

**APPENDIX TABLE 3A-2.** Indication of quantitative and qualitative discussions of impacts across the three domains of criticality in the four areas of technology. “Discussed” refers to projects that qualitatively discuss a given national objective without making it their core metric of performance. Direction of arrow corresponds to strategic planning vs. impact-assessing metrics: left-facing arrows indicate historical assessment metrics and right-facing arrows indicate future strategic planning metrics. Numbers in the arrows correspond to the note numbers below.

| National objective            | Security           |           | Prosperity   |       | Social well-being |           |           |
|-------------------------------|--------------------|-----------|--------------|-------|-------------------|-----------|-----------|
|                               | Project topic area | Economy   | Productivity | Labor | Health            | Climate   | Equity    |
| AI                            |                    |           | ➤ 1          |       | ➤ 2               |           | ➤ 3       |
| Semi-conductors               | discussed          | discussed | ➤ 4          | ➤ 5   | ➤ 6               |           | discussed |
| Biopharma                     | discussed          | discussed |              |       |                   | ➤ 7       |           |
| Energy and critical materials |                    | ➤ 8       |              | ➤ 9   |                   | discussed | discussed |

- 1 Firm-level productivity increase following receipt of an AI-related patent
- 2 Change in quantity of job postings by a firm following its first machine learning (ML)-related job posting, both ML- and non-ML-related
- 3 Geographic concentration of AI-adopting firms
- 4 Historical economywide productivity increase derived from improved semiconductor performance
- 5 Modeled economywide productivity gains from advanced “beyond-CMOS” semiconductor technologies and estimated commercialization costs of these technologies
- 6 Geographically mapped semiconductor technician skill supply and identified clusters with potentially transferable skills
- 7 Essential medicine domestic supply chain resilience and barriers to advanced manufacturing adoption
- 8 Electric vehicle pass-through cost sensitivity to a battery material price increase
- 9 Battery manufacturing and supply chain labor demand and skill supply mapping