

Scenario	Category	Driver	Anticipated situation (2050)	Impact on business	Risk and opportunity (medium- to long-term)	SMM Group approach: Initiatives for realizing Vision for 2030	
1.5°C	Climate change policy	Carbon pricing (carbon taxes, emissions trading, etc.)	• Overall monetary amounts have risen (depending on nation or region)	Increased tax burden, etc. Increases in R&D costs and investment in low-carbon facilities and equipment	Risk Large Short- to long-term, large	<ul style="list-style-type: none"> Climate Change: Reduce GHG emissions Climate Change: Reduce GHG emissions Effective Use of Non-Ferrous Metal Resources Improve productivity by introducing new technology, Advance nickel ore projects and improve productivity 	
	Climate change policy	Tightening of vehicle regulations, policy to promote LEVs	<ul style="list-style-type: none"> Fuel consumption regulations have been tightened and restrictions on movement introduced Policy is supportive of EVs and LEVs Internal combustion-based vehicles have been replaced by LEVs 	<ul style="list-style-type: none"> Increase in sales due to growing demand for batteries and nickel accompanying the spread of EVs Increase in sales of nickel oxide powder and lithium-ion batteries accompanying the development of a hydrogen society and the spread of FCVs Increase in sales of other products contributing to a low-carbon society 	Opportunity Large	<ul style="list-style-type: none"> Climate Change: Reduce GHG emissions Effective Use of Non-Ferrous Metal Resources Advance nickel ore projects and improve productivity, Develop technology to create value from unused non-ferrous metal resources, Leverage our strengths to create new products and new businesses that contribute to society, Hold raw materials in-house for favorable and stable procurement, Expand sales of low-cost battery cathode materials through favorable, stable procurement of our own nickel raw materials 	
	Society and infrastructure	Progress of digital transformation related to vehicles, changes in values	<ul style="list-style-type: none"> Self-driving vehicles, MaaS⁵, and car-sharing are common Fewer households own cars 				
	Technology	Development of hydrogen technology, fuel cells	<ul style="list-style-type: none"> Fuel cell vehicles (FCV) are common EVs and plug-in hybrid EVs (PHEV) are common 				
	Climate change policy	Shift to electrical energy	• Electricity occupies a higher proportion of final energy consumption	• Increase in demand for copper accompanying the strengthening of electrical grids (although there is competition from aluminum, etc.)	Opportunity Large	<ul style="list-style-type: none"> Effective Use of Non-Ferrous Metal Resources Advance copper mine projects, Acquire new superior copper and gold resources 	
	Technology	Technological shift in automobile storage batteries	• There has been a shift in the market share of automobile storage batteries	<ul style="list-style-type: none"> Rise in the proportion of nickel used in batteries and increased sales of nickel accompanying efforts to move away from cobalt Spread of solid state batteries that leverage SMM technology as next-generation batteries Spread of iron and manganese-based batteries accompanying efforts to move away from cobalt Spread of new batteries that do not leverage SMM technology as next-generation batteries 	Opportunity Medium Risk Medium	<ul style="list-style-type: none"> Climate Change: Reduce GHG emissions Effective Use of Non-Ferrous Metal Resources Advance nickel ore projects and improve productivity, Develop technology to create value from unused non-ferrous metal resources, Leverage our strengths to create new products and new businesses that contribute to society, Hold raw materials in-house for favorable and stable procurement, Expand sales of low-cost battery cathode materials through favorable, stable procurement of our own nickel raw materials 	
Society and infrastructure	Interest in matters such as sustainable procurement, environmental footprint, and the social impact of businesses	<ul style="list-style-type: none"> There is greater awareness regarding sustainability ESG investment is mainstream There are more possible applications for alternative materials and recycled metals 	<ul style="list-style-type: none"> Limits on raw materials sourcing, increase in materials and manufacturing costs, greater advantages due to owning our own mines Expansion of the automobile secondary battery recycling business Impact of ESG investment on financing Reputational risk if SMM's efforts are evaluated as insufficient 	Opportunity Medium Risk Medium to large	<ul style="list-style-type: none"> Effective Use of Non-Ferrous Metal Resources Advance copper mine projects, Acquire new superior copper and gold resources, Advance nickel ore projects and improve productivity, Hold raw materials in-house for favorable and stable procurement, Demonstrate and commercialize automobile secondary battery recycling technology Human Rights in the Supply Chain: Promote sustainable procurement, particularly responsible mineral sourcing Rights of Indigenous Peoples: Understand indigenous peoples and their traditions and culture, Support initiatives that lead to respect for the traditions and cultures of indigenous peoples 		
4°C	Temperatures and rainfall	Rises in average temperature, sea surface temperature, and sea levels	<ul style="list-style-type: none"> Sea levels have risen Storm surges are more frequent 	Decline in port functionality, greater risk of storm surges, possibility of facility-based countermeasures needing to be taken at some coastal business sites	Risk Large	<ul style="list-style-type: none"> Significant Environmental Accidents and Biodiversity: Zero significant environmental accidents 	
		Increase in abnormal climate events, such as heat waves, flooding, and water shortages	<ul style="list-style-type: none"> Heavy rains and typhoons are more frequent Increased risk of flooding and water shortages depending on region 	<ul style="list-style-type: none"> Increase in risk of flooding or water shortages at business sites in certain regions, possibility of facility-based countermeasures needing to be taken Decline in operations at key suppliers, decline in plant operations due to interruptions to procurement and shipping routes Possibility of facility-based countermeasures needing to be taken due to the increased risk of damage to tailing dams 	Risk Large Risk Large	<ul style="list-style-type: none"> Significant Environmental Accidents and Biodiversity: Zero significant environmental accidents Significant Environmental Accidents and Biodiversity: Zero significant environmental accidents, Reduce emissions of hazardous substances 	
					Risk Large	<ul style="list-style-type: none"> Significant Environmental Accidents: Zero significant environmental accidents 	