June 28, 2023

Hope Morrow

Manager

Workforce and Economic Development Programs

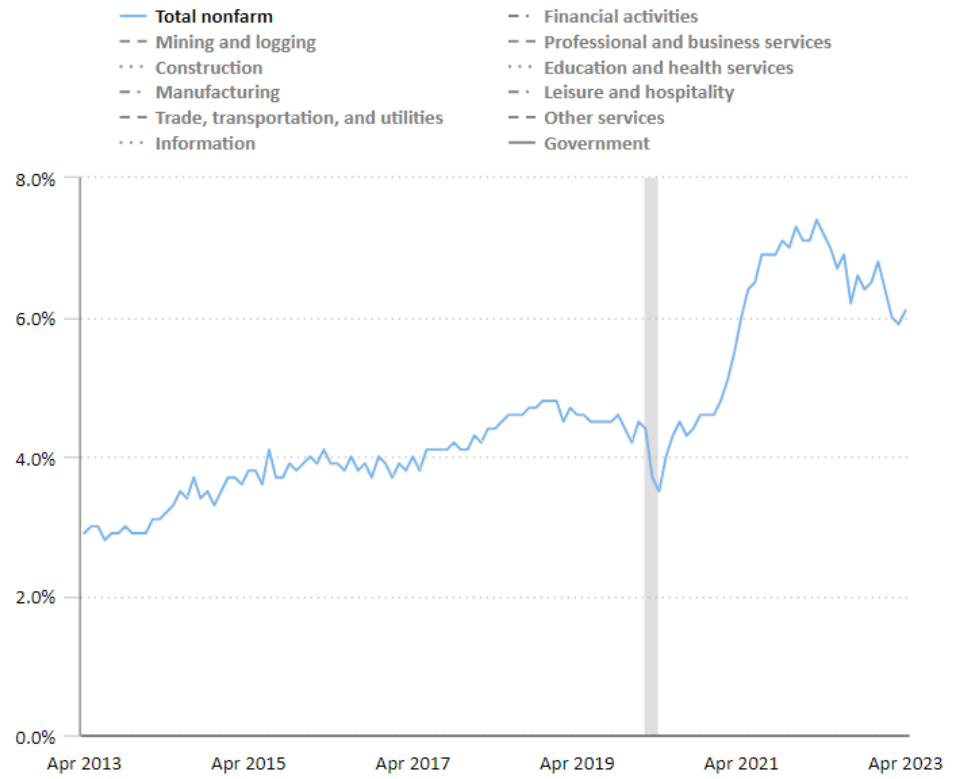
NCSL Workforce Discussion

Battelle Energy Alliance manages INL for the
U.S. Department of Energy's Office of Nuclear Energy

Idaho National Laboratory

Current U.S. Labor Force Standing

Job openings rate, selected industries, April 2013–April 2023

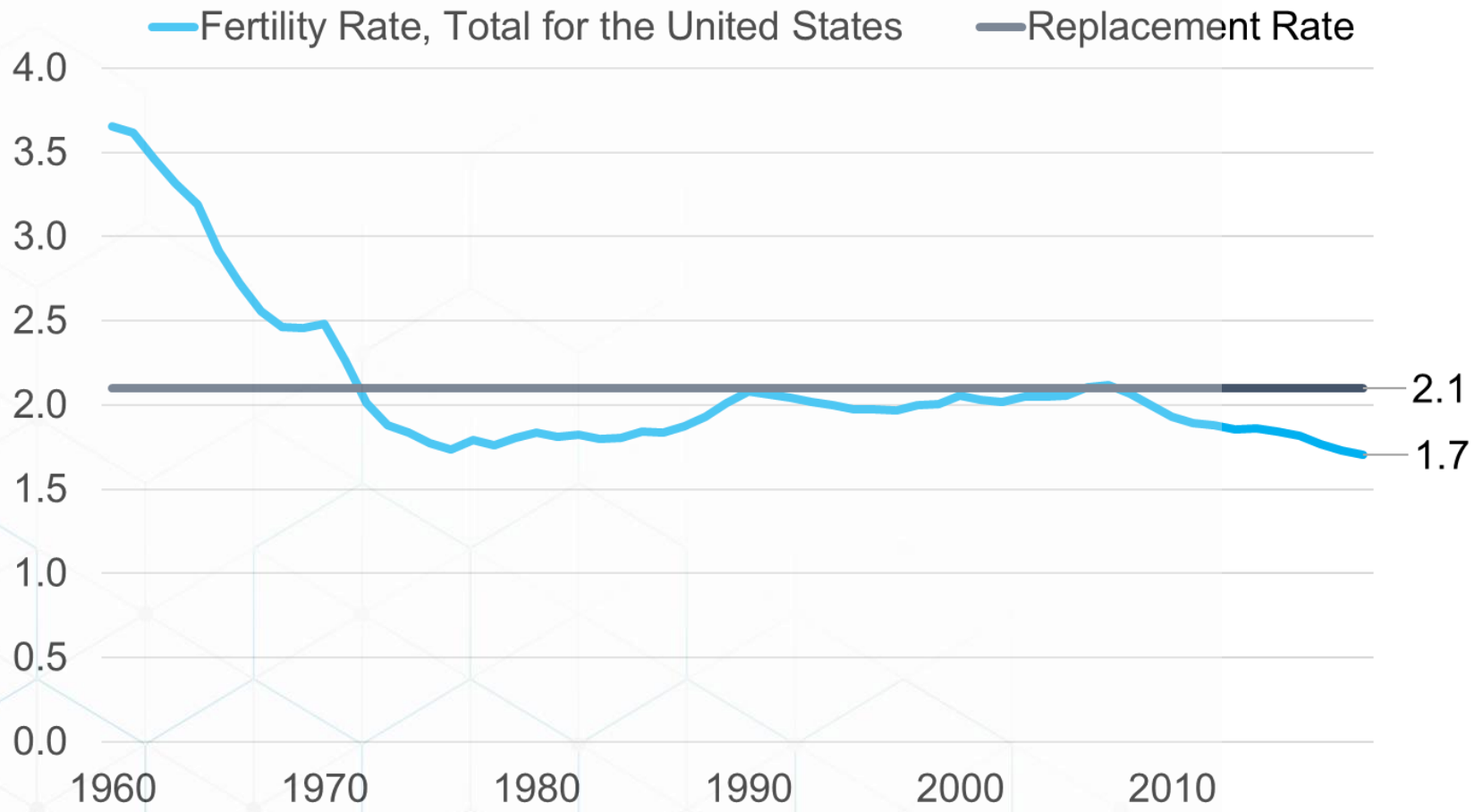


Click legend items to change data display. Hover over chart to view data.
Shaded area represents a recession as determined by the National Bureau of Economic Research.
Source: U.S. Bureau of Labor Statistics.

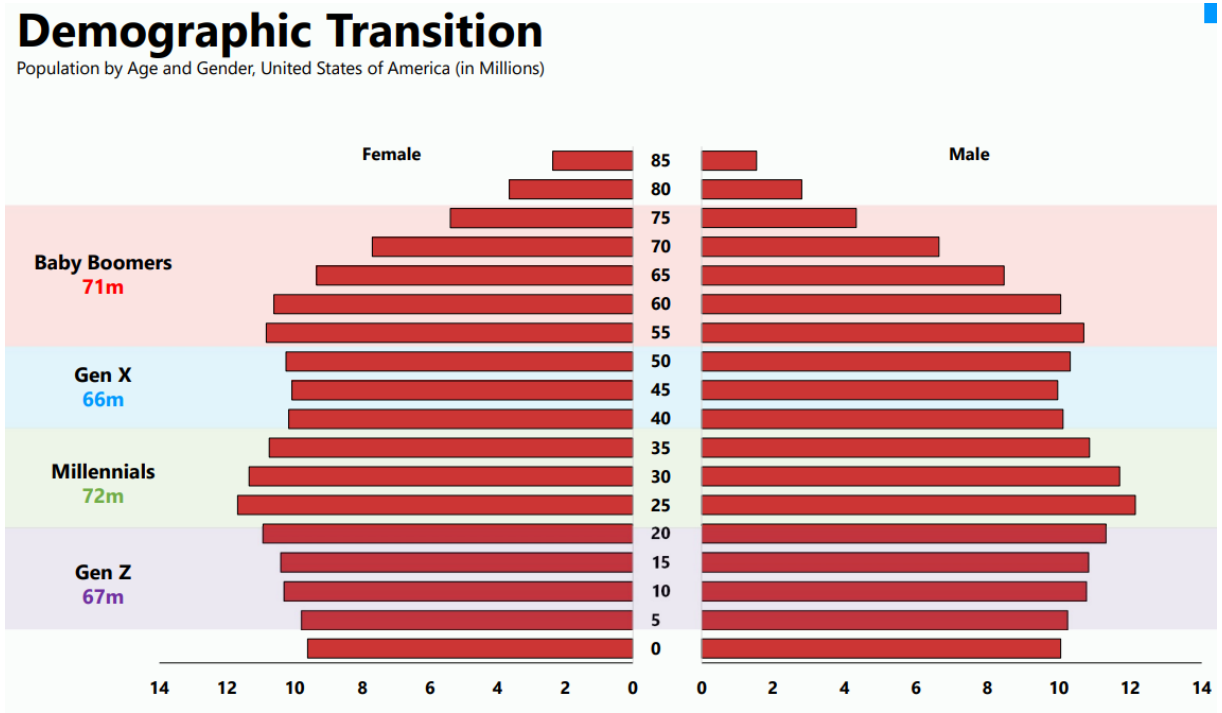
Civilian labor force participation rate, seasonally adjusted

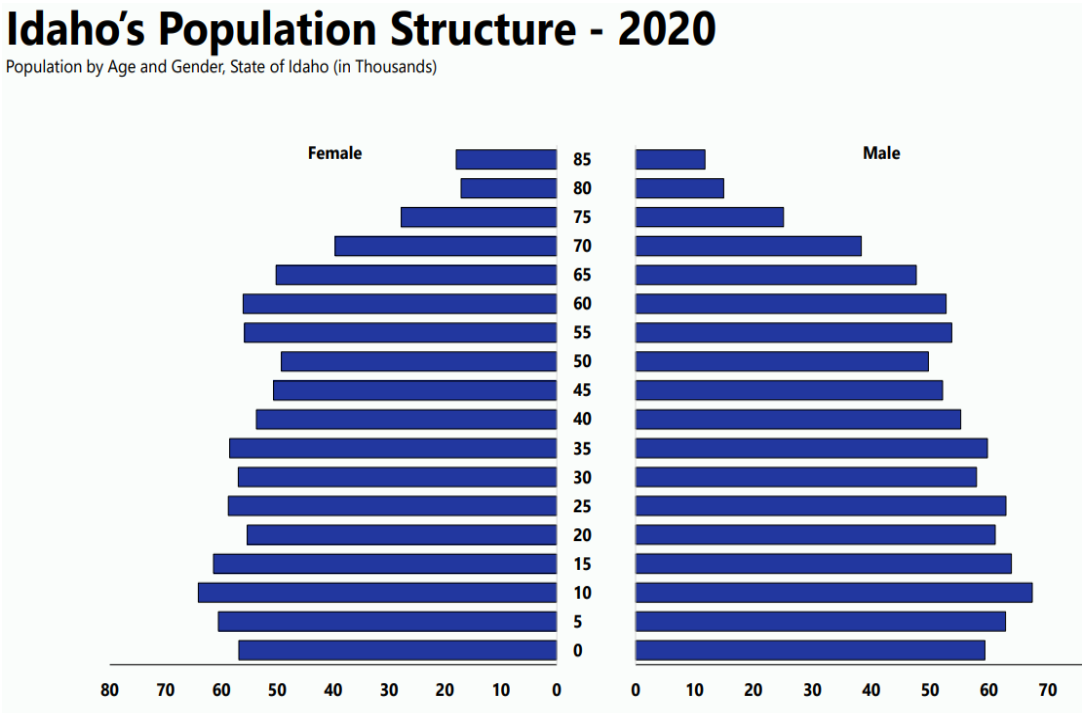
Click and drag within the chart to zoom in on time periods

U.S. Fertility Rates Below Replacement Rate – *1960 to 2020*

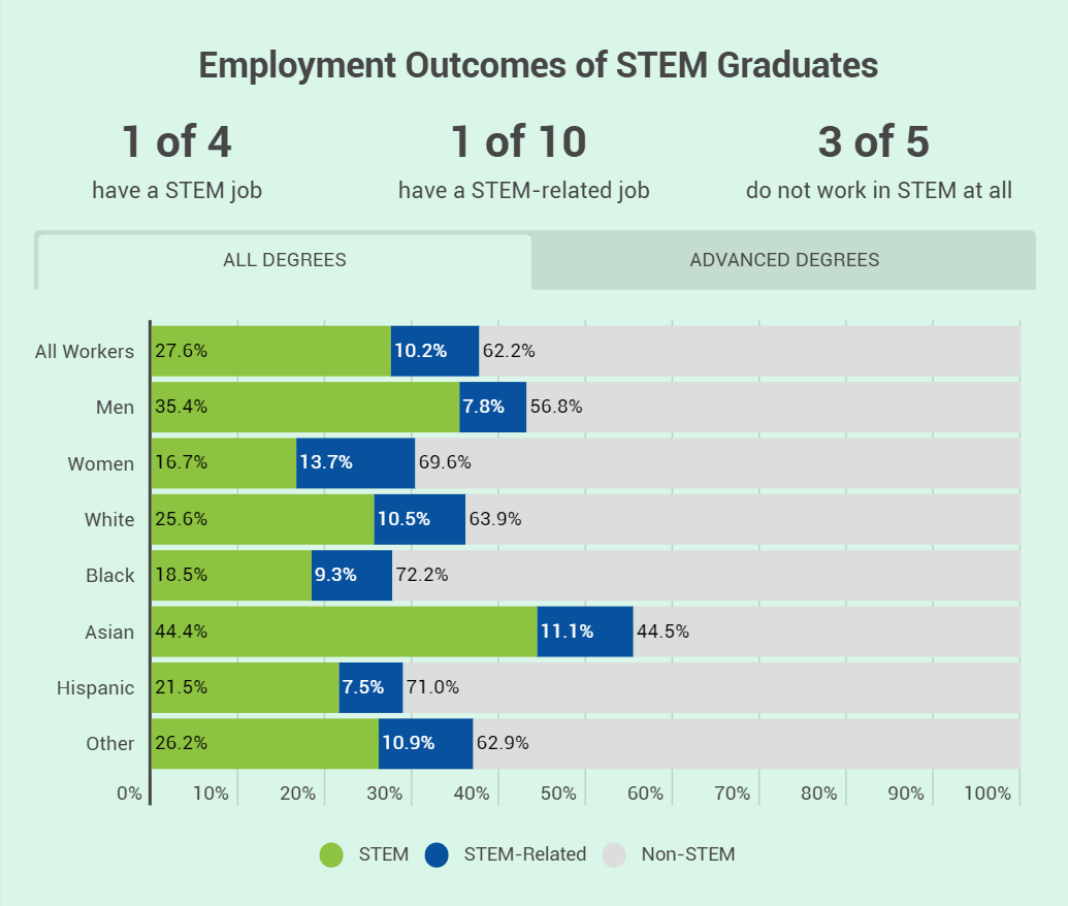


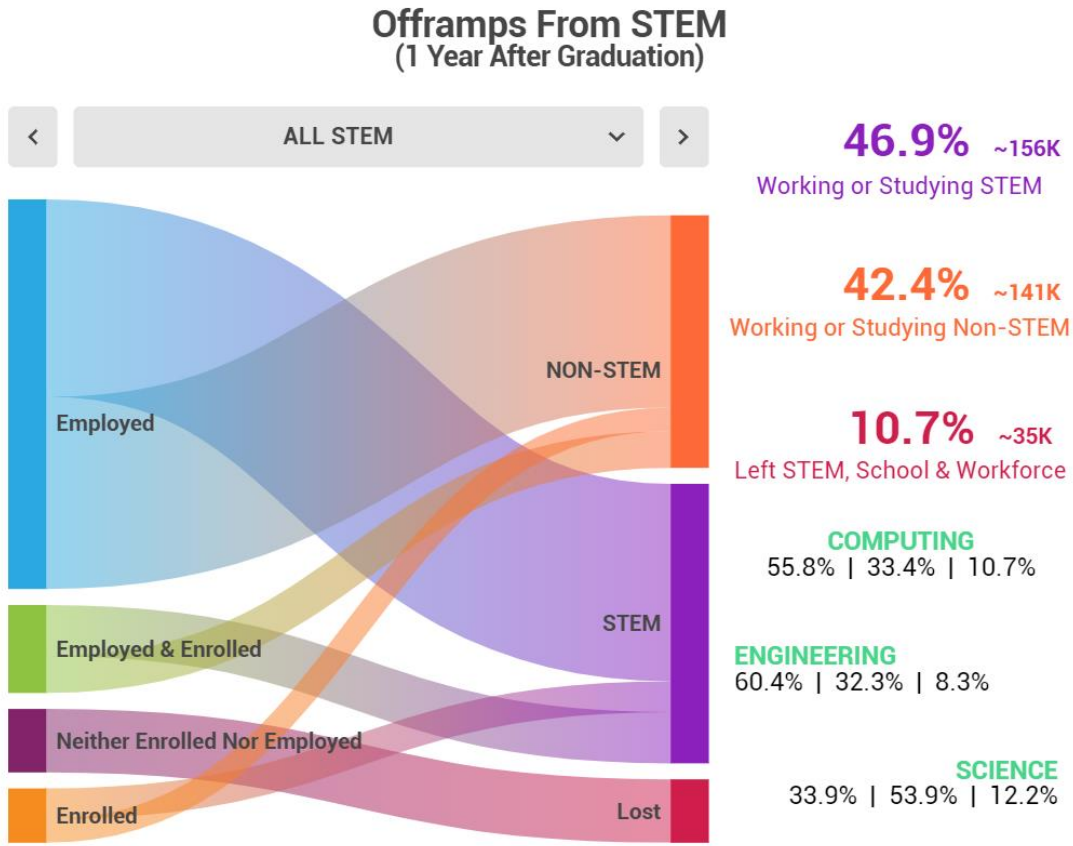
U.S. vs. Idaho Generational Demographics





Workforce Distribution – *Education vs. Occupation*



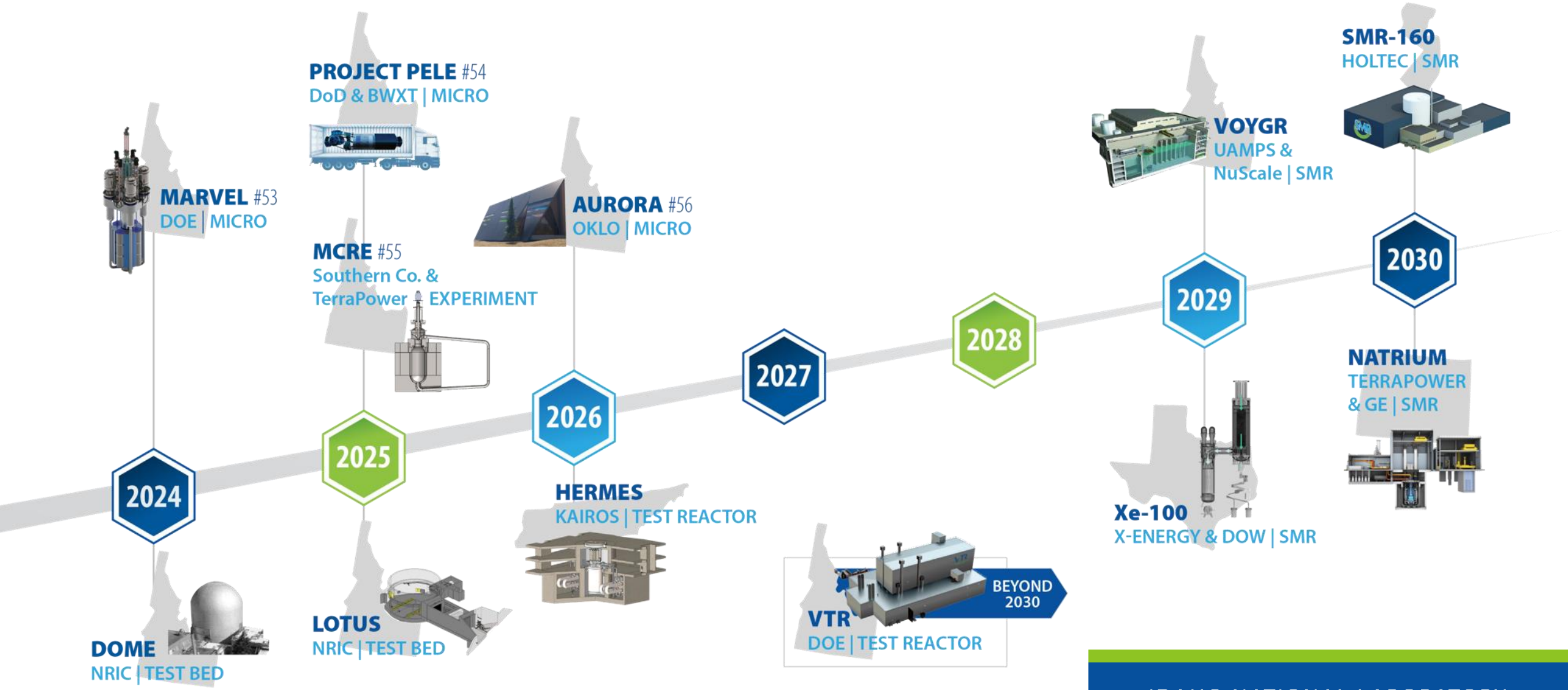


Primary Source: National Center for Education Statistics (NCES) Baccalaureate and Beyond Longitudinal Study. Manual review and aggregation of data from…

- 2008 cohort in 2009, 2012, and 2018
- 2016 cohort in 2017 (awaiting release of 2020 data)

Secondary Source: Quantifying Inclusive Diversity in the Nation's STEM Workforce, Idaho National Laboratory

Advanced Nuclear – *Accelerating Regional Growth*



Advanced Nuclear Deployment – *Two Workforce Pathways*

The U.S. would need ~375,000 additional trained workers with technical and nontechnical skill sets to construct and operate 200 gigawatts of advanced nuclear.

- Trades & Construction (Temporary)
- Industry Employment (Permanent)

~100B

ADDED TO THE ECONOMY BY 2030

~140k

DIRECT JOB-YEARS BY 2030

~60k

INDIRECT JOB-YEARS CREATED FROM CONSTRUCTION AND OPERATION ACTIVITIES

~114k

AVERAGE INCOME OF JOB-YEARS CREATED

Jobs created from new nuclear power plant construction by 2030

Vogtle Root Causes and Systemic Issues

Root causes lead to… → **…Systemic issues** → **…lagging indicators of poor performance**

Root causes	Systemic issues	Lagging indicators
Incomplete design	1 Extensive rework / remediation	Schedule slippage
Inadequate level of detail in Integrated Project Schedule / inflexible timelines; poor project controls system	2 Supply chain delivery issues (for modules)	High CPI (hours worked / hours earned ratio), low productivity
Inadequate quality assurance / control practices; improper documentation standards	3 Low individual productivity	
Poor risk assessment	4 High levels of attrition and absenteeism	
Limited design constructability		
Shortage of experienced labor		
COVID-19 pandemic		

Within project leadership control

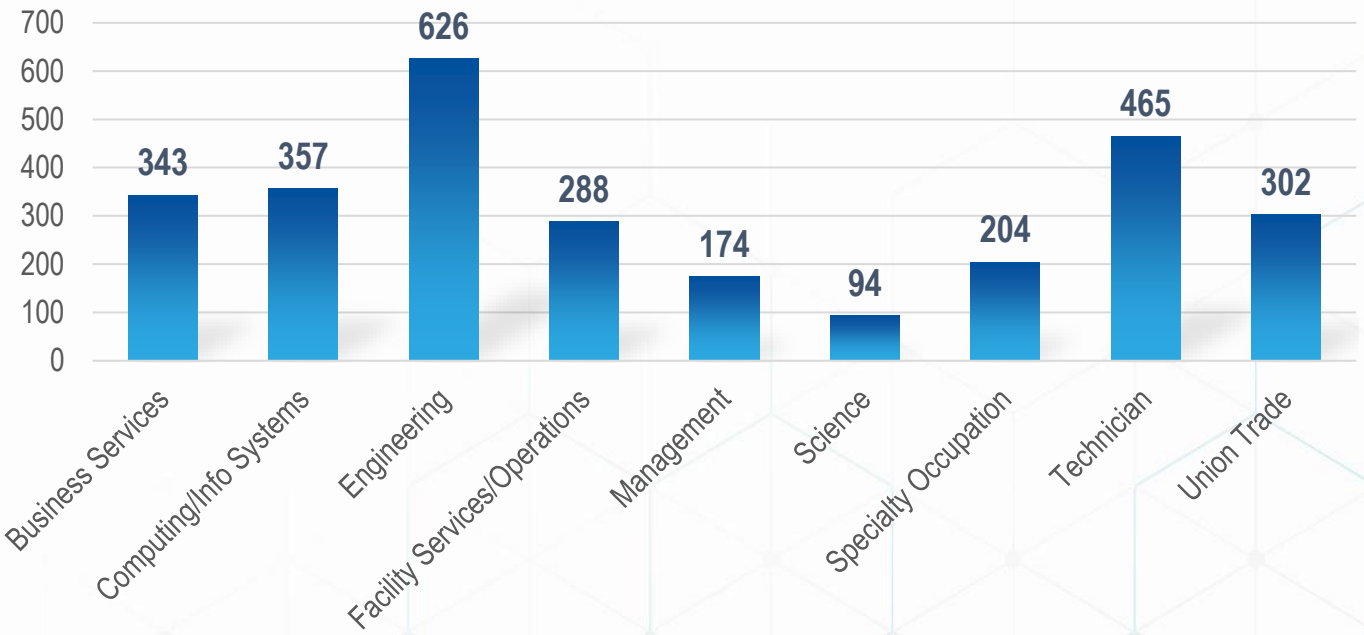
Outside of project leadership control

U.S. DEPARTMENT OF ENERGY

Idaho National Lab – *Accelerating Regional Growth*

2,853 *Total Anticipated Openings*

(through FY-26)



IDAHO NATIONAL LABORATORY

How are we managing these needs?

- Recognizing the regional nature of the future of advanced energy
- Creating the Idaho Workforce Training Center
- Expanding community college partnerships
  - Removing transfer pathway barriers
- Increasing exposure to the energy industry (jobs & general knowledge)
- Creating an industrywide team: Idaho Advanced Energy Consortium
  - Go after available grants/funds
  - Plan for mutual advanced energy goals

Idaho National Laboratory

Battelle Energy Alliance manages INL for the U.S. Department of Energy's Office of Nuclear Energy. INL is the nation's center for nuclear energy research and development, and also performs research in each of DOE's strategic goal areas: energy, national security, science and the environment.