
Analysis of Agriculture and Mining Sectors in the Southwest United States

Anna Monis Shipley

R. Neal Elliott

American Council for an Energy-Efficient Economy

March 2002



The Southwest Region - Is it Unique?

- Region is comprised of: Arizona, Colorado, Nevada, New Mexico, Utah, Wyoming
- Highest rate of population growth and economic growth in the U.S.
- Larger share of agriculture and mining than U.S average



The Southwest Region - Is it Unique? (continued)

- Large diversity in the manufacturing sector
- Initiatives such as the National Border Technology Partnership have been set up to alleviate environmental problems in the region and promote energy-efficient growth in the region.



Industry Sector Data Sources

- 1997 Census of Agriculture - U.S.
Department of the Census
- 1997 Economic Census, Mining
- 1999* Minerals Yearbook - Produced under a M.O.M. between U.S. Geological Survey and the various state Geological Surveys
- 1997 Census of Manufacturers
- 1998 Manufacturing Energy Consumption Survey

* Based on 1997 Data



Data Gaps and Assumptions

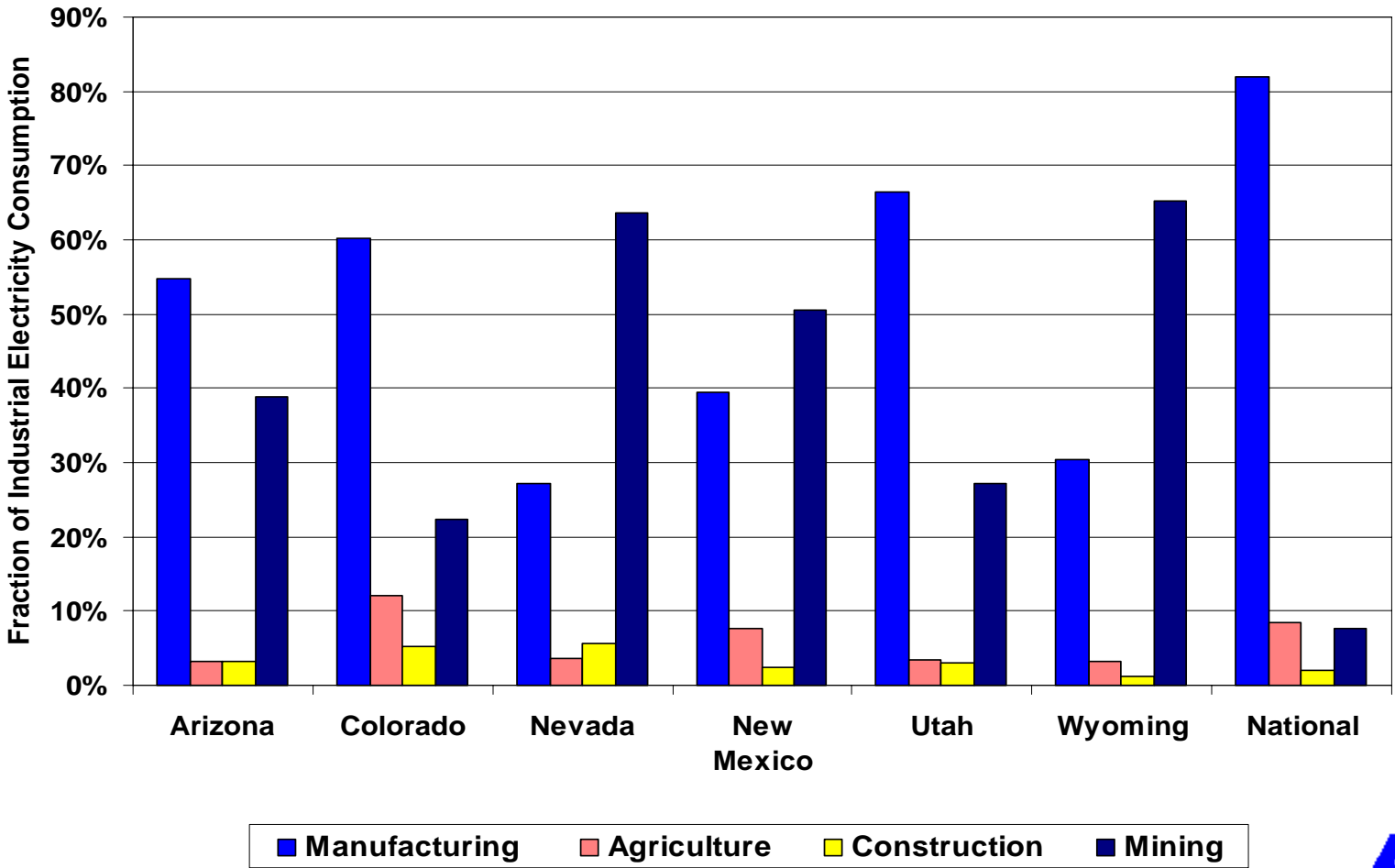
- Many of the manufacturing sectors in the Southwest region are comprised of either a small number of facilities or companies.
- The 1997 Economic Census had several significant data gaps in the Mining sector - alternate data sources such as the Minerals Yearbook and Economy.com data were utilized.



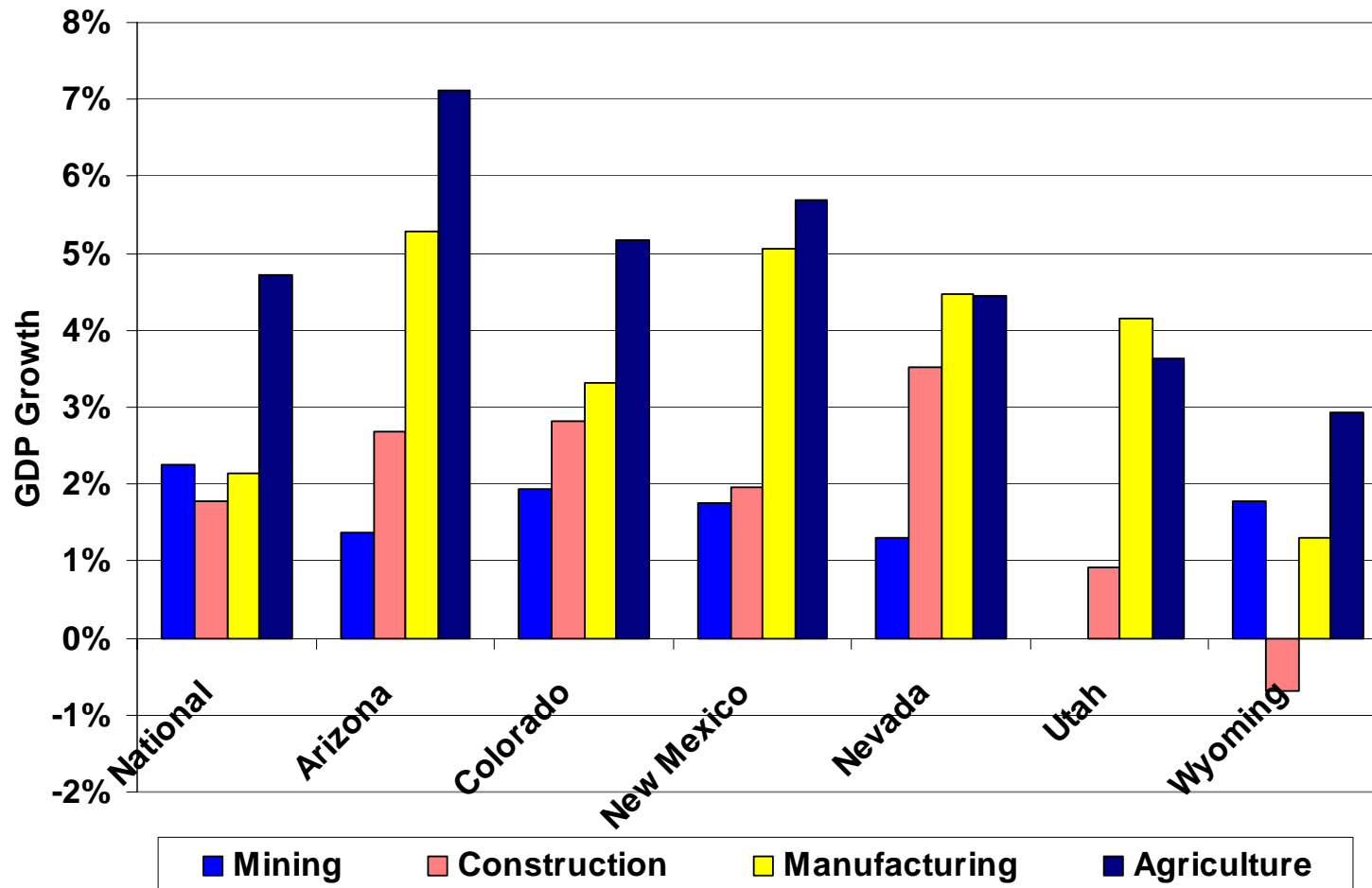
Economic Growth and Activity Data

- Sector-specific economic growth data not publicly available on a state-by-state basis.
- Data on projected GDP growth was purchased for a reasonable fee from *Economy.com*

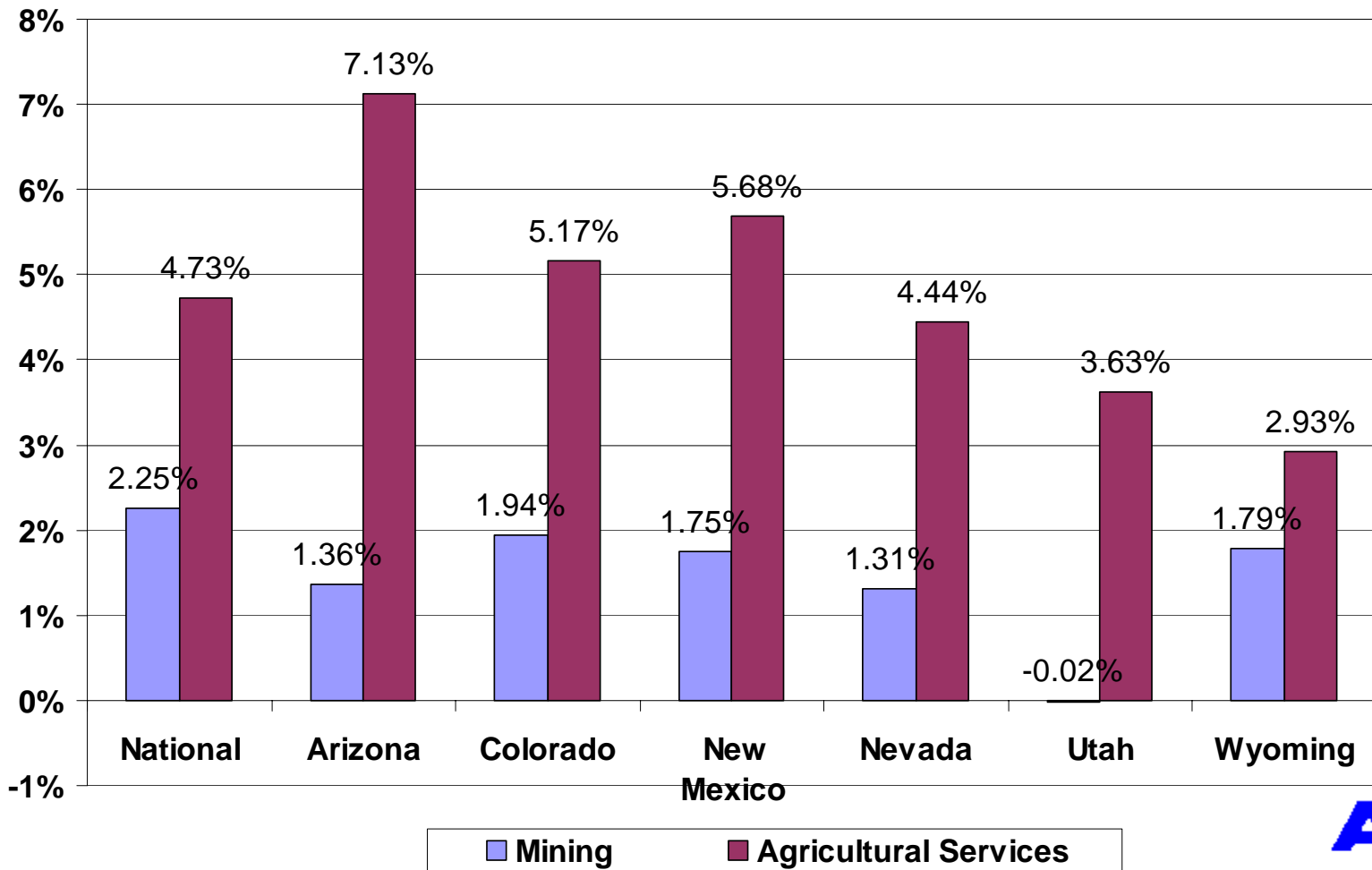
Percentage State of Electricity Use by Sector



State and National Manufacturing Sector 2000-2020 Economic Growth Projections

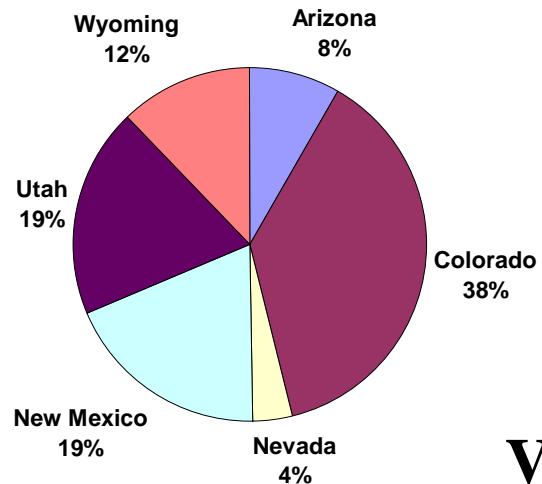


State and National Industrial Sector 2000-2020 Economic Growth Projections

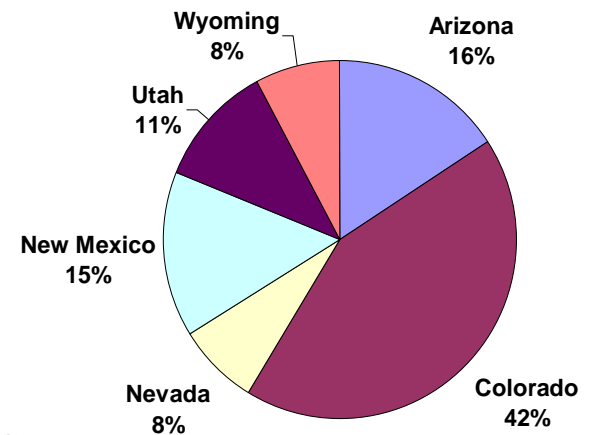


Characterization of Agriculture Sector in the Region

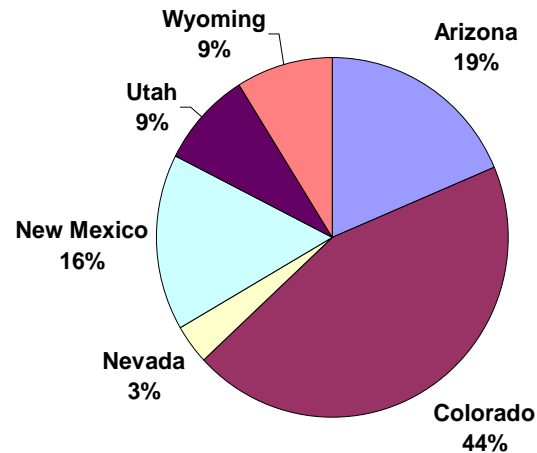
Total Farms



Electricity Consumption

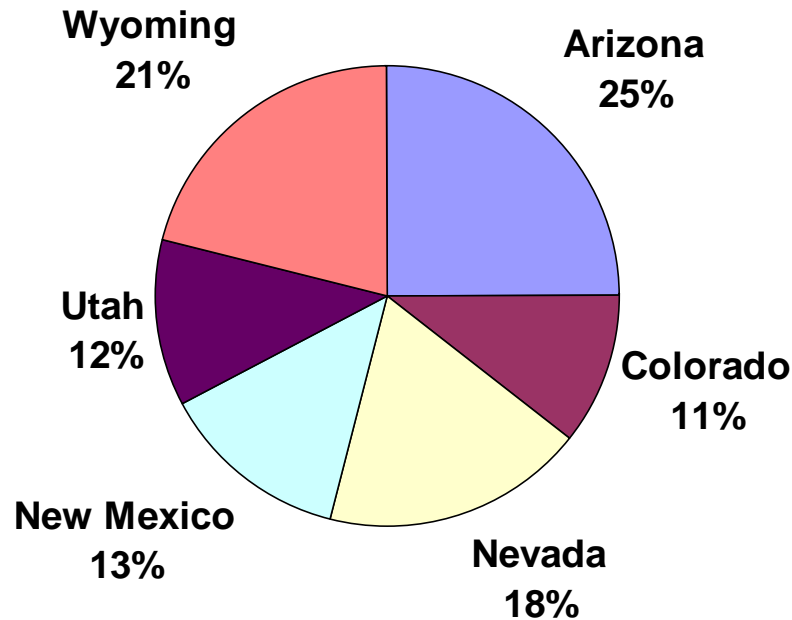


Value of Shipments

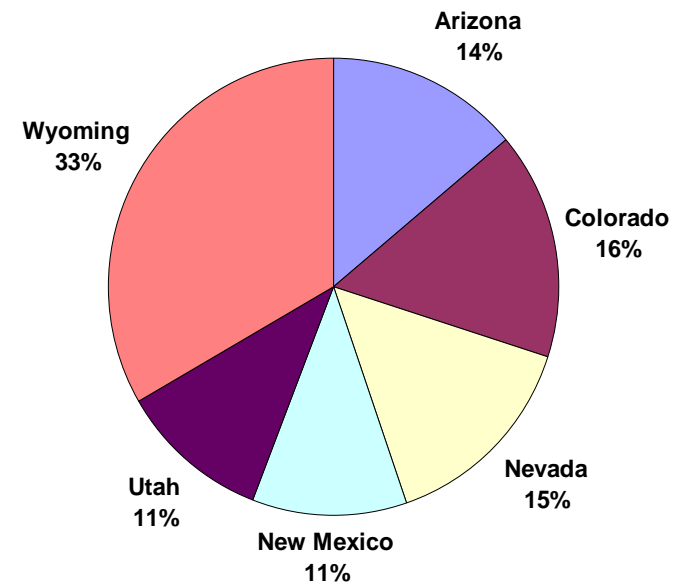


Characterization of Mining Sector in the Region

Value of Shipments



Electricity Consumption



End-Use Electricity Consumption

- Mining Sector - approximately 90% of the electricity use in the sector is used to power electric motors.
- Agricultural Sector - approximately 40% of the electricity use in the sector is used to power electric motors, 30% for lighting, and 30 percent other (heating, etc.)



Findings

- Economic growth rates in the mining sector generally mirror the national average - a large portion of the existing U.S. mineral and metals mining industry is located in the region
- Agriculture economic growth rates are significantly higher than the national average in Arizona, New Mexico, and Colorado - this could pose future natural resource issues (especially water)



Energy-Efficiency Opportunities

- Motors Systems - (especially in mining)
efficient motors, improved system design
- Lighting - (especially in agriculture)
advanced lighting design, efficient fixtures



Where to Find the Data

- State-by-State Economic Census of Mining -
<http://www.census.gov/epcd/www/97EC21.HTM>
- State-by-State Census of Agriculture -
<http://www.nass.usda.gov/census/census97/volume1/vol1pubs.htm>
- State-by-State Minerals Yearbook -
<http://minerals.usgs.gov/minerals/pubs/state/>

