Survey Report on Electric Mining Equipment Adoption in Indonesia

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RESEARCH OBJECTIVE

THE FINDINGS OF THIS SURVEY INDICATE THE FOLLOWING:

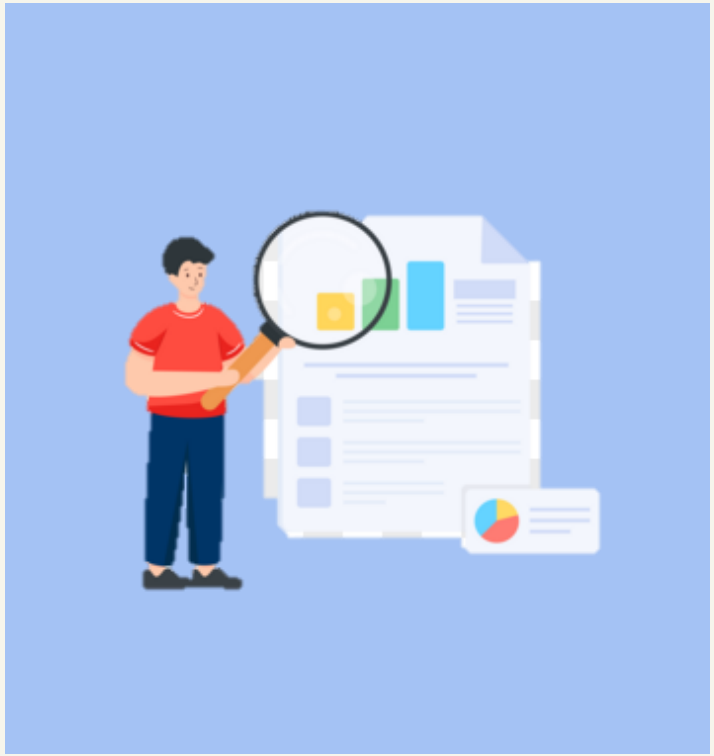


Perception & Effectiveness: understand how mining professionals view the performance and suitability of electric mining equipment

Adoption Level & Operational Experience: identify current usage, key benefits, and challenges in operating electric mining equipment

Future Readiness & Required Support: determine future adoption plans and the support required from government to accelerate EV implementation

SURVEY METHOD & SAMPLING



Sample Size
(Call us to know more details)

Date of Survey	30 October – 25 November 2025
Survey Method	Quantitative – Online questionnaire with non-probability, Purposive Sampling
Population	All mining professionals across coal, minerals, metals, and contractor segments.
Respondent Criteria	Male and female, aged >= 22 years
	• Working in mining companies, mining contractors, or heavy equipment subcontractors. • Decision-makers or technical personnel involved in mining operations • Companies with or without current electric mining equipment usage (both groups included)

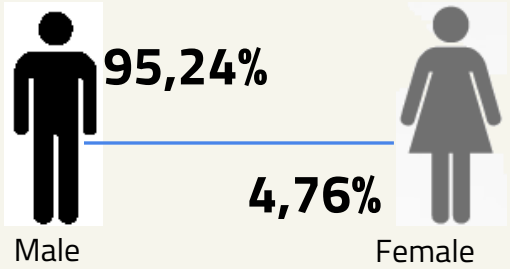
RESPONDENT PROFILE

Petromindo SURVEY

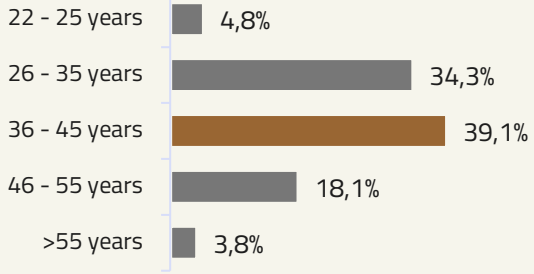
the majority of respondents are male, aged 36–45, mostly working for mining contractors in the Operational/Mining Production division, with coal as the primary commodity.

(Base: All respondent, n=)

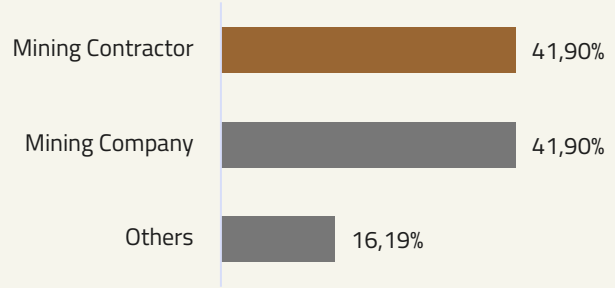
GENDER



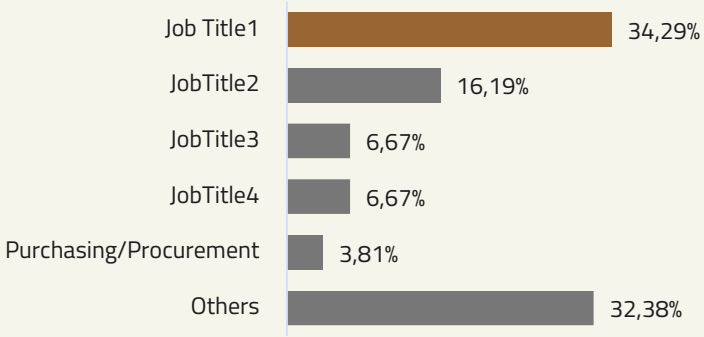
AGE



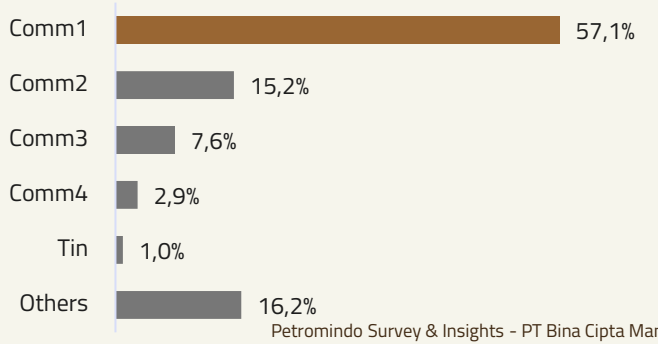
INSTITUTION OF ORIGIN



MAIN JOB/DIVISION



MAIN COMMODITY



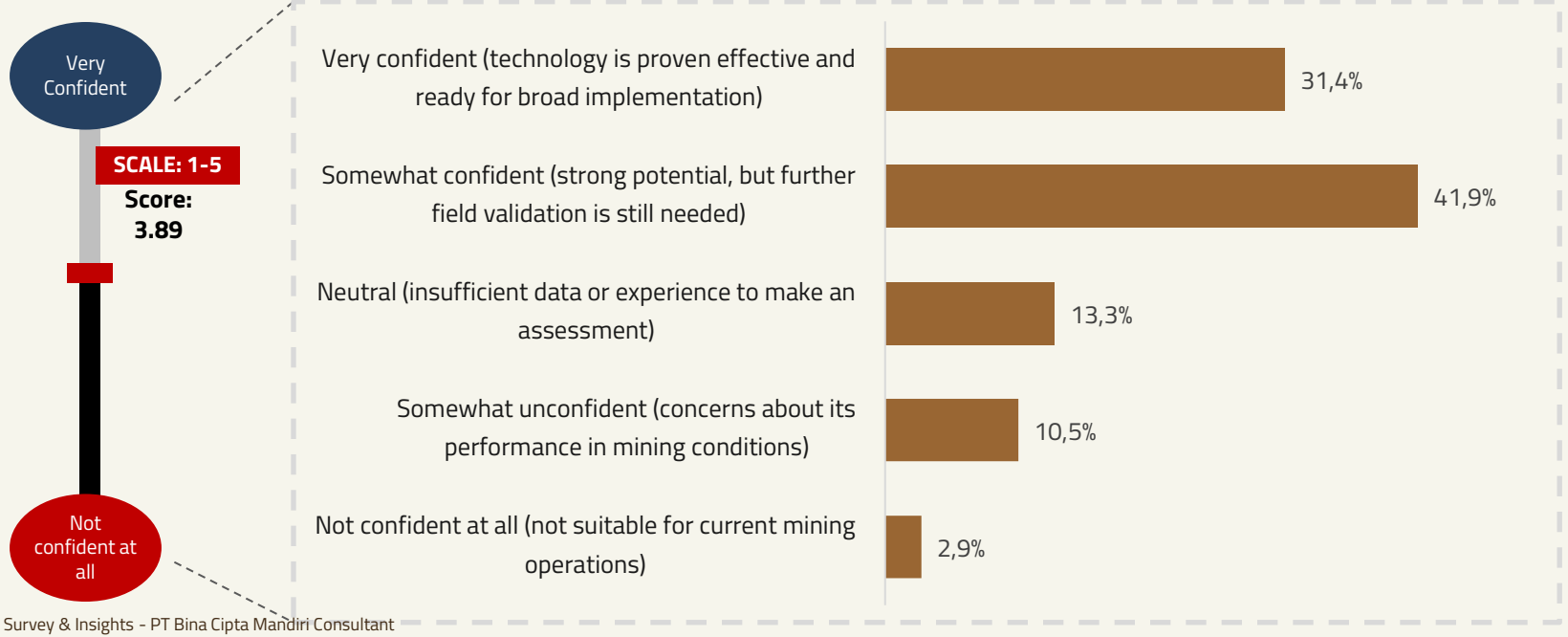


Perception & Effectiveness: understand how mining professionals view the performance and suitability of electric mining equipment

Most respondents express a generally positive level of confidence in the operational effectiveness of electric mining equipment.

this is reflected in its score, which is at 3.89.

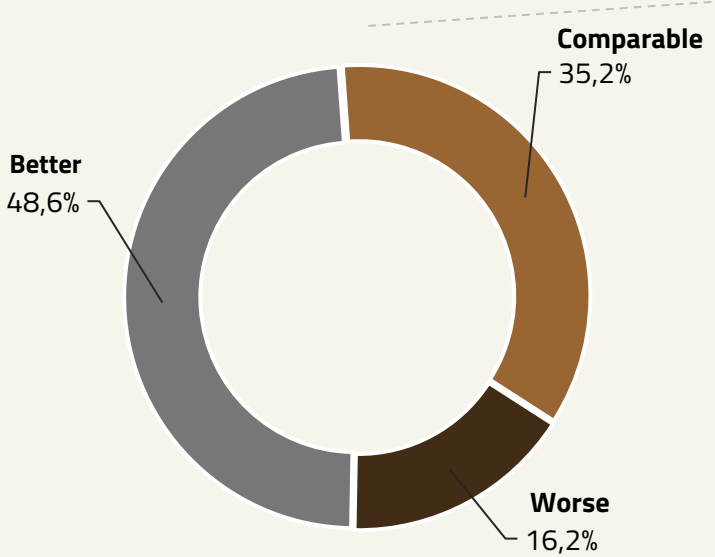
On a scale 1-5, how confident are you in the operational effectiveness of electric mining equipment? [SA]
(Base: All respondent, n=)

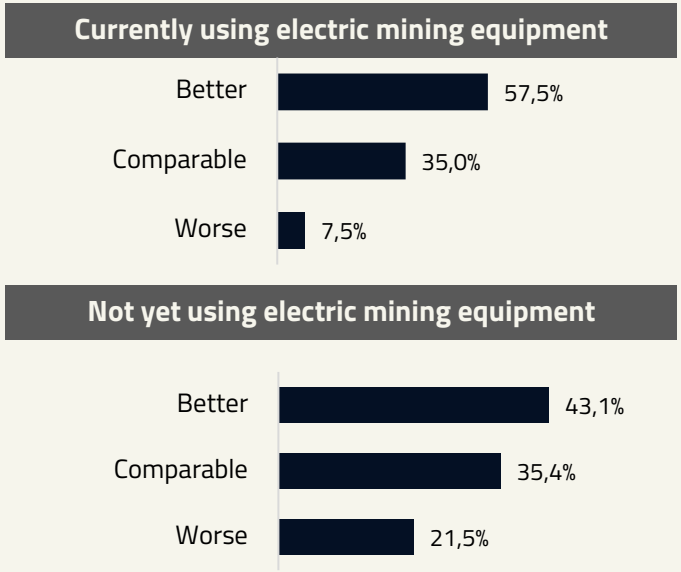


48.6% of respondents believe that electric mining equipment performs better in mining conditions compared to conventional diesel-powered equipment

even among both current users and non-users, there is strong confidence that electric mining equipment can outperform conventional diesel-powered machines.

How does the performance of electric mining equipment compare to conventional (diesel-powered) equipment in mining operations? [SA]
(Base: All Respondents, n=)

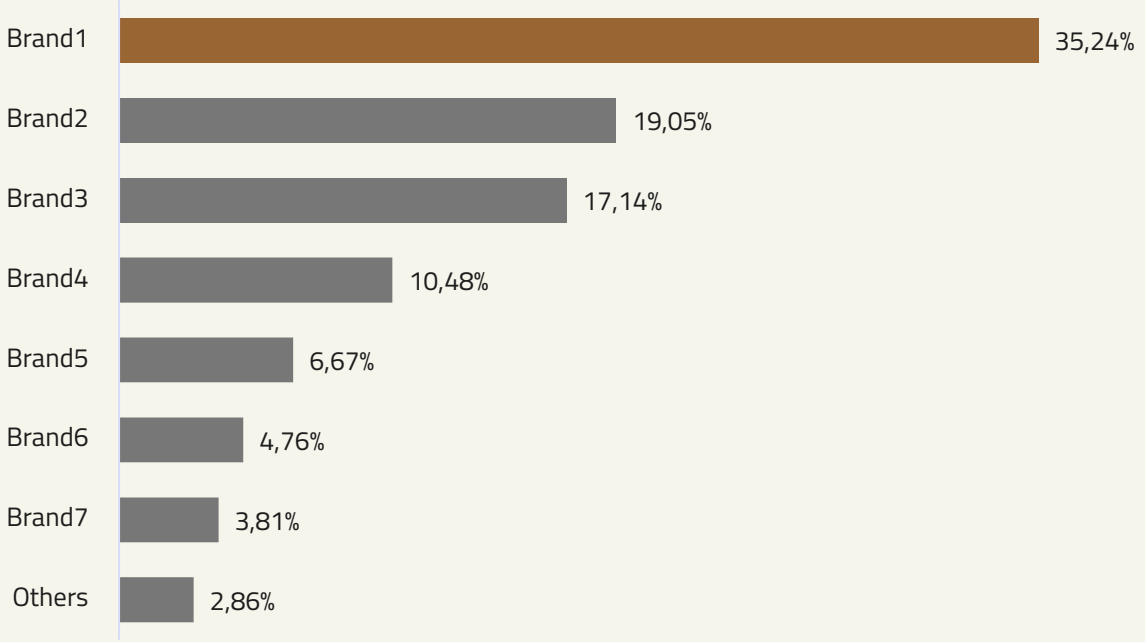




Respondents most frequently identify Brand5, Brand2, and Brand9 as the top-of-mind brands for electric mining equipment

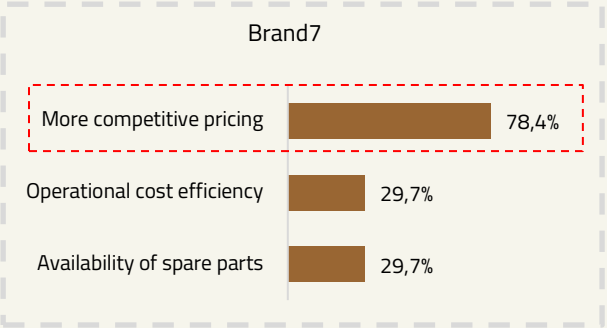
Brand1 dominates the list with 35.24%.

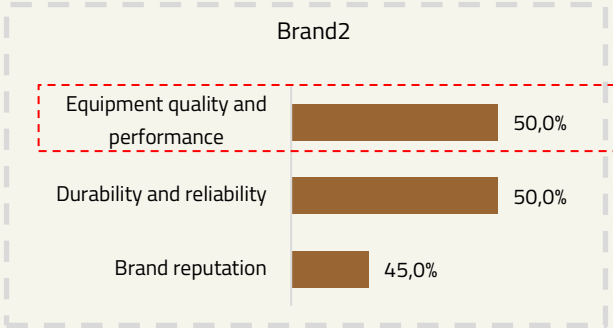
In your opinion, which brand of electric mining equipment is currently the most commonly used in mining operations in Indonesia? [SA]
(Base: All respondent, n=)

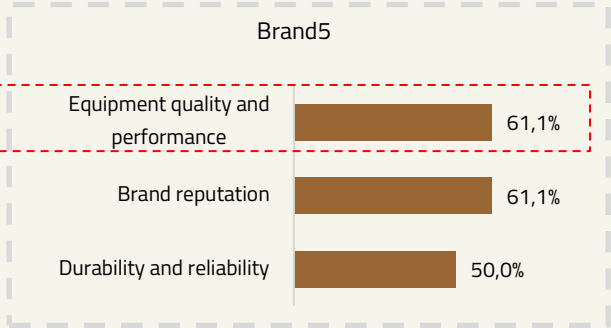


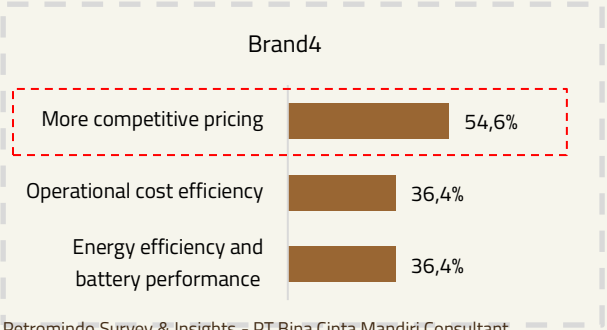
Brand2, Brand7, and Brand9 are perceived to offer superior equipment quality and performance, while Brand2, Brand4, and Brand8 are chosen for their competitive pricing

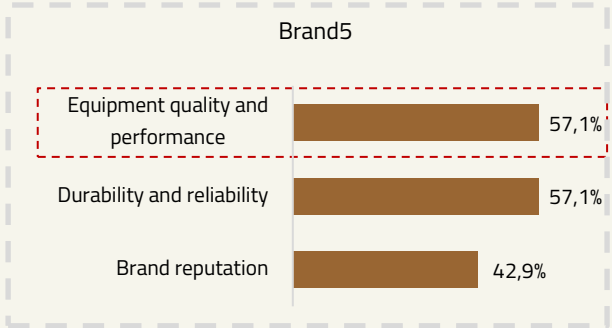
In your opinion, why is this brand most widely chosen by mining companies? [MA]
(Base: All respondent, n=)

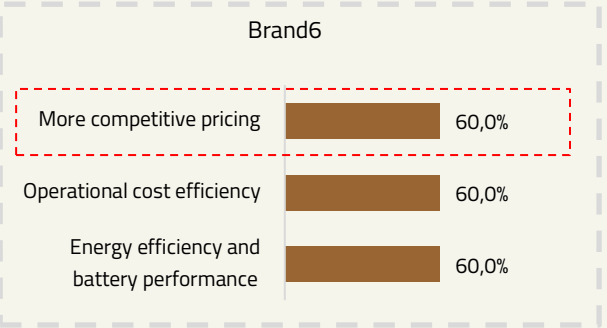












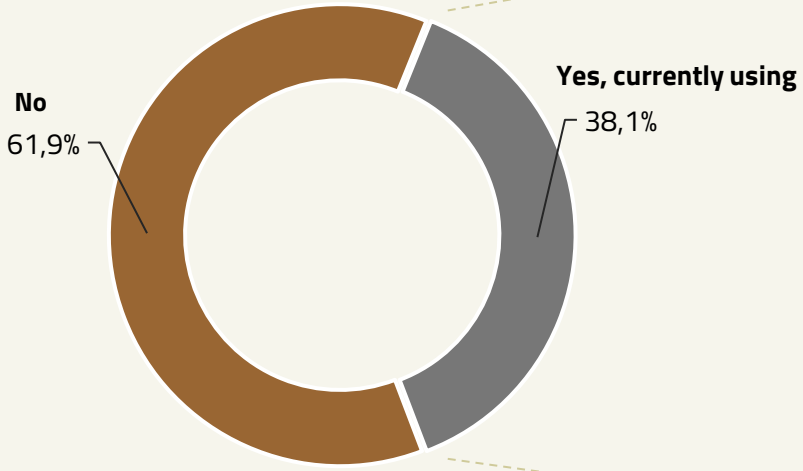


Adoption Level & Operational Experience: identify current usage, key benefits, and challenges in operating electric mining equipment

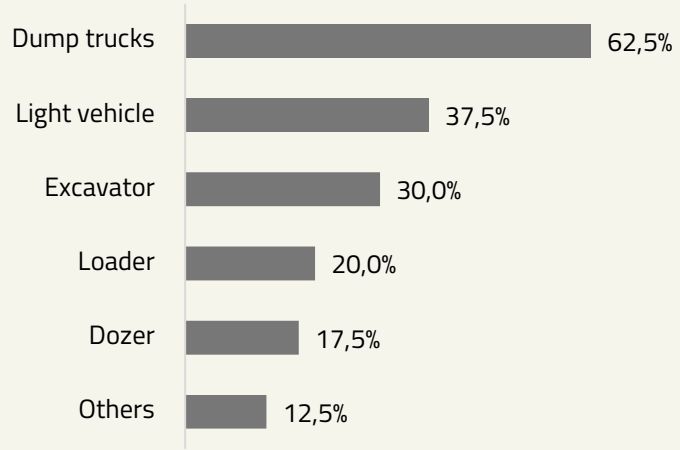
Despite the high level of confidence, only 38.1% of respondents have actually adopted electric mining equipment for their operations

the types of electric mining equipment most commonly used are dump trucks and light vehicles.

Is your company currently using or piloting electric mining equipment at your mining site? [SA]
(Base: All respondent, n=)



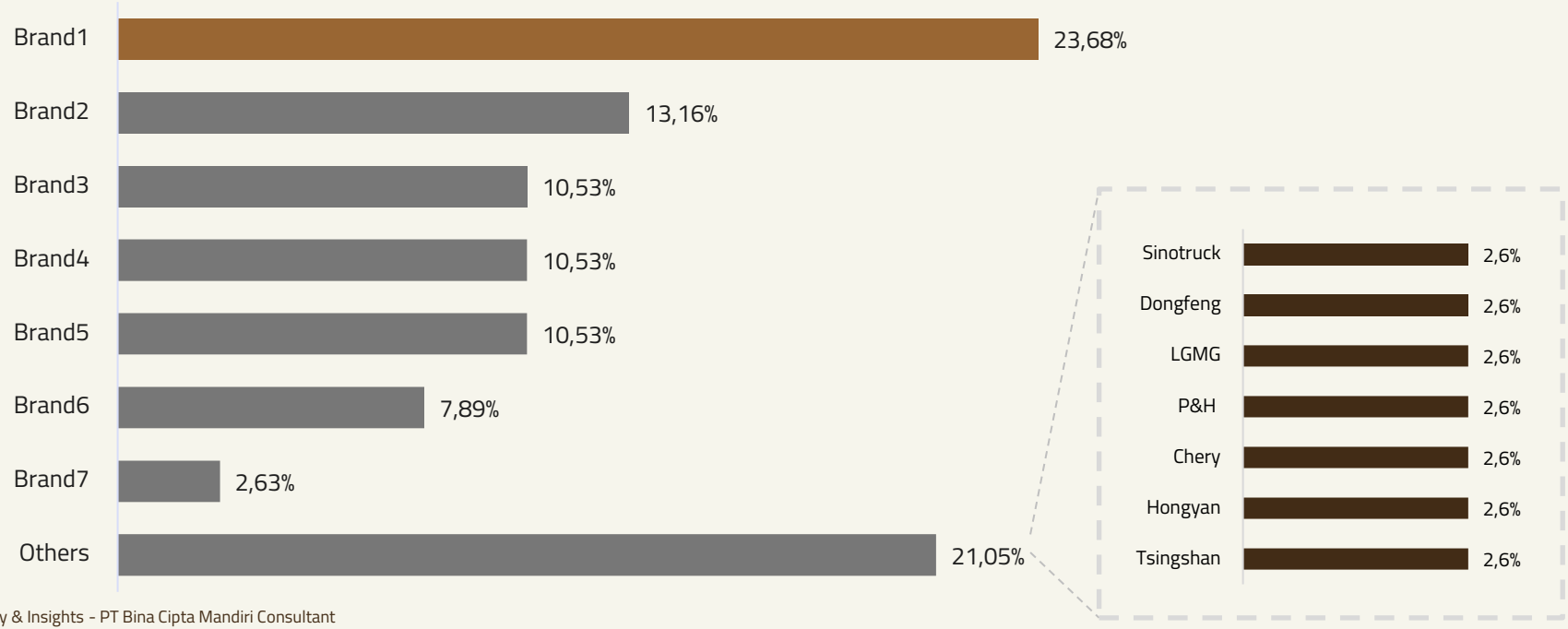
What types of electric mining equipment are currently used in your company? [MA]
(Base: n=)



As highlighted in the previous top-of-mind section, Brand1 remains the brand most frequently mentioned as being used in mining operations

followed by Brand2 and Brand3.

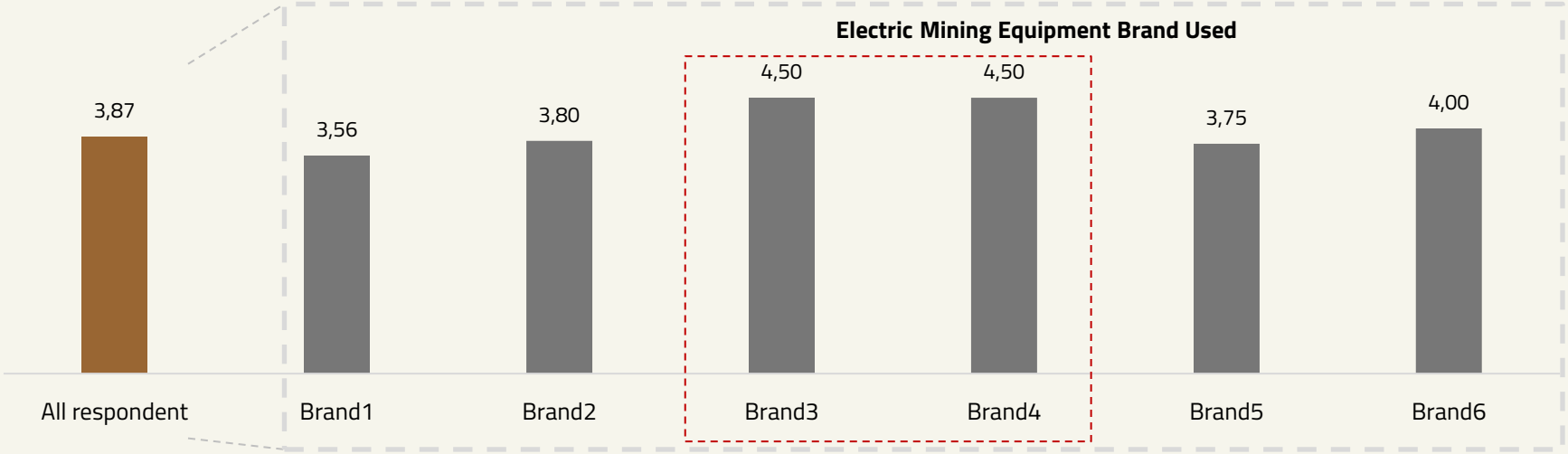
Which brand of electric mining equipment is used in your company? [SA]
(Base: Respondents who are currently using electric mining equipment, n=)



Brand1 and Brand2 recorded the highest satisfaction scores at 4.50 out of 5, indicating a strong level of satisfaction with their electric mining equipment

overall, the satisfaction level of respondents from the mining sector who have used electric mining equipment is 3.87, which indicates they are somewhat satisfied.

On a scale 1-5, how would you rate your company's experience using electric mining equipment? [SA]
(Base: Respondents who are currently using electric mining equipment, n=)



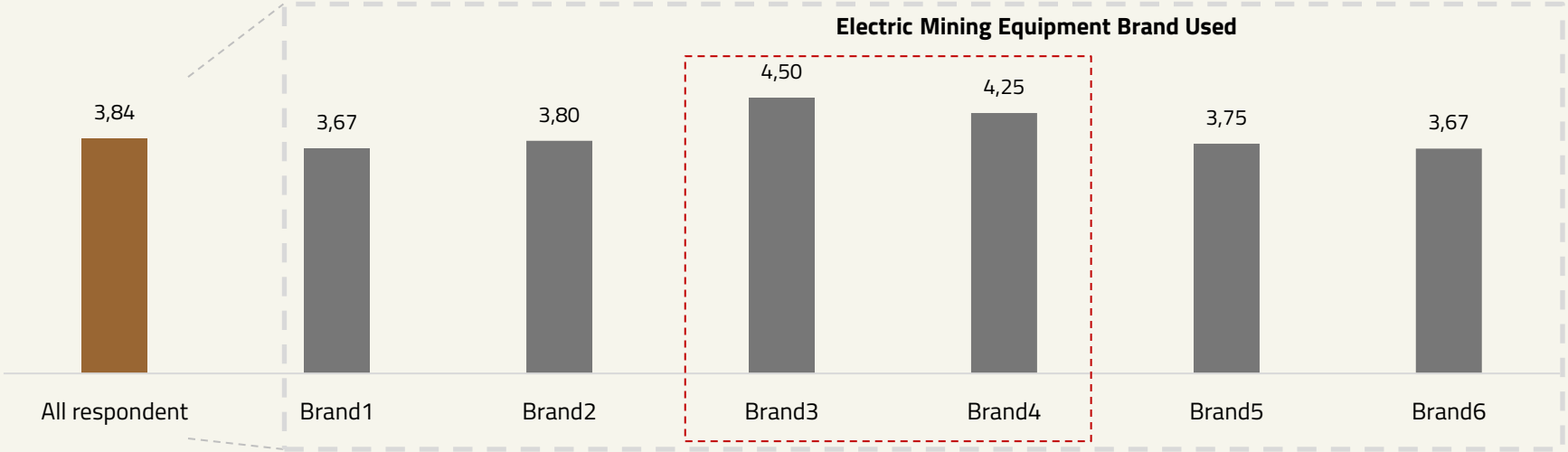
Remark :

1: Very dissatisfied 2: Dissatisfied 3: Somewhat satisfied 4: Satisfied 5: Very Satisfied

Brand3 and Brand7 stand out with the highest performance ratings, with score 4.50 and 4.25.

Overall respondents rate the performance of electric mining equipment in mining site conditions at 3.84 out of 5, which reflects a generally positive assessment.

Based on your experience, how would you rate the ability of electric mining equipment to operate in mining site conditions?[SA]
(Base: Respondents who are currently using electric mining equipment, n=)



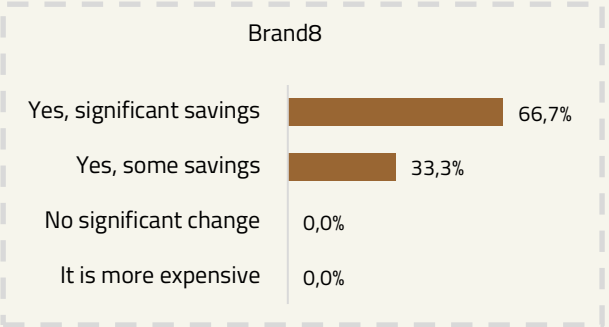
Remark :

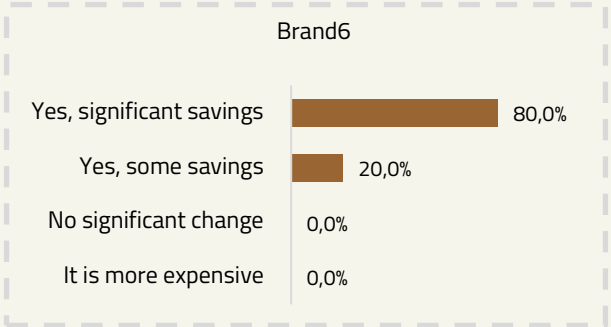
1: Very Poor 2: Poor 3: Fair 4: Good 5: Excellent

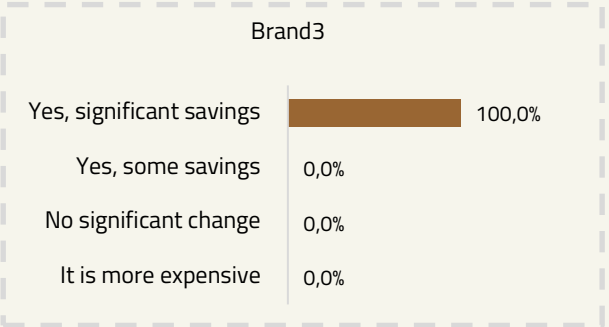
Majority respondents reported that the adoption of electric mining equipment has delivered notable operational cost savings

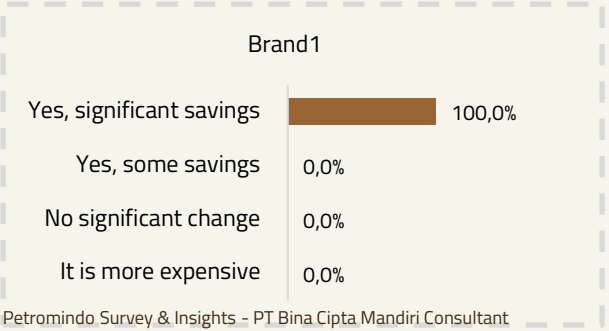
with the average percentage reported at more than 60%.

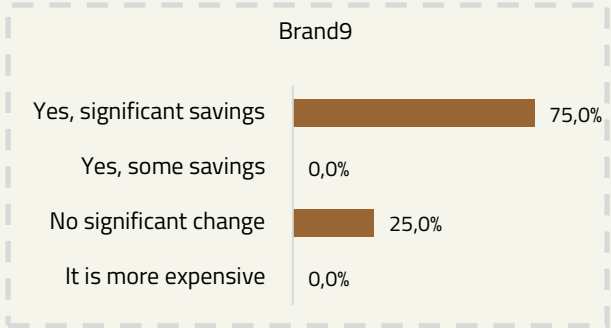
Has the use of electric mining equipment led to operational cost savings compared to conventional (diesel-powered) equipment? [SA]
(Base: Respondents who are currently using electric mining equipment, n=)

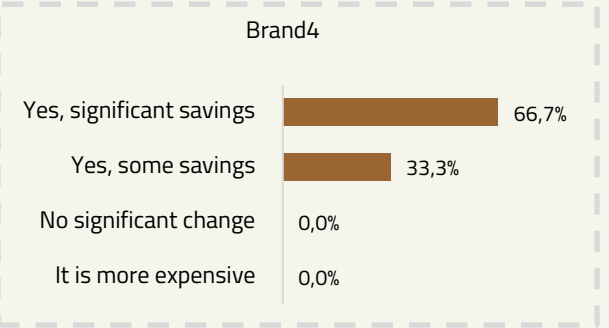






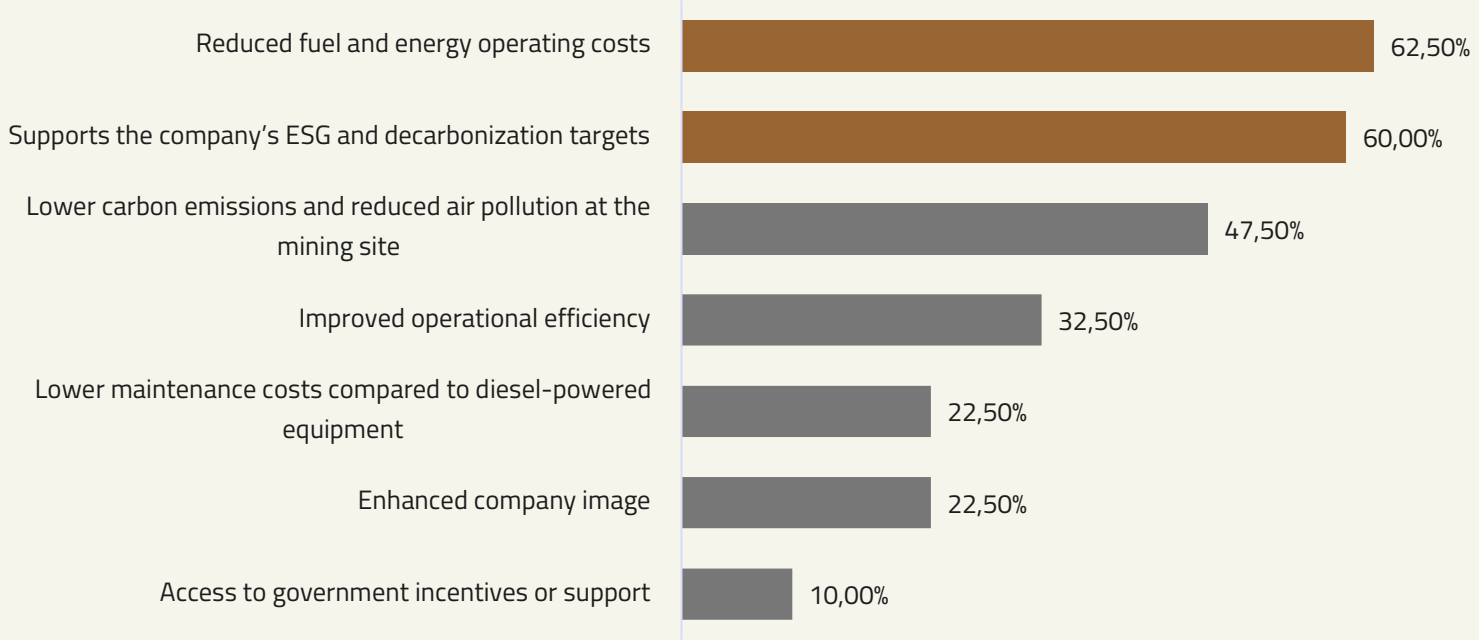






The survey findings indicate that the most commonly perceived benefits of using electric mining equipment are reduced fuel and energy operating costs and stronger support for the company's ESG and decarbonization goals

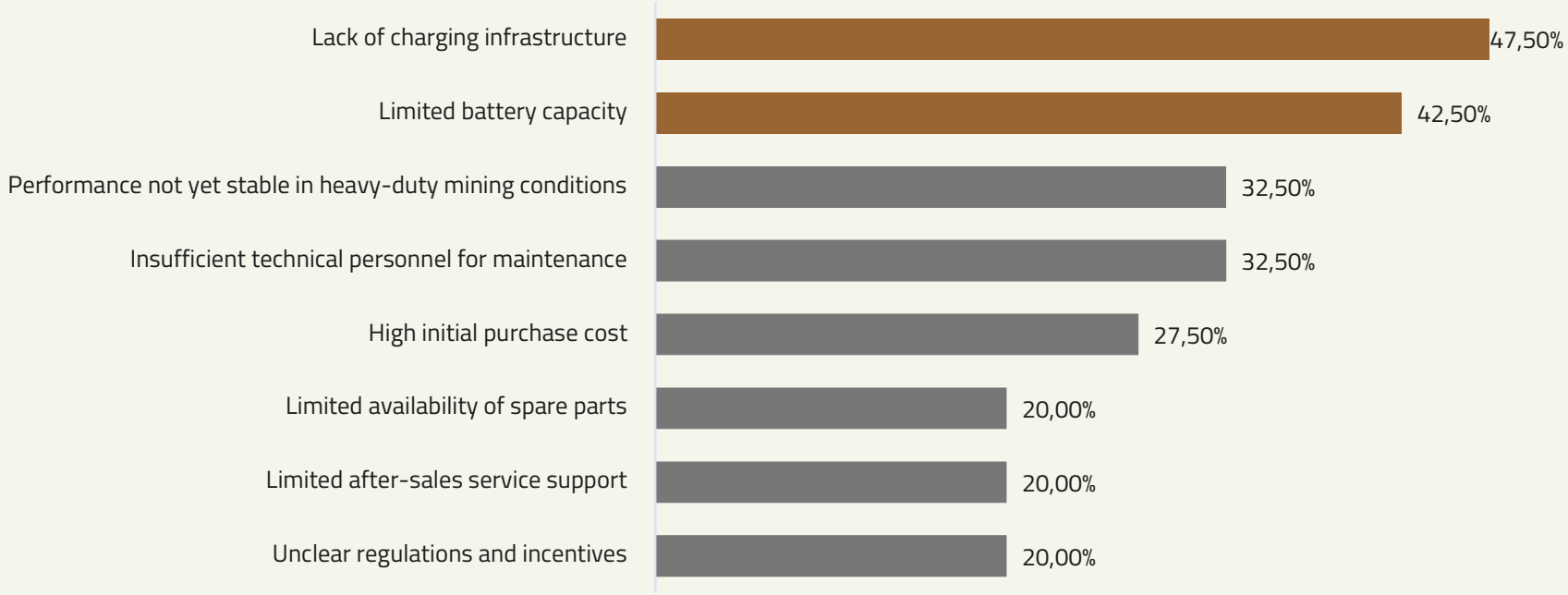
What are the main benefits your company has experienced from using electric mining equipment? [MA]
(Base: Respondents who are currently using electric mining equipment, n=)



While electric mining equipment provides operational cost-saving benefits, the limited availability of charging infrastructure in mining areas remains one of the key challenges

furthermore, limited battery endurance also remains one of the most frequently reported challenges.

What are the main challenges in adopting electric equipment in mining operations? [MA]
(Base: Respondents who are currently using electric mining equipment, n=)



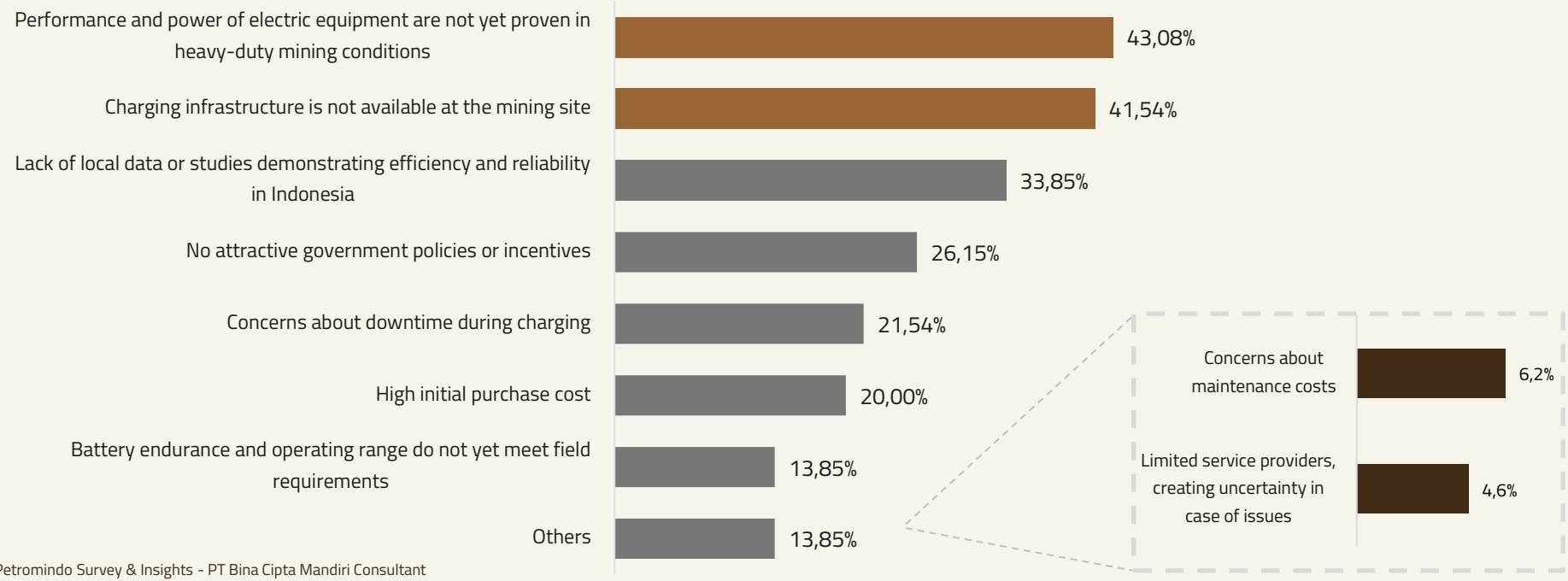


Future Readiness & Required Support: determine future adoption plans and the support required from government to accelerate EV implementation

Concerns about electric equipment performance in mining conditions remain a key reason why companies have not adopted electric mining equipment

the lack of charging infrastructure at mining sites is also a key reason why many mining companies have not yet adopted electric mining equipment..

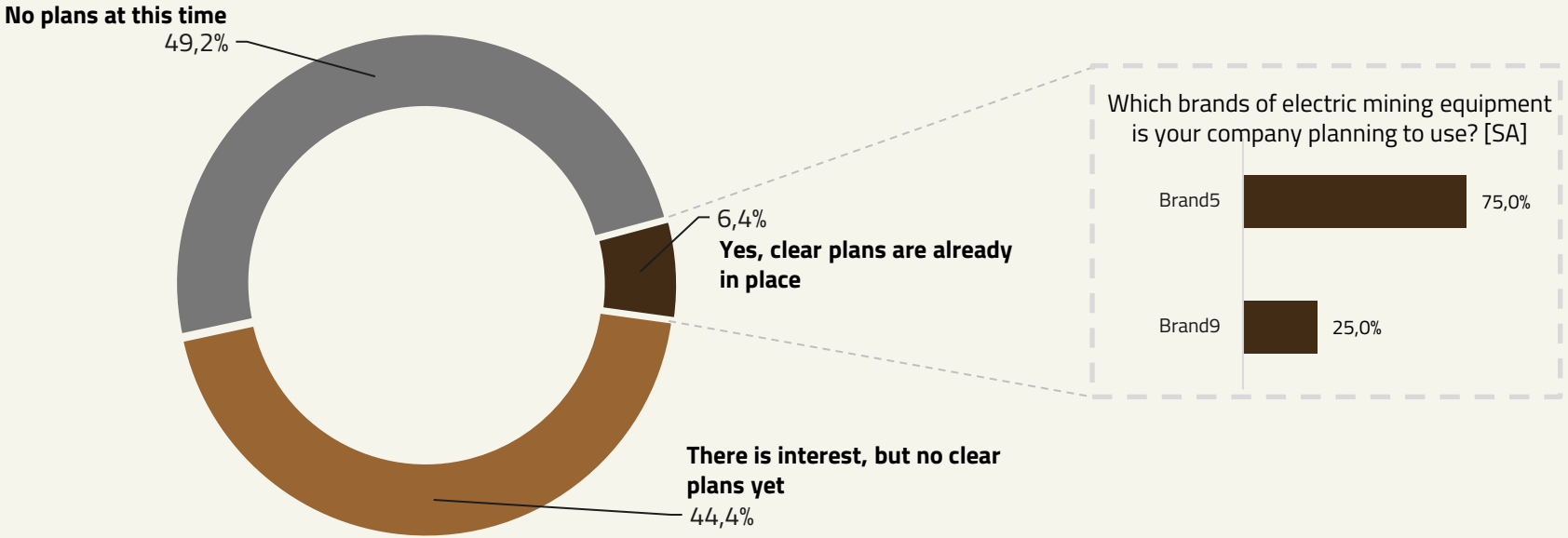
What are the main reasons your company has not adopted electric mining equipment (EVs) in its operations? [MA]
(Base: Respondents who **have not used** electric mining equipment, n=)



Only 6.4% of non-users have a clear plan to adopt electric mining equipment, whereas 49.21% report having no plans at all

among those with a clear adoption plan, Sany is the brand they intend to use.

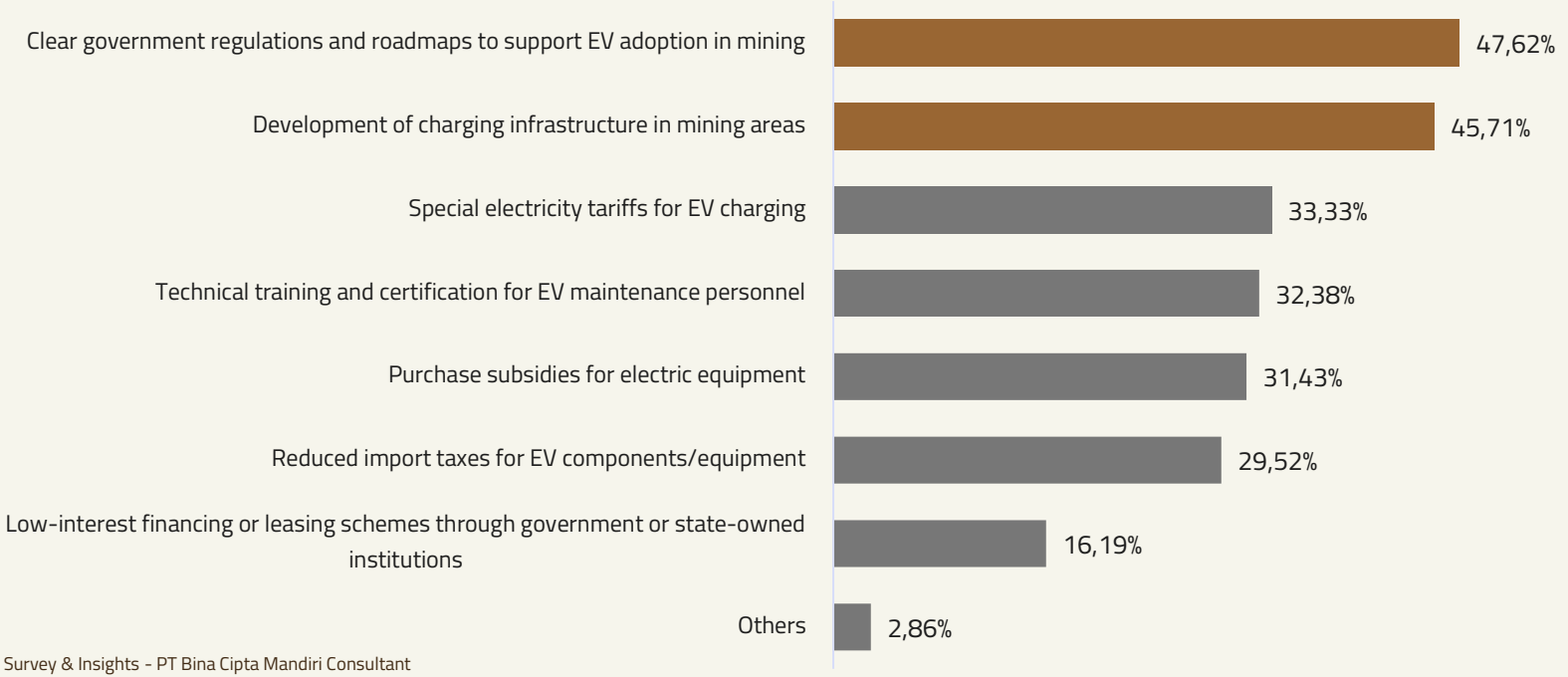
Does your company have plans or intentions to consider using electric mining equipment in the future? [SA]
(Base: Respondents who **have not used** electric mining equipment, n=)



Clear regulations and adequate charging infrastructure are seen as the key enablers for faster EV adoption in mining operations

additionally, operational incentives such as special electricity tariffs are also considered important, given the substantial increase in power demand associated with the use of electric mining equipment.

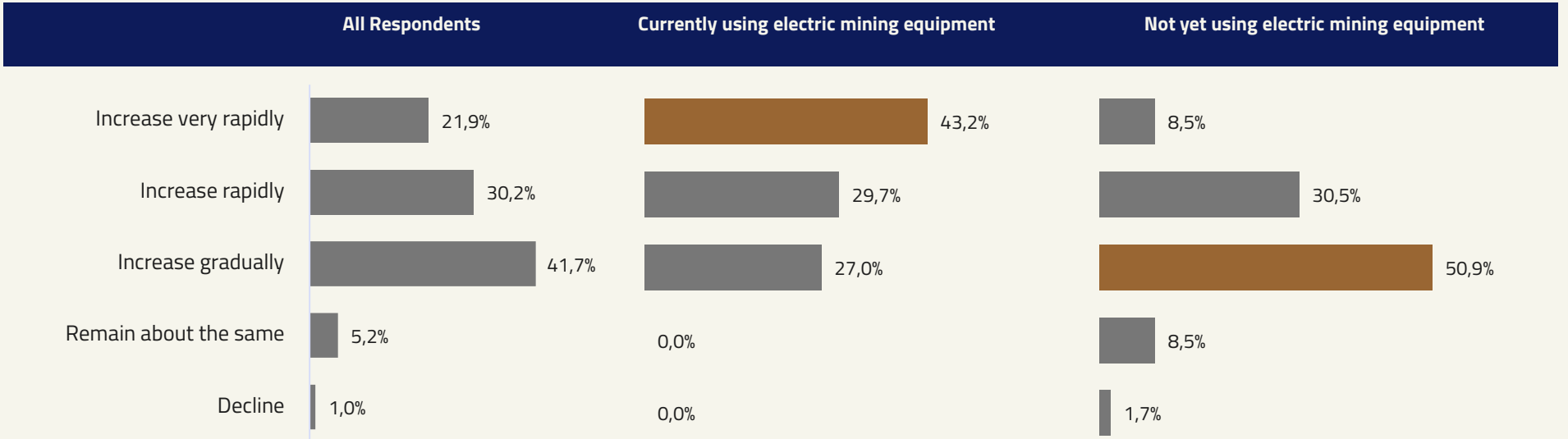
Which types of government incentives or support would best accelerate the adoption of electric mining equipment? [MA]



Respondents who are already using electric mining equipment show higher confidence that its prospects in Indonesia will grow rapidly over the next 3–5 years, compared with non-users

however, overall respondents believe the outlook will gradually improve, as reflected in the average score of 3.67.

Based on its current potential, how do you foresee the outlook for the use of electric mining equipment in Indonesia over the next 3–5 years? [SA]



KEY FINDINGS

Perception & Effectiveness	• Most respondents express a generally positive level of confidence in the operational effectiveness and performance of electric mining equipment. • Even among both current users and non-users, there is strong confidence that electric mining equipment can outperform conventional diesel-powered machines • Respondents most frequently identify Brand1, Brand2, and Brand3 as the top-of-mind brands for electric mining equipment. Sany dominates the list with 35.24%.
Adoption Level & Operational Experience	• Despite the high level of confidence, only 38.1% of respondents have actually adopted electric mining equipment for their operations. Sany remains the brand most frequently mentioned as being used in mining operations. • While Sany is the most widely adopted brand, Brand4 and Brand9 achieve the highest ratings in terms of user satisfaction and operational performance. • While electric mining equipment provides operational cost-saving benefits, the limited availability of charging infrastructure in mining areas remains one of the key challenges.
Future Readiness & Requires Support	• Concerns about electric equipment performance in mining conditions remain a key reason why companies have not adopted electric mining equipment. • Clear regulations and adequate charging infrastructure are seen as the key enablers for faster EV adoption in mining operations. • Overall, the survey shows a high level of industry confidence in electric mining equipment, although adoption is still constrained by key challenges, particularly limited charging infrastructure at mining sites.

THANK YOU

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