a track record of not fully supporting failed resource projects).

The ability to amend the output ensures a level of flexibility within the framework. It is expected modifiers and overriding factors would apply to a small percentage of the Allocation decisions, but this can only be confirmed once the underlying framework model is developed and implemented.

2.3.3 Financial Risk Assessment (external rating)

As noted earlier, the Financial Risk Assessment is a bespoke financial risk analysis of an entity. Many of the major credit rating agencies utilise in-depth and complex methodologies comprising significantly more data points than those likely to be available to the State, some of which are bespoke to the resource industry (or the applicable industry for a diversified entity / conglomerate). The level of information utilised by rating agencies is not always readily accessible, can be viewed as qualitative in nature and/or require thorough due diligence which would not be economical (or feasible) for the Scheme.

The use of approved external ratings will aid the efficiency and cost effectiveness of the risk assessment process. It may also encourage entities within Industry to obtain an acceptable external rating, if they believe it is useful and appropriate.

Some, but not all, Relevant Entities may already have an external rating. These entities obtain external ratings in order to be able to access debt capital markets and these ratings are widely adopted as a useful tool to assess credit / financial risk for parties undertaking similar analysis as the Scheme Manager.

On this basis, the framework is intended to utilise these ratings where appropriate. It is proposed that entities which have a long-term credit rating from an acceptable source (refer to the headings below for details), then the external rating is to be used in place of the Financial Risk Assessment.

Approved rating agencies

It is recommended that published credit ratings assigned by credit rating agencies that are licensed or regulated and approved by the Scheme Manager are deemed acceptable.

Mapping rating agency outcomes

External ratings are to be converted by the Scheme Manager to a Financial Risk Assessment. A mapping of external ratings between select rating agencies is detailed in **Appendix 4.1**.

Different ratings from different rating agencies

Where a Relevant Entity has multiple credit ratings, it is recommended the weakest rating be used for the purposes of the Financial Risk Assessment, as this is deemed to represent the most conservative risk metric to adopt for the State's purpose. Credit rating agencies regularly review their ratings as part of their ongoing licence obligations. Any changes in external ratings are to be reported on by the Relevant Entity and monitored by the State.

Long-term versus short-term ratings

It is recommended that only long-term ratings would be deemed acceptable by the Scheme Manager given the long-term nature of a resource project and its underlying rehabilitation liability. Short-term ratings are not expected to provide an appropriate benchmark for measurement for involvement in the Scheme (anyone with a resource project that has a short remaining life is likely to be dealt with separately).

Private credit ratings

It is recommended that private ratings obtained or updated within 12 months of an assessment be considered acceptable to the Scheme Manager. This is considered relevant for entities that do not wish for a rating to be made public. This will provide comfort to the Scheme Manager that a ratings assessment has been conducted on the counterparty by the acceptable credit rating agency.

Note that private ratings are not typically updated except at the request of the counterparty, which is considered acceptable from the Scheme Manager’s perspective given the annual review nature of the risk assessment and the long-term ‘insurance’ view being adopted by the State. Although this would require the counterparty to obtain an updated rating on a similar cycle to the State’s requirements (rather than simply relying on the State’s risk assessor to undertake an updated analysis), this would be at the discretion of the Relevant Entity.

It should be noted that many rating agencies limit their disclosure / reliance obligations quite significantly for any private rating provided, and the State would therefore be relying on reputation risk.

Rating agency outlooks

For the purposes of this risk assessment framework, the rating outlooks (i.e. positive, negative or neutral) are not taken into consideration for the purposes of determining a Financial Risk Assessment or outlook. This is because the framework results in one of four (wide) Risk Category Allocations as compared to typical external ratings which feature upwards of 25 different (narrow) rating outcomes, the majority with an outlook for projected future movement.

2.3.4 Output – Weighted Financial Risk Assessment

The assessment is to be based on a ‘scores-based’ approach as opposed to a ‘rules-based’ approach that utilises categories within:

- each risk criteria (i.e. ratio thresholds)
- each risk factor (i.e. financial metrics, industry sector and domicile of the Relevant Entity), and
- each risk assessment (i.e. Financial Risk and Resource Project Risk Assessment outputs).

The key benefit of a ‘scores-based’ approach is it provides relativity of where an entity may sit within an output category (i.e. at the upper or lower end). Subject to the build and testing of the scoring system, it also limits perverse outcomes that may feature under a rules based approach when you combine various categories with underlying scores that are at extreme ends of the category spectrums.

An overview on the Financial Risk Assessment process is detailed below:

Figure 5: Overview on the Financial Risk Assessment process



As shown above, the Financial Risk Assessment can either comprise use of an acceptable external rating or application of the bespoke framework. It is intended that the Financial Risk Assessment from the bespoke approach would be considered to have a reasonable relativity to the equivalent assessment assigned for an external rating.

For simplicity, it is recommended both assessment methods feature the same scoring system, in order to facilitate relative alignment of assessments. In order to obtain the Financial Risk Assessment, each risk factor/criteria would need to be calculated, with the output being a score as determined by the Scheme Manager. The final risk factors/criteria, relevant definitions, calculations and weighting coefficients will be determined following the risk assessor’s build and back-testing of the underlying model to the framework.

2.4 Resource Project Risk Assessment

2.4.1 Resource Project Risk Framework

Resource project risks are typically considered as part of any due diligence process to purchase a resource project. These typically focus on the strength of the project (i.e. remaining resources, quality of the resources, economic viability to extract the resources), the market demand / outlook for the commodity and many other relevant risk factors such as forecast cost of rehabilitation and any compliance issues.

The proposed framework attempts to capture the key risk factors relevant to assessing the market appeal of a resource project, focusing on risk factors that can readily and effectively be measured, while noting the estimated rehabilitation cost itself captures other directly relevant elements. An outline of the proposed Resource Project Risk Framework is detailed below:

Table 3: Resource Project Risk Framework

Risk factors	Risk criteria	Risk factor weightings	Modifiers and overriding factors	Output
Project Strength	Remaining economic life based on reserves	[Significant]	Determined by Scheme Manager	Resource Project Risk Assessment
	Off-take agreements			
Rehabilitation	Relevant rehabilitation completed	[Minor]		
Compliance	Relevant compliance issues	[Minor]		

As shown above, the risk factors are primarily weighted towards the project strength of the resource project followed by relevant rehabilitation completed and relevant compliance issues. The off-take agreements risk criteria provides Industry an opportunity to increase the Project Strength score for projects that do not obtain a maximum score for remaining economic life.

The weightings are indicative only and are to be refined once the underlying model for the framework is built and tested by a risk assessor with sample data to determine predictive accuracy.

The design of the Resource Project Risk Assessment is based on reviews of previous work to develop an assessment approach, feedback from consultations and Industry.

The framework has initially been limited to a select number of critical risk factors/criteria that are all measurable indicators of the underlying resource project risk to the State (see Section 2.4.3 for further details, including details of risks for future consideration).

The State will work with the Industry to test the rigour and resilience of the framework and ensure it remains dynamic and evolves over time as new data and information becomes available. This includes the breadth of risks captured, noting the framework has been designed to encapsulate a broad range of commodities, with resource projects at varying stages of its lifecycle and owned or controlled by single or multiple Relevant Entities under various forms of corporate structures.

2.4.2 Filters and alternative frameworks

Current status of the resource project

The starting point for the Resource Project Risk Assessment comprises an initial filter that is based on the project status of the underlying EA. This is due to various risk factors/criteria only being applicable at certain stages of a resource project’s lifecycle. The identified project status and applicable filters are detailed below:

- **Exploration phase** – the majority of the proposed risk factors/criteria are unlikely to be applicable or highly relevant during the exploration phase of a resource project. Further, the estimated rehabilitation cost of an EA in the exploration phase is likely to be low (as compared to resource projects which are in an operational phase). As such, this would limit any contributions payable to the Pool or surety required.

Recommended filter outcome: Conduct a Financial Risk Assessment only. An alternative framework (or scale) is likely to be required to align the Financial Risk Assessment to the Total Risk Weighted Assessment which is used to determine the Risk Category Allocation

- **Operational phase** – Projects in the operational phase are likely to be subject to all of the risk factors/criteria and as such should be subject to the Resource Project Risk Assessment.

Recommended filter outcome: Proceed with the Resource Project Risk Assessment

- **Care & Maintenance (C&M) and Decommission phases** – Projects placed into C&M are typically due to EA Holder(s) recognising current challenges with the resource project which may impact its ability to be economically viable in the short-term. Projects which have been decommissioned are likely to have little to no economically viable reserves remaining that would warrant ongoing production at the site (both current or in the future).

In both cases, the underlying rehabilitation risk primarily shifts from the project itself to the financial strength of the EA Holder(s).

Recommended filter outcome: Conduct a Financial Risk Assessment only. An alternative framework (or scale) is likely to be required to align the Financial Risk Assessment to the Total Risk Weighted Assessment which is used to determine the Risk Category Allocation.

Resource projects with limited remaining economic life

A separate assessment is proposed for a resource project that has limited to no remaining economic life. Under this scenario:

- the risk of the resource project not generating sufficient surplus cash over its remaining life to cover its residual estimated rehabilitation cost is high
- the estimated rehabilitation cost upon decommission of a resource project is likely to remain high (relative to the size of the project).

As such, the risk to the State primarily rests upon the financial strength and capacity of the EA Holder(s) to meet the residual rehabilitation cost.

Given the above, it is proposed a 'targeted framework' is adopted for resource projects that have a remaining estimated life of [5] years or less (see Section 2.4.3 for details on how to calculate the remaining estimated life).

The targeted framework would encapsulate the majority of the same framework risk factors/criteria, however adapted to also assess the EA Holder(s) capacity to fund the estimated rehabilitation costs in the near future (noting the estimated rehabilitation cost is unlikely to align to any internal budgets or provisions of EA Holder(s) given the different calculation methods).

The targeted framework would be even more heavily weighted towards financial risks as opposed to resource project risks given the limited capacity of the resource project to generate sufficient surplus funds to cover its residual rehabilitation liability.

2.4.3 Risk factors/criteria, modifiers and overriding factors

As detailed in Table 4 below, the Resource Project Risk Framework is underpinned by an initial four critical risk criteria which are measurable in some form. Further risk criteria have been identified for future consideration, however they have been assigned an initial “nil” weighting in order for the framework to remain simple, efficient and able to be implemented in the proposed timeframes. Any future inclusion of new risk factors would occur by changing relevant Department Guidelines following consultation with Industry.

As per Section 2.3.2.2 on modifiers and overriding factors for the Financial Risk Assessment and the desire to ensure no perverse outcomes, similar considerations should apply to the Resource Project Risks. Any applicable modifier or overriding factor may need to be explained by the Scheme Manager when finalising an Allocation decision.

For presentation purposes, the risk criteria have been placed into the following three risk factors which are considered relevant to the risk of a resource project:

Risk factors

1. **Project strength** – comprises two initial risk criteria, being remaining economic life and, if provided by industry, details of any acceptable off-take agreement(s)

This considers the strength of the underlying resource project and can be categorised as the possibility of a resource project being purchased by another party if the current owner is in a distressed position – it is one indicator of the attractiveness of the resource project to other parties / potential purchasers

2. **Rehabilitation** – comprises one initial risk criteria

This considers the knowledge and learnings obtained from relevant progressive rehabilitation (either past or present) which may de-risk an EA site from a rehabilitation risk perspective.

This risk factor is not intended to reward Industry for solely meeting rehabilitation obligations (which would be reflected in a reduced estimated rehabilitation cost) but rather measure, where possible, progressive rehabilitation methods that can reduce the risk of an EA site and therefore increase its market appeal to potential purchasers. Progressive rehabilitation is to be separately captured under the State’s proposed ERC Calculator, which would incentivise Industry to progressively rehabilitate disturbed land in order to reduce the estimated rehabilitation cost calculation, and hence it has not been included here to avoid double counting

3. **Compliance** – comprises one risk criteria

This considers relevant compliance issues associated with a resource project’s EA conditions. The relevant areas of compliance are to be confirmed by the State prior to implementation and are intended to focus on environmental risk factors that may have a direct impact on the on-going risk of a resource project and therefore its market appeal to potential purchasers.

Table 4: Resource project risk factors and criteria

Risk factors and criteria	Definition	Total weighting	Indicative measurement	Indicative information requirements	Information source
Project Strength					
Remaining economic life (of the reserves)	<p>The size, certainty and economic viability of the reserves should primarily drive the market appeal for the resource project / EA</p> <p>Economic life is measured in a formula: [Probable and Proven (mining)/Proven and Probable (P&G)] Reserves divided by Annual Production.¹</p> <p>Annual production is the greater of:</p> <ul style="list-style-type: none"> Historic average production of the past 5 years, or Average forecast production for the next 5 years. <p>The above periods are exclusive of any timeframe where a project was put 'on-hold' or in C&M, with the expectation production statistics are to cover a cumulative 5 year period, where applicable.</p>	[Significant]	<p>A maximum capped score is obtained from [20] or more years, with minimum score obtained for greater than [5] years.</p> <p>Any EA with remaining economic life of [5] years or less are excluded from this part of the assessment (see Section 2.4.2).</p>	<ul style="list-style-type: none"> Annual report on proven and probable reserves Past 5 years production statistics, where applicable (excluding periods of C&M or where a project is put on-hold) Forecast for next 5 years (excluding periods of C&M or where a project is put on-hold) 	<p>EA Holder for:</p> <ul style="list-style-type: none"> JORC reports or equivalent (for coal & minerals) SPE-PRMS reports or equivalent (for P&G) Production forecasts for next 5 years <p>DNRM / DEHP for annual returns / Development plans for historic production statistics</p>
Off-take agreements (information to be voluntarily provided by an EA Holder)	<p>Confidence in the end market for the product, under-pinning economics of a venture. Relevance of off-take agreements is to initially be measured by the following criteria:</p> <ul style="list-style-type: none"> Counterparties must be unrelated parties to the Relevant Entity and have acceptable investment grade external rating(s) Remaining length of a contract must be 5 years or more Aggregated quantum of the off-take agreements must be 50% or more of the total production on the EA site Declaration that the price determined under the off-take agreement(s) exceeds all costs associated with operating the project, including future rehabilitation costs, and supports the venture continuing for a minimum of 5 years or beyond 	(included in the above)	<p>A maximum score is obtained where acceptable off-take agreements exist, subject to the capped project strength score. No score obtained if there are no acceptable off-take agreements.</p>	<p>High level details for each off-take agreement covering:</p> <ul style="list-style-type: none"> Counterparty and external rating Remaining length of contract Quantity of resources per annum (as % of total production on the EA site) Declaration regarding economic viability of the off-take agreement(s) 	EA Holder(s) to voluntarily provide the information
Quality of resource	<p>For future consideration</p> <p>The quality of the resource may drive the market appeal for the resource project / EA. This risk criteria can be influenced in various ways such as the demand for a particular grade of resource (i.e. for blending purposes) or varying degrees of quality across a resource project</p>	[nil]	TBD	TBD	TBD
Position on the cost curve	<p>For future consideration</p> <p>Relative comparison of the underlying cost base of an EA site based on a global cost curve and its likelihood to remain economically viable in the event of a prolonged downturn in the market. This risk criteria can be influenced by numerous factors such as off-take agreements, internal sales, strategic decisions in respect of a project, which costs are relevant or not to the EA Holder's actual operations, reliability of data and other factors</p>	[nil]	TBD	TBD	TBD

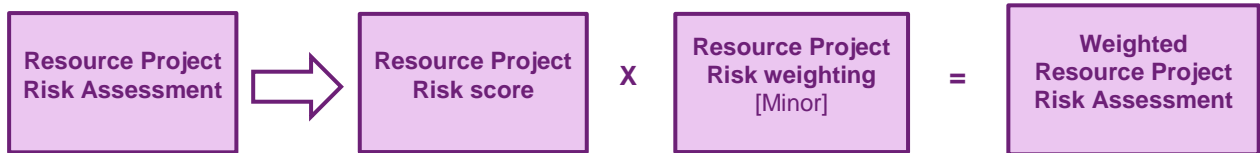
¹ Further work is anticipated to be undertaken to potentially capture the inclusion of other JORC/SPE reported resources, e.g. measured or 3P

Risk factors and criteria	Definition	Total weighting	Indicative measurement	Indicative information requirements	Information source
Market outlook for a commodity	<p>For future consideration</p> <p>Forward looking measure for the outlook of a commodity to determine its future market attractiveness. This risk criteria is influenced by the subjective nature of the outlook which may capture changes in technology, restrictions or increases in supply, market sentiment on future demand, environmental impact of the commodity, changing capital markets, sovereign policy / legislation and other factors</p>	[nil]	TBD	TBD	TBD
Value of non-resource assets and liabilities	<p>For future consideration</p> <p>A point-in-time assessment of the market appeal of a resource project's assets (or liabilities), such as net value and average age of property, plant and equipment, but excluding the resource itself and any real property/land. This risk criteria may be influenced by the accounting treatment of the recorded assets (or liabilities)</p>	[nil]	TBD	TBD	TBD
Rehabilitation					
Relevant rehabilitation completed	<p>Knowledge and learnings obtained from relevant progressive rehabilitation may allow a third party to assess the rehabilitation requirements of the EA site with a greater degree of accuracy and potentially reduce the rehabilitation risk associated with the site.</p> <p>Relevant rehabilitation (TBD) completed is to be measured by the following criteria:</p> <ul style="list-style-type: none"> • Certified relevant rehabilitation, or • Rehabilitation which has been approved by DEHP as relevant. <p>The above processes to be determined by DEHP prior to implementation of the risk assessment process</p>	[Minor]	A maximum score for certified relevant rehabilitation, a mid-range score for relevant rehabilitation as approved by DEHP or no if none of the above applies	<ul style="list-style-type: none"> • Certified rehabilitation • DEHP approval of relevant rehabilitation 	DEHP to confirm any relevant rehabilitation
Compliance					
Compliance with relevant EA criteria and environmental requirements of the State	<p>Relevant compliance issues may impact the market appeal of an EA site. Relevant EA criteria is to be defined by DEHP but is to focus on environmental risk factors as opposed to administrative or other compliance issues that do not carry over risk to a new owner of an EA site</p>	[Minor]	A maximum score where there are no relevant compliance issues or no score where relevant material compliance issues are identified	TBD by DEHP with a focus on environmental risk factors	DEHP to confirm any relevant compliance issues

2.4.4 Output – Weighted Resource Project Risk Assessment

Similar to the Financial Risk Assessment, the Resource Project Risk Assessment is to be based on a 'scores-based' approach as opposed to a 'rules-based' approach. The Resource Project Risk Assessment will be weighted and combined with the Financial Risk Assessment in order to generate a Total Risk Weighted Assessment.

Figure 6: Overview on the Resource Project Risk Assessment process

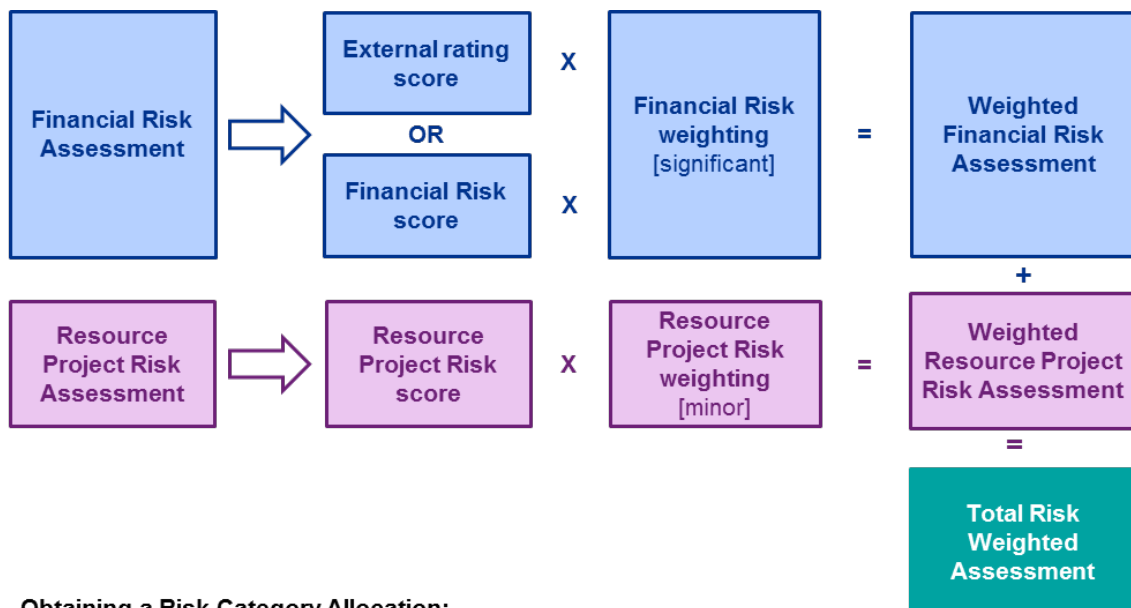


In order to obtain the Resource Project Risk Assessment, each risk factor/criteria would need to be calculated, with the output being a score as determined by the Scheme Manager. The final risk factors/criteria, relevant definitions, calculations and weighting coefficients will be determined following the risk assessor's build and testing of the underlying model to the framework.

2.5 Summary of the framework

In summary, the framework comprises the combination of Weighted Financial Risk and Resource Project Risk Assessments to produce a Total Risk Weighted Assessment. Subject to the appointment of a risk assessor, the Risk Assessor is to follow the risk assessment process, with modifiers and overriding factors, and provide advice to the Scheme Manager. The Scheme Manager will take into consideration the Risk Assessor's advice in forming an Allocation decision.

Figure 7: Summary of the framework:



Obtaining a Risk Category Allocation:

Scheme Manager decision			
Total Risk Weighted Assessment	Risk Category Allocation	Pool threshold test	Division
[range]	Very low		(Pool)
[range]	Low		(Pool)
[range]	Moderate		(Pool)
[range]	High		(Surety)

3. Ongoing monitoring and assessments

After the initial implementation phase when the initial reviews of each relevant EA is complete, the intent is that a regular review process will be conducted, including regular monitoring as required. This process is described in more detail below.

3.1 Annual reviews

The current intention is for an annual review to be conducted of each EA.

The necessary information to conduct the annual review is expected to be collated by the Scheme Manager to inform the updated assessment. The relevant information sources will need to be accessed to inform the decision making process, including the most recent financial statements for the Relevant Entity.

If there are any changes to the Risk Category Allocation from this annual review process, the Scheme Manager will manage the required amendments to the level of contribution and / or requirement for changes to surety direct with the EA Holder(s).

3.2 Extraordinary reviews and monitoring

In addition to the regular review process mentioned above, there are expected to be occasions when the Scheme Manager may be required to be involved in assessing or reassessing the risk of an EA as shown below:

Table 5: Events relevant to Scheme Manager review or monitoring

Item	Description	Industry notification	Requirement
Change of registered EA Holder	Where an entity is added to, or removed from, an existing EA	Industry will advise the State of any change in EA Holder(s)	Scheme Manager will need to determine if a Financial Risk Assessment needs to be conducted on a new / different EA Holder / Relevant Entity
Change of control of an EA Holder / Relevant Entity	Where change of control, as defined under the Corporations Act 2001, of an EA Holder or Relevant Entity occurs	Industry will advise the State of the change in control	Scheme Manager will need to determine if a Financial Risk Assessment needs to be conducted on the new controlling entity
Change of external rating of the Relevant Entity	If the Relevant Entity has a change in external credit rating	As above	Scheme Manager will undertake a review of the assessment to determine if a change in Risk Category Allocation is required
Material change in the estimated rehabilitation cost	An extraordinary event occurs (i.e. caused by a third party, natural disaster, greater than anticipated expansion of a project) that materially	As above	Scheme Manager to determine if a revised estimated rehabilitation cost is required, including a recalculation of the contribution rate payable or surety to be provided in respect of the EA

Item	Description	Industry notification	Requirement
	increases the estimated rehabilitation cost		
Change in the status of a project	If an EA Holder(s) places a resource project into C&M (or similar)	As above	Scheme Manager to undertake a reassessment of the Risk Category Allocation
Insolvency event or similar	The appointment of a liquidator, administrator or similar will immediately increase, or possibly lead to the crystallisation of, the State's risk	The appointed liquidator, administrator or similar	Scheme Manager approach is to be determined on a case-by-case basis depending on liquidator / administrator actions in respect of the resource project, other entities available for recourse, etc
Material change in the dynamics of the underlying commodity	If a substantial change in demand for a particular commodity occurs (either underlying market dynamics or supply issues occur)	Not required – to be monitored by the State separately	There is not intended to be any change until the regular cycle of reviews occurs noting the annual review process and elements of the framework that will incorporate this risk

3.3 Ongoing monitoring of the process

It is recommended that the Scheme Manager undertake a review of the risk assessment framework on an annual basis. This review should include a validation and, if necessary, a recalibration of the key financial and resource related risks and their weighting in the framework. The review should consider any new or improved information and data sources available to the Risk Assessor, including Industry feedback/consultation, and the ongoing appropriateness of the risk factors/criteria used in the framework.

Over time a greater emphasis may be placed on the resource project risk component of the risk assessment process, however initially the assessment of the financial risk is likely to be the most objective and reliable basis to inform the Scheme Manager on the risk to the State.

The Risk Assessor should seek to deliver to the Scheme Manager a report on its own review together with any recommendations for changes to be made to the framework. Initially an annual review is recommended due to the rapid aggregation of data and information in respect of the newly implemented risk assessment framework. It is anticipated the review could be conducted on a bi-annual basis once the framework has been operational for at least three to five years.

4. Appendices

Appendix

4.1 Example mapping of external ratings

4.2 Financial metrics

4.3 GICS

4.1 Example mapping of external ratings

An example of mapping of ratings applied by a select number of Australian registered credit rating agencies to one-another is detailed below:

Table 6: Example mapping of external ratings

Australia Ratings	Fitch	Moody's	S&P
AAA	AAA	Aaa	AAA
AA+	AA+	Aa1	AA+
AA	AA	Aa2	AA
AA-	AA-	Aa3	AA-
A+	A+	A1	A+
A	A	A2	A
A-	A-	A3	A-
BBB+	BBB+	Baa1	BBB+
BBB	BBB	Baa2	BBB
BBB-	BBB-	Baa3	BBB-
BB+	BB+	Ba1	BB+
BB	BB	Ba2	BB
BB-	BB-	Ba3	BB-
B+	B+	B1	B+
B	B	B2	B
B-	B-	B3	B-
CCC+	CCC+	Caa1	CCC+
CCC	CCC	Caa2	CCC
CCC-	CCC-	Caa3	CCC-
CC	CC	Ca	CC
C	C	C	C
D	D	D	D

4.2 Financial metrics

The table below provides a list of the key financial metrics intended to be the foundation for the Financial Risk Framework. Each risk assessor has their own established ratios, including their underlying definitions / calculations and weightings. This list broadly indicates key financial metrics utilised by risk assessors which would be refined once the underlying framework model is built and tested:

Table 7: Financial metrics

Financial metric to be tested	Ratios to utilise
Debt Serviceability	EBITDA to gross interest expense
	EBIT to gross interest expense
	Funds from Operations + gross interest expense to gross interest expense
Balance Sheet	total assets
	property, plant and equipment to total assets
	short term debt to total debt
	current ratio
Gearing/leverage	funds from operations to total debt
	total debt to EBITDA
	total debt to capital
	net debt to net capital
Profitability	EBITDA to total revenue
	NPAT to average equity
	EBIT to average capital
Other	FOC to capital expenditure

4.3 GICS ²

In 1999, MSCI Inc and S&P Global developed the GICS, to establish a global standard for categorising companies into sectors and industries. It is a common global classification standard used by many market participants across all major groups involved in the investment process: asset managers, brokers (institutional and retail), custodians, consultants, research teams and stock exchanges

The intent is to utilise an efficient tool to capture the breadth, depth and evolution of industry sectors.

It is a four-tiered, hierarchical industry classification system consisting of the items shown below:

Figure 8: GICS industry classification system



Companies are classified quantitatively and qualitatively. Each company is assigned a single GICS classification at the sub-industry level according to its principal business activity.

“Revenues” are the key factor in determining a firm’s principal business activity, although earnings (i.e. profitability) and market perception, are also recognised as important and relevant information for classification purposes, and are taken into account during the annual review process.

² Source: <https://www.msci.com/gics>

Glossary

C&M	Care and maintenance
Contribution	Annual amount paid by an EA Holder to the Rehabilitation Pool
DEHP	Department of Environment and Heritage Protection
DNRM	Department of Natural Resources and Mines
EA	Environmental Authority – this term is used interchangeably in this report with the term ‘Resource Project’, noting an EA may comprise more than one Resource Project
EA Holder(s)	all parties which are registered as holder on an EA
FA	Financial Assurance
ERC Calculator	Estimated Rehabilitation Cost Calculator, a tool used by an EA Holder to calculate its estimated rehabilitation cost per EA
Industry	comprises entities in the mining (coal and minerals), oil/petroleum and gas industries
JORC	Joint Ore Reserves Committee Code
Pool	the Rehabilitation Pool division, one of the two Risk Divisions of the Scheme
QTC	Queensland Treasury Corporation
Relevant Entity	the entity whom the Financial Risk Assessment will be conducted upon
Risk Assessor	an independent contractor that assists the Scheme Manager in undertaking risk assessments
Risk Category	The banding of risks, currently defined as Very low, Low, Moderate or High
Risk Division	Either the Pool or Surety
Risk Category Allocation (Allocation Decision)	the output of the Scheme Manager’s decision, informed by the risk assessment process
Scheme	the proposed new Financial Assurance scheme as outlined by QTC on: https://s3.treasury.qld.gov.au/files/review-of-queenslands-financial-assurance-framework.pdf
Scheme Manager	the Scheme Manager, the person responsible for determining the Risk Category Allocation under the risk assessment process
SPE-PRMS	Society of Petroleum Engineers – Petroleum Resources Management System
State (or Government)	The State of Queensland, acting through Queensland Treasury, Department of Heritage and Environment Protection and Department of Natural Resources and Mines
Surety	the Surety division, one of the two Risk Divisions of the Scheme
TBD	To Be Determined



Disclaimer

Inherent Limitations

This report has been prepared in accordance with KPMG's Services Agreement with QTC dated 2 August 2017. The services provided in connection with this engagement comprise an advisory engagement, which is not subject to assurance or other standards issued by the Australian Auditing and Assurance Standards Board and, consequently no opinions or conclusions intended to convey assurance have been expressed.

The report has drawn on the experience, expertise and insights of stakeholders through face-to-face and telephone consultation meetings, submissions from stakeholders and our review of documents and other information provided by QTC and the State.

No warranty of completeness, accuracy or reliability is given in relation to the statements and representations made by, and the information and documentation provided by QTC, the State or stakeholders consulted as part of the process.

KPMG have indicated within this report the sources of the information provided. We have not sought to independently verify those sources unless otherwise noted within the report.

KPMG is under no obligation in any circumstance to update this report, in either oral or written form, for events occurring after the report has been issued in final form.

The findings in this report have been formed on the above basis.

Third Party Reliance

This report is solely for the use of QTC and the State in line with the purpose as detailed in the Services Agreement with QTC. It is not to be used for any other purpose.

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