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CHIPS IN THE DESERT:

Implementing Industrial Policy in Arizona

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It is August 2024, and officials at the Arizona Commerce Authority (ACA) have just learned that the new 1,100-acre factory being built by Taiwan Semiconductor Manufacturing Company (TSMC) is delayed once again. This marks the third delay since construction began in 2021. TSMC had completed its Kumamoto, Japan fab in just two years, prompting questions about the Phoenix timeline. Whether this comparison was fair remained contested—Arizona's project was far larger in scale and technical complexity—but the perception of delay created its own pressures.

State and local officials were increasingly concerned about tensions between Taiwanese managers and local union workers. TSMC's exacting corporate culture had helped make it the world's leading semiconductor manufacturer. While American union employees were hardworking, Taiwanese supervisors often perceived them as lazy if they weren't constantly available at short notice. Union workers, meanwhile, felt that safety standards were being compromised for the sake of efficiency, putting their members at risk.

Business interests were also causing considerable anxiety. Initially attracted to Phoenix by local tax incentives and federal subsidies, TSMC now faced strained project financing due to repeated construction delays. If TSMC determined the project financially untenable, officials knew the company might abandon its future plans in Arizona, risking thousands of jobs and the waste of billions in taxpayer funding.

The financial pressures were substantial. TSMC had initially announced a $12 billion investment in a single fab in 2020, but the project's scope expanded rapidly—to $40 billion for two fabs by December 2022, and then to over $65 billion for three fabs by 2024. TSMC founder Morris Chang warned in 2023 that chip manufacturing costs in Arizona were at least 50% higher than in Taiwan, with the real figure potentially closer to double.[i] According to TSMC's 2024 annual report, the Arizona subsidiary posted a net loss of approximately NT$14.3 billion (roughly $441 million) for the year—its largest annual loss since the factory's establishment—bringing cumulative losses over four years to more than NT$39.4 billion. By contrast, TSMC's Nanjing facility in China earned nearly NT$26 billion in profit during the same period.[ii] TSMC anticipated that its U.S. investment would reduce overall gross margins by 2–3 percentage points annually over the next five years, though analysts expected the Arizona operation could approach breakeven as production volumes ramped up.

The ongoing delays posed significant political risks. Frustrated Phoenix voters could respond negatively in upcoming elections. Yet even success presented challenges. TSMC and Intel had collectively committed nearly $100 billion to the Phoenix area, prompting optimism among local business owners anticipating increased consumer spending. However, those same owners expressed concern about escalating rents and extensive new developments reshaping their neighborhoods. Longtime residents viewed these changes skeptically, concerned about losing the familiar landscape as dirt roads were replaced by parking lots and commercial buildings.

The delays carried political implications beyond Arizona. The Biden Administration had placed semiconductor manufacturing at the heart of its economic policy, emphasizing American

leadership in advanced manufacturing. Phoenix had become a focal point of this strategy. Earlier in 2024, President Biden himself toured TSMC's unfinished Phoenix factory, underscoring the project's national importance. Consequently, local officials were under pressure from federal authorities to expedite construction.

Given the complexity of the situation, which stakeholder interests should Arizona officials prioritize? Should they emphasize local residents' concerns about rising costs and environmental impacts, national policymakers' focus on economic security and industrial competitiveness, business interests driven by profitability and sustainability, or the political considerations linked to voter satisfaction and electoral stability?

The CHIPS and Science Act

Microchips, or chips, are integrated circuits built on silicon wafers—a type of semiconductor material. The intricate patterns of these circuits are created through a process called lithography, which precisely transfers circuit designs onto the wafer. Some chips, known as "commodity-grade," utilize simpler lithographic methods, while others, such as those produced by TSMC, require extremely advanced and precise equipment.

In August 2022, President Joe Biden signed the Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act into law, concluding lengthy legislative negotiations. Originating as two separate Senate bills, the CHIPS Act aimed to enhance American economic security and global competitiveness. It represents the most expensive U.S. industrial policy legislation enacted in nearly a century. Industrial policy, as defined by economist Dani Rodrik, refers to government measures that intentionally alter economic structures to achieve public objectives.[iii]The CHIPS Act emerged partly in response to the global disruption caused by COVID-19. When the pandemic triggered worldwide lockdowns and inconsistent public health protocols, global supply chains froze, significantly affecting production and distribution networks. Countries like the United States, heavily reliant on service-based economies and international manufacturing, suddenly faced critical vulnerabilities. While globalization and offshore manufacturing had driven prosperity, the pandemic exposed their risks. The resulting chip shortages cost the U.S. economy an estimated $240 billion due to halted production, closed factories, and widespread layoffs. U.S. semiconductor manufacturing had declined from a global market share of 37 percent in 1990 to just 12 percent.[iv] The Biden Administration argued the CHIPS Act was essential for boosting America's economic resilience and national security by reestablishing a robust domestic chip supply chain.[v]

The United States was not alone in responding to these vulnerabilities. The European Union approved its own Chips Act in 2023, aiming to mobilize roughly €43 billion (approximately $47 billion) in public and private investment. Japan committed over $8 billion in subsidies for TSMC's facilities and other semiconductor projects. South Korea enacted its own "K-Chips Act," offering generous tax credits and planning a major new semiconductor cluster at Yongin. China, meanwhile, continued to pour state-led investment into its domestic semiconductor industry through its National IC Industry Investment Fund. In this global context, the CHIPS Act's $39 billion in direct manufacturing subsidies represented a significant but not dominant share of worldwide government support for the industry.[vi]

The CHIPS Act allocated $39 billion in subsidies and offered investment tax credits to semiconductor manufacturers to offset high equipment costs. Additionally, it dedicated $13 billion to workforce training programs. The distribution of these incentives would follow a competitive selection process prioritizing commercial feasibility, the creation of high-quality jobs, and economic revitalization for historically underserved communities, according to the U.S. Department of Commerce.[vii]

Chips in Japan

Japan offers a point of comparison for TSMC's overseas expansion. In 2021, TSMC announced plans to build a fabrication plant in Kumamoto Prefecture through a joint venture with Sony and Denso, forming Japan Advanced Semiconductor Manufacturing (JASM). Toyota later joined as an investor.[viii] The Japanese government committed over $8 billion in subsidies for TSMC's Kumamoto facilities and coordinated support through its Ministry of Economy, Trade and Industry (METI). METI's semiconductor revitalization strategy emphasized strengthening domestic production capacity and forming international alliances, with the agency acting as a centralized partner for industrial policy implementation.[ix]

Construction of the Kumamoto fab began in April 2022 and finished in just two years.[x] Japanese contractors adapted easily to TSMC's management style, helped by shared assumptions about long work hours, hierarchy, and precision. The government created a tailored permitting process for semiconductor facilities, allowing environmental and safety reviews to proceed without lengthy litigation risk. For TSMC, the combination of political alignment, cultural compatibility, and administrative cohesion resulted in rapid delivery, reinforcing Japan's reputation as a reliable hub for advanced manufacturing.

Chips in America

The United States dominated semiconductor manufacturing from the 1950s through the 1970s, particularly in California's Santa Clara Valley, famously known today as Silicon Valley. However, America's leadership in chip production declined significantly in subsequent decades. Japanese companies, strongly supported by the Ministry of International Trade and Industry (MITI)—a powerful government body responsible for coordinating Japan's industrial policies and exchange rates—began selling inexpensive semiconductors in the U.S. market. This strategy severely impacted American semiconductor firms, leading to major losses.

In response, the U.S. government established SEMATECH in 1986, providing $500 million in funding through the Department of Defense. SEMATECH was a nonprofit consortium combining semiconductor manufacturers and government agencies, designed to lower research, development, and manufacturing costs and counter Japanese competition. Semiconductors were seen as critical to national security, motivating SEMATECH's efforts to rejuvenate the U.S. industry.[xi]

SEMATECH's legacy remains complex.[xii] On one hand, the U.S. market share for semiconductor memory chips improved following SEMATECH's formation, suggesting it successfully facilitated collaboration among competing American companies. On the other hand, the overall effectiveness of SEMATECH is uncertain due to several complicating factors. For example, President Ronald Reagan imposed tariffs on Japanese semiconductor products in 1987, reducing competition. Japan's semiconductor industry also suffered from overcapacity, partly due to an asset-price bubble that burst in the late 1980s, further easing competitive pressures.

The closure of GCA Corporation, an American chip-making equipment company that received around $60 million from SEMATECH but still shut down in 1993, illustrates the risks inherent in government-backed industrial policy. While specific unsuccessful investments are easy to highlight in retrospect, evaluating the overall impact of industrial policy is challenging because benefits extend beyond measurable shareholder returns and can be difficult to quantify precisely. Consequently, experts remain divided on whether SEMATECH ultimately succeeded, considering factors such as GCA's failure, Reagan's tariffs, and Japan's broader economic struggles during the Lost Decade.

Arizona's Strategy

Arizona's recruitment of TSMC did not begin with the CHIPS Act. The state's semiconductor industry dates back to the 1940s, when Motorola established operations in Phoenix. Intel opened its first Arizona fab in 1979, and by 2019, Arizona hosted 115 chip-related companies. [xiii] The Arizona Commerce Authority (ACA), created after the 2008 financial crisis as a public-private partnership to replace the former Department of Commerce, played a central role in cultivating the relationship with TSMC. Unlike a traditional government agency, the ACA's board is dominated by private-sector CEOs alongside university and community college presidents, designed to align economic development with business realities and workforce needs.

In 2013, a delegation led by the ACA visited Taiwan and made an unsolicited pitch to TSMC executives—years before the company was actively considering overseas expansion. Arizona officials cultivated the relationship over the following seven years, so that when TSMC began evaluating international sites, Arizona engaged from a position of familiarity rather than starting cold. Following substantial local tax incentives, infrastructure grants—including a $200 million commitment from the city of Phoenix—and coordination among Arizona State University, community colleges, and utility providers, TSMC and Intel announced in 2020 their intentions to build new factories in the Phoenix metropolitan area.[xiv]

Administrative Implementation

Administrative responsibilities for the CHIPS Act were divided among the Department of Commerce (DOC), Department of Defense (DOD), and Department of State (DOS), with the DOC receiving the largest allocation of $51 billion. However, federal-level collaboration among these agencies proved challenging. During the process of allocating a $10 billion grant to Intel, the DOD unexpectedly withdrew its planned $2.5 billion contribution to research and development, leaving the DOC to cover this gap by reallocating funds from other programs.

Within the DOC, the CHIPS Act's implementation is managed by the CHIPS Program Office (CPO), a team of 175 professionals combining expertise from both Washington bureaucracy and Silicon Valley[xv]. Secretary of Commerce Gina Raimondo strongly supported the initiative, stating that the CHIPS Act positions the United States to produce roughly 20% of the world's most advanced logic chips by 2030.[xvi]

To distribute its $51 billion in subsidies, the DOC established a competitive selection process. Texas, Ohio, and Arizona were among states that submitted applications. Arizona was uniquely positioned given the longstanding industry presence and relationship-building described above. In November 2024, the Department of Commerce finalized an award of up to $6.6 billion in direct funding to TSMC Arizona, along with up to $5 billion in proposed loans. The award supported TSMC's planned investment of more than $65 billion in three leading-edge fabs in Phoenix—described by the Commerce Department as the largest foreign direct investment in a greenfield project in U.S. history.[xvii] Under the terms of the agreement, the Department would disburse funds based on TSMC Arizona's completion of construction, production, and commercial milestones. By late 2024, TSMC had met sufficient milestones to receive at least $1 billion, according to Michael Schmidt, director of the CHIPS Program Office.[xviii] TSMC was also required to adhere to restrictions on stock buybacks for five years and comply with national security guardrails established under the Act.[xix]

Permitting

Semiconductor companies receiving CHIPS Act funding must comply with regulations under the National Environmental Policy Act of 1969 (NEPA). NEPA mandates that federal agencies assess the environmental impact of significant new projects through three possible levels of analysis: Categorical Exclusion, Environmental Assessment (EA), and Environmental Impact Statement (EIS).

A project can receive a Categorical Exclusion if it's expected to have minimal environmental impact, based on the impacts of similar past projects. If the project doesn't qualify for exclusion, an Environmental Assessment is typically prepared, though an agency may proceed directly to an Environmental Impact Statement if significant impacts are clearly anticipated. If an EA is conducted and indicates significant environmental impacts, a comprehensive Environmental Impact Statement becomes necessary.

According to the U.S. Department of Justice, NEPA is the federal environmental statute most frequently challenged in court. Common legal challenges include accusations of insufficient analysis, improper categorical exclusions, or failure to prepare an EIS. On average, draft EIS documents are around 575 pages, while final versions typically extend to approximately 661 pages. Completing an EIS usually takes about 4.5 years.[xx]

Semiconductor fabs required to produce an EIS in Arizona could face substantial delays. Project delays can increase infrastructure costs by as much as 5% annually, potentially adding approximately $3 billion each year to TSMC's planned $65 billion investment. These delays could adversely affect both project profitability and the broader objectives of the CHIPS Act, notably the timely reshoring of the semiconductor supply chain.

Senators from Texas and Arizona responded by proposing the Building Chips in America Act of 2023, designed to streamline the environmental review process for semiconductor fabs funded by the CHIPS Act. Signed into law in October 2024, the legislation made several key changes.[xxi] First, it exempted certain CHIPS-funded projects from NEPA review entirely—specifically, projects where construction had already commenced before federal funding was provided, or where federal assistance (excluding loans) constituted no more than 10% of total project costs. Second, it established new categorical exclusions for activities related to the construction, expansion, or modernization of semiconductor facilities, allowing the Secretary of Commerce to adopt exclusions from other federal agencies. Third, it designated the Department of Commerce as the lead agency for any remaining NEPA reviews of CHIPS-funded projects, consolidating what had previously been a multi-agency process.

The legislation's impact on the TSMC Arizona project was significant but nuanced. Because TSMC had broken ground in April 2021—well before receiving its CHIPS Act award—the project qualified for exemption under the provision covering activities that had already commenced. This meant the project did not need to undergo a full Environmental Assessment or Environmental Impact Statement at the federal level, avoiding delays that could have added years to the timeline. However, the project remained subject to state-level environmental permitting, including Clean Air Act permits, hazardous waste regulations under RCRA, and water quality requirements administered by the Arizona Department of Environmental Quality. The bill encountered opposition from most House Democrats, who argued NEPA protects community and environmental interests. Rep. Raúl Grijalva, the most senior Democrat on the House Natural Resources Committee, called it "unconscionable" to allow semiconductor facilities to bypass NEPA's public input processes.[xxii] Senator Mark Kelly, one of the bill's co-authors, countered that it was "not a rollback of any environmental laws," noting that projects would still need to comply with the Clean Air Act and Clean Water Act.[xxiii]

State and local officials welcomed the expedited review process but remained cautious about potential political repercussions. Some Phoenix residents expressed concerns about environmental consequences. Historical experiences, such as the Environmental Protection Agency identifying 23 toxic superfund sites in Silicon Valley during the 1980s due to semiconductor contamination, heightened local apprehension. Additionally, semiconductor fabs require substantial water resources—a significant public concern given Phoenix's arid climate. Though modern fabs have improved practices around contamination control and water recycling, NEPA traditionally provided citizens a platform to review and contest troubling projects. Consequently, officials recognized that voter dissatisfaction, whether driven by environmental issues or shifts in housing markets, could influence local elections.

Collaboration with Unions

The TSMC factory in Arizona is one of the largest construction sites in the United States, employing around 10,000 workers. Due to prevailing wage standards required by federal contracts, employees are subject to rigorous pay and safety regulations. Most workers are unionized, leveraging collective bargaining to advance their interests. President Biden strongly supported unions, describing union workers as "the single greatest technicians in the world."

TSMC has expressed dissatisfaction with local work practices.[xxiv] In August 2023, after TSMC chairman Mark Liu publicly cited an "insufficient amount of skilled workers" as the reason for construction delays, the Arizona Building and Construction Trades Council pushed back.[xxv] Taiwanese media, reflecting TSMC's concerns, characterized American workers as lazy.[xxvi] Aaron Butler, president of the council, wrote a letter to the White House calling TSMC's claims "offensive" and "inaccurate," noting that local workers had been building fabs for Intel for decades without comparable delays. Butler accused TSMC of using the skills gap narrative as a pretext for bringing in lower-paid foreign workers.

In December 2023, TSMC and the Arizona labor unions reached an agreement that committed the company to rely more heavily on local workers and to send foreign workers only when "specialized experience" was required. The agreement also established training programs and increased transparency on workplace safety, overseen by a new joint committee.

Safety concerns remained a persistent issue. In May 2024, a 41-year-old tanker-truck driver named Cesar Anguiano-Guitron was killed at the TSMC site when an over-pressurized container's hatch blew off and struck him. The Arizona Division of Occupational Safety and Health (ADOSH) subsequently fined TSMC $16,131 for failing to keep the workplace free from hazards likely to cause death or serious harm. ADOSH investigators found hazards related to over-pressurization, exposure to harmful materials, and falling debris at the site. Workers also reported a lack of clear emergency communication protocols.[xxvii]

In August 2024, a class-action lawsuit was filed against TSMC alleging systematic discrimination against non-East Asian employees. The suit, which eventually grew to include more than 30 plaintiffs, alleged that TSMC favored Taiwanese and Chinese workers in hiring, promotion, and retention, while subjecting American workers to verbal abuse and unsafe conditions. Plaintiffs reported being called "stupid" and "lazy" by Taiwanese managers, and alleged that meetings were conducted entirely in Mandarin, excluding English-speaking employees. TSMC denied the allegations in court filings and stated its commitment to a diverse workforce.[xxviii]

The Search for Solutions

Arizona officials faced the challenge of ensuring that billions of dollars in semiconductor investments delivered their intended benefits. Balancing environmental concerns, union demands, and TSMC's business priorities simultaneously seemed difficult, especially since local and federal governments held differing goals.

The federal government aimed primarily at achieving national security and economic resilience through its industrial policy. Reducing reliance on semiconductor imports from Taiwan had strategic geopolitical significance at the national level but was less critical for local and state officials, who were more concerned with immediate economic impacts. The financial costs of further subsidies would spread across taxpayers nationwide, diluting local accountability.

Union collaboration was another significant factor, particularly given the Biden administration's strong support for organized labor. For local and state officials, however, the potential loss of thousands of jobs due to TSMC's departure was a daunting political and economic risk. They faced pressure to accelerate the project, possibly at the expense of labor considerations. Yet Arizona's status as a political swing state complicated this calculation, as unions could exert national influence during the 2024 election cycle.

Phoenix residents held unique concerns regarding local transformations driven by massive economic investments. While these changes might not substantially influence federal industrial policy, preserving the city's character and affordability remained critical local priorities. State and local leaders had both political and ethical motivations to ensure all Phoenix residents shared in the benefits from the semiconductor industry's growth.

Streamlining environmental review processes under NEPA could expedite achieving the CHIPS Act's industrial policy objectives. However, reducing NEPA's regulatory role risked local backlash, potentially alienating voters concerned about environmental and community impacts. The extent to which such local interests would affect officials' political futures—and TSMC's financial tolerance for additional delays—remained uncertain.

Local economic development professionals found themselves at the center of these tensions. Organizations like the Arizona Commerce Authority and the Greater Phoenix Economic Council had worked for years to position Arizona as a semiconductor hub, building relationships with companies like TSMC while simultaneously advocating for workforce development investments that would benefit Arizona residents. These professionals had to balance their mandate to attract investment and create jobs against concerns about labor standards, environmental oversight, and community welfare. How should they advise state and local officials? Should they prioritize maintaining strong relationships with TSMC to secure future investments, or advocate for policies that might slow project timelines but address worker and community concerns? What role should economic development organizations play in mediating between corporate interests, labor unions, and residents—and how could they ensure that the benefits of semiconductor manufacturing were broadly shared across the Phoenix metropolitan area?

Discussion Questions

1. Arizona officials began cultivating TSMC more than a decade before the company announced its investment. How can policymakers justify sustained investment in relationship-building when results may not materialize for years? What accountability mechanisms are appropriate for such long-horizon initiatives?
2. The Arizona Commerce Authority's public-private structure differs from traditional government agencies. What are the potential advantages and risks of this model? Under what conditions might other jurisdictions consider similar structures?
3. Arizona built upon a semiconductor ecosystem dating to the 1940s, while Ohio has attempted to develop the industry with a much smaller existing base. What options are available to jurisdictions lacking historical foundations in a target industry? Should they pursue similar strategies or consider different approaches?

4. The case describes tensions between expedited permitting and environmental protection. How should policymakers balance economic benefits of faster construction against community and environmental concerns?
5. Cultural differences between TSMC's management practices and American worker expectations created friction. How should multinational companies and host governments manage such interfaces?
6. Officials suggested Arizona's collaborative culture—less adversarial than older industrial states—contributed to coordination success. To what extent can institutional coordination be engineered through policy design versus depending on pre-existing cultural factors?
7. The case raises concerns about equitable distribution of benefits from industrial development. What mechanisms might ensure gains are shared broadly rather than concentrated among technical workers while lower-income residents bear costs like rising housing prices?

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[i] Wu, T. (2023, March 16). *Taiwan chip pioneer warns US plans will boost costs*. AP News. https://apnews.com/article/taiwan-tsmc-processor-chip-china-chang-smartphone-f4831293c2c9a528cab0958ba6dad0ff

[ii] Taiwan Semiconductor Manufacturing Company. (2025). *2024 Annual General Meeting Report*. TSMC. (As reported in Economic Daily News, April 21, 2025.)

[iii] Réka Juhász et al., "The New Economics of Industrial Policy," *Annual Review of Economics* 16, no. 1 (2024): 213–42, https://doi.org/10.1146/annurev-economics-081023-024638.

[iv] Analysis for CHIPS Act and BIA Briefing," U.S. Department of Commerce, April 6, 2022, https://www.commerce.gov/news/press-releases/2022/04/analysis-chips-act-and-bia-briefing.

[v] "Analysis for CHIPS Act and BIA Briefing | U.S. Department of Commerce," April 6, 2022, https://www.commerce.gov/news/press-releases/2022/04/analysis-chips-act-and-bia-briefing.

[vi] "A World of Chips Acts: The Future of U.S.-EU Semiconductor Collaboration," CSIS, October 18, 2024, https://www.csis.org/analysis/world-chips-acts-future-us-eu-semiconductor-collaboration.

[vii] "Frequently Asked Questions: CHIPS Act of 2022 Provisions and Implementation," legislation, accessed December 30, 2025, https://www.congress.gov/crs-product/R47523.

[viii] "TSMC Celebrates the Opening of JASM in Kumamoto, Japan," Taiwan Semiconductor Manufacturing Company Limited, February 24, 2024, https://pr.tsmc.com/english/news/3113.

[ix] Ministry of Economy, Trade and Industry (METI), Japan, "Outline of Semiconductor Revitalization Strategy in Japan," July 2024.

[x] "TSMC Celebrates the Opening of JASM in Kumamoto, Japan," Taiwan Semiconductor Manufacturing Company Limited, February 24, 2024, https://pr.tsmc.com/english/news/3113.

[xi] *Securing the Future: Regional and National Programs to Support the Semiconductor Industry* (National Academies Press, 2003), 10677, https://doi.org/10.17226/10677.

[xii] Charles Wessner and Thomas Howell, *Implementing the CHIPS Act: Sematech's Lessons for the National Semiconductor Technology Center*, May 19, 2023, https://www.csis.org/analysis/implementing-chips-act-sematechs-lessons-national-semiconductor-technology-center.

[xiv] "Behind the Deal: Courting Taiwan Semiconductor Took Years. Now, It's on a Strict Timeline," *Phoenix Business Journal*, July 19, 2021, https://www.bizjournals.com/phoenix/news/2021/07/19/taiwan-semiconductor-phoenix-deal-took-years.html.

[xv] Mackenzie Hawkins, "With US Chips Act Money Mostly Divvied Up, the Real Test Begins," *Bloomberg.Com*, August 9, 2024, https://www.bloomberg.com/news/articles/2024-08-09/with-us-chips-act-money-mostly-divvied-up-the-real-test-begins.

[xvi] "Remarks by U.S. Secretary of Commerce Gina Raimondo: Investing in Leading-Edge Technology: An Update on CHIPS Act Implementation | U.S. Department of Commerce," February 26, 2024, https://www.commerce.gov/news/speeches/2024/02/remarks-us-secretary-commerce-gina-raimondo-investing-leading-edge-technology.
[xvii] "Biden-Harris Administration Announces CHIPS Incentives Award with TSMC Arizona," NIST, November 15, 2024, https://www.nist.gov/news-events/news/2024/11/biden-harris-administration-announces-chips-incentives-award-tsmc-arizona.
[xviii] Mariana Dale, "Joe Biden locks in $6.6B for TSMC chip factories in Arizona," *Cronkite News*, November 15, 2024, https://cronkitenews.azpbs.org/2024/11/15/joe-biden-tsmc-chip-factories-arizona-donald-trump-cant-rescind-chips-act-deal/.
[xix] "Biden-Harris Administration Announces CHIPS Incentives Award with TSMC Arizona," NIST, November 15, 2024, https://www.nist.gov/news-events/news/2024/11/biden-harris-administration-announces-chips-incentives-award-tsmc-arizona.
[xx] "How Long Does It Take? National Environmental Policy Act Timelines and Outcomes for Clean Energy Projects," Resources for the Future, accessed December 30, 2025, https://www.rff.org/publications/reports/how-long-does-it-take-national-environmental-policy-act-timelines-and-outcomes-for-clean-energy-projects/.
[xxi] Mark [D-AZ Sen. Kelly, "S.2228 - 118th Congress (2023-2024): Building Chips in America Act of 2023," legislation, October 2, 2024, 2023-07-11, https://www.congress.gov/bill/118th-congress/senate-bill/2228.[xxii] The Building Chips in America Act: What's in the new bill? (2024, October 9). World Economic Forum. https://www.weforum.org/stories/2024/10/building-chips-in-america-act-semiconductor-industry/
[xxiii] Choo, L. (n.d.). Biden Speeds Up Environmental Reviews For Some Semiconductor Projects. Forbes. Retrieved February 15, 2026, from https://www.forbes.com/sites/lindseychoo/2024/10/02/biden-chip-bill-environmental-reviews/
[xxiv] Michael Sainato, "'They Would Not Listen to Us': Inside Arizona's Troubled Chip Plant," Business, *The Guardian*, August 28, 2023, https://www.theguardian.com/business/2023/aug/28/phoenix-microchip-plant-biden-union-tsmc.
[xxv] Read, N. G. U. 4 min. (2023, July 21). *TSMC complains it can't find enough skilled workers to get its Arizona chip plants ready in time, delaying mass production to 2025*. Yahoo Finance. https://finance.yahoo.com/news/tsmc-complains-t-enough-skilled-100125351.html
[xxvi] Kevin S. Xu [@kevinsxu]. (2023, August 10). *Meanwhile, a Taiwanese news YouTube channel with ~3 million subs made a video saying: - American workers are lazy—They use their phones at work (with a grainy photo), a big no-no at TSMC fabs—Workers join TSMC as a springboard to work at Intel https://youtube.com/watch?v=ZPh15MQ3Lxk&t=567s https://t.co/Sdlyl4oziR* [Tweet]. Twitter. https://x.com/kevinsxu/status/1689639351003848705
[xxvii] "TSMC cited for worker-safety violation after man died in May," ABC15, November 8, 2024, https://www.abc15.com/news/local-news/investigations/tsmc-cited-for-worker-safety-violation-after-man-died-in-may.
[xxviii] "Chipmaking giant TSMC hit with class-action lawsuit in the U.S. for bias, racism, and unsafe conditions," *Tom's Hardware*, July 8, 2025, https://www.tomshardware.com/tech-industry/semiconductors/chipmaking-giant-tsmc-hit-with-class-action-lawsuit-in-the-u-s-for-bias-racism-and-unsafe-conditions-over-30-plaintiffs-have-accused-the-company-of-illegal-practices-at-arizona-fab.