

18 April 2018

# **March 2018 Quarterly Activities Report**

#### **HIGHLIGHTS**

# MOUNT PEAKE VANADIUM-TITANIUM-IRON PROJECT (NT) (TNG: 100%)

- TNG, together with its technical consultants METS, SMS and CSIRO, confirmed a significant technological breakthrough for the Mount Peake Project's TiO<sub>2</sub> pigment production, positioning TNG to progress off-take negotiations:
  - o The new process, which is based on the conventional TiO₂ sulphate route, has the potential to directly use the Company's TIVAN®-produced feedstock for the production of a high-grade TiO₂ pigment;
  - o The TIVAN® titanium feedstock's low iron content is a highly significant advantage over current TiO₂ sulphate route feedstocks.
- The NT Environmental Protection Agency (EPA) provided an approved Assessment Report for the Mount Peake Project, completing the Environmental Impact Assessment process. Final determination from the Federal Government is now underway, positioning the project for Mining Approval.
- A strategic co-operation agreement was signed with leading contracting and construction groups McMahon Services and Clough Projects to provide key engineering, procurement and construction (EPC) services at Mount Peake.
- Leading Australian engineering group Como Engineers was appointed as lead consultant to oversee construction of the Mount Peake beneficiation plant and key infrastructure.

#### **CORPORATE**

- Pricing across TNG's commodity suite continued to strengthen during the Quarter, building on the exceptional price growth experienced in 2017:
  - Vanadium pentoxide prices have continued to climb, rising from a low of US\$5/lb in early 2017 to a current price of around US\$15.40/lb;
  - ➤ Bloomberg labelled vanadium the **best-performing battery metal of 2017** beating more high-profile commodities like cobalt, lithium and nickel; and
  - > Titanium dioxide pigment prices have increased by 20% since 2016, currently sitting at around US\$3,200/t.
- A \$3.911M before costs capital raising was completed subsequent to the Quarter-end, resulting in the introduction of a
  number of Australian institutional investors to the TNG share register. The proceeds further strengthen TNG's balance
  sheet as it advances key pre-development activities at Mount Peake including progressing final off-take arrangements and
  final engineering and design and working towards securing the overall funding package.
- Senior company representatives attended a Northern Territory Government and trade delegation to Japan and South Korea, which are key potential markets for Mount Peake products.
- TNG's corporate head office was relocated to larger premises in preparation for the commencement of project development.
- Cash reserves of \$3.568M at Quarter-end, with a further \$3.911M before costs raised subsequent to the end of the reporting period.





#### **PROJECTS**

#### Mount Peake Vanadium-Titanium-Iron Project: TNG 100%

The Mount Peake Project is a potential world-scale strategic metals project located 235km north-west of Alice Springs in the Northern Territory, close to existing key power and transport infrastructure including the Alice Springs-Darwin Railway and the Stuart Highway. With a JORC Measured, Indicated and Inferred Resource totalling 160Mt (118Mt Measured, 20Mt Indicated, 22Mt Inferred), grading  $0.28\% \ V_2O_5$ ,  $5.3\% \ TiO_2$  and  $23\% \ Fe$  (refer to Table 3 on page 6 of this report for a full Statement of the Mineral Resource), Mount Peake is one of the largest undeveloped vanadium-titanium-iron projects in the world.

#### Technological breakthrough for TNG's TiO<sub>2</sub> pigment production

During the Quarter, TNG, together with its technical consultants, METS, SMS and CSIRO, confirmed a potential TiO<sub>2</sub> pigment process for the Mount Peake Project (see ASX announcement dated 26 February 2018).

The successful development of the new process, which is based on the conventional TiO<sub>2</sub> sulphate route, marks the culmination of extensive technical work that has been undertaken as part of the Company's ongoing strategy to maximise value from the Mount Peake Project. Importantly, it also confirms the potential pigment type for the Company's on-going titanium off-take discussions.

The success has the potential to build further on the value uplift already achieved by TNG in 2016 with the successful production (at SMS group laboratories in Vienna) of commercial-grade high-purity vanadium pentoxide and high specification vanadium electrolyte from Mount Peake (see ASX announcement dated 10 October 2016).

TNG's new process has confirmed the potential for the Company to directly use its TIVAN® titanium feedstock for the production of a high-grade TiO<sub>2</sub> pigment, without any further upgrading treatment process. TNG's process uses a modified and improved version of the current main commercial TiO<sub>2</sub> sulphate route for pigment production.

Directly using the TIVAN® titanium feedstock (which is the residue directly out of the TIVAN® process, after the vanadium and iron have been extracted), without the need for further upgrading, significantly reduces the cost and complexity of the process. The Mount Peake Project's Feasibility Study has previously incorporated upgrade steps before this process was first conceived and then tested on TIVAN® feedstock. This recent technical breakthrough has the potential to further improve the economics of TNG's Mount Peake Project, while at the same time reducing the technical complexity and environmental impact of the Project.

The TIVAN® titanium feedstock's low iron content is a significant advantage over current TiO<sub>2</sub> sulphate route feedstocks. Low-iron feedstock has the potential to minimise the environmental impact compared to a standard sulphate titanium pigment production process – an important competitive and strategic advantage for TNG.

The Company is currently advancing discussions with leading global TiO<sub>2</sub> industry participants for potential off-take and financing partnerships.

#### Mount Peake Project EIA approval

During the Quarter, the Northern Territory Environment Protection Authority (NTEPA) provided an approved Assessment Report for the Mount Peake Project, completing the Environmental Impact Assessment (EIA) process (see ASX announcement dated 25 January 2018).

This is a major positive milestone for TNG and the Mount Peake project, and marks the end of the NTEPA environmental assessment of the mining project.

In line with the normal procedure, the NTEPA made recommendations to inform the next phase of mining approval under the Mining Management Act (NT) and Federal approval under the EPBC Act (Cth).

The NTEPA stated in their communication with TNG that "...subject to the implementation of these recommendations, the Project can be managed in a manner that is likely to meet the NT EPA's objectives and avoid significant or unacceptable environmental impacts and risks."





Once it has received the Assessment Report, the Commonwealth Department of Environment and Energy (DoEE) automatically initiates its assessment process under the EPBC Act.

This process is now underway and is expected to be finalised shortly. Once finalised, the project will then be ready to proceed to Mining Approval. In order to complete this process, TNG has commenced work to finalise its Mine Management Plan (MMP), incorporating the recommendations made by the NTEPA, as outlined in their assessment report.

#### Strategic co-operation agreement signed with McMahon Services and Clough Projects

TNG has signed a strategic co-operation agreement with leading construction companies McMahon Services and Clough Projects to work together to provide key engineering, procurement and construction (EPC) services for Mount Peake (see ASX announcement dated 16 March 2018).

The wide-ranging Agreement will see McMahon Services and Clough Projects form a Joint Venture to fully review TNG's recently completed updated Definitive Feasibility Study (DFS) for Mount Peake and evaluate the preliminary construction management and procurement contracting services required for the Project in conjunction with the Company's strategic engineering partner, SMS Group.

The Agreement is aimed at advancing the relationship between the parties to a stage where TNG can make a final decision on its construction plans for the Project, as well as support the Company in obtaining a financial investment decision from its investors or financiers.

TNG updated the economics of its Definitive Feasibility Study (DFS) for Mount Peake in November 2017, confirming a world-class project capable of generating outstanding returns. Key findings of the updated DFS included life-of-mine net cash flow of \$11.7 billion, a pre-tax IRR of 44% and an NPV<sub>8%</sub> of \$4.7 billion (see ASX Announcement – 20 November 2017).

#### Como Engineers appointed to oversee project management

Highly-regarded Australian engineering group Como Engineers Pty Ltd has been appointed to oversee key aspects of the Mount Peake Project's construction and development (see ASX announcement dated 21 March 2018).

The appointment of Como – which has been involved in the delivery of several recent high-profile mid-tier resource projects in Australia including Arrium's Peculiar Knob Iron Ore mine in South Australia, Pilbara Minerals' Pilgangoora Project and Galaxy Resources' Mt Cattlin Project – further strengthens TNG's capabilities as it advances towards construction.

As part of the appointment, TNG and Como will establish a Steering Committee, allowing TNG to maintain control of its project while securing critical project management and technical support from Como. This structure will also ensure prompt and effective decision making that aligns with TNG's overall development strategy.

The engagement is also expected to play a decisive role in the crucial tendering process for Mount Peake with Como providing full technical, commercial and contractual definition that aligns with the Project and TNG's corporate requirements.

Como's global experience, combined with its team of highly competent engineers and metallurgists who have taken projects from concept to completion, will ensure that the Mount Peake Project can progress efficiently through the final engineering and study phases and into construction and operations.

# **Project Finance**

TNG's model for Project Finance includes the potential for funding from German export credit bank(s). TNG has had preliminary meetings with the German Government-owned KfW IPEX-Bank GmbH and received a positive hearing with an expression of interest to conduct further due diligence ahead of possible mandating for finance. The company is continuing to progress discussions with KfW with the assistance of SMS Finance.

TNG has also engaged with other debt finance providers including North Australia Infrastructure Fund (NAIF) and Australia's Export Credit Finance Agency, EFIC – the extent of their potential involvement in the funding package is unknown at this stage.

# TIVAN® Processing Facility EIS

The Environmental Impact Statement (EIS) for the proposed Darwin-based TIVAN® downstream processing plant is being progressed separately to the EIS for the mine site, reflecting both the geographical separation and the fact that significantly different environmental and social issues need to be addressed at the two locations.



TNG has appointed Perth-based specialist environmental group Animal Plant Mineral (APM) to oversee the EIS process for the TIVAN® site, following their completion of the mine site EIS. APM, which comprises a group of expert environmental advisors and biologists, also managed the completion of the EIS process for the mine site. The work is expected to be concluded in the

#### Mining Agreement with Traditional Land Owners

TNG has been in negotiations with the Central Land Council (CLC) on the terms of the Mount Peake Mining Agreement for the past 12 months on finalising the proposed agreement.

TNG has met with the respective Aboriginal groups on several occasions over the past few years and has always received support for the project, subject to negotiation of Mining Agreement terms acceptable to all parties.

## Mining Licence (ML)

coming months.

The completion of a Mining Agreement with traditional land owners, an EIS and a Mine Management Plan will pave the way for the grant of a Mining Lease by the Northern Territory Government. Subject to all other requirements being met, the Company anticipates that this will occur around mid-2018.

#### Project development team

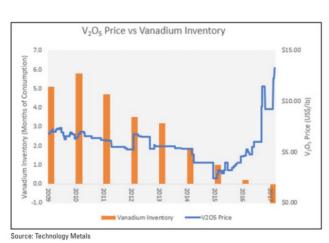
TNG is looking to recruit suitably qualified candidates for key executive roles in the project development team. Appointments will be announced when confirmed.

#### **Commodity Pricing Development**

Commodity prices for both vanadium and titanium have continued to strengthen over the March Quarter, with  $V_2O_5$  recently trading at over US\$30,000/tonne, up from US\$10,000/tonne in 2016.

Demand for  $V_2O_5$  has outstripped supply since 2010, with successive draw-downs on inventory. This is partly due to industry rationalisation and environmental constraints in China, which has resulted in inventories being depleted and a recent increase in prices after more than 10 years of falling prices.

In addition, over recent Quarters, we have seen sustained rises in titanium pigment prices, with prices rising by over 20% since the beginning of 2016. This has resulted in recent prices of ~US\$3,200/tonne, with this rising trend forecast to continue.









# **Other Projects**

**Cawse Extended Mine Project: Nickel-Cobalt** 

(80%: Mesmeric / 20%: TNG)

The Company has a 20% free-carried interest in the Cawse Extended Mining Lease. As outlined in the last Quarterly Report, the Company understands that Mesmeric Resources has moved significant processing equipment onto the lease and there is potential for mining activity to resume in 2018. Further updates will be provided as they come to hand.

#### **CORPORATE**

#### \$3.5M capital raising

Subsequent to the end of the Quarter, TNG secured the support of a number of leading Australian institutional investors as part of a \$3.911 million capital raising.

The Company had initially sought to raise \$3.5 million, however, due to strong demand from institutional investors, it increased the raising amount to \$3.911 million (before costs), comprising the issue of 26,974,655 shares at a price of \$0.145.

The placement was undertaken to Australian institutional funds pursuant to the Company's 15% placement capacity under ASX Listing Rule 7.1. Sanlam Private Wealth acted as lead manager to the placement.

The proceeds will further strengthen TNG's balance sheet as it advances key pre-development activities at Mount Peake including progressing final off-take arrangements and final engineering and design and working towards securing the overall funding package.

#### Investor engagement

TNG has continued to actively promote the Company at investor briefings globally. The Company's Managing Director, Paul Burton, recently presented extensively to potential strategic investors at the 121 Forum in Cape Town, South Africa, as well as in New York, USA and Canberra, Australia.

In the coming Quarter, the Company will be participating in a Northern Territory Government trade tour to Japan and Korea, and will also be presenting at the following investor conferences:

- 121 Mining Forum in London (23-24 April 2018); and
- Resources Rising Stars Conference, Gold Coast (29-30 May 2018)

#### NT Government & Trade Delegation to Japan and South Korea

TNG Managing Director Paul Burton was invited to attend an NT Government & Trade Delegation to Japan and South Korea in early April.

The tour was led by the NT Minister for Primary Industry & Resources, Hon Ken Vowles, and was aimed at strengthening relationships with the two countries and exploring trade opportunities for the Territory.

Japan and South Korea are key potential markets for Mount Peake's products.

#### Cash

TNG had total cash reserves of \$3.568 million at Quarter-end, with this cash balance further boosted by the \$3.911 million (before costs) capital raising completed subsequent to the end of the Quarter outlined above.

**Paul Burton** 

#### **Managing Director**

18 April 2018



#### **Mount Peake Mineral Resources and Ore Reserves**

The Mount Peake Mineral Resource estimate set out below (Table 2) was released in an ASX Announcement dated 26 March 2013, "Additional Information on the Mount Peake Resource", and was completed in accordance with the guidelines of the JORC Code (2012). Initial mining and financial assessment work, based on the Mineral Resource, followed (see ASX Announcement – 15 July 2013, "TNG Considers Two-Stage Development Option for Mount Peake Project, NT").

Table 2 - Mount Peake Mineral Resource estimate

Category	Tonnes (Mt)	V2O5%	TiO <sub>2</sub> %	Fe%	Al₂O₃%	SiO <sub>2</sub> %
Measured	120	0.29	5.5	24	8.2	33
Indicated	20	0.28	5.3	22	9.1	34
Inferred	22	0.22	4.4	19	10.0	38
TOTAL	160	0.28	5.3	23	8.6	34

Note: Mineral Resource is inclusive of Ore Reserves. Tonnage and grade figures in tables have been rounded and small discrepancies in totals may occur. Ore Reserve is reported using a  $0.1\% \ V_2O_5$  cut-off. TNG is not aware of any new information or data that materially affects the mineral resource estimate included in the 26 March 2013 ASX Announcement and all material assumptions and technical parameters underpinning the assessment provided in that announcement continue to apply.

#### Ore Reserve

The Mount Peake Ore Reserve estimate (Table 3) was reported in an ASX Announcement dated July 31 2015, ("Mount Peake Feasibility Study confirms a world – class project capable of delivering outstanding returns over long life").

Table 3 - Mount Peake Ore Reserve estimate

Category	Tonnes (Mt)	V2O5%	TiO₂%	Fe%
Proven	0	-	-	-
Probable	41.1	0.42	7.99	28.0
TOTAL	41.1	0.42	7.99	28.0

Note: Tonnage and grade figures in tables have been rounded to 2 or 3 significant figures and as a result small discrepancies may occur due to the effect of rounding. Ore Reserve is reported using a 15% Fe cut-off. TNG is not aware of any new information or data that materially affects the Ore Reserve estimate reported in the 31 July 2015 ASX Announcement and all material assumptions and technical parameters underpinning the assessment provided in that announcement continue to apply.

# **Tenement Schedule**

The Group holds an interest in the following tenements or tenement applications at 31 December 2017:

Project	Tenements	Equity
	EL27069, EL27070, EL27941,	100%
Mount Peake	EL29578, EL30483, EL31389,	
	ELR29627, MLA28341,	
	MLA29855, MLA29856,	
	MLA30686	
Cawse Extended	M24/547, M24/548,	20% free carried to production, or can
	M24/549, M24/550	be converted to a 2% net smelter return
		on ore mined. Unicorn Pit is now
		excised and a wet tonne royalty applies.
Kintore East	P16/2370, P16/2371,	2% gold return interest on production.
	P16/2372, P16/2373,	
	P16/2374	

#### **Competent Person's Statements**

The information in this report that relates to the Mount Peake Mineral Resource estimates is extracted from an ASX Announcement dated 26 March 2013, (see ASX Announcement – 26 March 2013, "Additional Information on the Mount Peake Resource", www.tngltd.com.au and www.asx.com.au), and was completed in accordance with the guidelines of the JORC Code (2012). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the Mineral Resource estimates in the relevant market announcement continue to apply and have not materially changed. The





Company confirms that the form and context in which the Competent Person's findings are represented have not been materially modified from the original market announcement.

The information in this report that relates to the Mount Peake Ore Reserve estimate is extracted from an ASX Announcement dated 20 November 2017, ("Mount Peake Feasibility Study confirms a world – class project capable of delivering outstanding returns over long life", www.tngltd.com.au and www.asx.com.au ), and was completed in accordance with the guidelines of the JORC Code (2012). The Company confirms that it is not aware of any new information or data that materially affects the information included in the original market announcement and that all material assumptions and technical parameters underpinning the Ore Reserve estimate in the relevant market announcement continue to apply and have not materially changed. The Company confirms that the form and context in which the Competent Person's findings are represented have not been materially modified from the original market announcement.

# **Production Targets and Financial Information**

Information in relation to the Mount Peake Definitive Feasibility, including production targets and financial information, included in this report is extracted from an ASX Announcement dated 20 November 2017, (see ASX Announcement – 20 November 2017, "Updated Feasibility Study Results", www.tngltd.com.au and www.asx.com.au). The Company confirms that all material assumptions underpinning the production target and financial information set out in the announcement released on 20 November 2017 continue to apply and have not materially changed.

+Rule 5.5

# **Appendix 5B**

# Mining exploration entity and oil and gas exploration entity quarterly report

Introduced 01/07/96 Origin Appendix 8 Amended 01/07/97, 01/07/98, 30/09/01, 01/06/10, 17/12/10, 01/05/13, 01/09/16

# Name of entity

TNG Limited		
ABN	Quarter ended ("current quarter")	
12 000 817 023	31 March 2018	

Cor	solidated statement of cash flows	Current quarter \$A'000	Year to date (9 months) \$A'000
1.	Cash flows from operating activities		
1.1	Receipts from customers	-	-
1.2	Payments for		
	(a) exploration & evaluation	(649)	(3,124)
	(b) development		
	(c) production		
	(d) staff costs	(300)	(1,009)
	(e) administration and corporate costs	(390)	(1,518)
1.3	Dividends received (see note 3)		
1.4	Interest received		
1.5	Interest and other costs of finance paid	19	77
1.6	Income taxes paid		
1.7	Research and development refunds	-	1,731
1.8	Other (TRT oncharge as per administrative services agreement)	183	614
1.9	Net cash from / (used in) operating activities	(1,137)	(3,229)

2.	Cash flows from investing activities		
2.1	Payments to acquire:		
	(a) property, plant and equipment	(2)	(4)
	(b) tenements (see item 10)	-	-
	(c) investments	-	-

<sup>+</sup> See chapter 19 for defined terms

1 September 2016

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Con	solidated statement of cash flows	Current quarter \$A'000	Year to date (9 months) \$A'000
	(d) other non-current assets-security deposit	2	(37)
2.2	Proceeds from the disposal of:	***************************************	
	(a) property, plant and equipment	-	-
**************************************	(b) tenements (see item 10)	-	80
	(c) investments	-	-
	(d) other non-current assets-security deposits	-	-
2.3	Cash flows from loans to other entities	-	-
2.4	Dividends received (see note 3)	-	-
2.5	Other	-	-
2.6	Net cash from / (used in) investing activities	-	39

3.	Cash flows from financing activities		
3.1	Proceeds from issues of shares	-	
3.2	Proceeds from issue of convertible notes	-	
3.3	Proceeds from exercise of share options	-	
3.4	Transaction costs related to issues of shares, convertible notes or options	-	
3.5	Proceeds from borrowings	-	
3.6	Repayment of borrowings	-	
3.7	Transaction costs related to loans and borrowings	-	
3.8	Dividends paid	-	
3.9	Other (provide details if material)	-	
3.10	Net cash from / (used in) financing activities	-	

4.	Net increase / (decrease) in cash and cash equivalents for the period		
4.1	Cash and cash equivalents at beginning of period	4,705	6,758
4.2	Net cash from / (used in) operating activities (item 1.9 above)	(1,137)	(3,229)
4.3	Net cash from / (used in) investing activities (item 2.6 above)	-	39
4.4	Net cash from / (used in) financing activities (item 3.10 above)	-	-

<sup>+</sup> See chapter 19 for defined terms 1 September 2016

Con	solidated statement of cash flows	Current quarter \$A'000	Year to date (9 months) \$A'000
4.5	Effect of movement in exchange rates on cash held	-	-
4.6	Cash and cash equivalents at end of period	3,568	3,568

5.	Reconciliation of cash and cash equivalents at the end of the quarter (as shown in the consolidated statement of cash flows) to the related items in the accounts	Current quarter \$A'000	Previous quarter \$A'000
5.1	Bank balances	3,568	4,705
5.2	Call deposits	<b>-</b>	-
5.3	Bank overdrafts	-	-
5.4	Other (provide details)	-	-
5.5	Cash and cash equivalents at end of quarter (should equal item 4.6 above)	3,568	4,705

6.	Payments to directors of the entity and their associates	Current quarter \$A'000
6.1	Aggregate amount of payments to these parties included in item 1.2	194
6.2	Aggregate amount of cash flow from loans to these parties included in item 2.3	-
6.3	Include below any explanation necessary to understand the transactic items 6.1 and 6.2	ons included in

Payments to related entities of the entity and their associates	Current quarter \$A'000
Aggregate amount of payments to these parties included in item 1.2	-
Aggregate amount of cash flow from loans to these parties included in item 2.3	-
Include below any explanation necessary to understand the transaction items 7.1 and 7.2	ons included in
	Aggregate amount of payments to these parties included in item 1.2 Aggregate amount of cash flow from loans to these parties included in item 2.3 Include below any explanation necessary to understand the transaction

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<sup>+</sup> See chapter 19 for defined terms 1 September 2016

8.	Financing facilities available Add notes as necessary for an understanding of the position	Total facility amount at quarter end \$A'000	Amount drawn at quarter end \$A'000		
8.1	Loan facilities	-	-		
8.2	Credit standby arrangements	-	-		
8.3	Other (please specify)	-	-		
8.4	Include below a description of each facility above, including the lender, interest rate and whether it is secured or unsecured. If any additional facilities have been entered into or are proposed to be entered into after quarter end, include details of those facilities as well.				

9.	Estimated cash outflows for next quarter	\$A'000
9.1	Exploration and evaluation	(581)
9.2	Development	-
9.3	Production	-
9.4	Staff costs	(340)
9.5	Administration and corporate costs	(375)
9.6	Other (provide details if material)	-
9.7	Total estimated cash outflows	(1,296)

10.	Changes in tenements (items 2.1(b) and 2.2(b) above)	Tenement reference and location	Nature of interest	Interest at beginning of quarter	Interest at end of quarter
10.1	Interests in mining tenements and petroleum tenements lapsed, relinquished or reduced				
10.2	Interests in mining tenements and petroleum tenements acquired or increased				

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<sup>+</sup> See chapter 19 for defined terms 1 September 2016

### **Compliance statement**

- 1 This statement has been prepared in accordance with accounting standards and policies which comply with Listing Rule 19.11A.
- 2 This statement gives a true and fair view of the matters disclosed.

Sh Robertson

Sign here:

Date: 18 April 2018

Print name: Simon Robertson

(Company secretary)

#### **Notes**

- 1. The quarterly report provides a basis for informing the market how the entity's activities have been financed for the past quarter and the effect on its cash position. An entity that wishes to disclose additional information is encouraged to do so, in a note or notes included in or attached to this report.
- 2. If this quarterly report has been prepared in accordance with Australian Accounting Standards, the definitions in, and provisions of, AASB 6: Exploration for and Evaluation of Mineral Resources and AASB 107: Statement of Cash Flows apply to this report. If this quarterly report has been prepared in accordance with other accounting standards agreed by ASX pursuant to Listing Rule 19.11A, the corresponding equivalent standards apply to this report.
- 3. Dividends received may be classified either as cash flows from operating activities or cash flows from investing activities, depending on the accounting policy of the entity.

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<sup>+</sup> See chapter 19 for defined terms