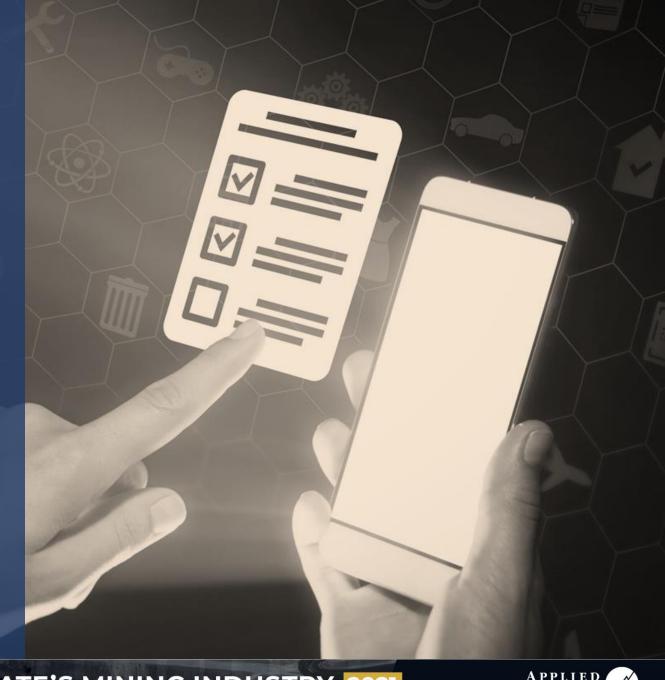


# THE ROLE OF THE STATE'S MINING INDUSTRY

2021



# THANK YOU 2021 SURVEY RESPONDENTS







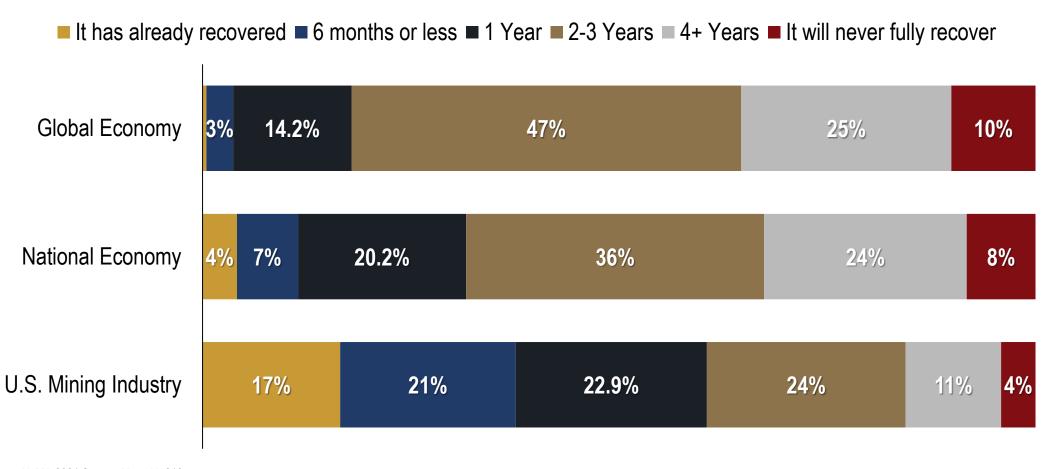
# GLOBAL AND NATIONAL MINING INDUSTRY TRENDS

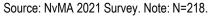






# **Recovery from COVID-19 Pandemic**



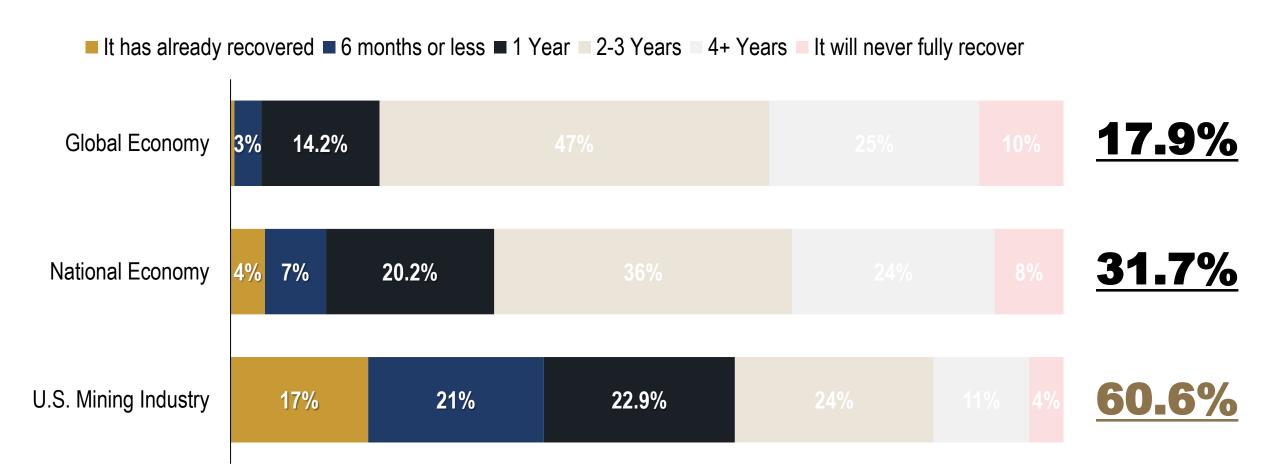








# Recovery from COVID-19 Pandemic

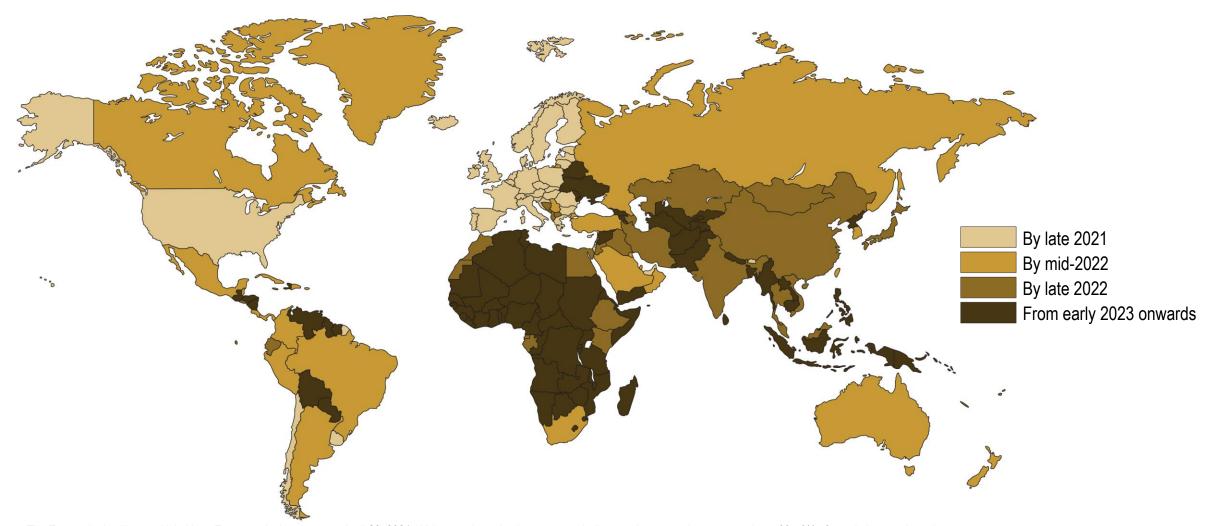


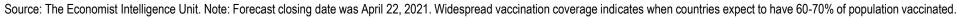


Source: NvMA 2021 Survey. Note: N=218.



# **Expected Widespread Vaccination Coverage**









#### **S&P GICS**

# 12-Month Price Change Ranking | Sector and Industry

Rank	Sector	2020 Rank	Change
1	Financials	10	
2	Energy	11	
3	Communication Services	4	
4	Information Technology	1	
5	Real Estate	8	
6	Industrials	7	
7	MATERIALS	5	
8	Health Care	3	
9	Consumer Discretionary	2	
10	Utilities	9	
11	Consumer Staples	6	

Source: S&P Global. Note: Ranking between 1 (best) and either 11 (sector, worst) or 124 (industry, worst) based on 12-month price change. 2020 rank from September 18, 2020 GICS Scorecard.

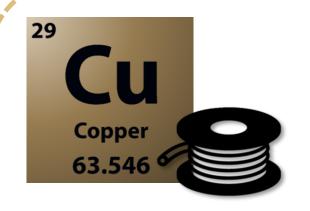




# **S&P GICS**

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**2020 Rank** 

Source: S&P Global. Note: Ranking between 1 (best) and either 11 (sector, worst) or 124 (industry, worst) based on 12-month price change. 2020 rank from September 18, 2020 GICS Scorecard.

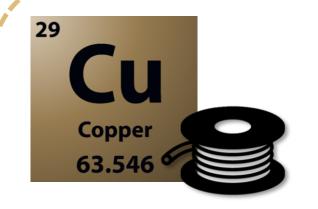




# **S&P GICS**

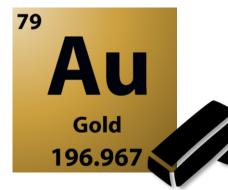
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11	Consumer Staples	6	





**2021 Rank** 



#124

2021 Rank

Source: S&P Global. Note: Ranking between 1 (best) and either 11 (sector, worst) or 124 (industry, worst) based on 12-month price change. 2020 rank from September 18, 2020 GICS Scorecard.

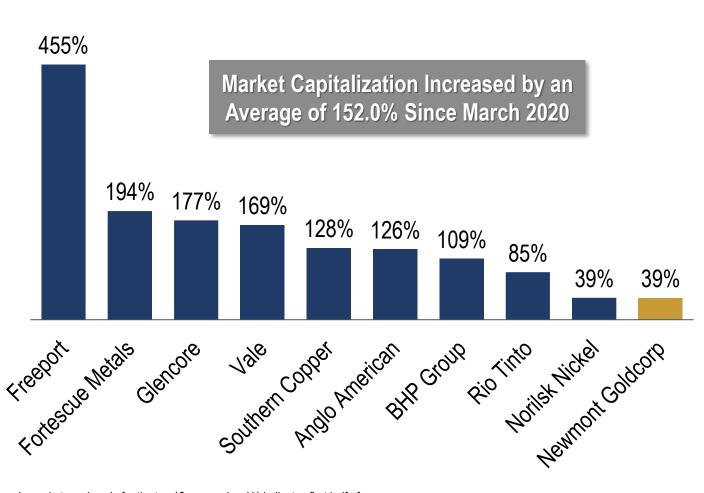




# **Top 10 Mining Companies Worldwide**

# Market Capitalization Change | March 2020 – June 2021

Company	2021 Rank	2020 H1 Rank	Rank Change
BHP Group	1	1	
Rio Tinto	2	2	
Vale	3	3	
Glencore	4	10	
Anglo American	5	9	
Fortescue Metals	6	8	
Freeport-McMoRan	7	17	
Norilsk Nickel	8	6	
NEWMONT GOLDCORP	9	4	
Southern Copper	10	7	



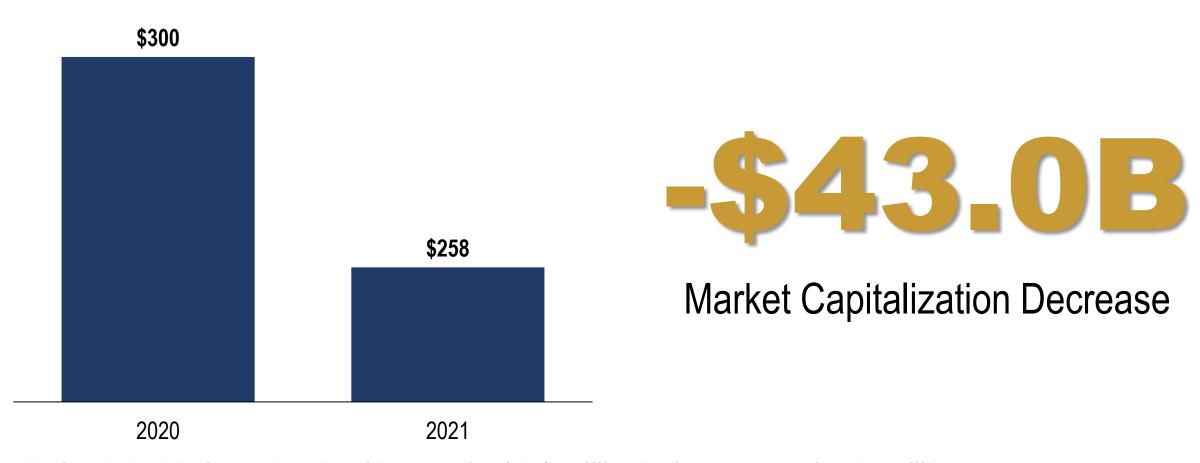
Source: Mining.Com; Applied Analysis. Note: Ranking publication is for top 50 mining companies; average increase in market cap is only for the top 10 companies. H1 indicates first half of year.

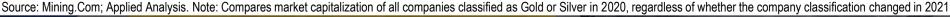




# **Top 50 Mining Companies Worldwide**

Gold & Silver Market Capitalization (\$ Billion) | June 2020-June 2021









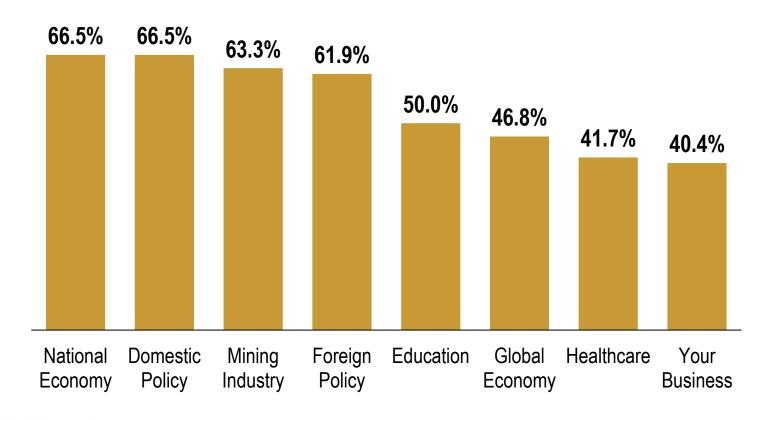


# Where is the Economy Headed?

#### **National Economy Direction**



#### **Areas Expected to Worsen Under New Administration**



Source: NvMA 2021 Survey. Note: N=218.





**BUILDING RESILIENT** SUPPLY CHAINS, REVITALIZING AMERICAN MANUFACTURING, AND FOSTERING BROAD-BASED **GROWTH** 

100-Day Reviews under Executive Order 14017

June 2021

A Report by The White House

Including Reviews by Department of Commerce Department of Energy Department of Defense Department of Health and Human Services











# Develop Strong Environmental Review Permitting Practices for the Extraction of Lithium, Nickel, Cobalt, and Other Key High-Capacity Battery Minerals.

-Department of Energy Recommendation, 100-Day Supply Chain Review









\$3B

**Battery Materials Processing** 

\$3B

**Battery Manufacturing Projects** 

\$400M

Developing, Processing and Recycling Critical Minerals

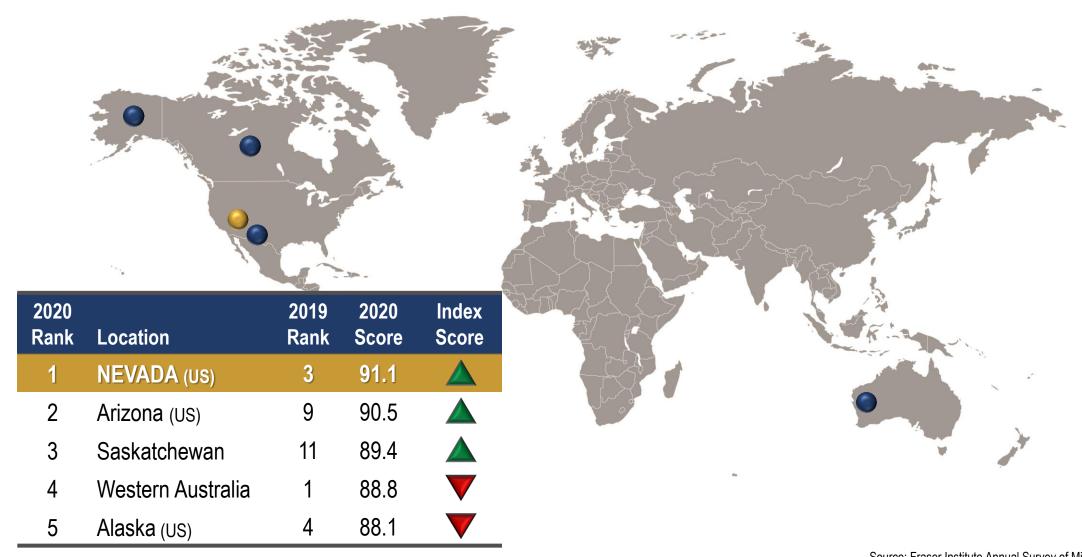
\$140M

Rare Earth Facility Feasibility





#### **Global Investment Attractiveness Index**

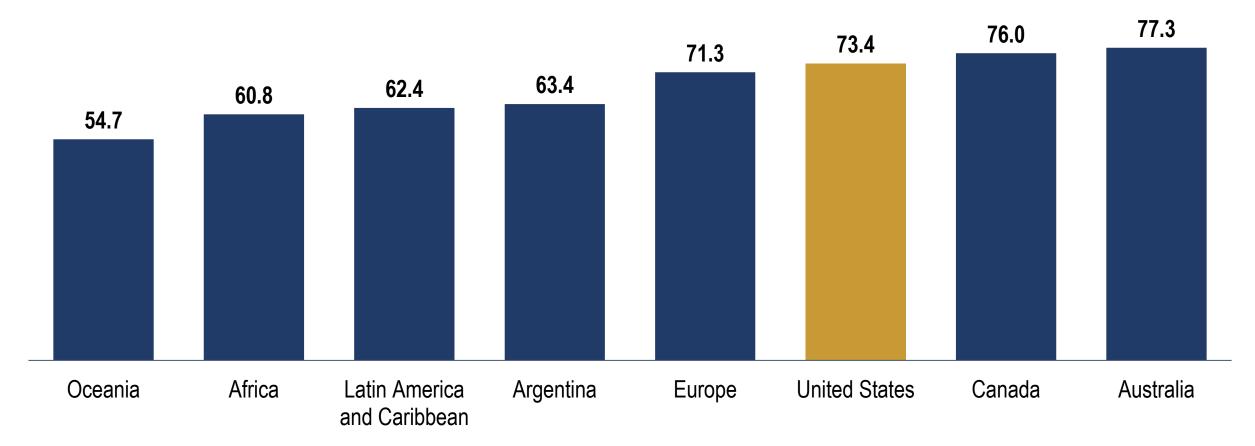






#### **Global Investment Attractiveness Index**

## Regional

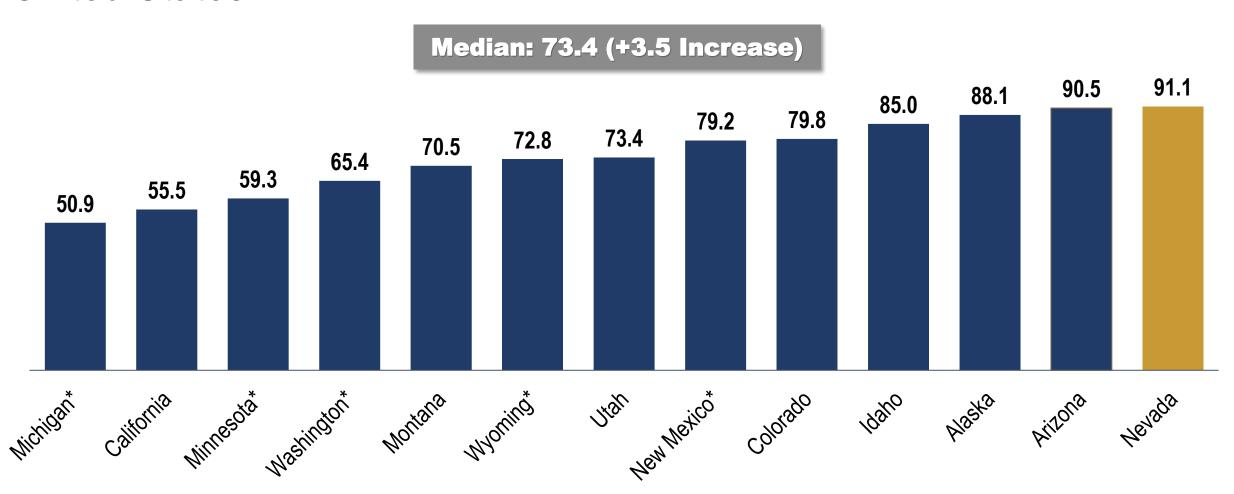






#### **Investment Attractiveness Index**

#### **United States**



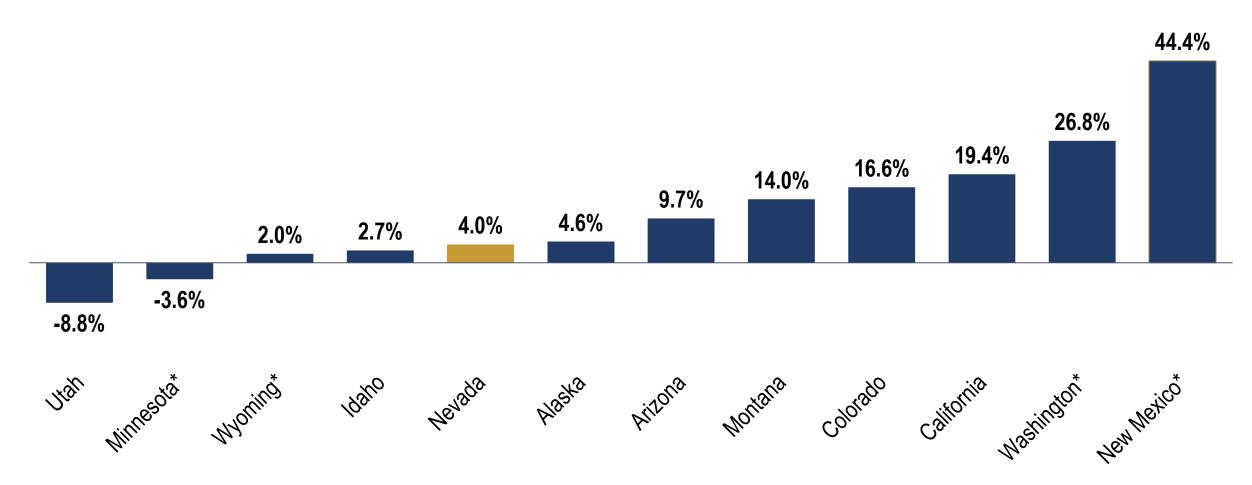
Source: Fraser Institute Annual Survey of Mining Companies (2020); Applied Analysis.\*Note: Between 5 and 9 responses on one or more questions.





#### **Investment Attractiveness Index**

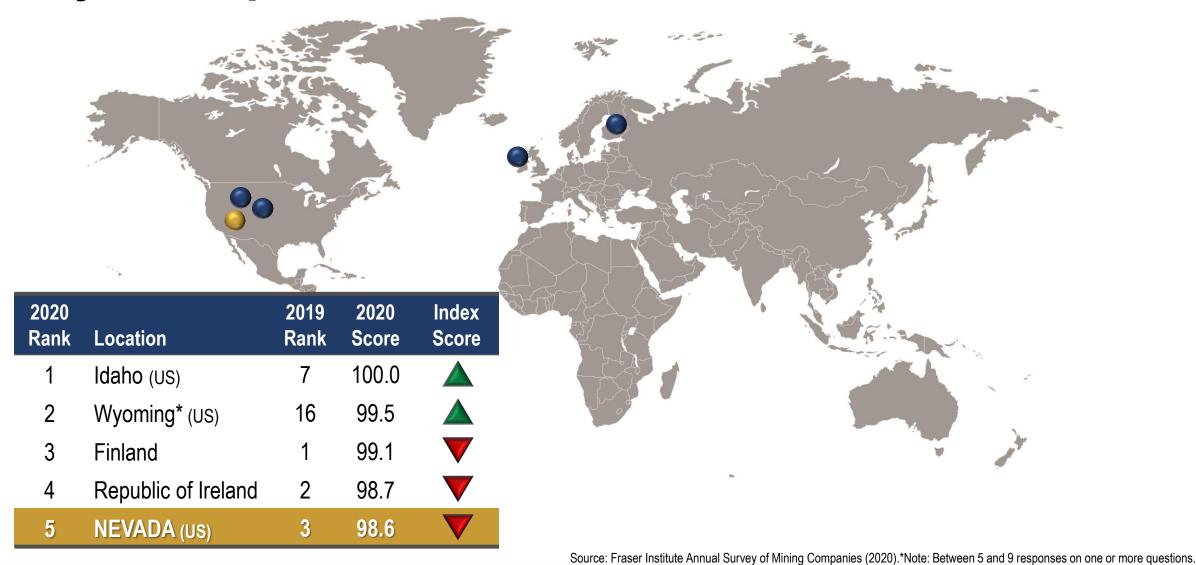
#### United States | Year-Over-Year Growth



Source: Fraser Institute Annual Survey of Mining Companies (2020); Applied Analysis.\*Note: Between 5 and 9 responses on one or more questions. Michigan was not included on the 2019 list, so its growth was not calculated.



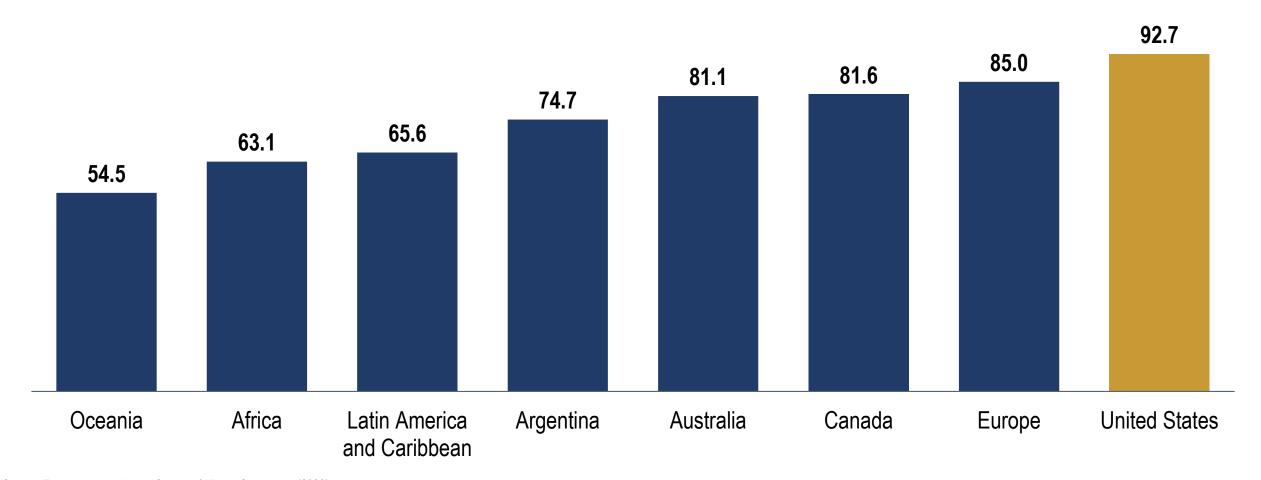








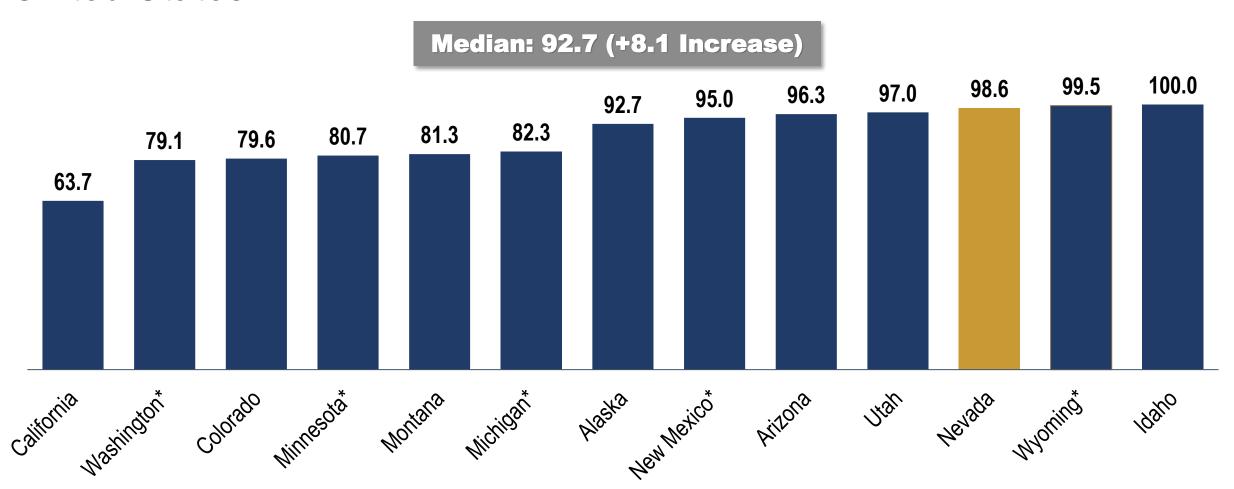
# Regional







**United States** 

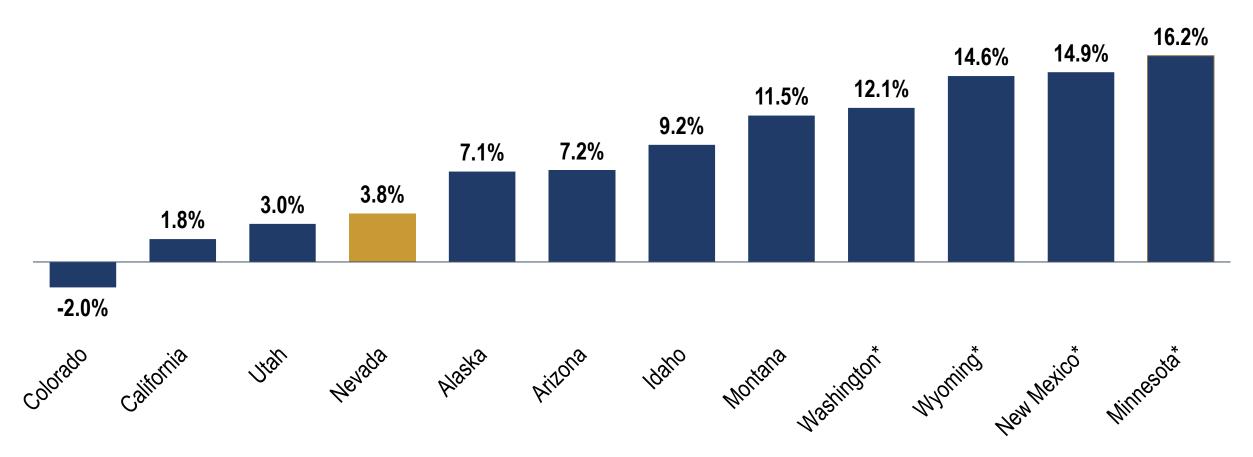


Source: Fraser Institute Annual Survey of Mining Companies (2020); Applied Analysis.\*Note: Between 5 and 9 responses on one or more questions.





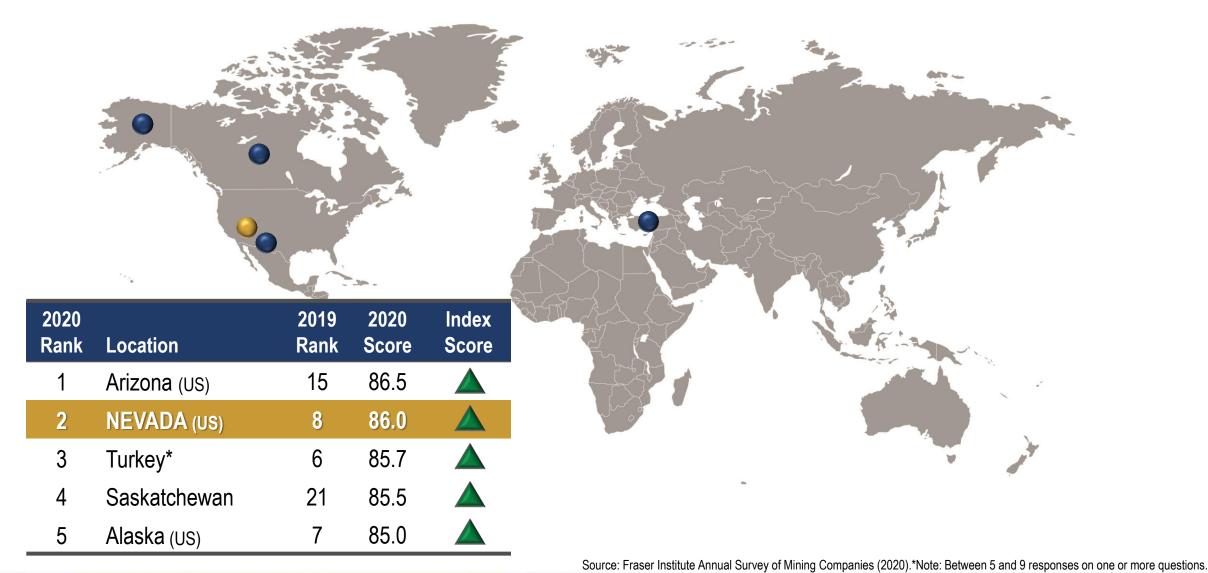
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Source: Fraser Institute Annual Survey of Mining Companies (2020); Applied Analysis.\*Note: Between 5 and 9 responses on one or more questions. Michigan was not included on the 2019 list, so its growth was not calculated.



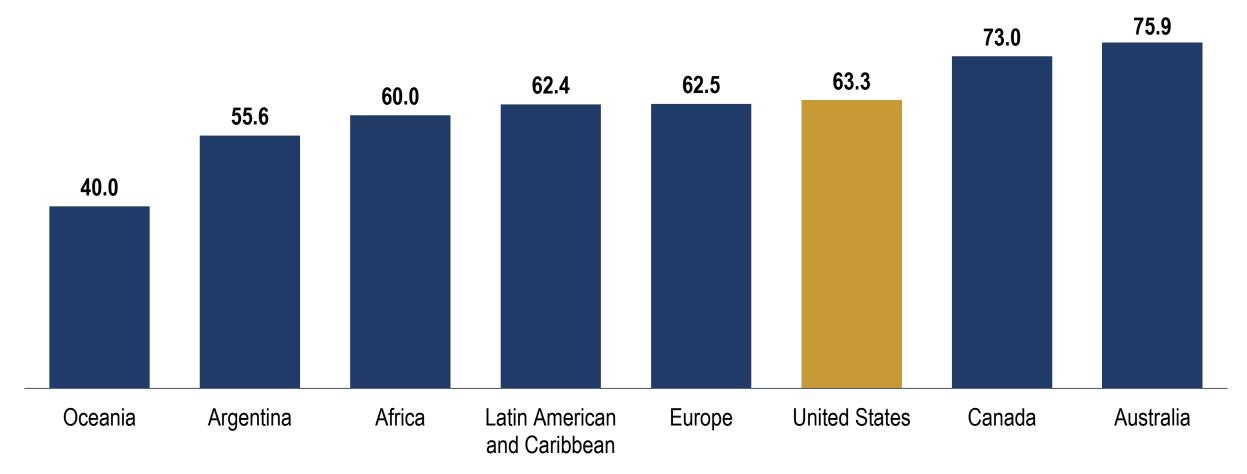








#### Regional



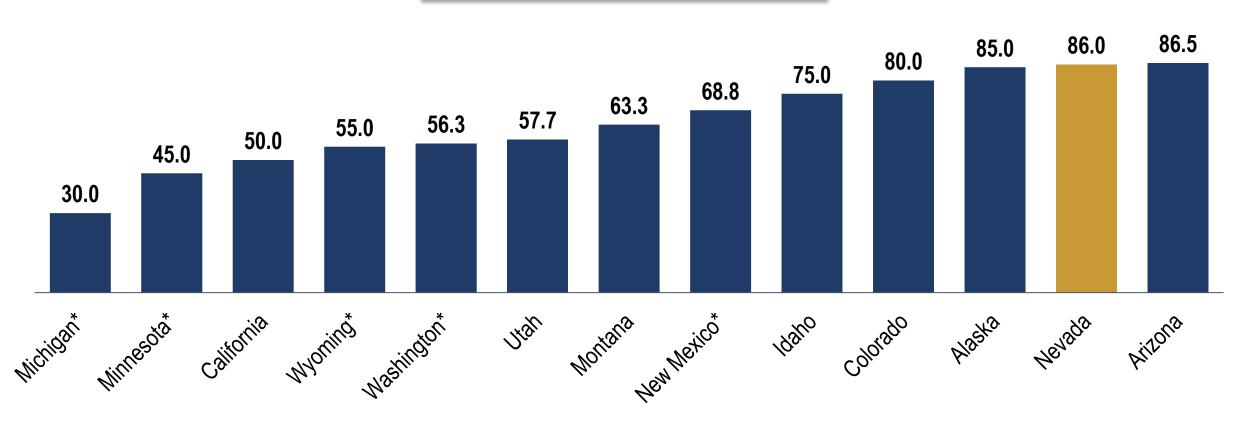






#### **United States**

**Median: 63.3 (+2.8 Increase)** 

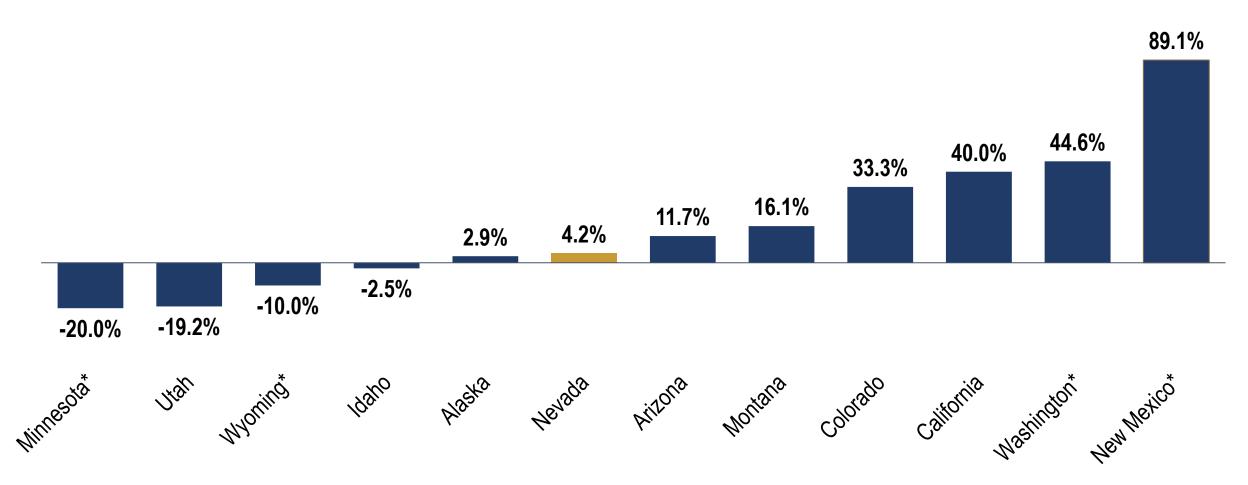


Source: Fraser Institute Annual Survey of Mining Companies (2020); Applied Analysis.\*Note: Between 5 and 9 responses on one or more questions.





United States | Year-Over-Year Growth



Source: Fraser Institute Annual Survey of Mining Companies (2020); Applied Analysis.\*Note: Between 5 and 9 responses on one or more questions. Michigan was not included on the 2019 list, so its growth was not calculated.





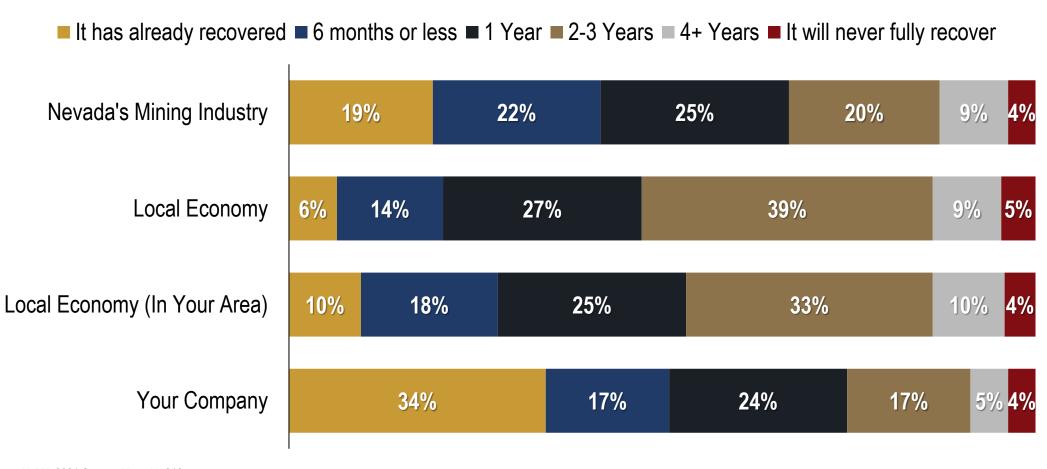
# NEVADA MINING INDUSTRY TRENDS







# **Recovery from COVID-19 Pandemic**

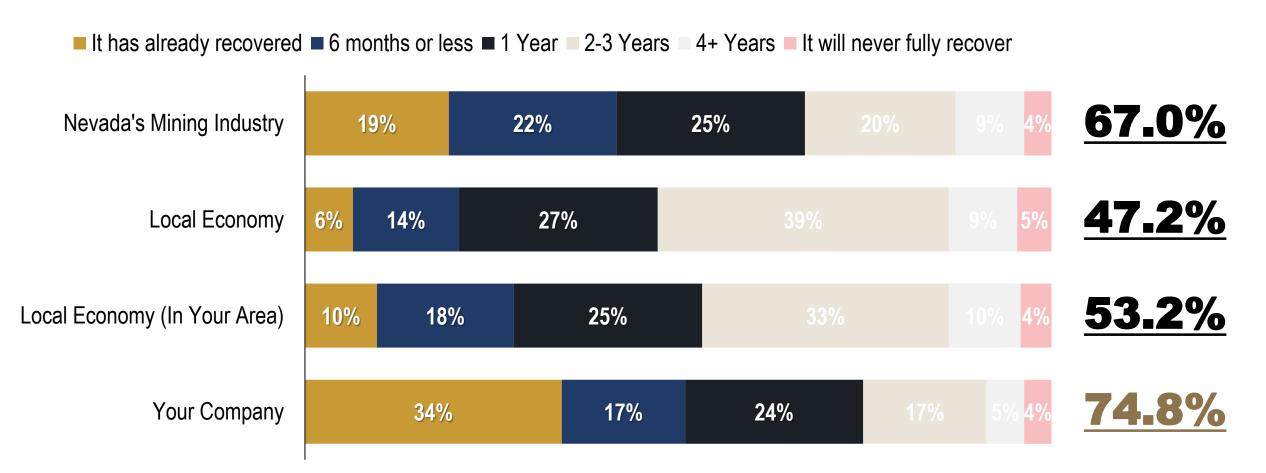


Source: NvMA 2021 Survey. Note: N=218.





# Recovery from COVID-19 Pandemic



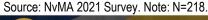
Source: NvMA 2021 Survey. Note: N=218.





# Where is Nevada's Economy Headed?



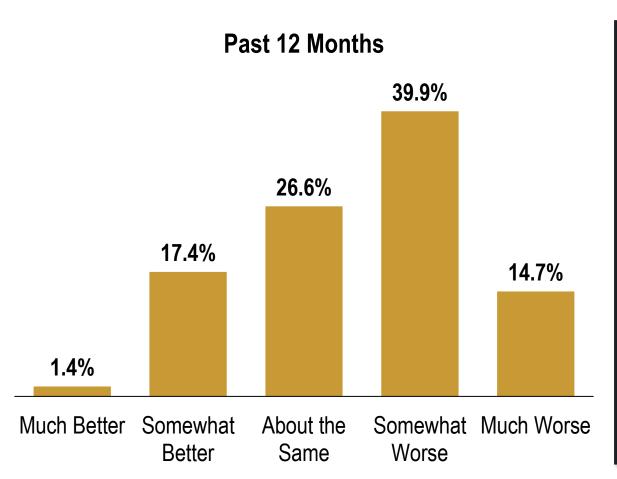


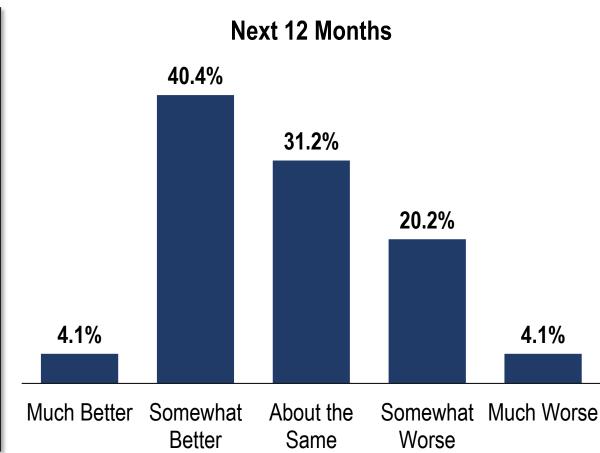






# **Nevada's Business Environment**



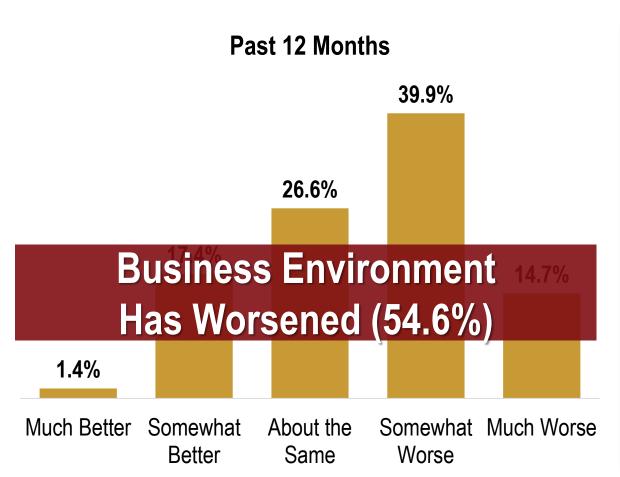


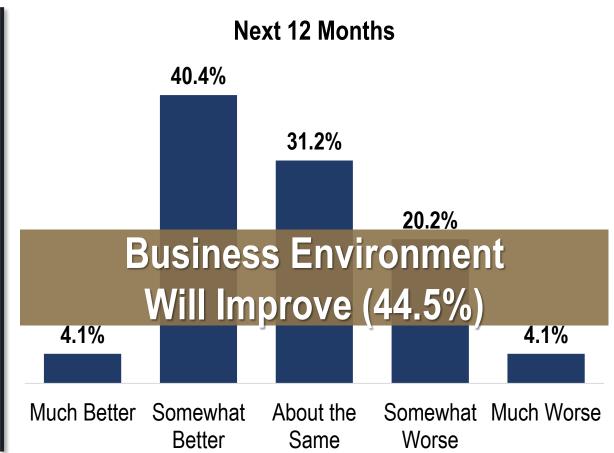
Source: NvMA 2021 Survey. Note: N=218.





#### **Nevada's Business Environment**





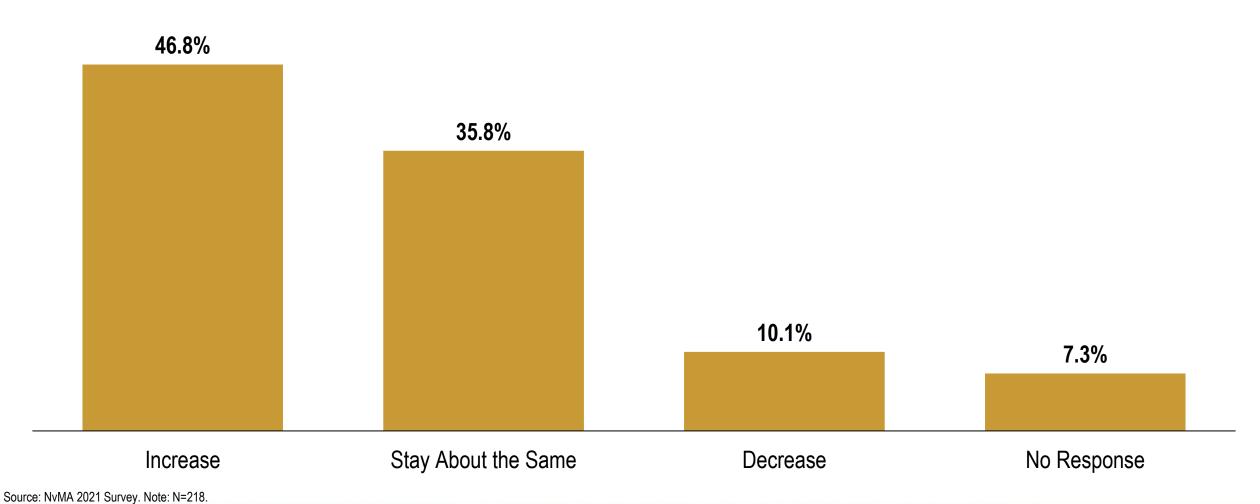




# Nevada Employment

# \*

# Overall Expected Change Next 12 Months

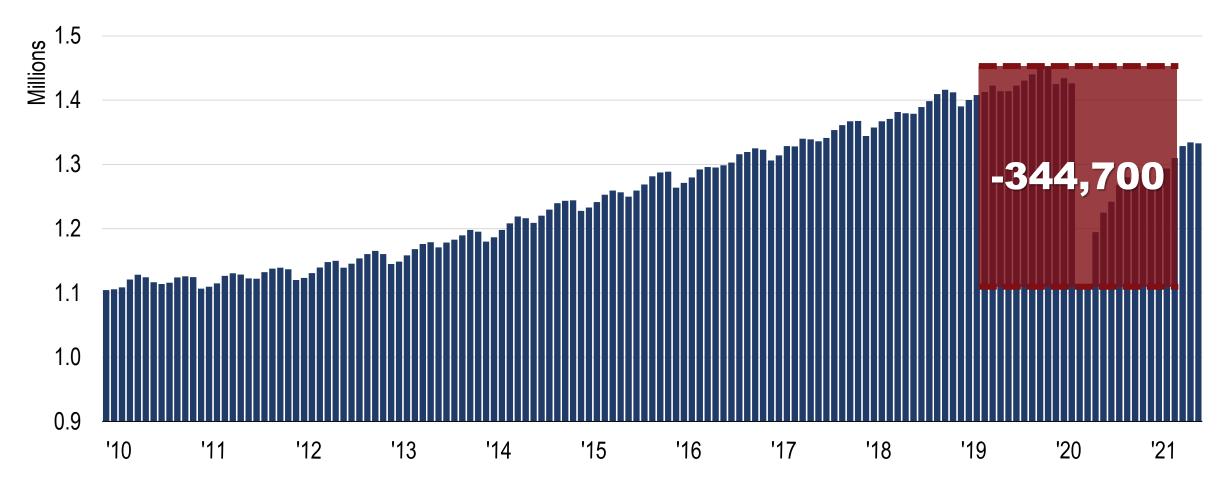


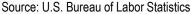




# **Establishment-Based Employment**

#### Nevada

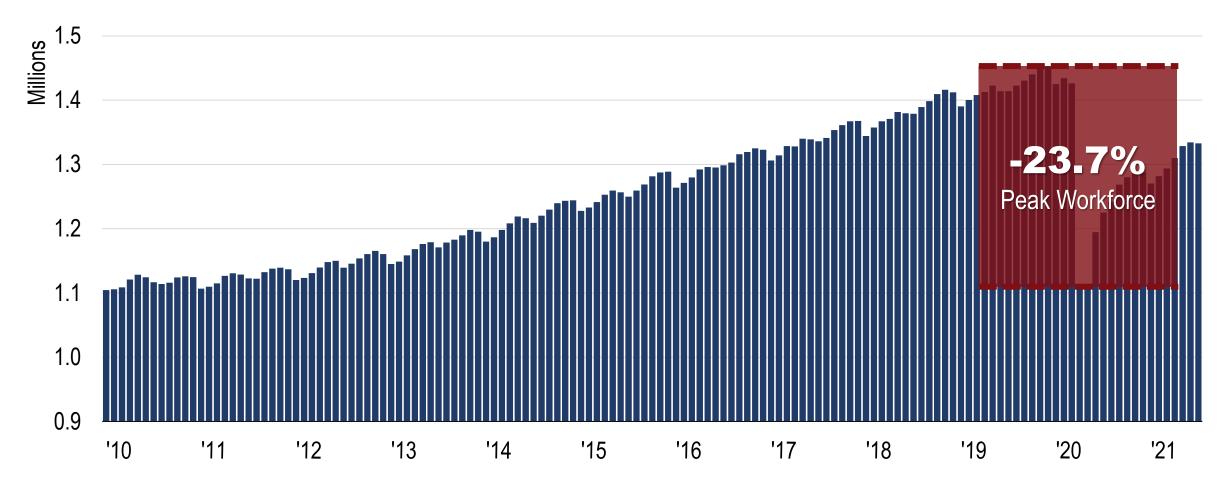






# **Establishment-Based Employment**

#### Nevada



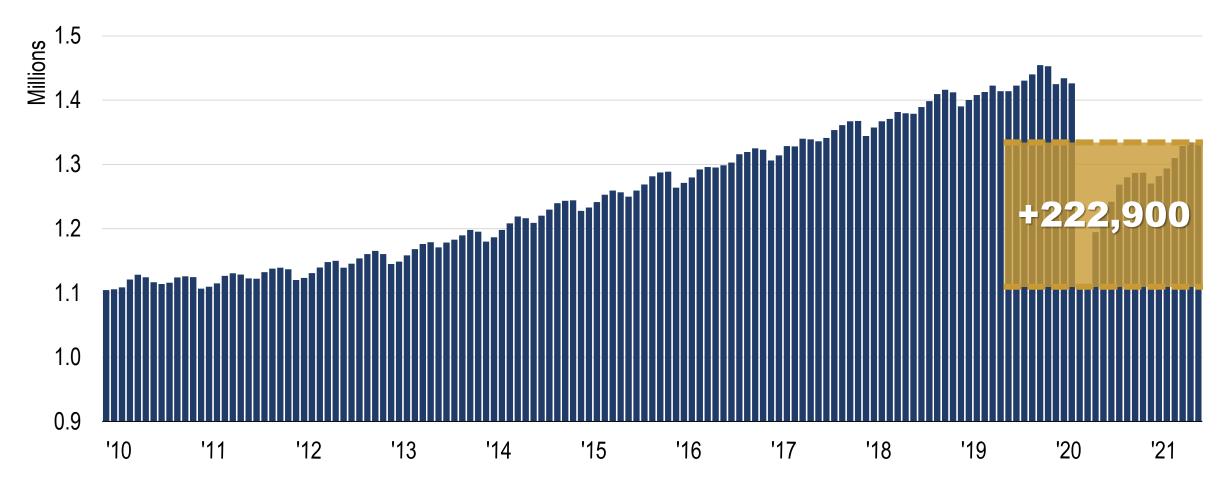






#### **Establishment-Based Employment**

#### Nevada

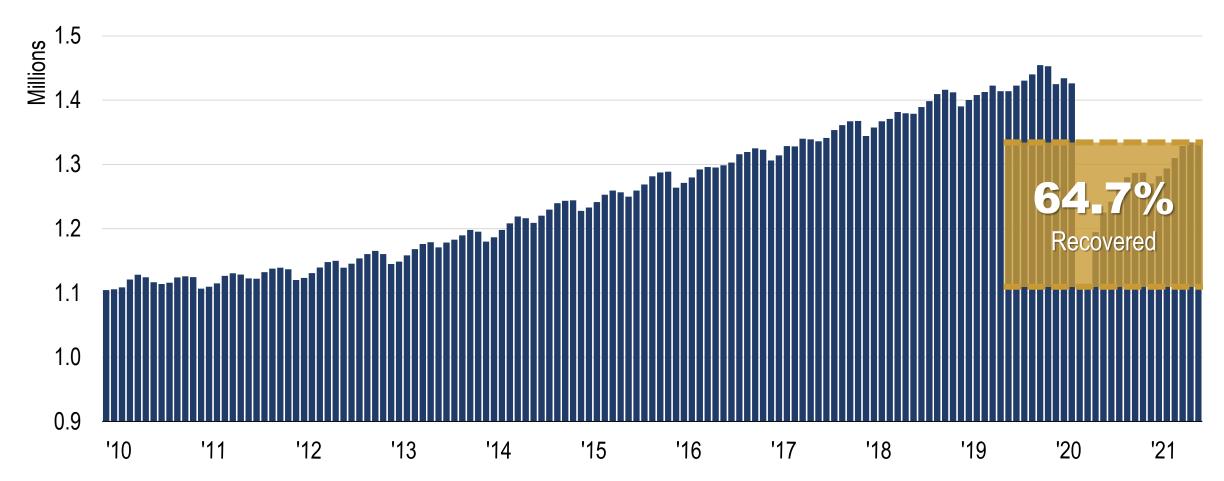






#### **Establishment-Based Employment**

#### Nevada







#### **Nevada Employment**



Top Sector Employee Growth in the Next 12 Months



25.2%



21.6%



11.5%

Source: NvMA 2021 Survey. Note: N=218. Listed answers are top three sectors respondents identified as expecting to increase in the next 12 months, but 13.8 percent of respondents were unsure.





#### **Nevada Employment**



Top Sector Employee Growth (%) in the Next 12 Months



22.9%



18.8%



11.5%

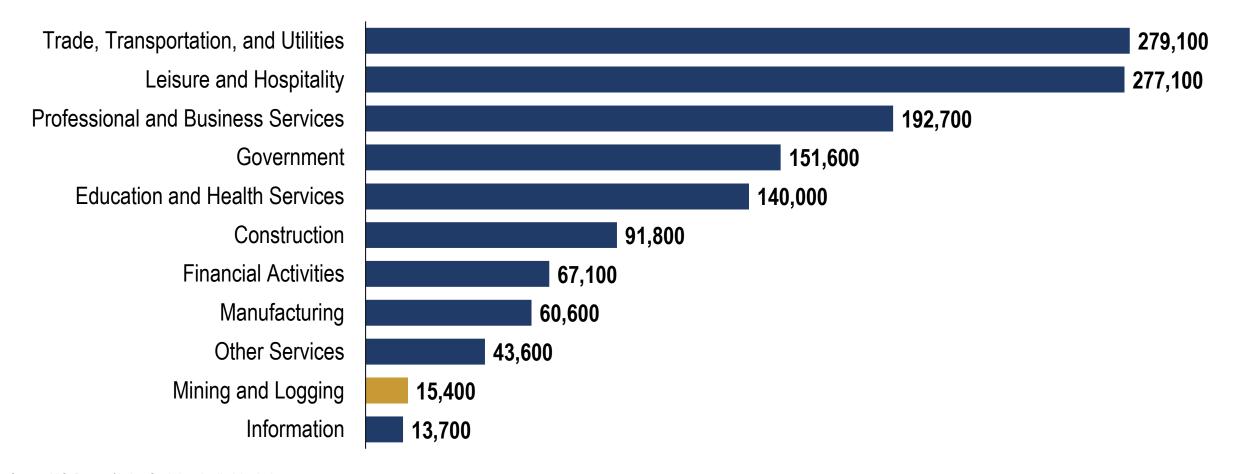
Source: NvMA 2021 Survey. Note: N=218. Listed answers are top three sectors respondents identified as expecting to increase in the next 12 months, but 16.5 percent of respondents were unsure.

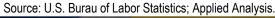




### **Employment by Sector**

#### Nevada | July 2021

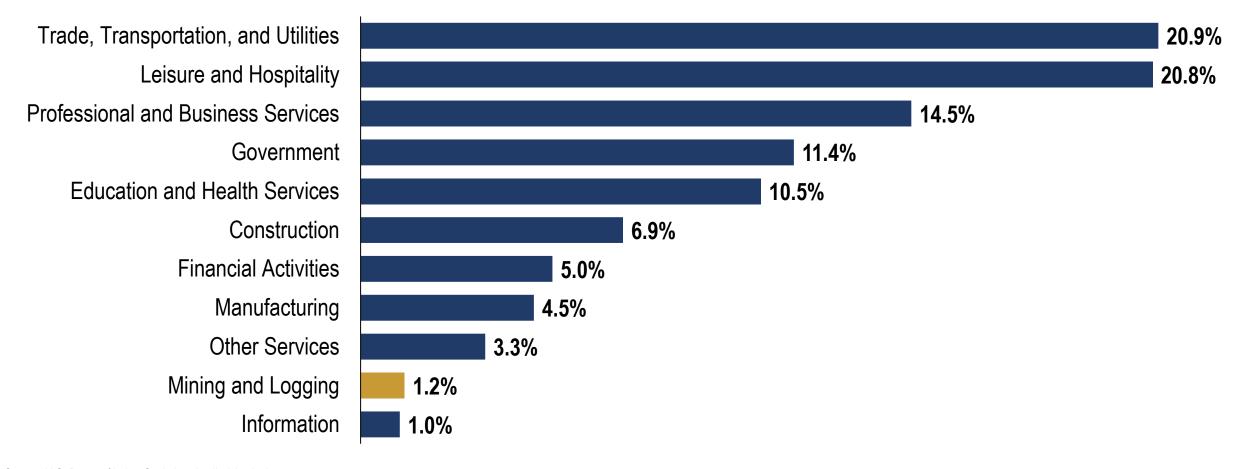






#### **Employment Share by Sector**

#### Nevada | July 2021

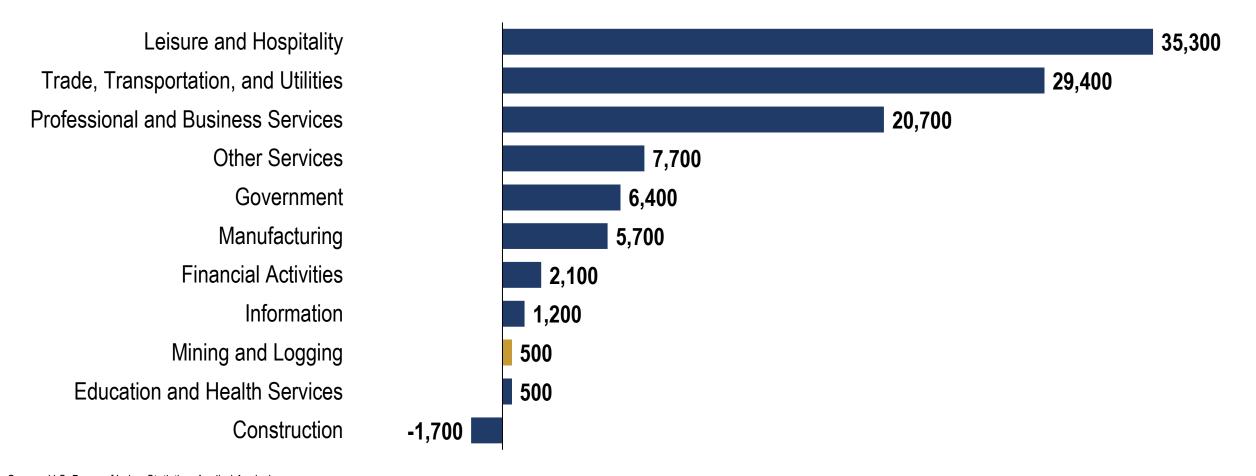






#### **Employment Change by Sector**

Nevada | July 2020 to July 2021

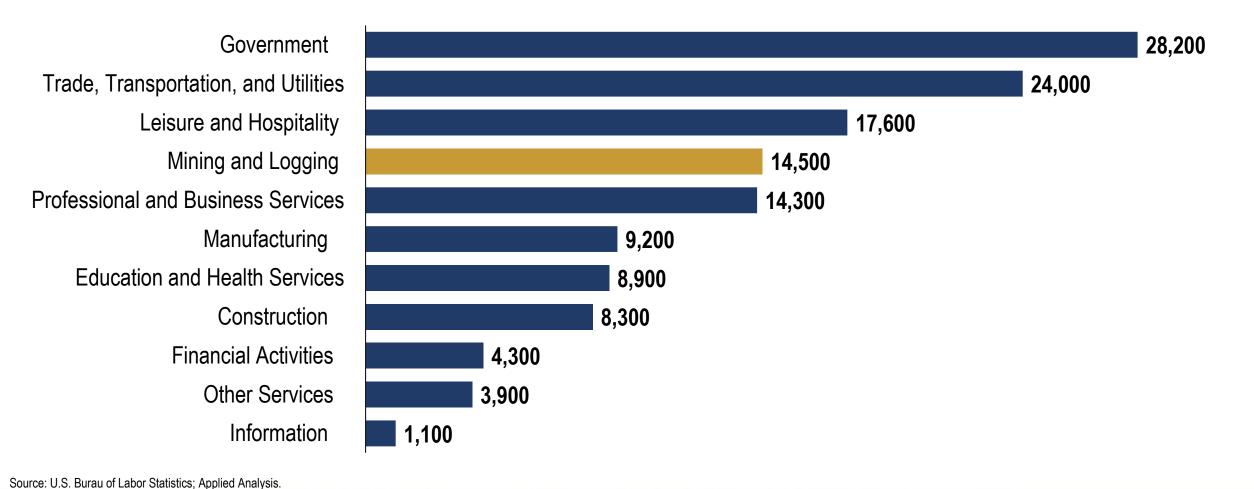






#### **Employment by Sector**

Balance of Nevada [Excluding Clark + Washoe County] | July 2021

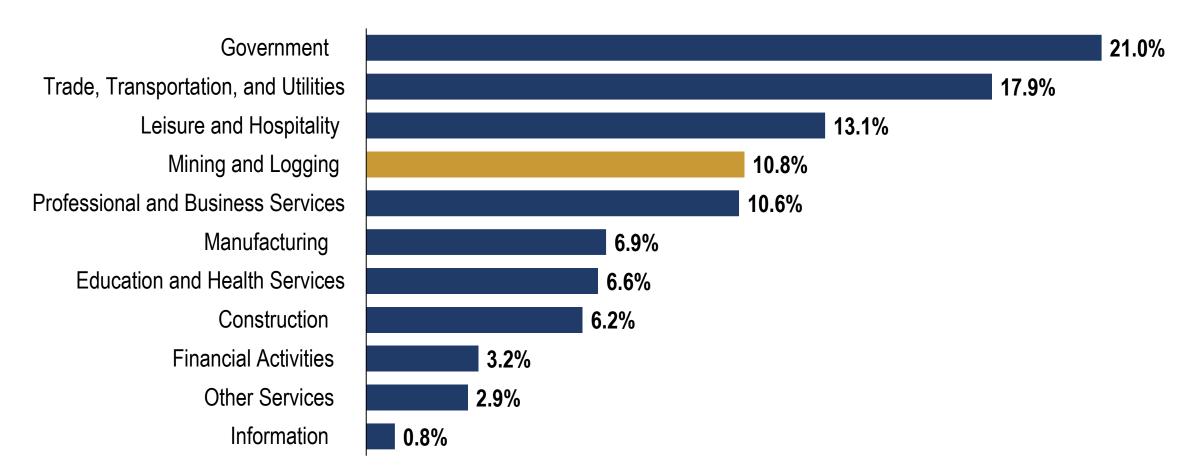






#### **Employment Share by Sector**

Balance of Nevada [Excluding Clark + Washoe County] | July 2021

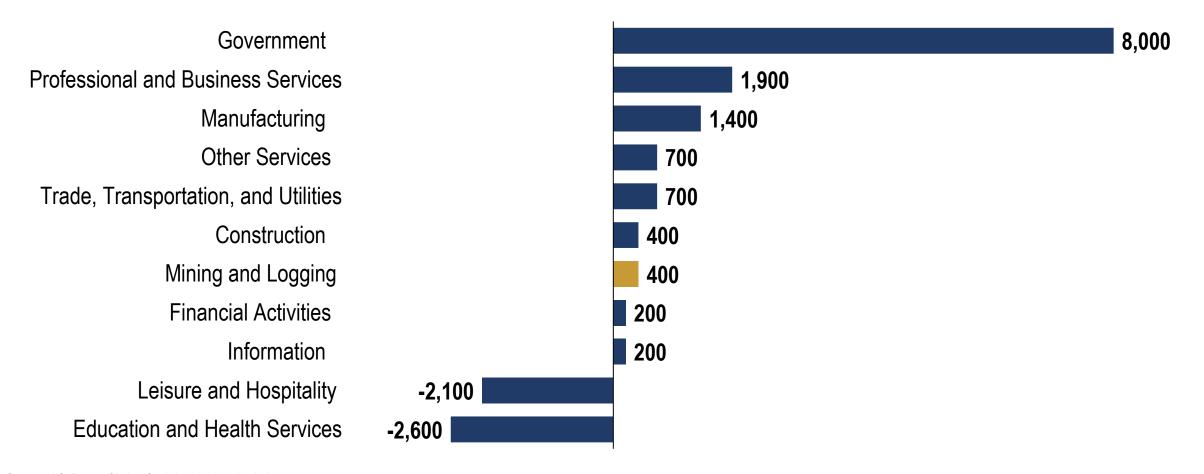






#### **Employment Change by Sector**

Balance of Nevada [Excl. Clark + Washoe County] | July 2020 to July 2021









#### Most Significant Business Challenges

	46.5% Hiring/Retaining Quality Employees	
2	35.2% Government/Legislation	
3	17.9% Attracting/Retaining Customers/Competition	

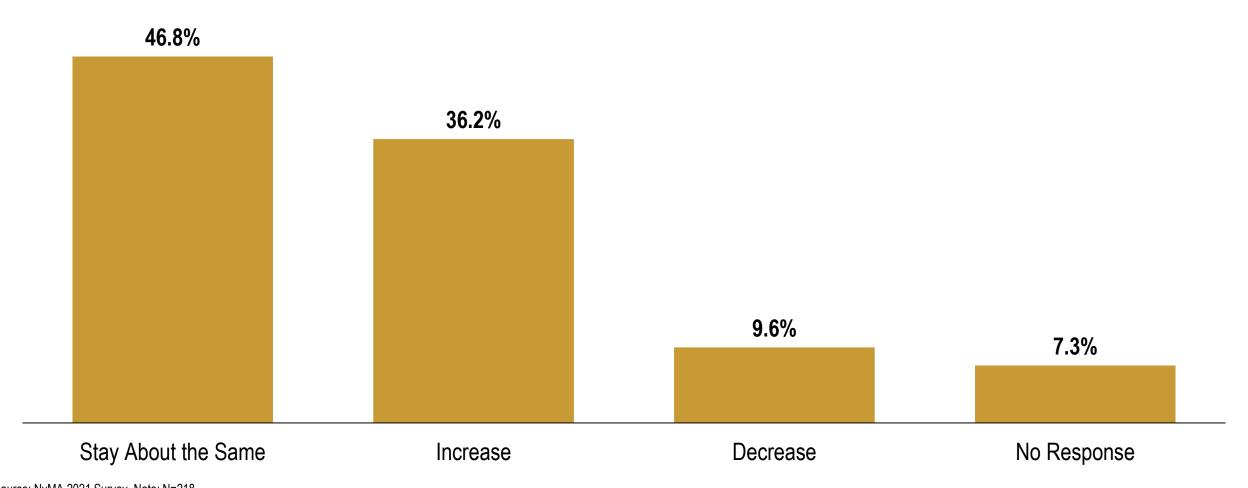


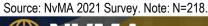


### **Nevada Mining Employment**



Overall Expected Change Next 12 Months

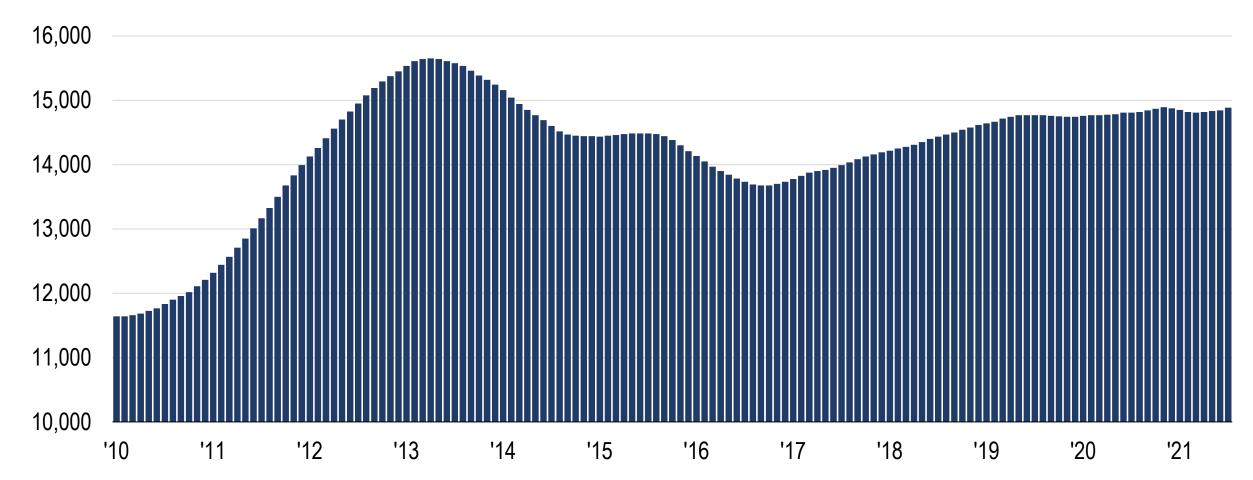


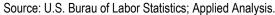




#### Mining and Logging Employment

Nevada Trailing 12-Month Average | Historical Trend

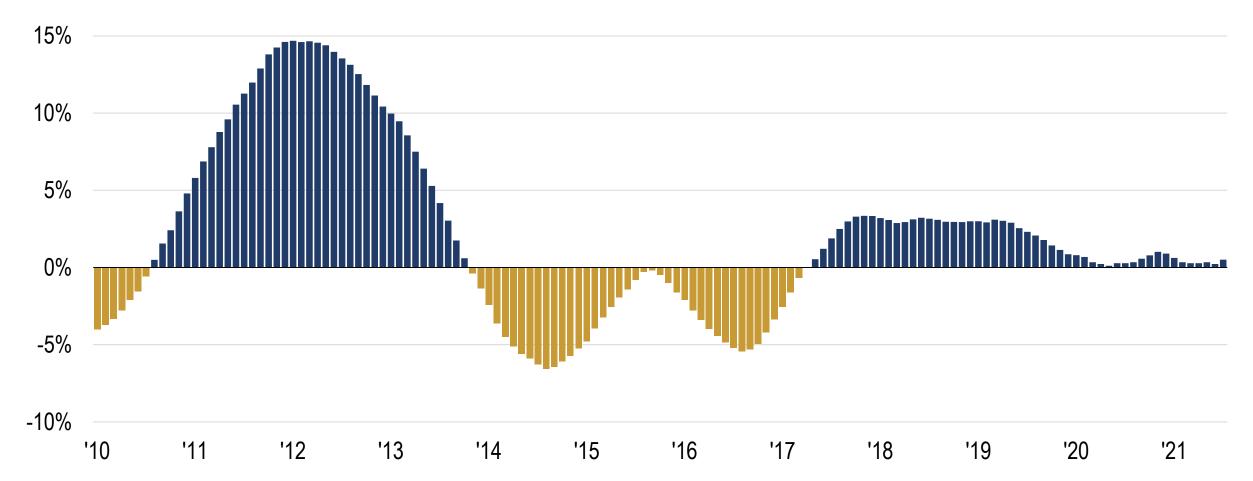


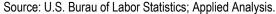




#### Mining and Logging Employment

Nevada Trailing 12-Month Average | Year-Over-Year Growth

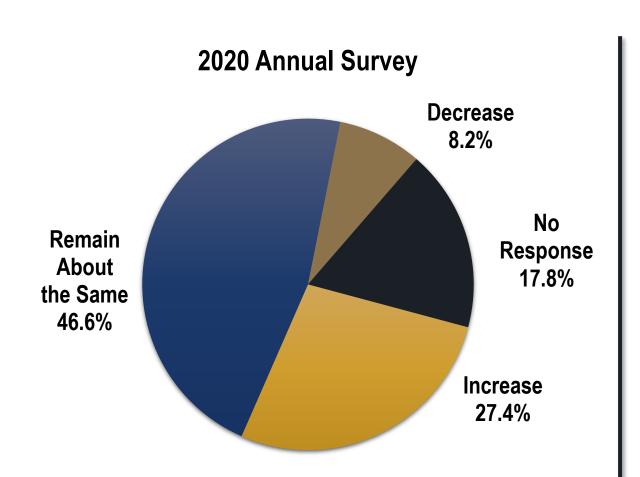


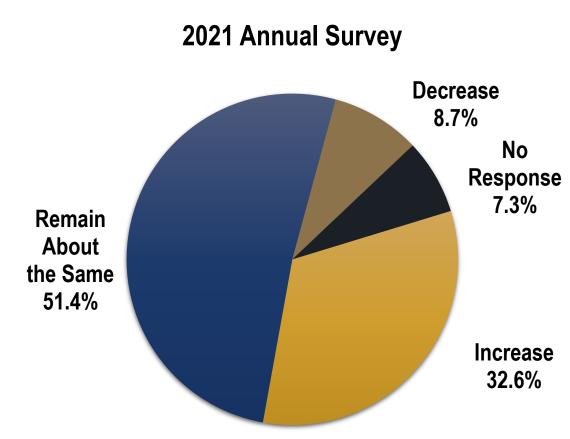




#### Mining Workforce Retention

Next 12 Months





Source: NvMA 2021 and 2020 Survey. Note: N=218.

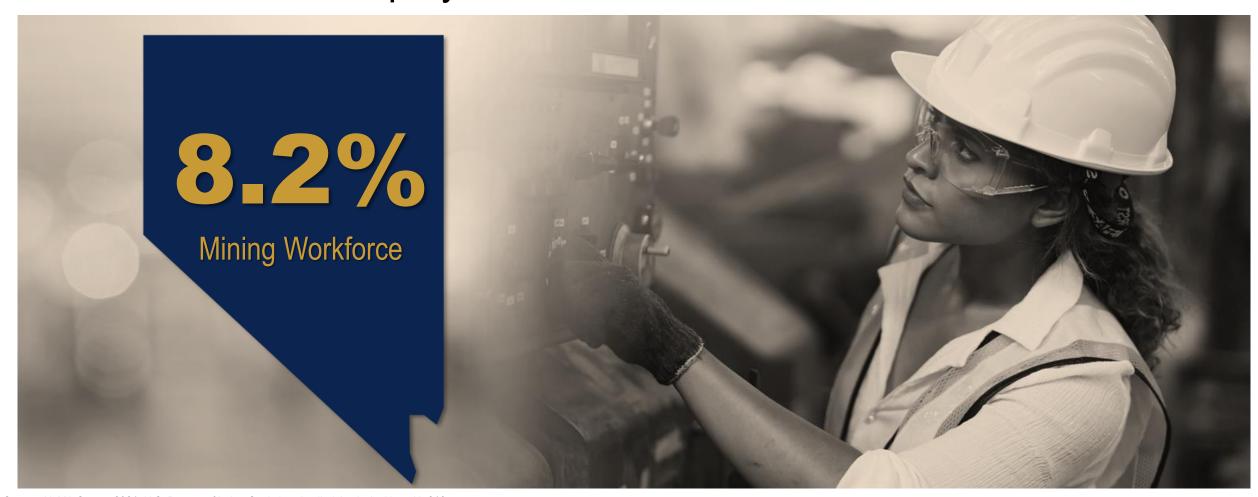




#### **Mining Workforce Diversity**

Share of Female Employees









#### **Mining Workforce Diversity**

Share of Female Employees



Source: NvMA Survey 2021; U.S. Bureau of Labor Statistics; Applied Analysis. Note: N=218.\*Based on 2020 annual average number of female workers over the age of 16 reported in construction and extraction occupations.

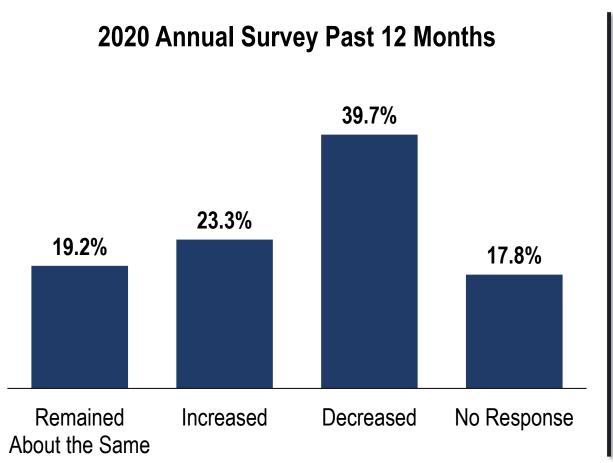


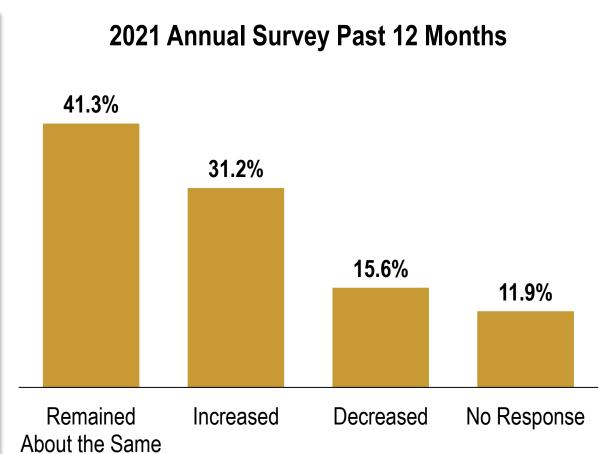


## Changes in Business Revenue



2020 and 2021





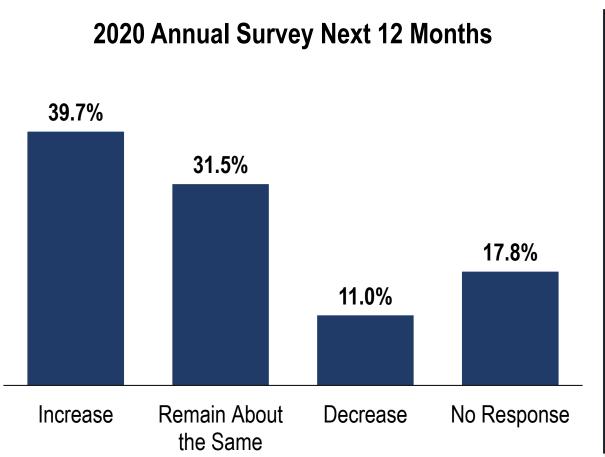
Source: NvMA 2021 and 2020 Survey. Note: N=218.

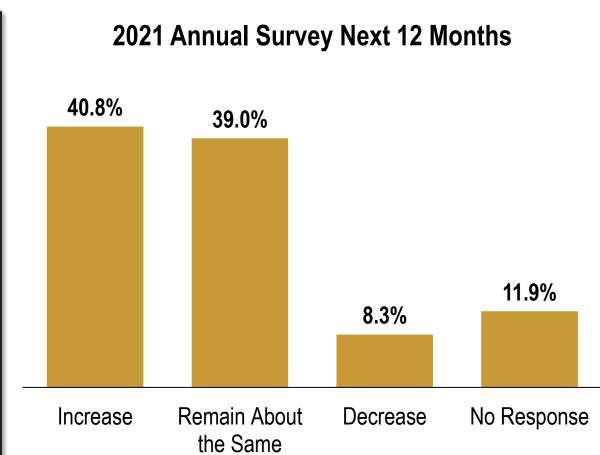


## Changes in Business Revenue



2020 and 2021



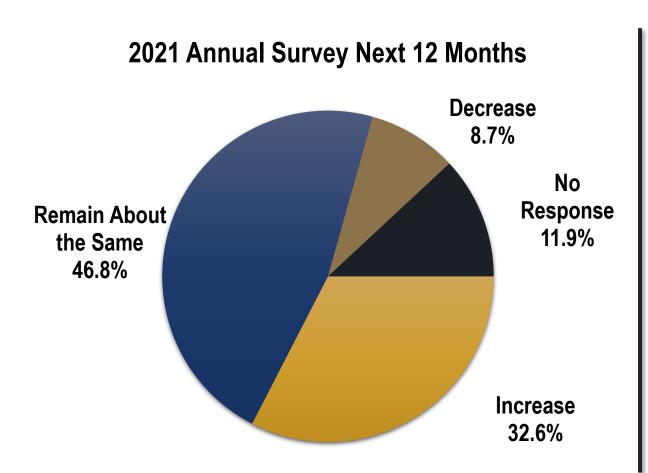


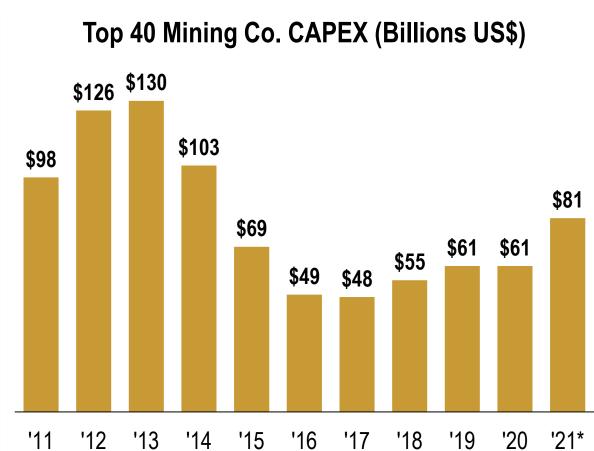
Source: NvMA 2021 and 2020 Survey. Note: N=218.





#### **Capital Expenditure Outlay**



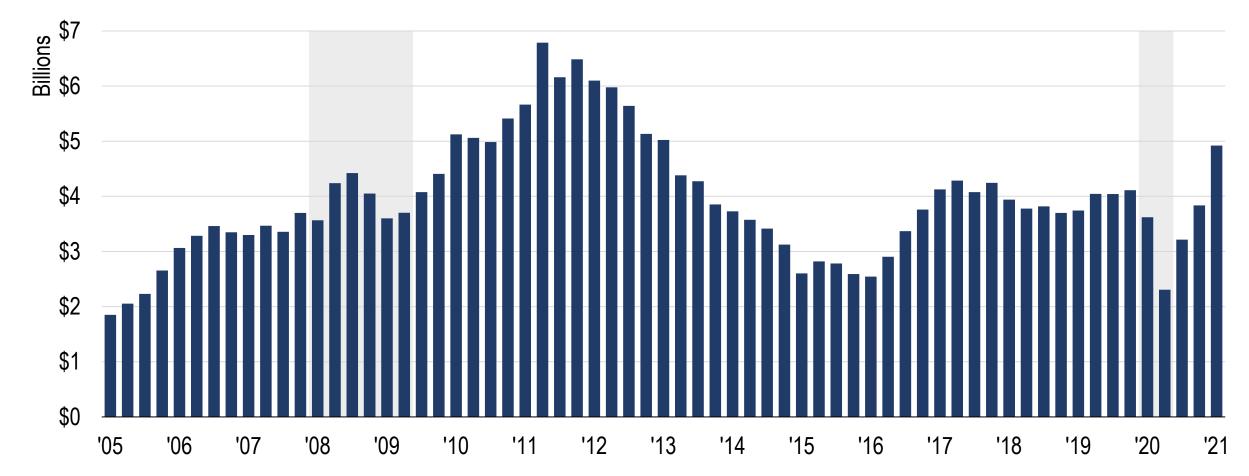


Source: NvMA 2021 Survey; pwc. Note: N=218;\*2021 outlook.



#### Mining Industry Gross Domestic Product

Nevada | Q1 2021



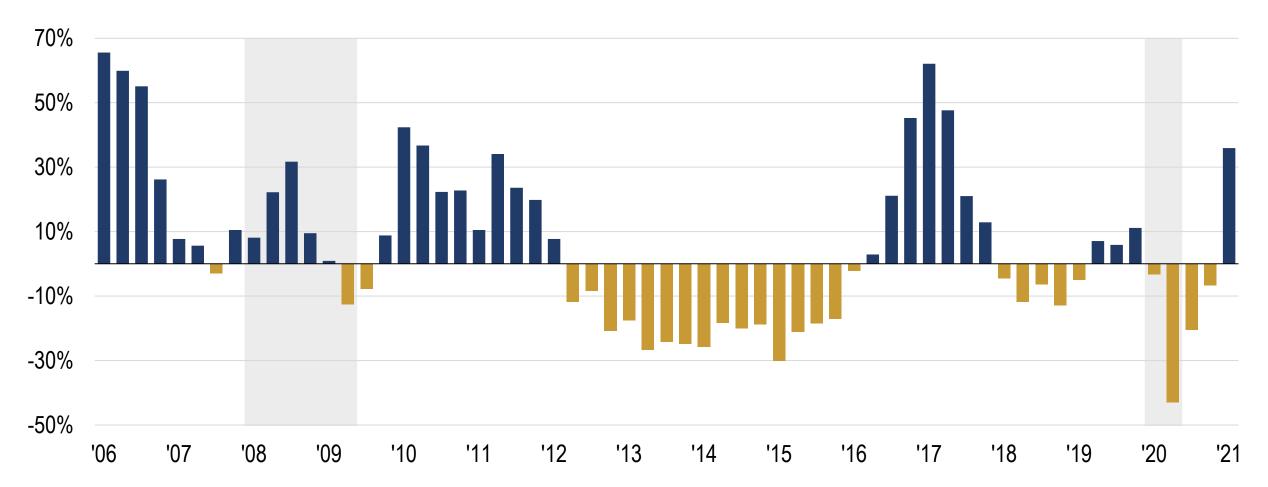






#### Mining Industry Gross Domestic Product

Nevada | Q1 2021 Year-Over-Year Growth



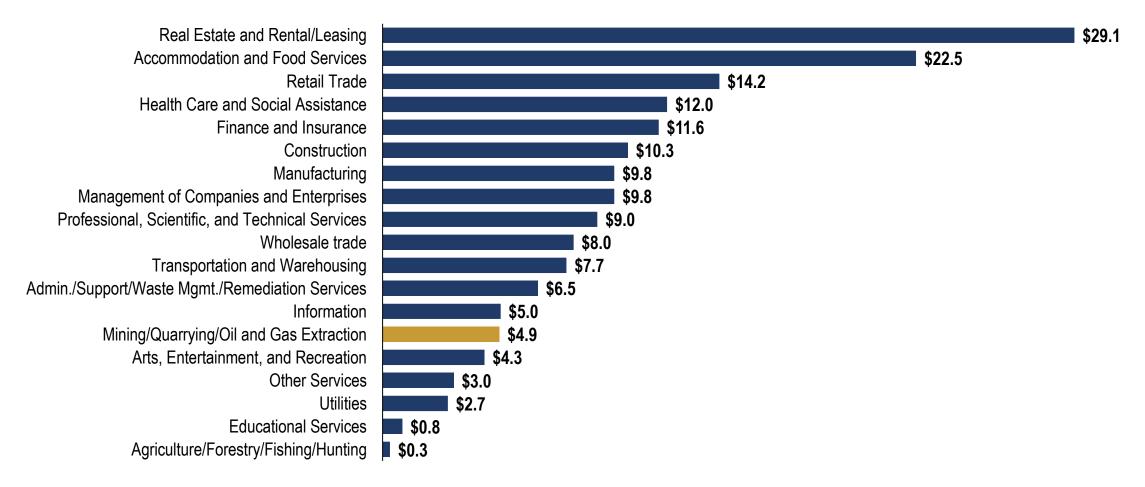
Source: Bureau of Economic Analysis. Note: Current dollars.





### **Gross Domestic Product by Industry (Private)**

Nevada | Q1 2021 (Billions US\$)



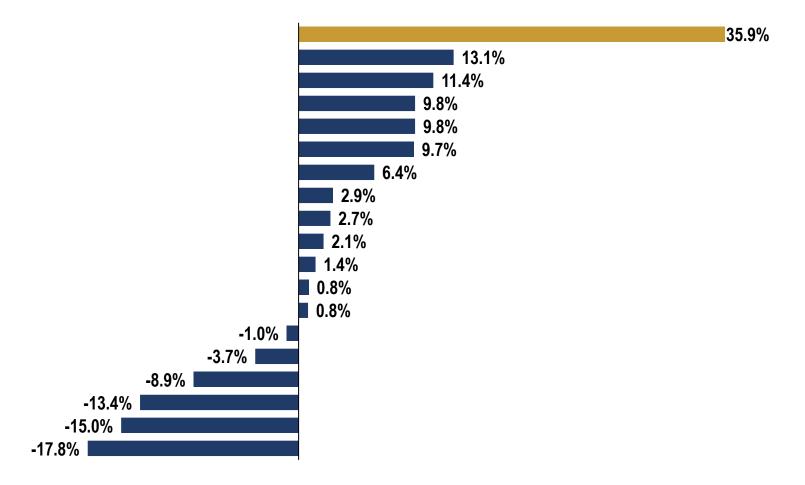
Source: Bureau of Economic Analysis. Note: Current dollars





#### Gross Domestic Product Growth by Industry (Private) Nevada | Q1 2020 vs Q1 2021

Mining/Quarrying/Oil and Gas Extraction Retail Trade Utilities Manufacturing Management of Companies and Enterprises Finance and Insurance Health Care and Social Assistance Real Estate and Rental/Leasing Professional, Scientific, and Technical Services Admin./Support/Waste Mgmt./Remediation Services Wholesale trade Construction Information Accommodation and Food Services Transportation and Warehousing Other Services **Educational Services** Agriculture/Forestry/Fishing/Hunting Arts, Entertainment, and Recreation

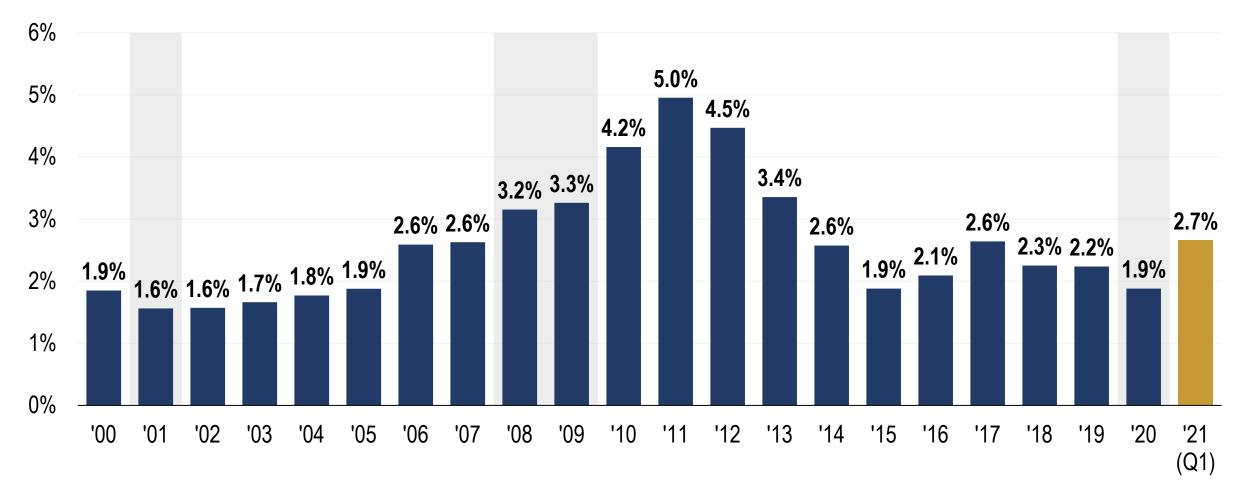


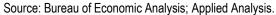
Source: Bureau of Economic Analysis; Applied Analysis.



#### Mining GDP Share of All Industry Total

#### Nevada





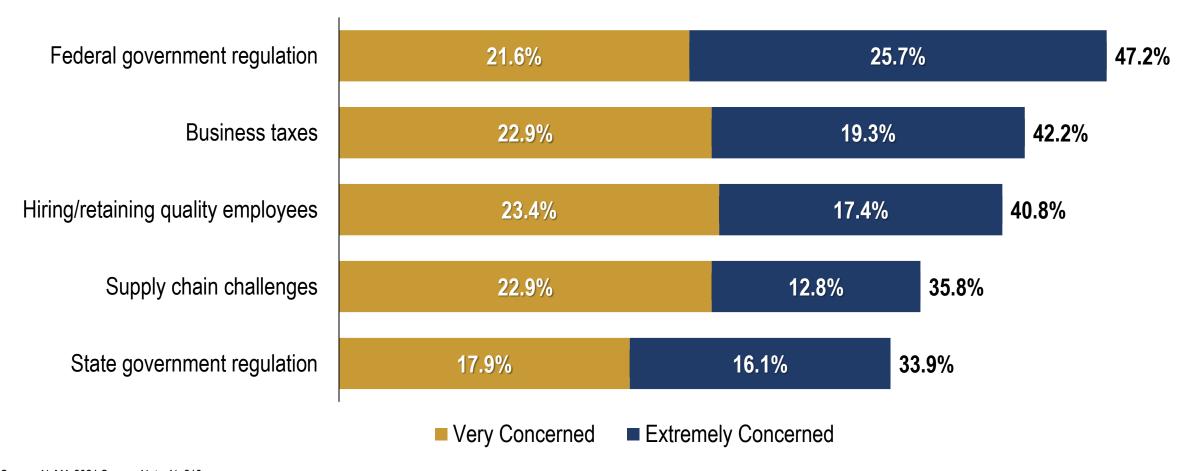






#### **Business Impacts**

#### Top 5 Factors Impacting Businesses

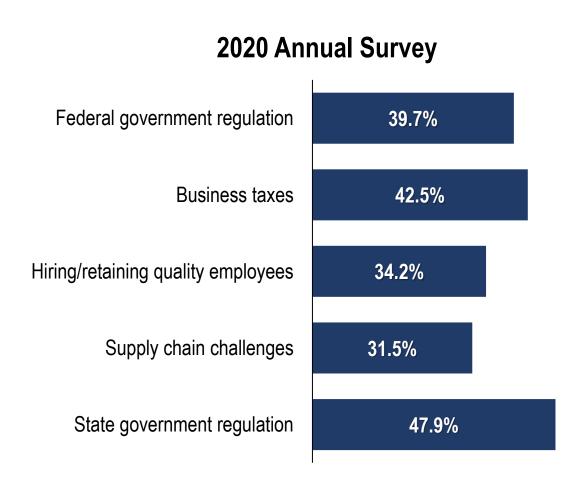


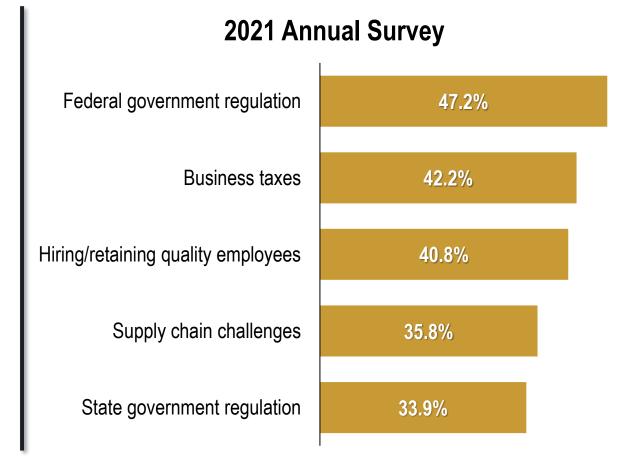






## Business Impacts 2020 and 2021



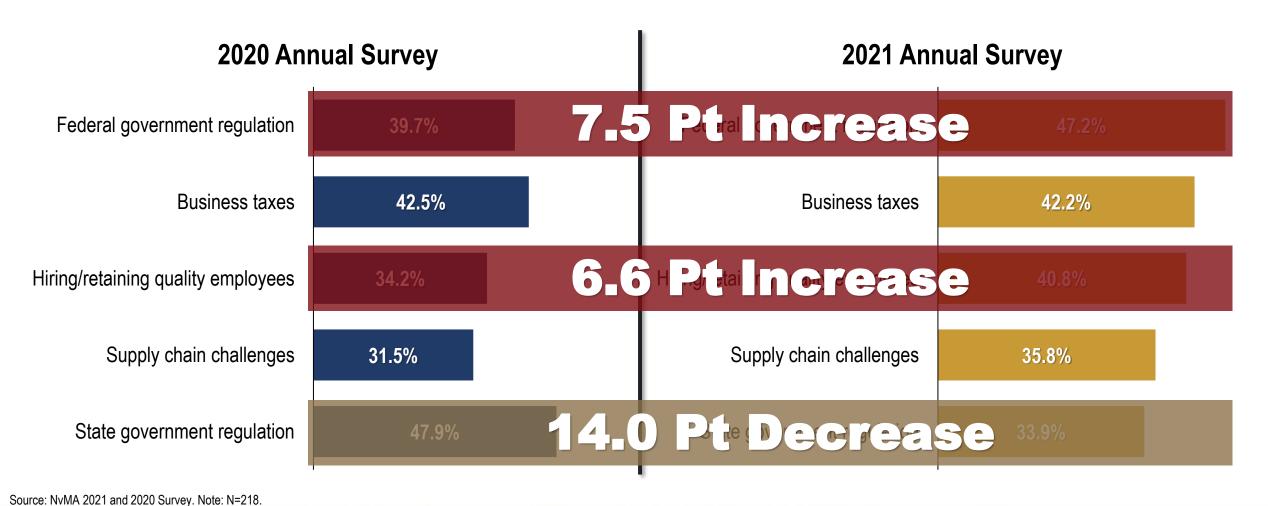


Source: NvMA 2021 and 2020 Survey. Note: N=218.





## Business Impacts 2020 and 2021



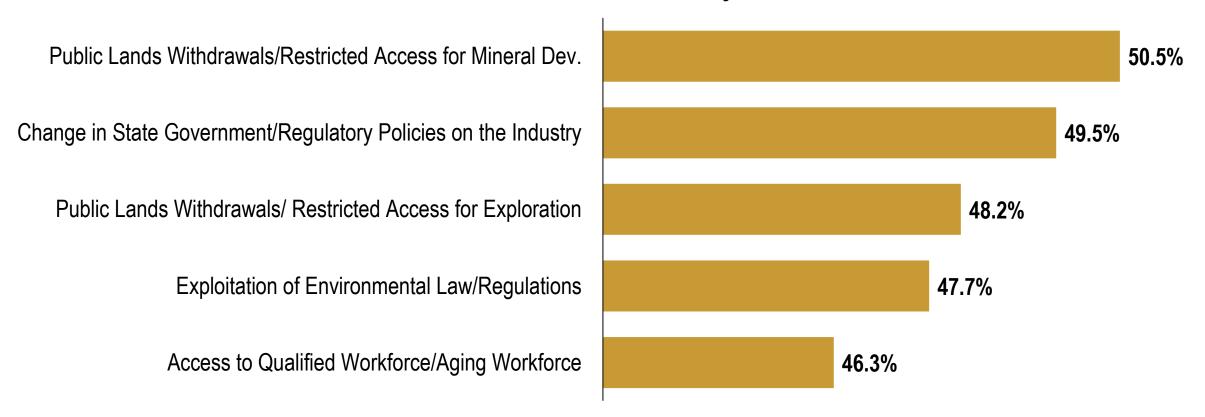






## Nevada Mining Industry Risks Top 5 Greatest Perceived Risks

#### **2021 Annual Survey**



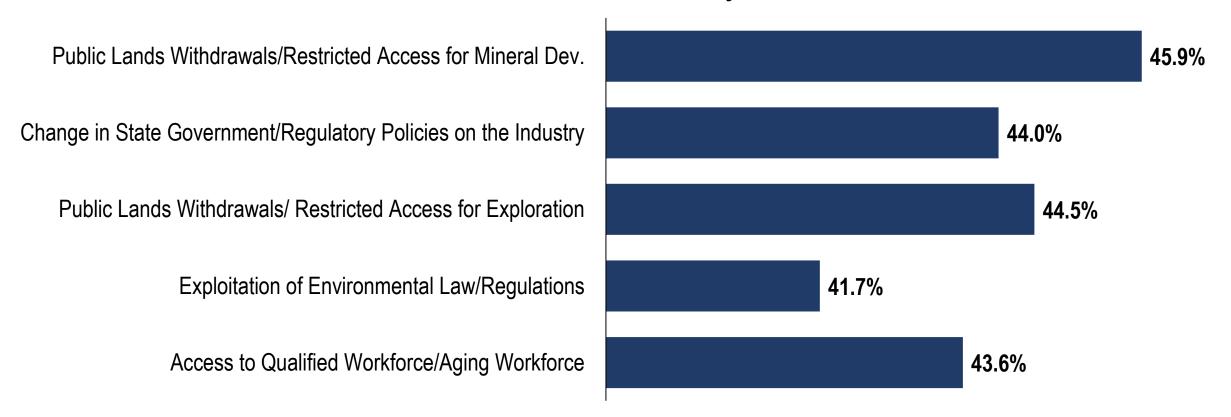






#### **Nevada Mining Industry Risks** Perception of Risk Level Changes

#### **2021 Annual Survey**









## Nevada Mining Industry Risks Perception of Risk Level Changes

#### **2021 Annual Survey**

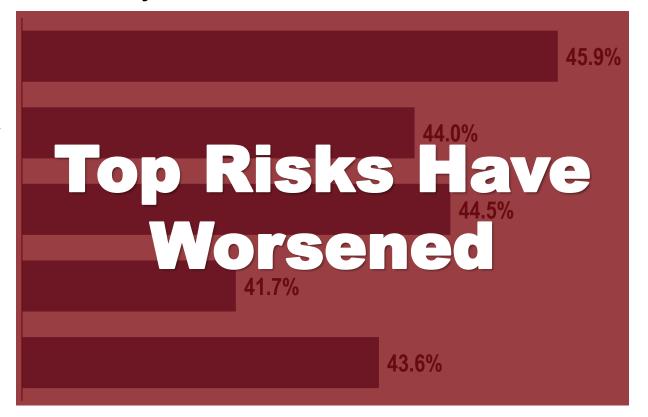
Public Lands Withdrawals/Restricted Access for Mineral Dev.

Change in State Government/Regulatory Policies on the Industry

Public Lands Withdrawals/ Restricted Access for Exploration

Exploitation of Environmental Law/Regulations

Access to Qualified workforce/Aging Workforce



Source: NvMA 2021 Survey. Note: N=218.





# S&P Global

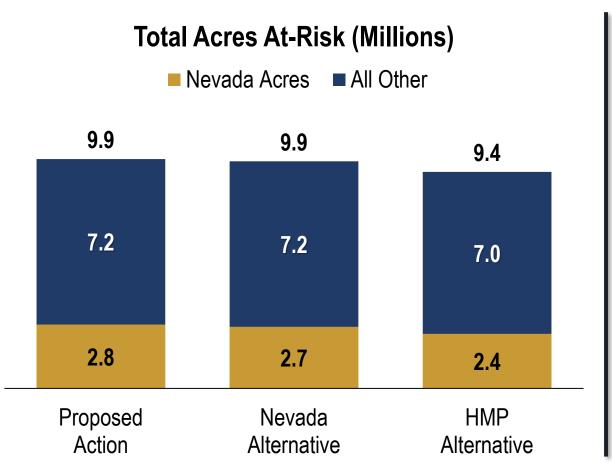
#### US BLM CONSIDERS MINING CLAIM BAN FOR 10M ACRES OF BIRD HABITAT

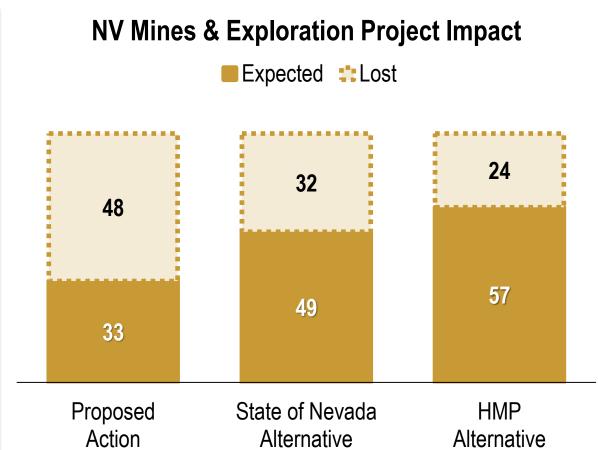
"The U.S. Bureau of Land Management, of BLM, said Aug. 17 that it would consider whether to impose a mineral withdrawal covering about 10 million acres in Idaho, Montana, Nevada, Oregon, Utah and Wyoming to support the sage-grouse, an imperiled bird species whose range spreads across 173 million acres of the U.S. West."





### Sagebrush Focal Areas (SFA) Proposed Withdrawal





Source: BLM Sagebrush Focal Areas Withdrawal Environmental Impact Statement (2016). Note: Figures are from original EIS, which is being revised by the BLM.



## COMMODITY SUPPLY, DEMAND AND PRICING







### **Commodity Price Changes**

OVER THE PAST YEAR (ACTUAL)					
COMMODITY	AUG 2020		AUG 2021		
Gold (per Troy Oz.)	\$1,969		\$1,784		
Silver (per Troy Oz.)	\$26.89		\$24.02		
Copper (per Pound)	\$2.95		\$4.24		

Source: London Bullion Market Association; London Metals Exchange; Applied Analysis. Note: Average of prices over the indicated month.







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2020 SURVEY PREDICTIONS				
INCREASE	DECREASE			
56.2%	6.8%			
52.1%	5.5%			
39.7%	5.5%			

Source: London Bullion Market Association; London Metals Exchange; Applied Analysis. Note: Average of prices over the indicated month.







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Copper (per Pound)	\$2.95		\$4.24	

PROJECTED IN NEXT 12 MONTHS				
INCREASE	DECREASE			
47.2%	6.0%			
44.5%	5.5%			
52.8%	9.2%			

Source: London Bullion Market Association; London Metals Exchange; Applied Analysis. Note: Average of prices over the indicated month.





# Price of Gold USD per Troy Ounce





# Price of Gold USD per Troy Ounce





# **※**

#### **Price of Gold**

#### Next 12 Months







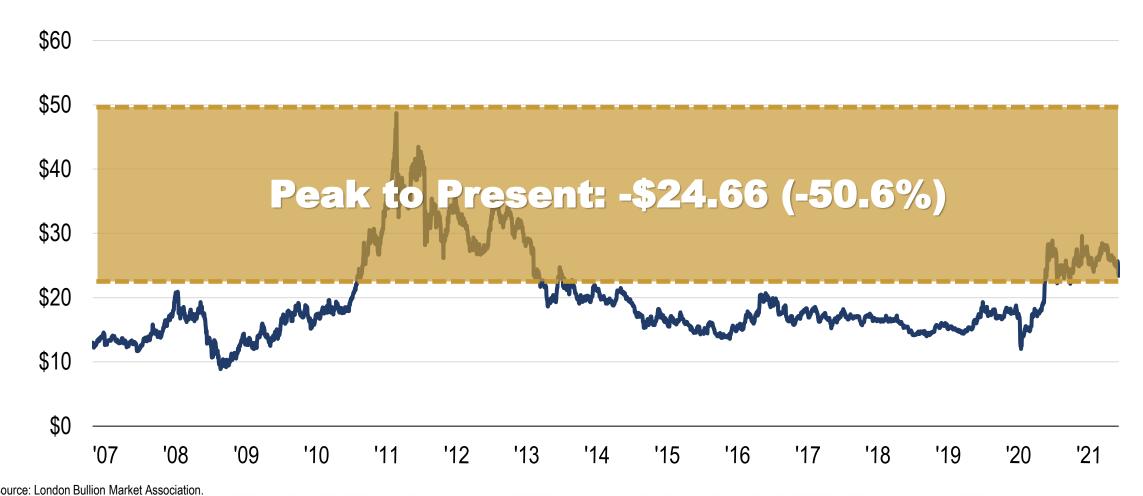
# Price of Silver USD per Troy Ounce







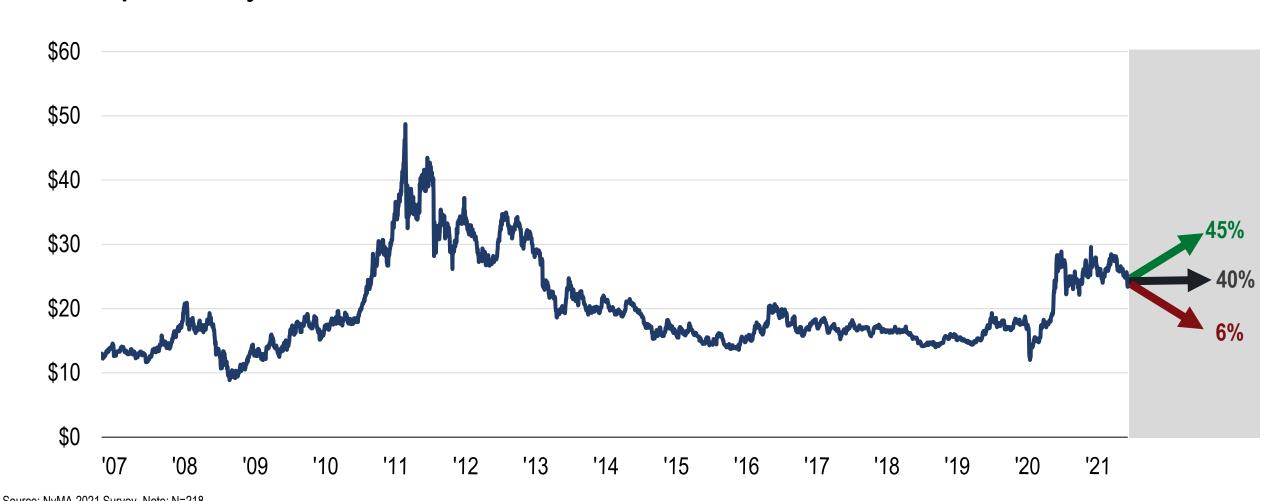
# Price of Silver USD per Troy Ounce







# Price of Silver USD per Troy Ounce







# Price of Copper

## **USD** per Pound





# Price of Copper

## **USD** per Pound



# ※

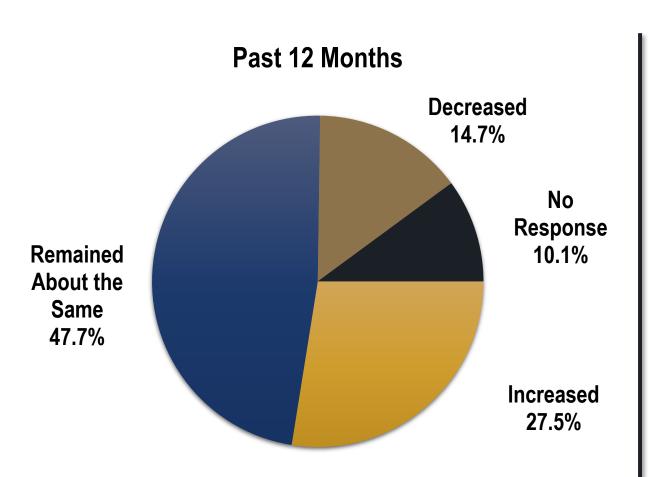
# Price of Copper USD per Pound

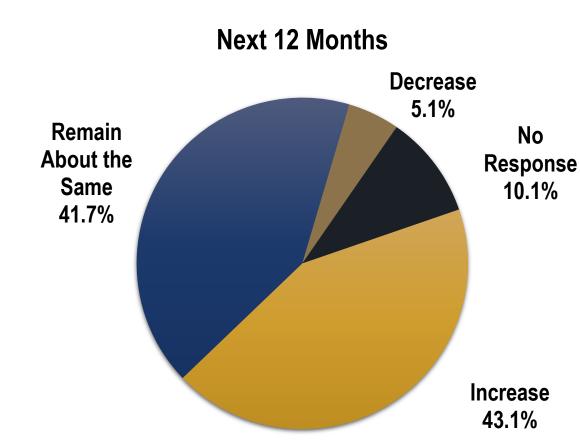








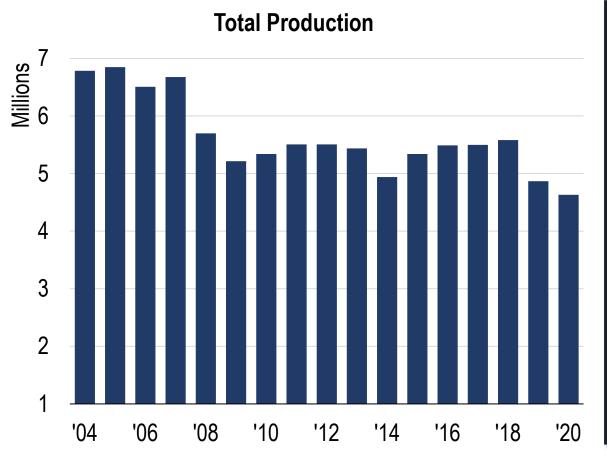


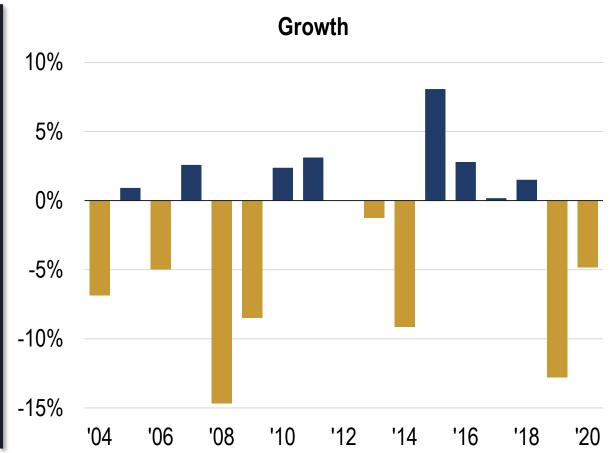


Source: NvMA 2021 Survey. Note: N=218.



## Nevada | Gold (Troy Ounces)

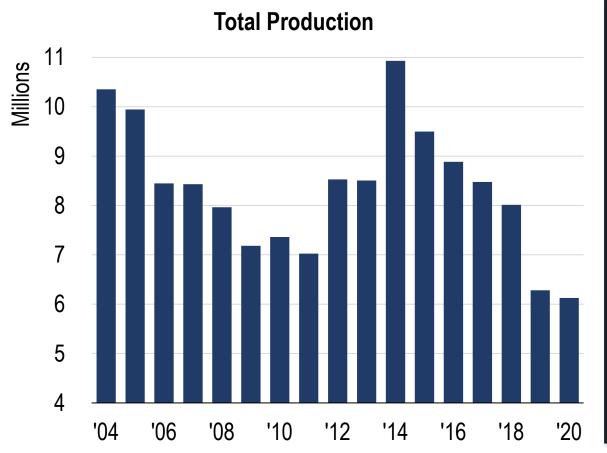


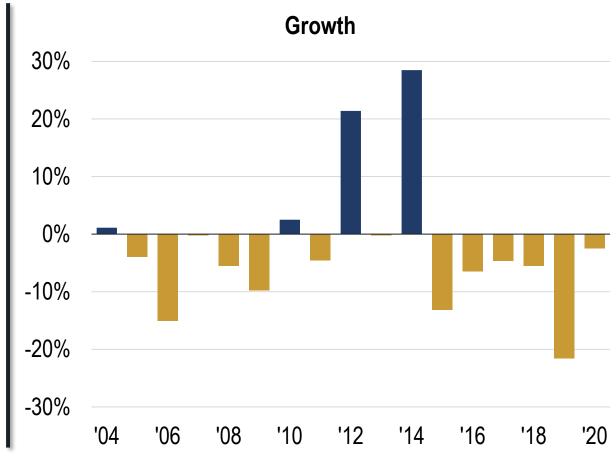


Source: Nevada Division of Minerals



## Nevada | Silver (Troy Ounces)

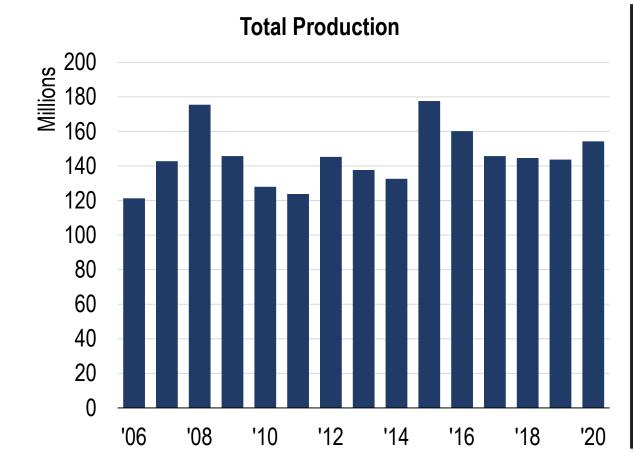


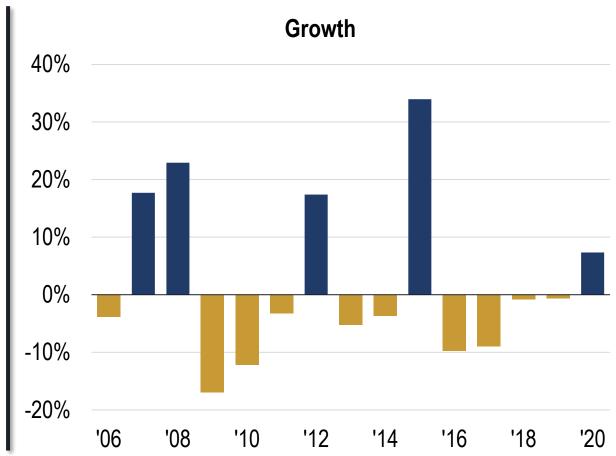


Source: Nevada Division of Minerals



#### Nevada | Copper (Pounds)





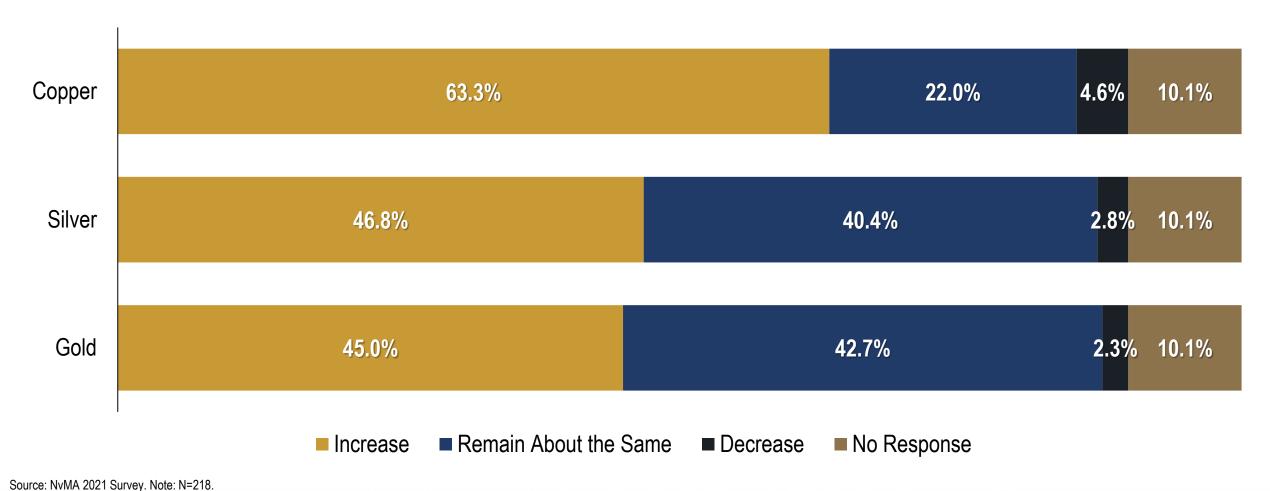
Source: Nevada Division of Minerals



# **Commodity Demand**



#### Next 12 Months







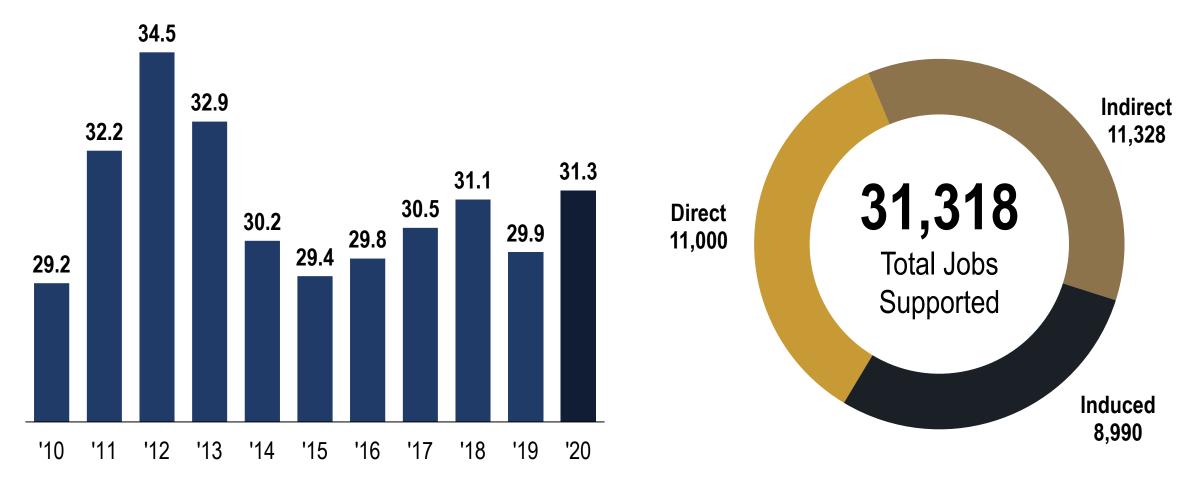
# 2020 MINING IMPACTS





# **Employment Impacts for Nevada Mining**

Industry Operations | 2020 (Thousands)



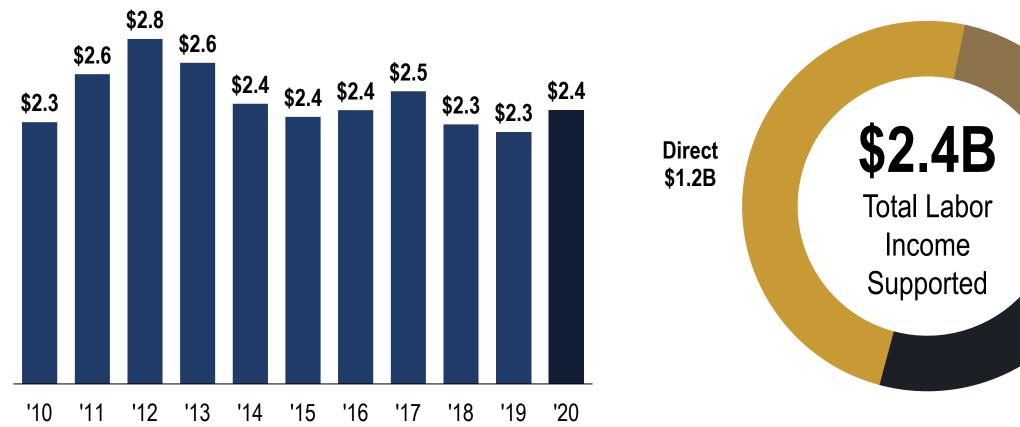
Source: U.S. Bureau of Labor Statistics; Nevada Department of Taxation; IMPLAN; Applied Analysis. Note: Historical figures may be adjusted to reflect latest available information

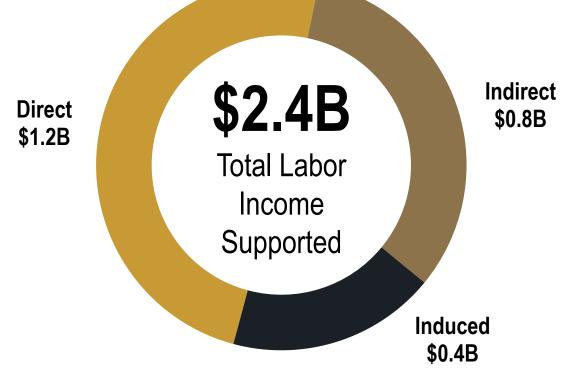




# Wage and Salary Impacts for Nevada Mining

Industry Operations [ 2020 (Billions US\$)





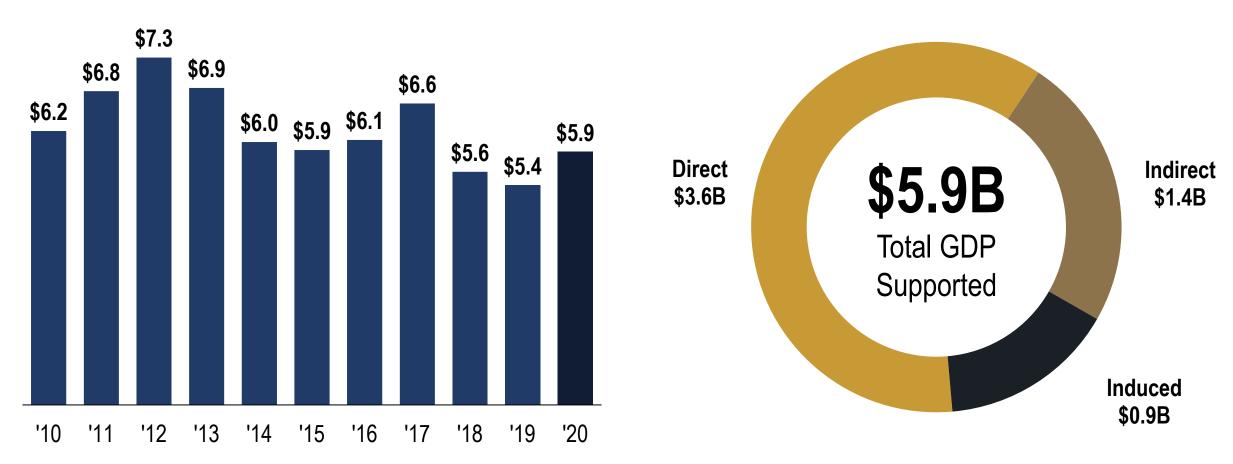
Labor Statistics; Nevada Department of Taxation; IMPLAN; Applied Analysis. Note: Historical figures may be adjusted to reflect latest available information





# Value Added Impacts for Nevada Mining

Industry Operations | 2020 (Billions US\$)



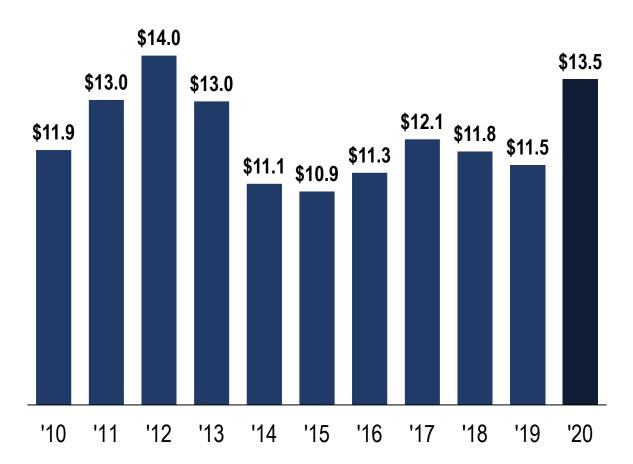
Source: U.S. Bureau of Labor Statistics; Nevada Department of Taxation; IMPLAN; Applied Analysis. Note: Historical figures may be adjusted to reflect latest available information

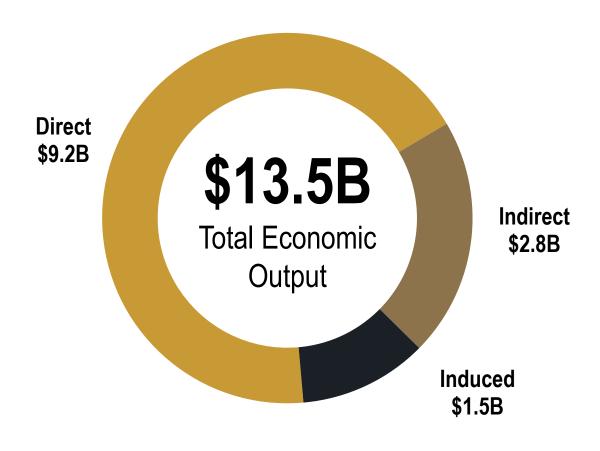




# **Economic Output for Nevada Mining**

Industry Operations | 2020 (Billions US\$)





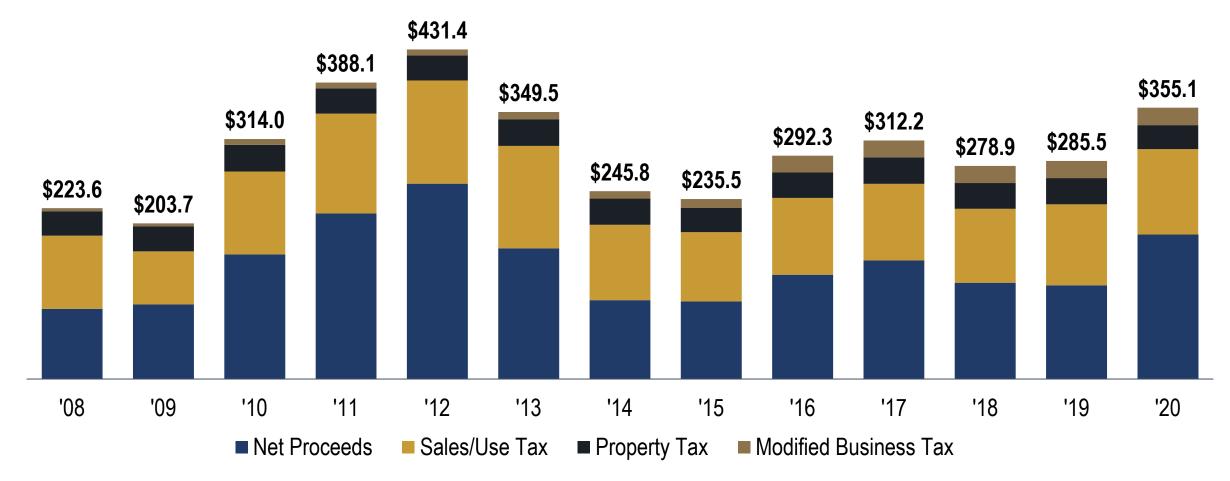
Source: U.S. Bureau of Labor Statistics; Nevada Department of Taxation; IMPLAN; Applied Analysis. Note: Historical figures may be adjusted to reflect latest available information





# **Total Estimated Major Taxes Paid**

Nevada Mining Industry (Millions US\$)



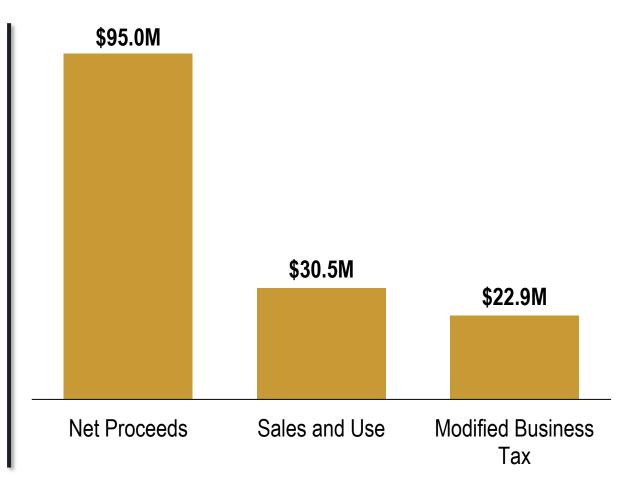
Source: Nevada Department of Taxation; NvMA Member Survey; Natural Resource Industry Institute (2008-2010); Industry Surveys; Applied Analysis. Note: Historical figures may be adjusted to reflect latest available information.



# **Total Estimated Major Taxes Paid**

Nevada Mining Industry | General Fund Contributions



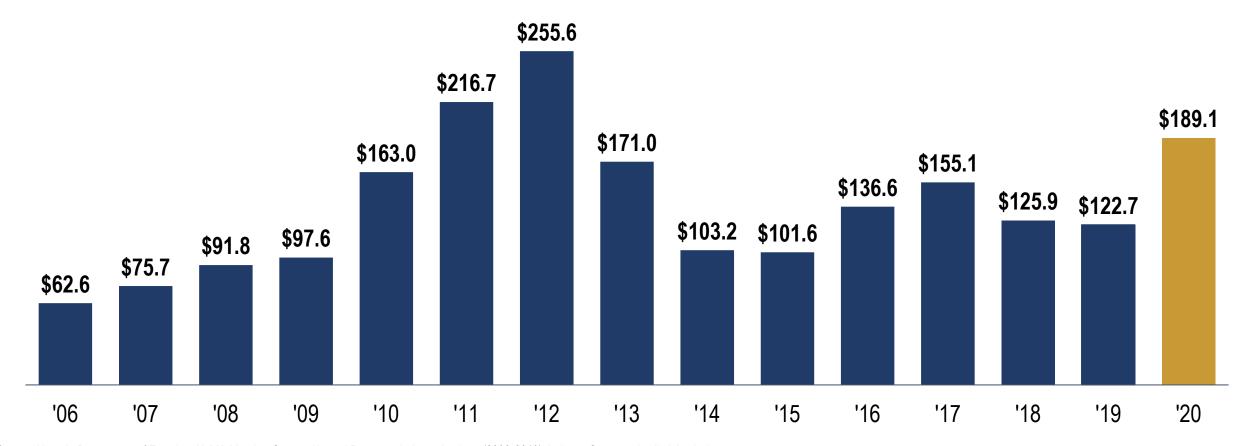


Source: Nevada Department of Taxation; NvMA Member Survey; Natural Resource Industry Institute (2008-2010); Industry Surveys; Applied Analysis. Note: Historical figures may be adjusted to reflect latest available information





Including Royalty Receipts (Millions US\$)



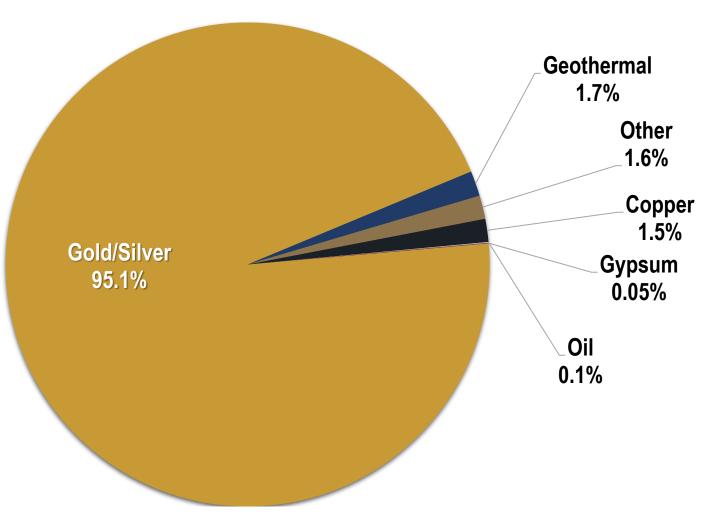




By Mineral Type

\$189M

**Total Net Proceeds Tax Generated** 



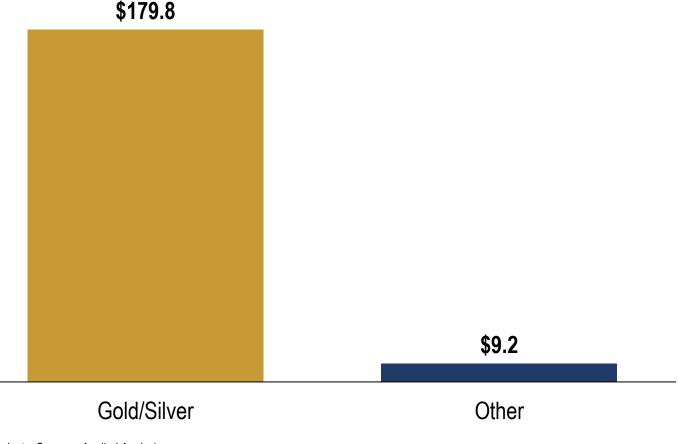




By Mineral Type (\$US Millions)



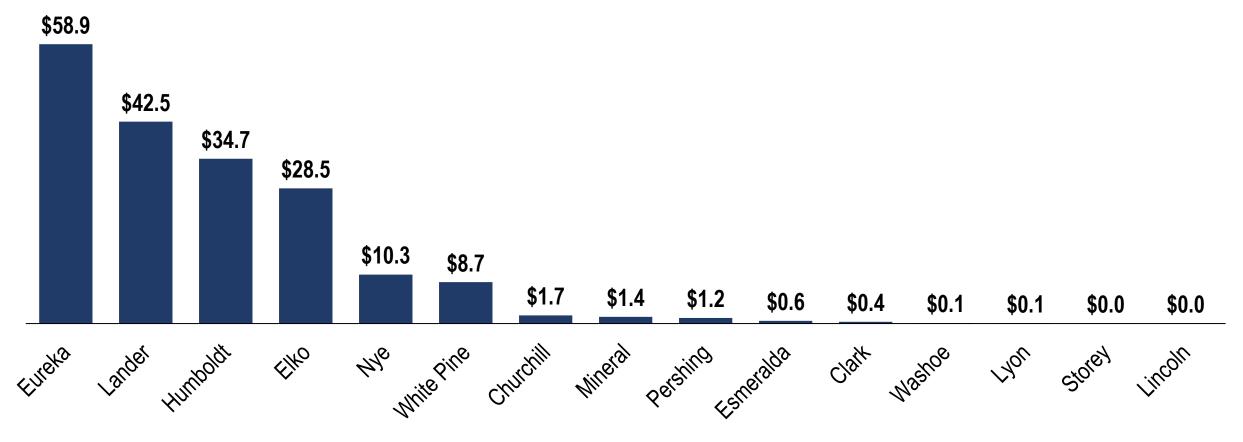
**Total Net Proceeds Tax Generated** 







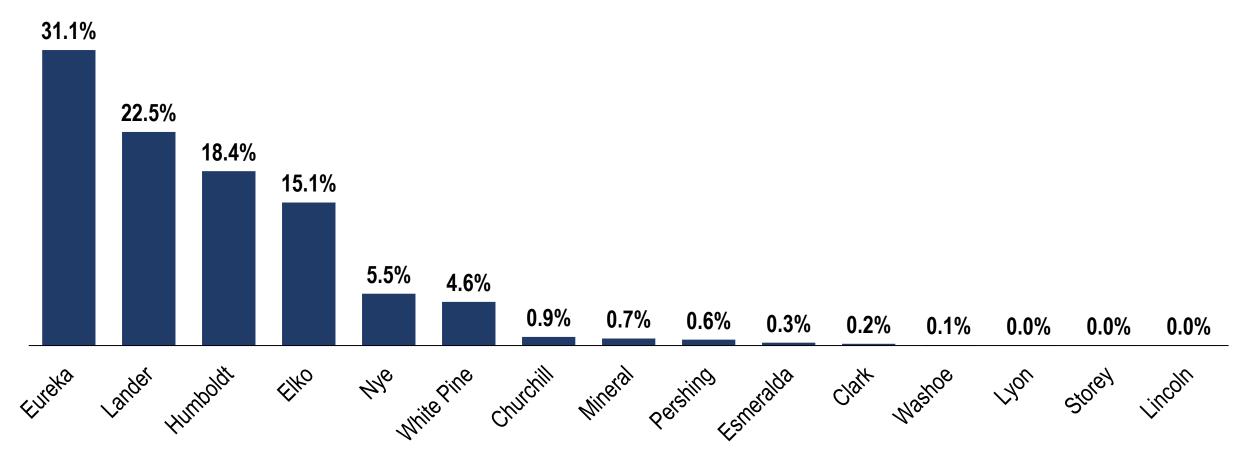
Total by County (\$US Millions)







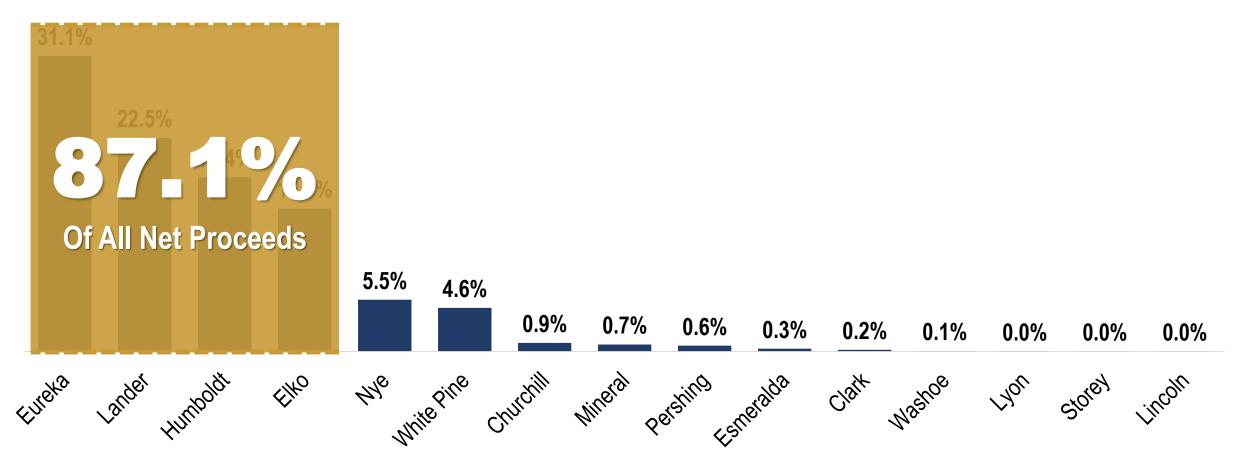
## Share by County







## Share by County







# IMPACT OF THE NEW EDUCATION MINING TAX









## 81<sup>st</sup> (2021) Session of the Nevada Legislature



Assembly Bill 495











# **Assembly Bill 495**Signed Into Law on June 2, 2021





Assembly Bill 495 | Mining-Related Provisions



#### **Education Mining Tax**

New Tax Imposed on Gold and Silver Operators in Nevada



#### **Net Proceeds Change**

Modifications to the Distribution of Net Proceeds of Minerals Tax





Assembly Bill 495 | Mining-Related Provisions



#### **Education Mining Tax**

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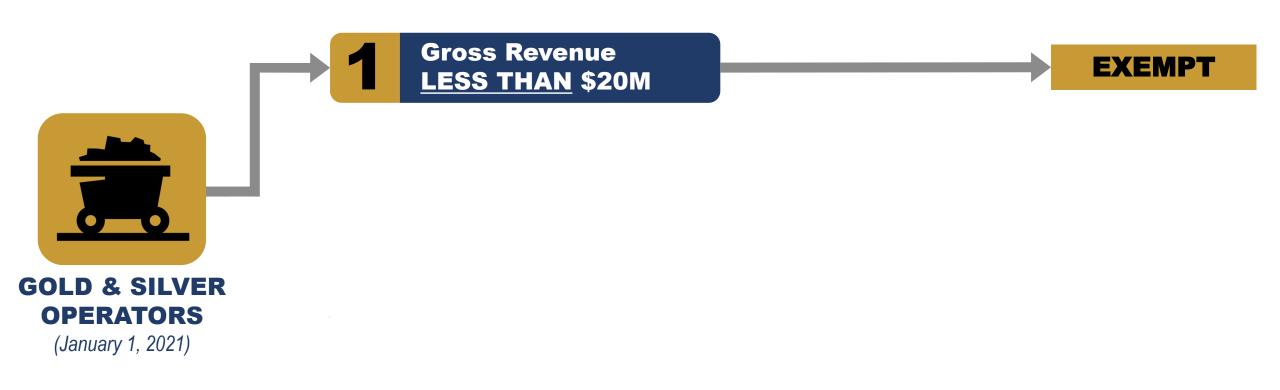


Assembly Bill 495 | Education Mining Tax



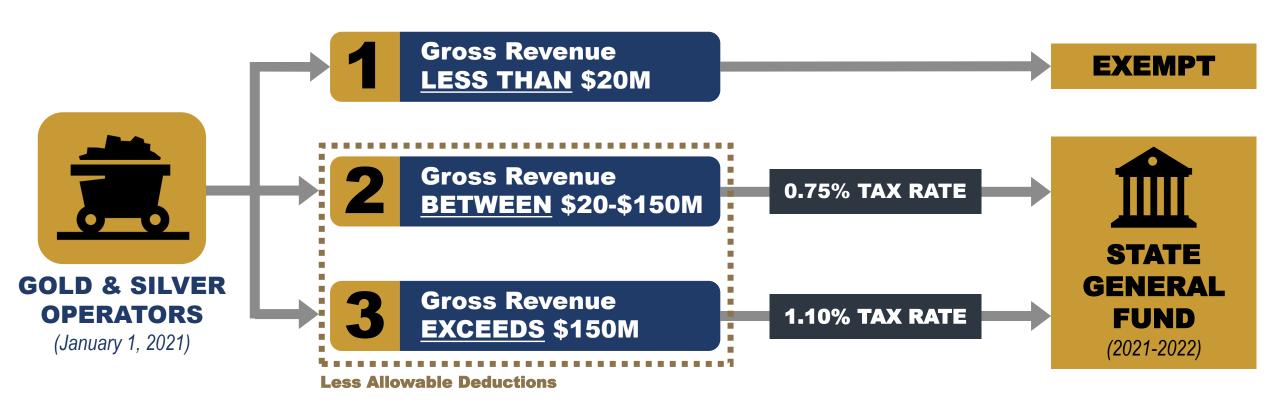






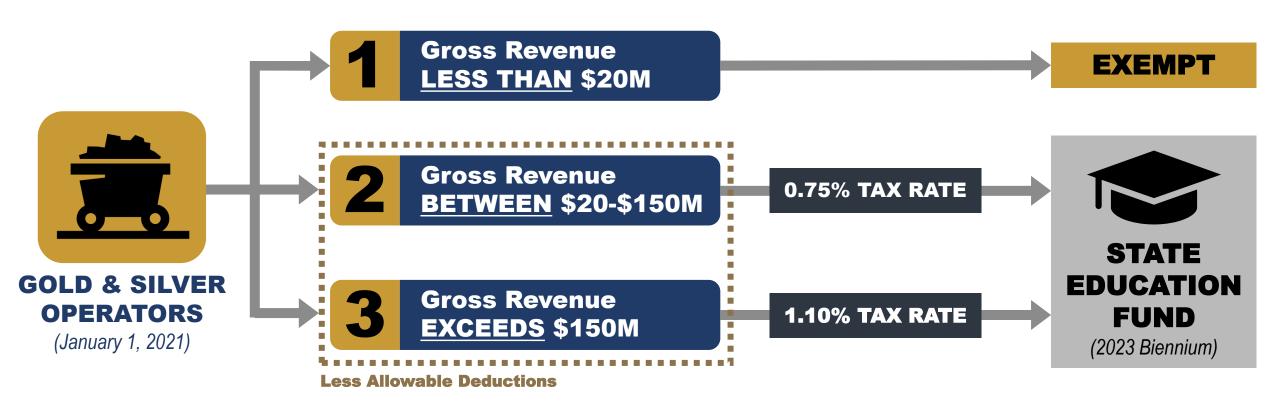






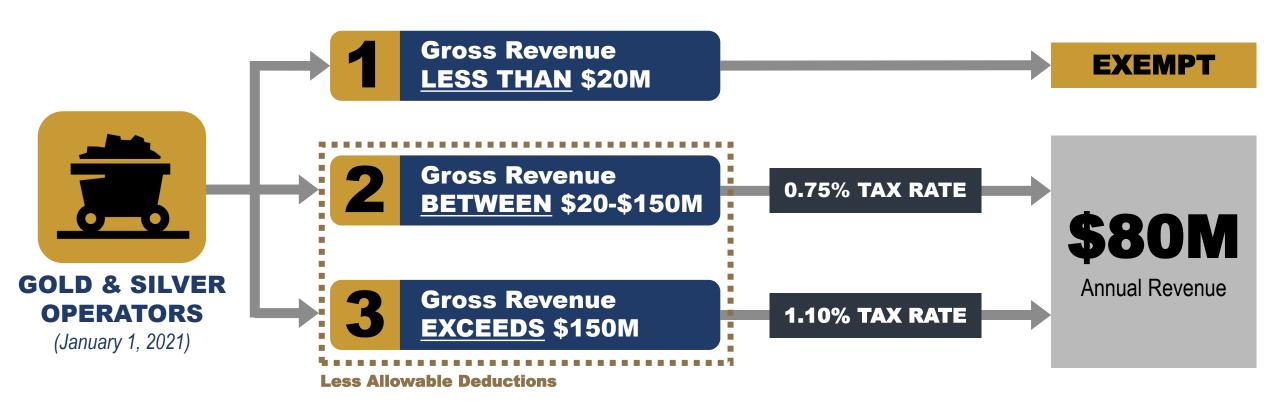
















Assembly Bill 495 | Mining-Related Provisions



#### **Education Mining Tax**

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#### **Net Proceeds Change**

Modifications to the Distribution of Net Proceeds of Minerals Tax



Assembly Bill 495 | Net Proceeds of Minerals Tax Changes



Mining Counties (\$94.1M)

49.8%



46.8%



State Debt (\$6.5M)

3.4%



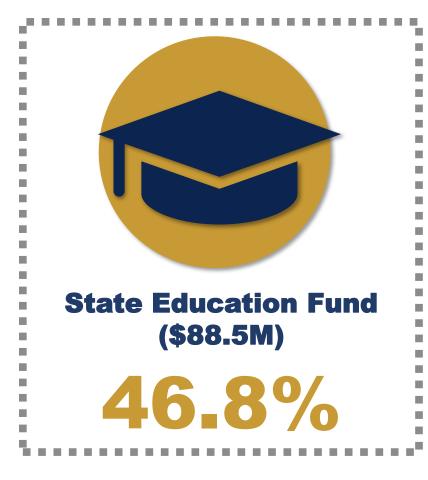


Assembly Bill 495 | Net Proceeds of Minerals Tax Changes



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49.8%





State Debt (\$6.5M)

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Assembly Bill 495 | Net Proceeds of Minerals Tax Changes



Mining Counties (\$94.1M)

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State Debt (\$6.5M)

3.4%





## \$168.5M

Mining Industry Annual Contribution to State Education Fund





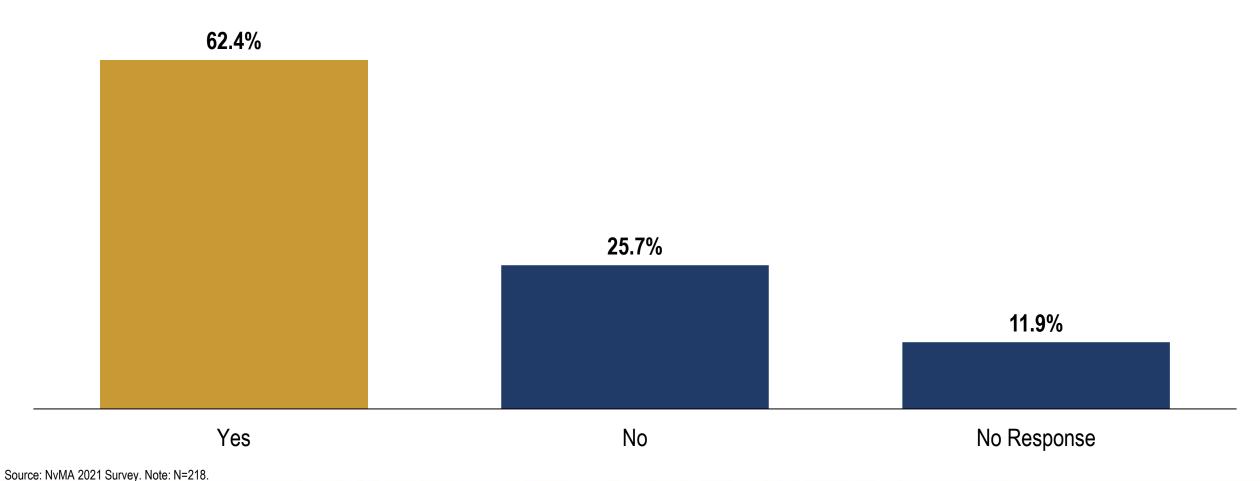
#### TECHNOLOGY AND MINING







#### Likelihood of New Technology Adoption

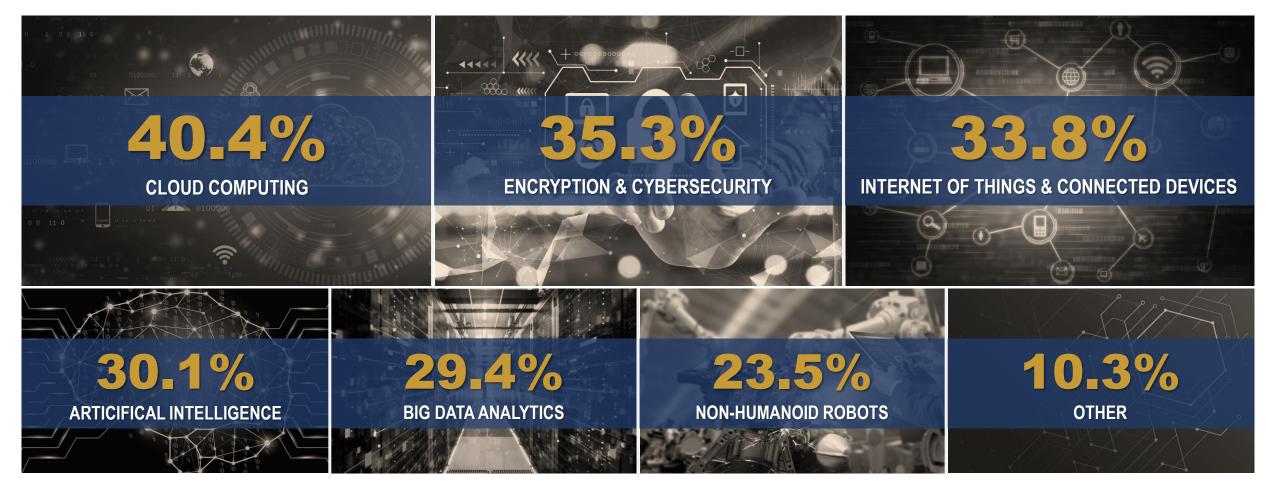








#### **Types of Technology Adoption**



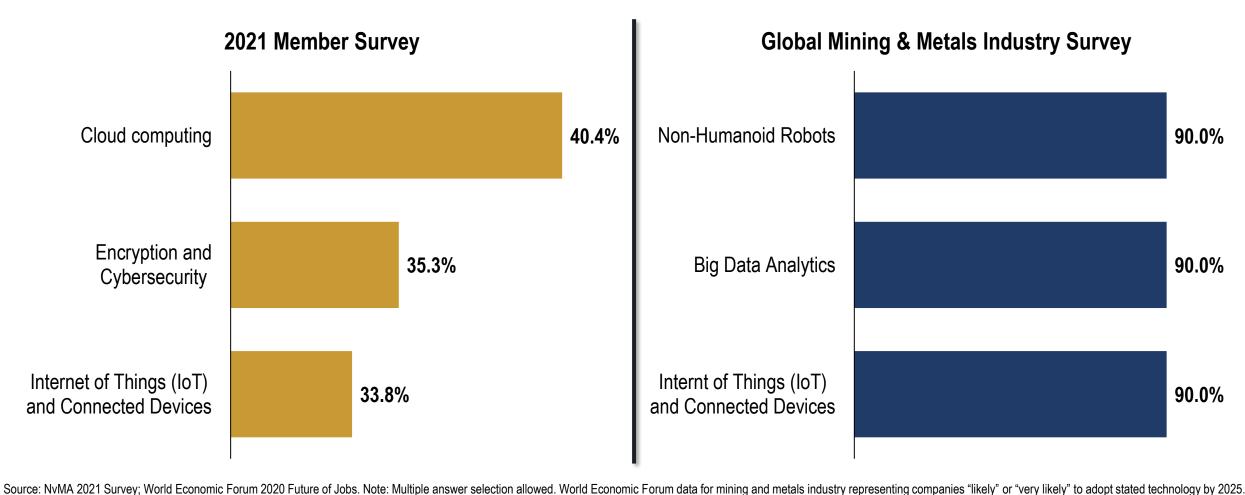
Source: NvMA 2021 Survey. Note: Multiple answer selection allowed





#### **Types of Technology Adoption**

#### Top 3 Answer Comparison



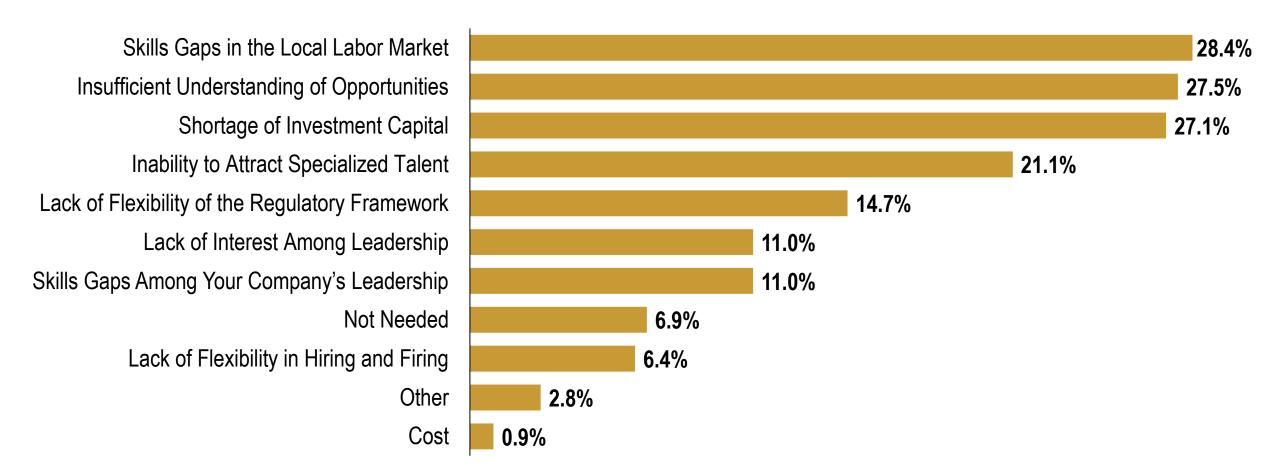








#### **Barriers to Technology Adoption**



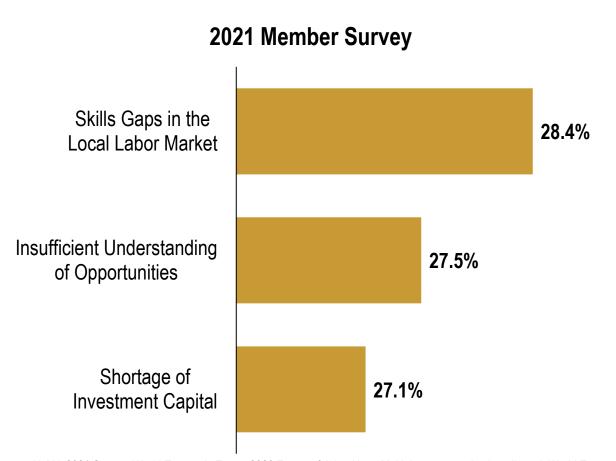


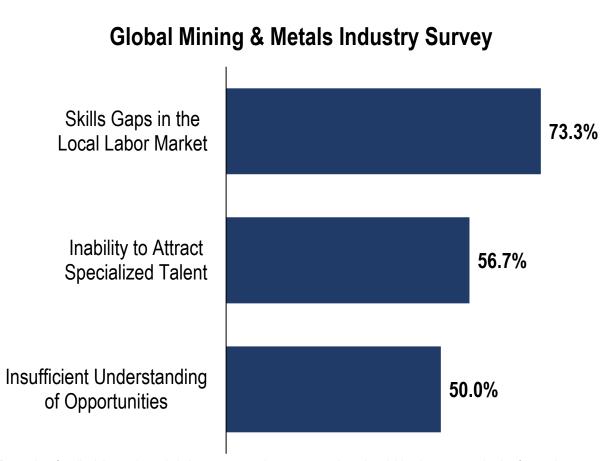


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#### **Barriers to Technology Adoption**

#### Top Three Answer Comparison





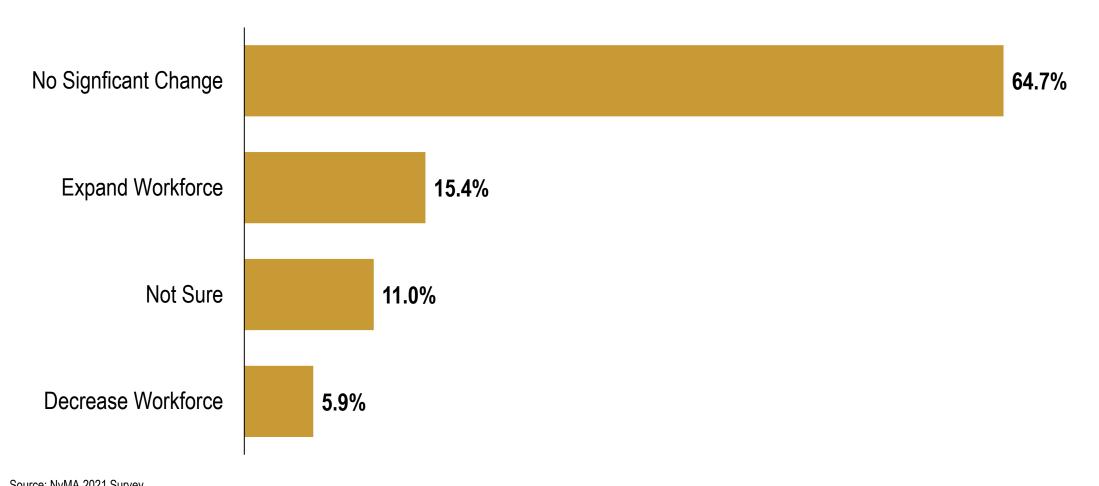
Source: NvMA 2021 Survey; World Economic Forum 2020 Future of Jobs. Note: Multiple answer selection allowed. World Economic Forum data for all mining and metals industry representing top economic and social barriers an organization faces when introducing new technologies.







#### Effect of Technology Adoption on Workforce



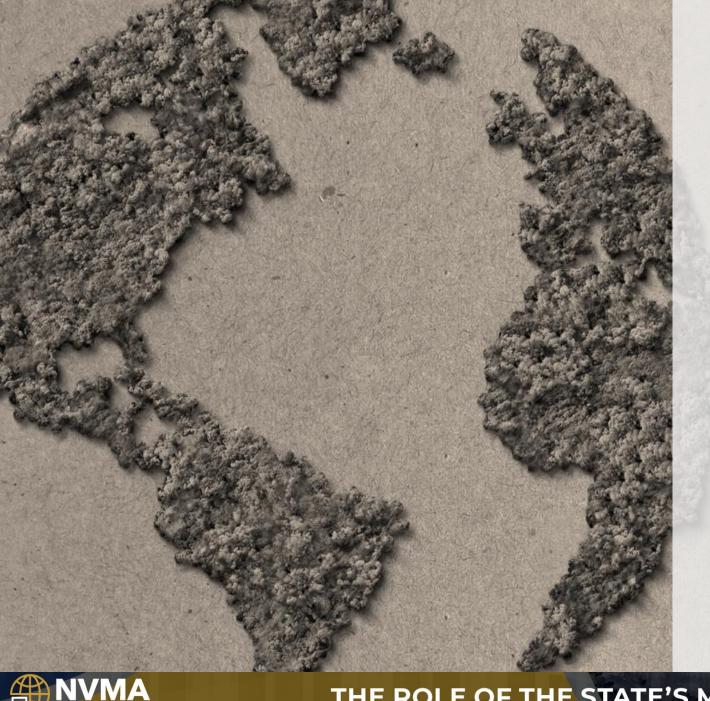




## MINING AND THE CLEAN ENERGY TRANSITION









### PARIS2015

UN CLIMATE CHANGE CONFERENCE

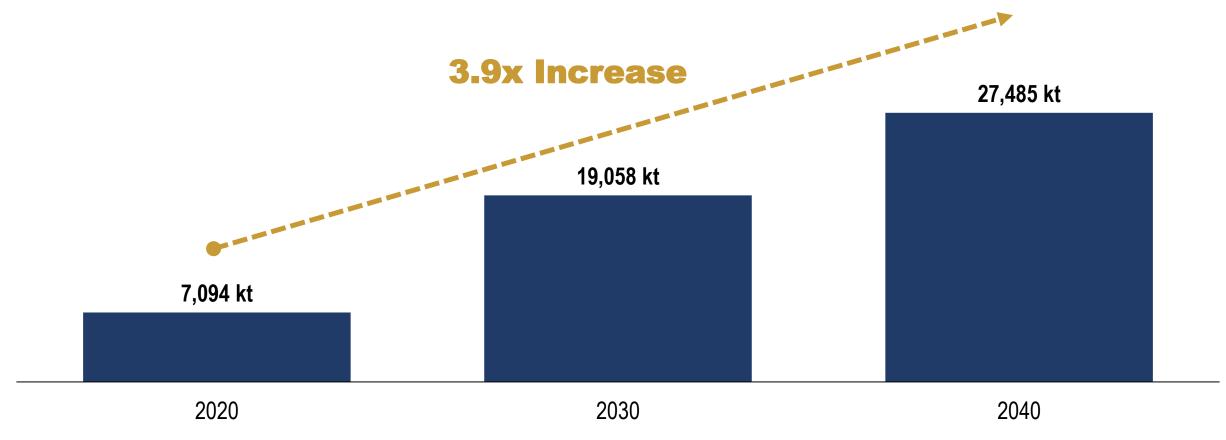
COP21-CMP11





#### Mineral Requirements for Clean Energy Technology

Total Mineral Demand | Sustainable Development Scenario (SDS)



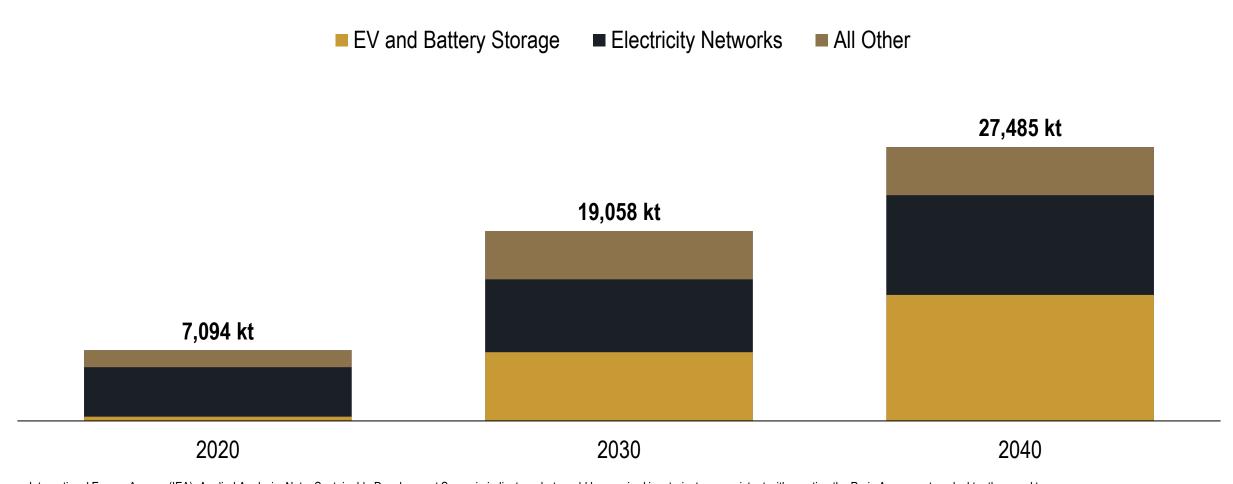
Source: International Energy Agency (IEA); Applied Analysis. Note: Sustainable Development Scenario indicates what would be required in a trajectory consistent with meeting the Paris Agreement goals. kt = thousand tonnes.





### Mineral Requirements for Clean Energy Technology

Total Mineral Demand | Sustainable Development Scenario (SDS)



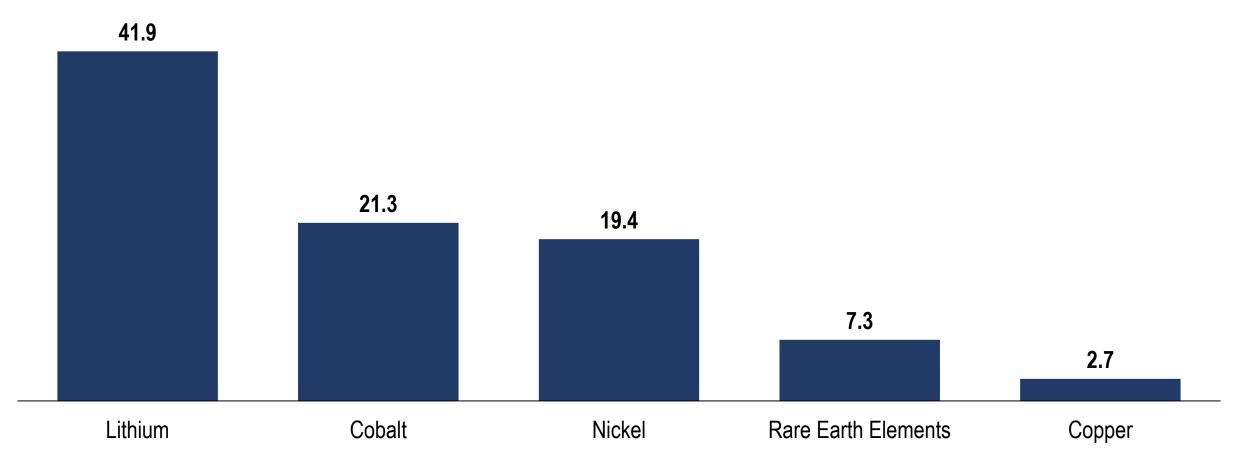


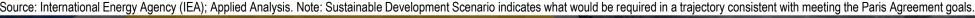




#### Mineral Requirements for Clean Energy Technology

2040 Demand Growth | Index (2020=1) of Selected Minerals in SDS

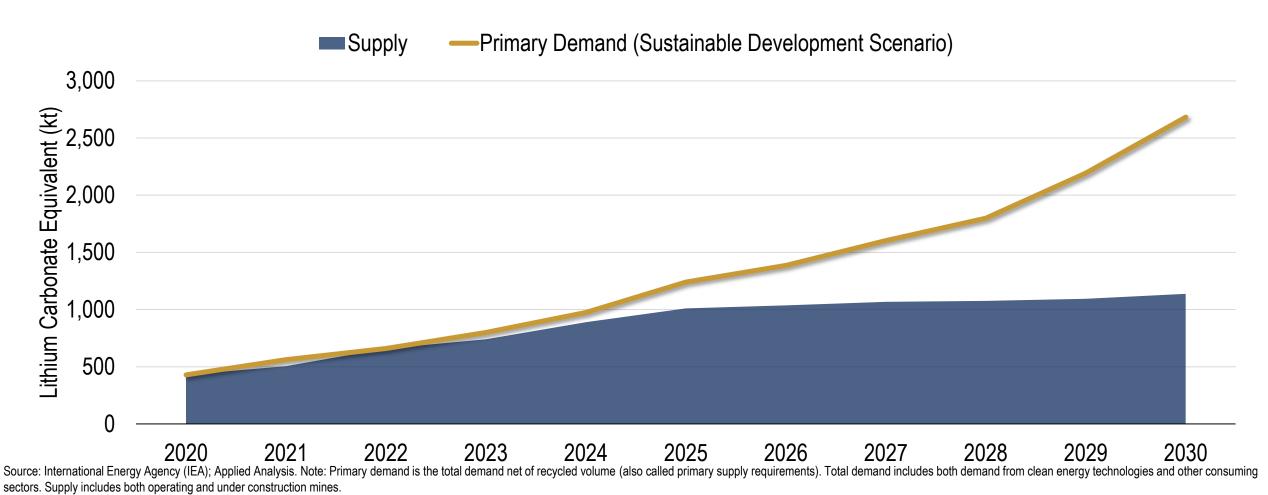








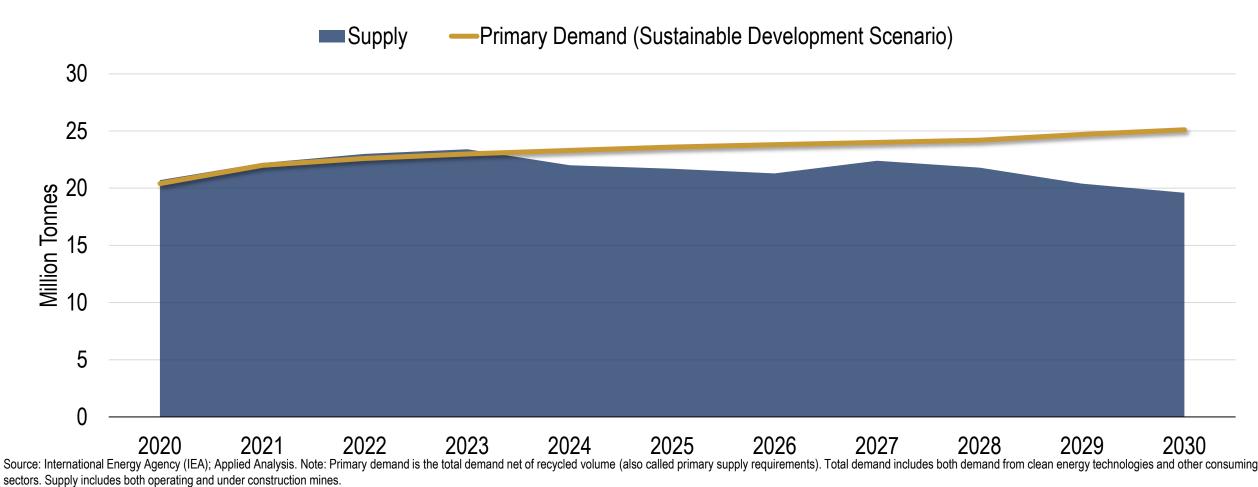
## **Supply and Primary Demand of Important Minerals**Lithium | 2020-2030







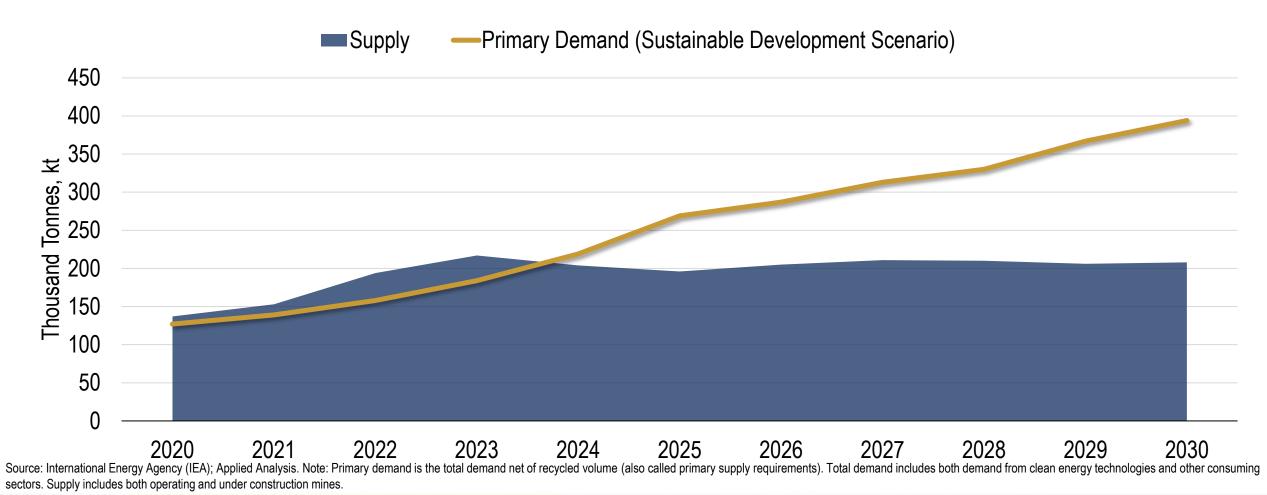
## **Supply and Primary Demand of Important Minerals**Copper | 2020-2030







## **Supply and Primary Demand of Important Minerals**Cobalt | 2020-2030

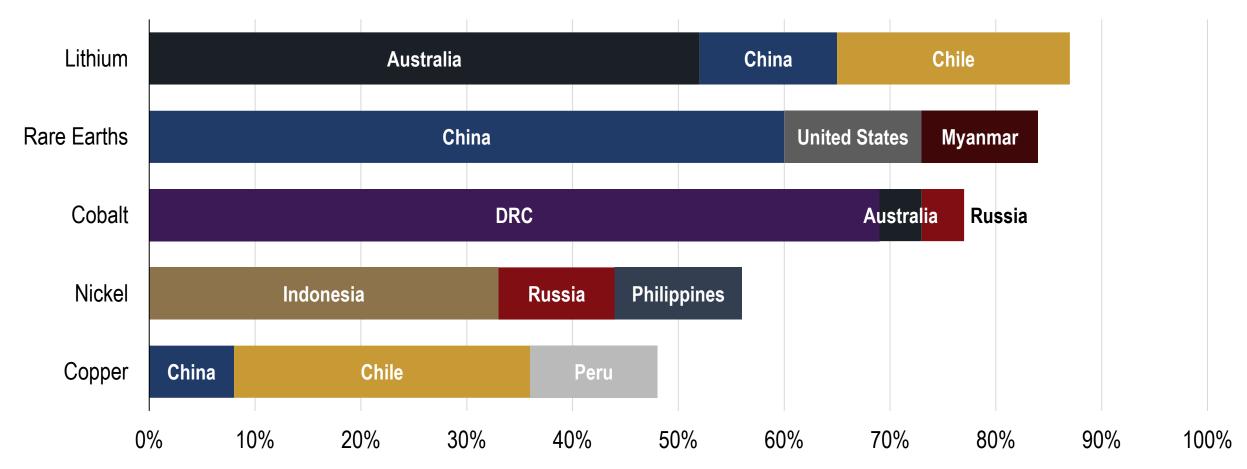


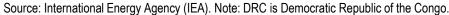




#### **Top Three Extracting Countries**

#### Selected Minerals | Share 2019

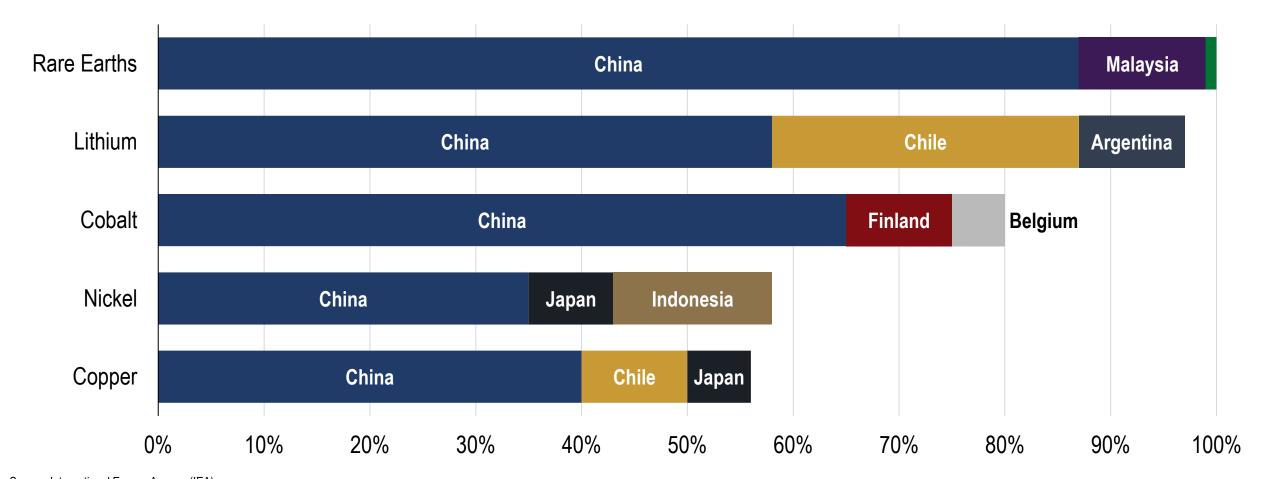


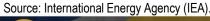




#### **Top Three Processing Countries**

#### Selected Minerals | Share 2019







# 

Of All Mined Lithium (2025)



Source: Institutional Investor.



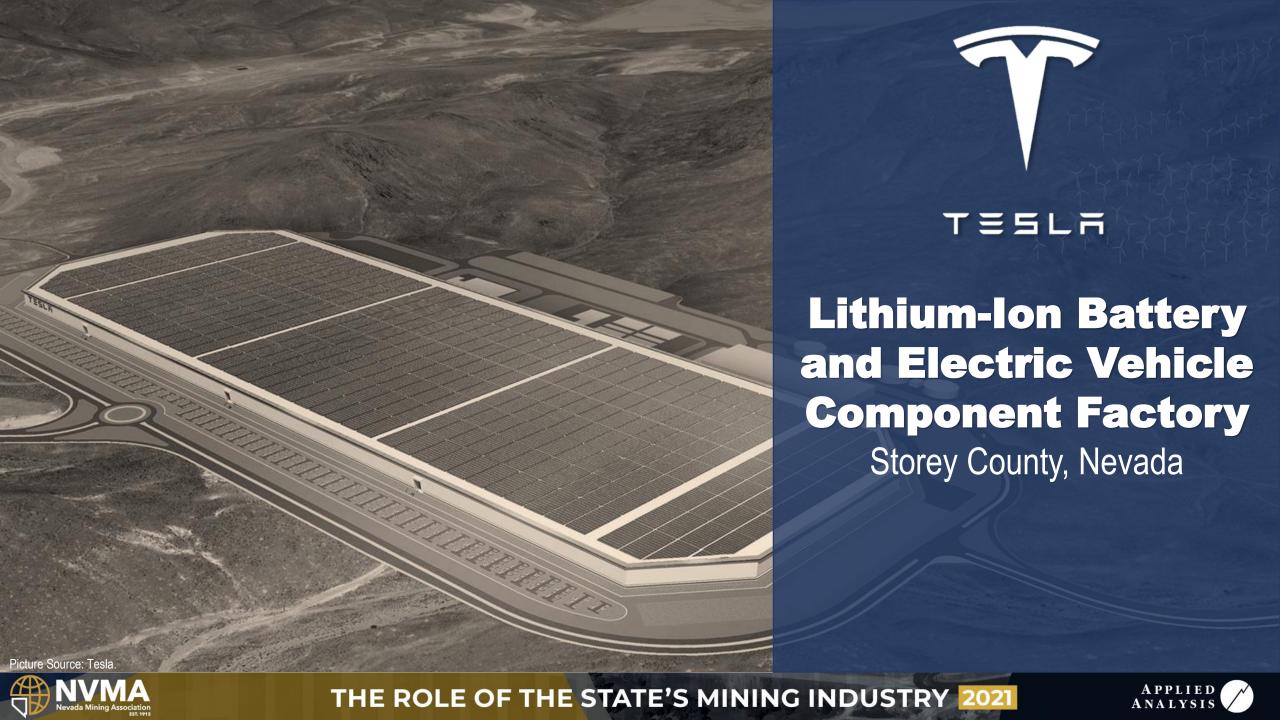
# 50%

Of New Vehicles Electric By Executive Order (2030)



Source: White House.













#### NEVADA IS LOOKING AT MORE LITHIUM MINING

"As governments look to address climate goals by transitioning to electric vehicles and car manufacturers look to fill in the market, there is a clear need for more lithium. Sisolak and other elected officials see Nevada as playing a major role in securing that supply."



### SVEGAS REVIEW-JOURNAL

#### MINE NEAR LAS VEGAS PRODUCES MUCH OF WORLD'S RARE EARTH MATERIALS

"...a massive open-pit mine, owned by Las Vegas-based firm MP Materials and considered the world's second-largest producer of rare earth minerals...The company plans to establish the full rare earth supply chain at the mine in less than four years, and its vision has joined a national conversation on restoring rare earth production in the United States."







