Advanced Manufacturing Office

U.S. Department of Energy

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Multi-Material Joining Workshop

Rosemount, IL

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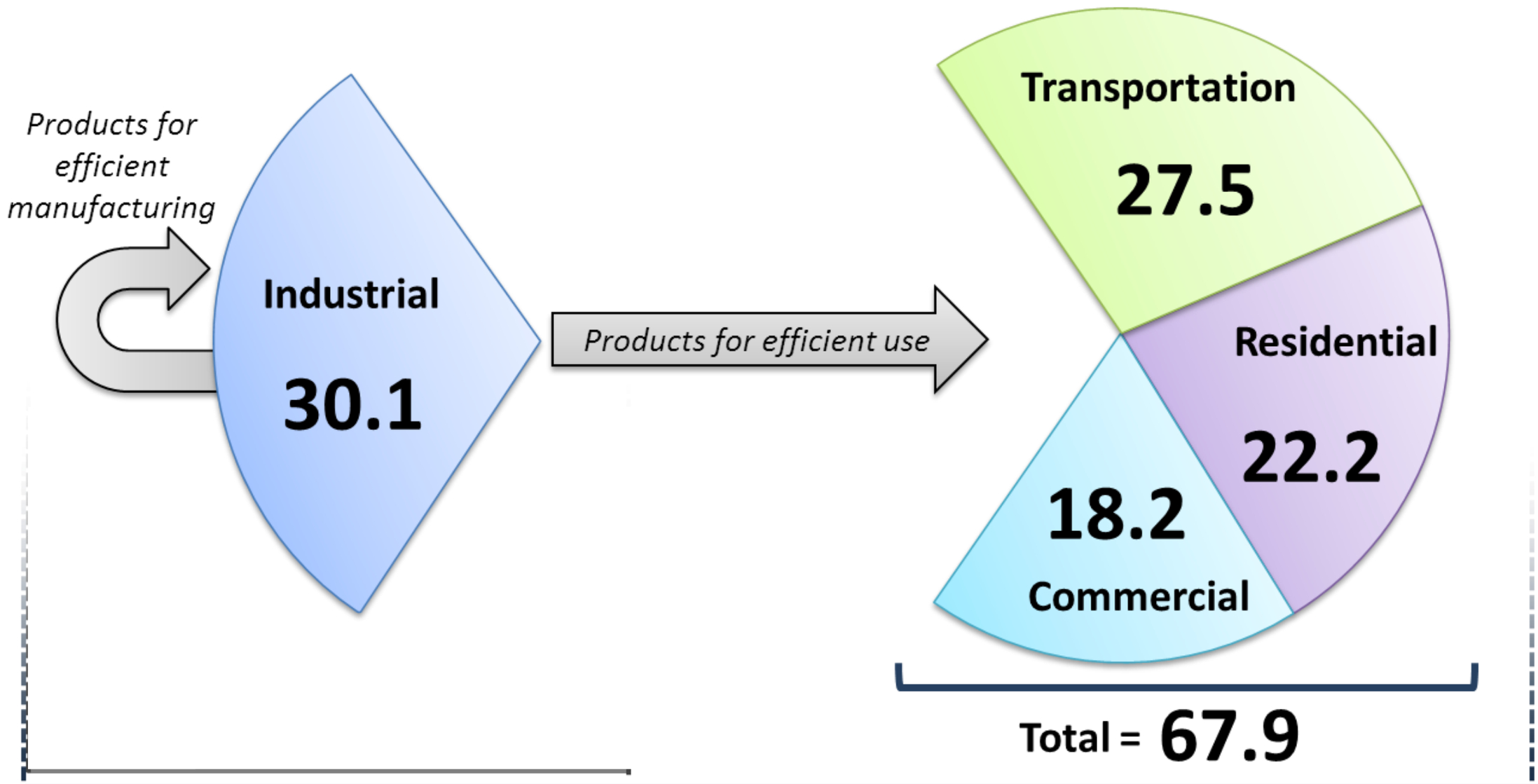
U.S. DEPARTMENT OF ENERGY

Energy Economy-wide lifecycle impacts

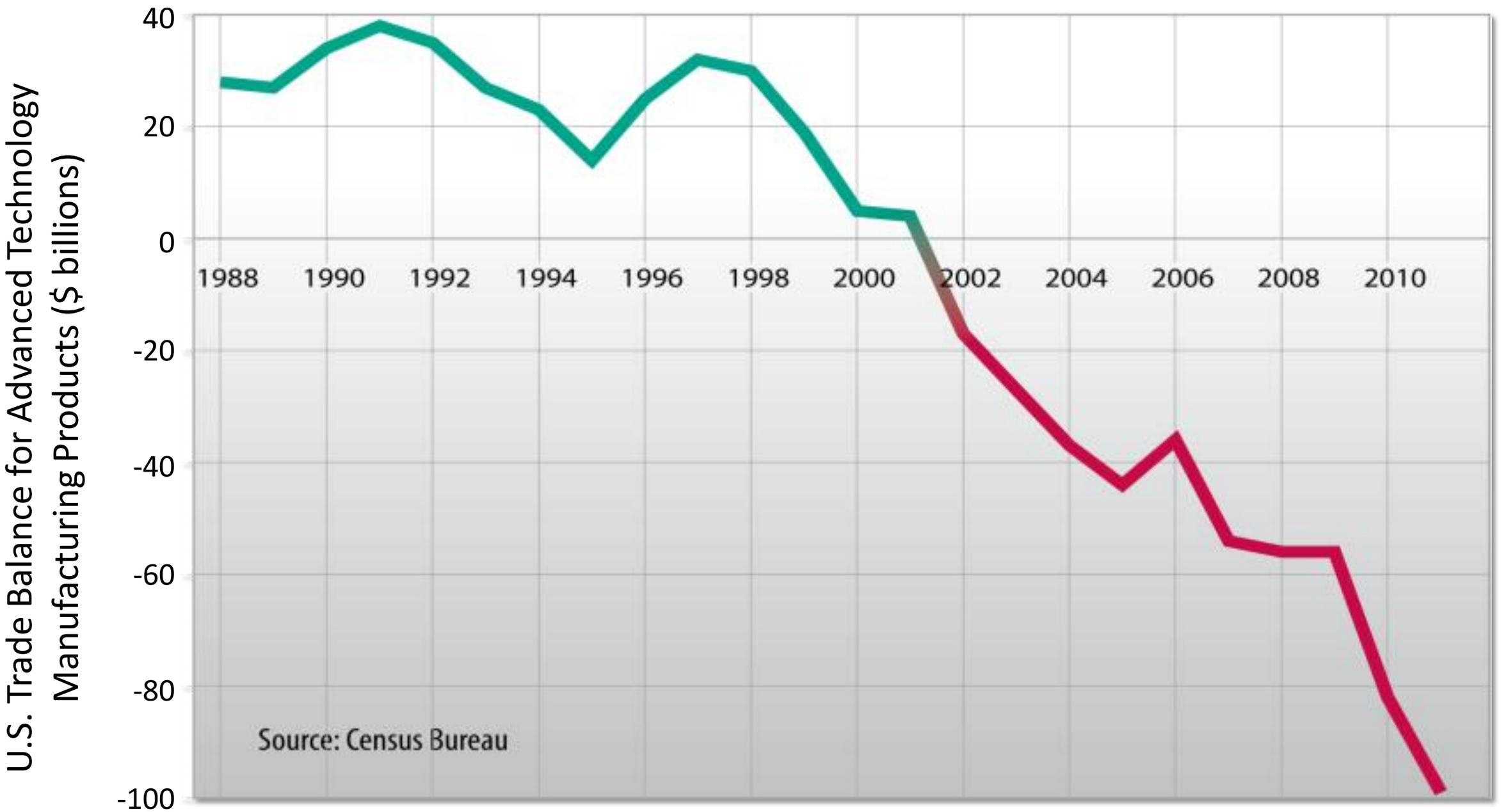
Primary Energy Consumption by Sector, 2010 (Quads)



AMO investments impact all sectors

Manufacturing is vital to the U.S. economy

- 11% of U.S. GDP
- 12 million U.S. jobs
- 60% of U.S. engineering and science jobs
- 57% of U.S. Exports
- Nearly 20% of the worlds manufactured value added



Office Goals and National Importance

The Advanced Manufacturing Partnership

The Advanced Manufacturing Partnership (AMP) engages industry to develop public-private partnerships that are coordinated across federal agencies to ensure effectiveness and drive American prosperity.

U.S. D.O.E.

Ensure America's security and prosperity by addressing its energy, environmental and nuclear challenges through transformative science and technology solutions.

EERE

Strengthen America's energy security, environmental quality, and economic vitality in public-private partnerships that enhance energy efficiency and productivity; bring clean, reliable and affordable energy technologies to the marketplace; and make a difference in the everyday lives of Americans by enhancing their energy choices and their quality of life.

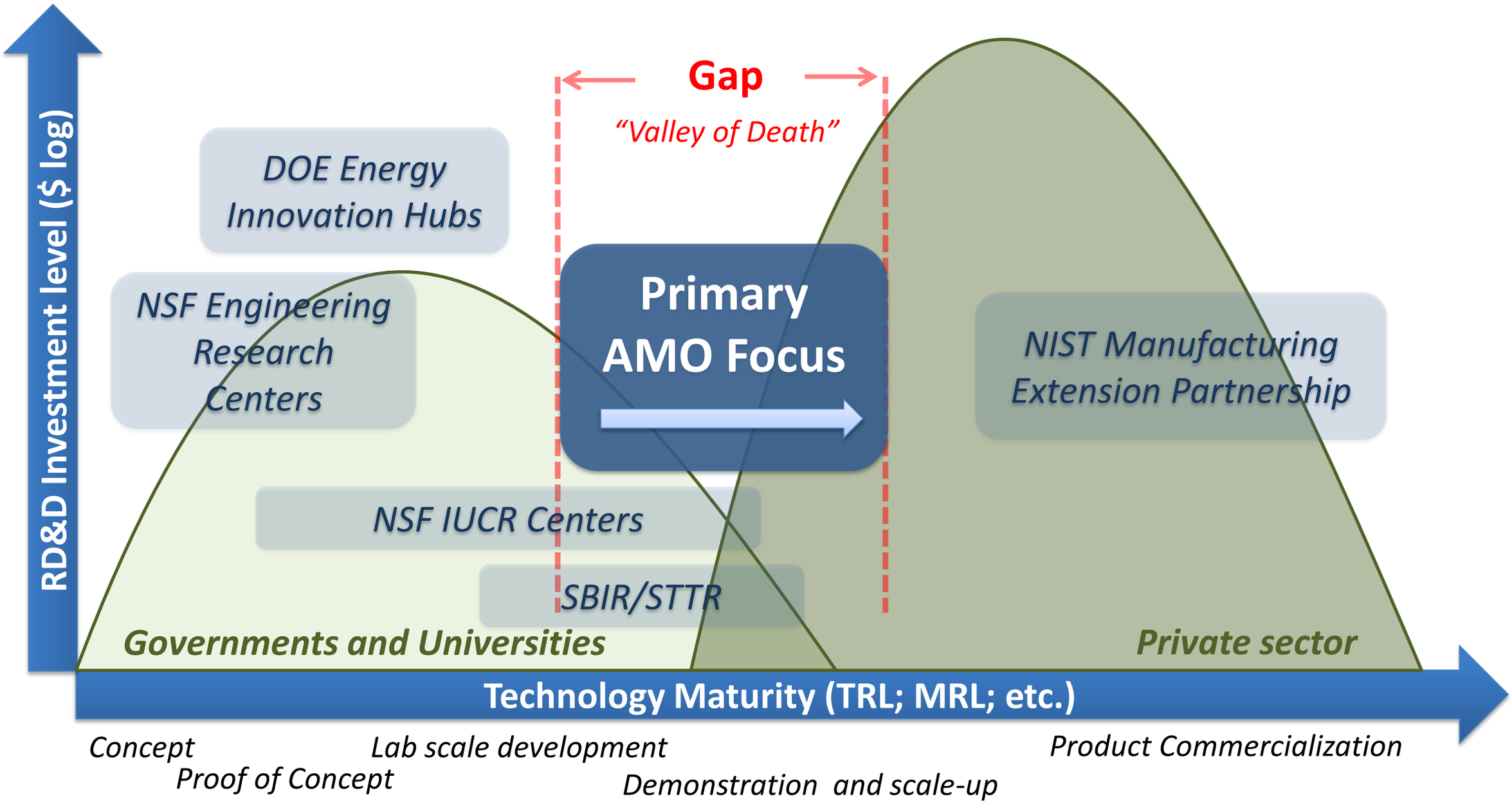
Advanced Manufacturing Office

Develops energy efficient advanced manufacturing processes and materials technologies and encourages technology deployment at a scale meaningful to manufacturers.

Products commercialized to provide energy use, national security and U.S. manufacturing competitiveness benefits

AMO partners with industry, small business, universities, and other stakeholders to identify and invest in emerging technologies with the potential to create high-quality domestic manufacturing jobs and enhance the global competitiveness of the United States.

AMO Investments leverage strong Federal support of basic research by partnering with the private sector to accelerate product development



AMO's Investment vehicles

Identify timely, high-impact, foundational clean energy technologies with the potential to transform energy use and accelerate their introduction into the US economy

1. Invest in competitively-selected, cost-shared **Projects** to support ***innovative manufacturing processes*** and ***next-generation materials manufacturing*** for clean energy and energy efficiency industry

2. Establish **Manufacturing Demonstration** (User) **Facilities** ***to reduce barriers to exploration of new ideas***

3. Engage with industry and other stakeholders to create a robust and scalable **Technology Deployment** program for existing technologies
   - Better Buildings and Plants
   - Information Sharing
   - Training

Targeted investments in high impact technologies

Foundational Technology: A technology capable of *transforming* techno-economic systems

- **Transformative:** Results in significant change in the life-cycle impact (energetic or economic) of manufactured products
- **Pervasive**: Creates value in multiple supply chains, diversifies the end use/markets, applies to many industrial/use domains in both existing and new products and markets
- **Globally Competitive**: Represents a competitive/strategic capability for the United States
- **Significant in Clean Energy Industry:** Has a quantifiable *energetic* or *economic* value, embodied energy, economic (increase in GDP, increase in export value, increase in jobs created)