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**Final Strategy Report**

**August 2021**

*Prepared by the B3K Advisory Team,*

*with inputs from B3K Workgroups*

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1. Introduction

Kern County is at a crossroads.

The strengths that have driven its prosperity, formed its identity, and enabled its residents to grow and support their families are increasingly beset by market and regulatory forces beyond the region’s control. State regulation of the oil and gas industry has compounded the ebbs and flows of global commodities markets to threaten the industry’s future as the region’s economic cornerstone. Carrots and almonds grown in Kern County fill grocery stores across the country, but the local agriculture industry is losing ground in more sophisticated, innovative food manufacturing and processing activities that promise better opportunities for workers. The open desert expanses of the eastern side of the County that served as a birthplace for modern aerospace increasingly find themselves pitted against better-resourced competitors inside and outside the state.

The peril posed by these trends may not be immediately evident to the average resident of Kern County. Over the last decade, the region has added new residents attracted by its relatively low cost of living compared to coastal California neighbors – a trend that regional leaders are betting is buoyed by the rise of remote work. New shops and services have grown to serve the growing population. On the outskirts of Bakersfield, logistics warehouses have brought blue-chip names like Amazon and L’Oreal to the region.

However, these trends signify a crucial shift for the region’s economic trajectory – away from specializations that are globally competitive and enable the region to benefit from wealth, connections, and expertise from customers around the world, and towards locally-serving industries churning resources within the region. Rather than inventing new technologies, products, and processes, the region is increasingly applying others’ innovations for marginal benefit. Gaps in major drivers of competitiveness – a skilled workforce, innovation capabilities, civic infrastructure – enable and reinforce this dangerous balance.

This has real impacts for real people across the County. The region’s job base is increasingly skewed towards lower-wage positions; stunningly, over half of the region’s residents belong to families making less income than needed to cover basic expenses, with Black, Hispanic, and immigrant workers facing particularly acute challenges. These gaps make it difficult for families to invest in their children and achieve upward mobility, following the generations-old compact that current struggle will result in future generations’ success. The current trajectory is simply not sustainable if the region wants to continue as a prosperous community offering pathways to the middle class.

Attuned to these realities, local leaders – spanning business, government, philanthropy, and the community; stretching from Bakersfield to Delano, Ridgecrest to California City – came together eighteen months ago to chart a new path for the region through the Better Bakersfield and Boundless Kern (B3K) initiative.

Working with an advisory team from the Brookings Institution, B3K produced a comprehensive Market Assessment applying rigorous national data and grounded insights from local leaders and residents to catalog Kern County’s opportunities and challenges.

Building on this foundation, seven locally-led workgroups developed strategies to accelerate the growth of key clusters, invest in the broader business ecosystem, ensure efforts contribute to deep prosperity, and measure regional economic progress. The outputs of those workgroups are presented in this comprehensive Strategy.

The vision presented in this Strategy is ambitious. Delivering on its tenets will not be fast or easy. At hand are global market trends outside the control of any individual leader or place; serious gaps in economic drivers, such as educational attainment, that typically require decades to address; and the need for consistent implementation in a region that has struggled to translate past strategies into action. Yet there is no other choice than moving forward. Complacency is simply not an option for Kern County.

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| **About B3K**  A Better Bakersfield and Boundless Kern (B3K) is a cross-sector collaboration to address economic challenges to the region -- producing and implementing a joint strategy for competitiveness and opportunity that centers on quality job creation and access for residents.  B3K was initiated by a Core Team including Kern County, the City of Bakersfield, the Bakersfield Chamber, Kern Community Foundation, Kern EDC, California State University-Bakersfield, and the Kern Community College District. Executive and Steering Committees representing diverse business, government, and community interests provide additional leadership and input, with Greg Bielli (Tejon Ranch), Connie Perez-Andreesen (United Farm Workers), and Dr. Lynette Zelezny (CSUB) serving as co-chairs. The State of California’s Regions Rise Together initiative catalyzed initial organizing, with additional state resources supporting ongoing activity.  The process is guided by an Advisory Team from the Brookings Institution, bringing expertise from similar activities across the country and facilitating the effort through a joint problem-solving model ensuring local ownership for implementation.  Launched in late spring 2020, B3K consists of four phases. The process began with organizing and informing diverse stakeholders across public, private, and civic realms to engage in devising and executing solutions, forming a shared understanding of principles, issues, and objectives. Subsequently, a Market Assessment was undertaken by the Advisory Team to provide an evidence-based foundation for action, aggregating data and qualitative analyses into a candid picture of the region’s performance and competitive position. Strategy development – the outputs of which are summarized in this document – followed, focused on opportunity areas identified by the Market Assessment and led by locally-driven workgroups to establish shared priorities, responsibility for implementation, and metrics for accountability.  In tandem with the conclusion of strategy development, B3K transitioned to its current and final phase: implementation. Achieving B3K’s ambitious vision for prosperity will require long-term, focused attention and investment in support of identified strategies and tactics. To that end, work is underway to identify institutional owners, refine strategies and initiatives into implementation, support resourcing for execution, and develop and operationalize an enduring governance model for sustainability. |

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| **About this Strategy**  The B3K Strategy outlined in this document represents the work product of seven locally-led workgroups convened over the first half of 2021 to address priority areas identified through the Market Assessment:   * **Aerospace**(chairs: George Whitesides, Virgin Galactic; Dr. David Smith, Air Force Plant 42; Col. Randel J. Gordon, Edwards Air Force Base) * **Advanced Manufacturing**(interim chair: Advisory Team, with support from Nick Ortiz, Greater Bakersfield Chamber of Commerce) * **Business Services**(chairs: Jim Damian, Stria; Michael Hansen, Advanced Data Storage) * **Energy:**(chairs: Jennifer Haley, Kern Oil and Refining Company; Trem Smith, Berry Corporation) * **Entrepreneurship and Business Ecosystem**(chair: J.P. Lake, Kern Venture Group and Kern Initiative on Talent and Entrepreneurship)      * **Deep Prosperity Advisory**(facilitator: Kristen Beall Watson, Kern Community Foundation) * **Performance Measurement / Research**(coordinators: Dr. Nyakundi Michieka and Dr. Mark Evans, California State University - Bakersfield School of Business and Public Administration)   Workgroups were guided by the Advisory Team through a tailored series of assignments and technical assistance, with staff support from Kern County.  These groups were tasked with defining in-depth problem statements and goals in response to research findings; developing strategies and tactics; and ultimately producing operational approaches to implementing tactics, such as assignments of responsibility and metrics. With local chairs and 15-25 members representing business, government, education, association, and community interests each, the participants committed to more than providing feedback to consultants through occasional meetings; rather they engaged directly in ongoing problem-solving, research, and results by personally completing tasks over several months.    An overarching Deep Prosperity Planning Team assisted and assessed workgroup consideration of equity and inclusion objectives throughout strategy development, as well as design of metrics that will measure outcomes for marginalized communities. B3K’s Research Committee, representing academics and analysts from educational and civic institutions, developed a set of metrics that provide a common vision for defining and tracking regional economic success over time across organizations and initiatives, guiding collective action moving forward.  Building on the concepts outlined in this Strategy, Activation Plans are appended to support identification of institutional ownership and guide near-term implementation. These workplans propose near-term programmatic and operational milestones over the next year to position strategies for long-term success. |

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| **Regional and Local Responsibilities in Economic Development**  This Strategy outlines a regional vision and action plan, providing a framework for Kern County to achieve economic prosperity across an expanse of 8,000 square miles encompassing two distinct economic sub-regions and numerous municipal jurisdictions and unincorporated areas. It focuses, thus, on the drivers of economic performance that extend across these areas – shared industry clusters, workforce, infrastructure, innovation assets, and regional governance. This sets a foundation for regional actors – such as economic development organizations, regional chambers of commerce, workforce development boards, universities and community colleges, cluster organizations, metropolitan planning organizations, and others – to frame, align, and execute on efforts to support these regional assets and deliver scale through regional initiatives and programming.  This view provides a baseline for more targeted city and sub-regional efforts by municipalities, local chambers of commerce, downtown associations, business improvement districts, community and neighborhood groups, and others, supporting and localizing the regional vision. This includes fundamental supports to “Main Street” locally-serving firms who are typically not the focus of regional efforts and support for the overall business climate through zoning, permitting, licensing, and other regulatory processes, and enabling of site selection and property development. Responsibility for several of the cross-cutting issues identified by the B3K Market Assessment but judged outside the scope of a regional strategy (see Section 2), such as community development, placemaking, and real estate development, fall within the purview of local actors  The B3K Strategy was developed in a parallel with a new economic development strategy (and overall function) for the City of Bakersfield and a refreshed Comprehensive Economic Development Strategy (CEDS) for Kern County, providing a real-time opportunity for strategic alignment of efforts and distribution of responsibilities. |

2. Review of Market Assessment Findings

The B3K Market Assessment provided a comprehensive examination of Kern County’s economic performance and prospects, centered on traded sectors, talent, innovation, infrastructure, and governance that drive competitiveness. This drew on a comprehensive quantitative and qualitative analysis considering more than 80 indicators, including a novel “Opportunity Industries” job quality and access methodology, and over 100 substantive contacts with government, community, and business stakeholders through interviews, roundtables, and community sessions.

Chart, funnel chart

Description automatically generatedThe resulting findings became the basis for establishing workgroups to identify and prioritize responses. Building on these findings, a holistic analysis was applied to identify economic focus areas for more inclusive growth (see Figure 1). These criteria identified a group of sectors and subsectors for further strategy development through workgroups: **Aerospace, Energy, Advanced Manufacturing**, and **Business Services**.

Major themes included:

* **Economic and Industry Performance:** Market and regulatory pressures are weakening traded sectorindustries that historically enabled the greatest economic mobility and quality job creation in the region, particularly for residents with relatively low educational attainment. Other trends in population growth, emerging sectors, and struggles to generate or capitalize on innovation-fueled opportunities have resulted in a regional economy increasingly driven by lower-wage, lower value-add, and locally-serving activities (see Figure 2). These dynamics complicate ensuring long-term growth, prosperity, and inclusion in a global economy where regional advantage and wealth-building is secured by exporting distinctive strengths.

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* **Job Quality and Access:** With the decline in legacy industries and growth in new sectors that tend to create lower quality jobs, Kern County has experienced an increasing deficit in “good jobs” providing family-sustaining wages or “promising jobs” offering a pathway to good jobs within ten years. Women and non-white residents also fare worse than male and white residents in attaining those good jobs, even at the same educational levels. In all, the region has a significant deficit – nearly 100,000 -- in the number of good and promising jobs that will be required over the next ten years to reduce by 50% the proportion region’s workers struggling to cover basic expenses for their families (see Figure 3).

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* **Competitiveness Drivers:** Alongside traded sector specializations, quality job growth, productivity, and inclusion are driven by a region’s talent base and innovation assets / business dynamism, enabled by infrastructure connectivity and effective governance through private, public, and civic relationships. The Market Assessment identified areas to address across many of these categories, including: educational attainment (see Figure 4) and digital skills proficiency; gender and language barriers to reconnect of “out-of-work" populations; commercialization and expansion of institutional research capacity; durability of young firms; and availability and scale of some fundamental economic development and supports. Business-friendly practices and land use policy are a notable strength amidst these challenges.

**Figure 4: Educational Attainment Among Peer Regions**

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The Market Assessment also identified two broader functional issues not tied to specific sectors:

* **Basic entrepreneurship and business supports available in other regions need to be established or scaled to address core issues.** The regionstruggles with durability of young firms, creation of more traded sector firms with high growth potential, and expansion of mid-sized companies. This includes foundational resources (e.g. incubators, accelerators), access to capital, technical assistance, and targeted supports for women and minority-owned entrepreneurs and businesses.
* **The economic development delivery ecosystem currently has significant implementation gaps that must be filled to execute a comprehensive regional strategy**. This includes a need for shared vision, goals, and metrics for regional economic success to focus all contributors; clear accountability and functional collaboration for execution of identified strategies; mainstream consideration of race and gender disparities; and greater business leadership.

Given these findings, an additional sector-neutral strategy workgroup focused on addressing **Entrepreneurship and Business Supports**. Additionally, governance questions around the economic development delivery system and ongoing accountability for B3K execution will be considered by the Executive Committee and other regional leads as strategies shift into implementation.

Across these topics, the Market Assessment identified cross-cutting considerations to be weighed in all aspects of strategy, particularly linking workforce and economic development activities, understanding geographic differences in the economy, focusing on disparities in outcomes for residents, and engaging State actors.

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| **Cross-Cutting Considerations for Strategy Development**   * **Greater Bakersfield and East Kern are two functionally distinctive economic areas** that should be treated differently with tailored strategies and resources. * With greater clarity on economic development objectives anchored in priority sectors and job quality, **workforce development activities can target efforts to address those talent needs versus more opportunistically filling openings** * Economic development interventions must consider how to **address race and gender gaps** in access to quality jobs and economic opportunities * **State policy has disproportionate effects on Kern’s economy**; education and engagement of the State through strategy development is required to find areas of mutual benefit. |

Finally, the Market Assessment acknowledged three systemic issues that are connected to and enablers of inclusive regional economic success, but beyond the manageable scope of a regional economic development strategy and the initial B3K collaboration. These identified other actions to address these topics adjacent to B3K responsibility.

**Systemic Issues beyond a Regional Economic Development Strategy**

* **Educational Attainment:** Competitiveness, job quality, and overall vitality are highly correlated with educational attainment, and the region lags in high school completion through graduate degrees. That is the purview of collaboratives like the Kern Education Pledge versus a regional economic strategy, but all stakeholders with interest in economic development – including the private sector – must commit equally to advancing this agenda.
* **Placemaking:** Lack of commercial and residential development to provide quality of life for workforce is a challenge in particular sub-regions and neighborhoods across the county, most acutely in East Kern. The economics of making these viable in the marketplace is a technical and policy issue that should be addressed by a task force of real estate developers, financiers, and county officials to determine what is required to make these projects “pencil out” and if that is feasible.
* **Community Development Connection:** For distressed areas, specific city and neighborhood strategies are required to connect residents to regional opportunities. Economic development and community development activities are complementary but different in purpose and method – the former works to change the behavior of firms toward creating jobs, increasing investment, and building wealth in regions; the latter works to empower residents toward building and sustaining healthy, vibrant neighborhoods.

3. Strategy Overviews

**1. ENTREPRENEURSHIP AND BUSINESS SUPPORT ECOSYSTEM**

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| ***Vision:*** *Spark the next generation of dynamic growth in Kern County by building a more robust system of entrepreneurship and business supports promoting the durability of young firms, creation of more traded sector firms with high growth potential, and expansion of mid-sized companies.* |

A cohesive entrepreneurship and business ecosystem provides start-ups and existing firms with the expertise, resources, and capital necessary to grow and expand successful enterprises, supporting dynamic local and regional economies offering jobs to residents and promoting vibrant communities.

Kern County has significant deficits in these supports relative to other regions of its size, encompassing lack of basic mainstream assets such as incubators and accelerators to capital access. These circumstances pose the significant impediments to women and non-white entrepreneurs, where underperformance in firm and job creation contributes to the region’s challenges around deep prosperity and wealth-building. Bolstering this fundamental infrastructure and bringing offerings in line with peer regions is central to improving the region’s economic performance.

The following strategies and tactics address these deficits in the technical assistance ecosystem, capital access, inclusion of diverse demographics, geographic disparities, and navigation of available resources. These efforts particularly recognize the need to better leverage and coordinate existing and/or proposed activities among contributing organizations and individuals in order to avoid redundancies and maximize the use of limited resources.

***Additional program and operational design details on strategies and tactics can be found in the detailed implementation plan, Appendix II.***

**Strategies and Tactics**:

**1. Build a more robust and integrated network of entrepreneurship and business supports for younger firms (0-10 years) across the lifecycle –** Close deficits in mainstream resources to assist entrepreneurs at early and expansion stages of young firms regarding business strategy, innovation, raising capital, and product development to support greater durability of establishments and job creation. Adopting best practices from other regions, these interventions should emphasize entrepreneur leadership in setting direction and guiding ongoing activity.

* **Tactic 1.1 | Establish incubator and accelerator programs to boost the growth trajectory of early-stage firms, including in priority clusters** – establish a) a general entrepreneurial accelerator to transform prototype/minimum viable product-stage businesses into competitive, enduring enterprises, b) a general business incubator meeting the needs of idea-stage firms for more basic assistance, and c) in the longer term, dedicated accelerators in priority industry clusters (e.g. aerospace, energy) to further establish Kern County as a global center for innovation in these areas.
* **Tactic 1.2 | Build a stronger entrepreneurial network through a Local Founders Club** –offer peer-based mentoring, networking, product and technology showcases, and referrals to funding opportunities for for-profit and not-for-profit entrepreneurs through a membership-based club, broadening access to insular established regional business networks.

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| **Building an entrepreneurial ecosystem**  With some variability accounting for population size and economic mix, mainstream entrepreneurial supports are relatively consistent across most large and mid-sized cities. Accelerators and incubators are typically anchors, providing focused programming for cohorts of startups or more generic services for a broader array of firms, respectively. Supports range from entrepreneurship education to mentoring, assistance procuring capital, help with management and operations, networking, demo days and publicity, and access to a physical collaboration space. Some accelerators and incubators focus on a particular industry cluster, while others offer more generic services. Small Business Development Centers (SBDCs) also provide these supports, sometimes co-located with these institutions.  Incubators and accelerators can be housed at universities, with economic development institutions or business intermediaries, or stand alone. Proximate to Bakersfield-Kern examples include the Fresno State WET Center supporting water, energy, and ag-tech enterprises with accelerator and other programming and the Cal Poly HotHouse offering incubator and intensive innovation and entrepreneurship programming across two large collaboration spaces. |

**2. Close regional gaps in capital access, ensuring appropriate forms are available for all types and ages of businesses, firms know where to find it, and providers proactively seek and support them –** Improve access to capital for both Main Street and high-growth firms without ready access to personal networks or wealth to support the start-up, expansion, and viability of more businesses.

* **Tactic 2.1 | Form a locally-based Community Development Financial Institution (CDFI) to improve capital access for Main Street entrepreneurs and small businesses –**Enhance capital access for Kern entrepreneurs through proven community financing resource, improving the viability of the broader entrepreneurial ecosystem and reducing barriers for Main Street, female, and minority entrepreneurs.
* **Tactic 2.2 | Launch an angel investing conference to boost access to early-stage capital for high-growth firms –** Initiate a two-part educational and pitch competition program building a stronger pipeline of local private angel investors and awarding capital to local firms, while also raising the visibility of Kern County’s entrepreneurial community.

**3. Adopt an intentional approach to equity and access in the Kern County business support ecosystem, so that it is structurally embedded in mainstream activities and/or is organized and coordinated at a community-wide level –** Address identified gender and racial disparities, opening an “old boys club” business ecosystem anecdotally found to be insular, and advancing overall B3K goals to build deep prosperity.

* **Tactic 3.1 | Increase the number of Spanish-speaking coaches and counselors at existing support providers to improve access for Hispanic entrepreneurs and mid-sized business owners** – Improve the viability of Hispanic-owned businesses, in turn supporting jobs and community vitality, by making supports and resources more accessible.
* **Tactic 3.2 | Decrease barriers to female entrepreneurship by creating a women’s co-working center(s) offering childcare and additional supportive services –** Create more conducive enabling conditions to support the success of female-run ventures.
* **Tactic 3.3 | Reduce fragmentation in the business ecosystem by improving collaboration among all Chambers of Commerce in the region –** Develop more complementary programming to achieve greater economies of scale and boost member access to broader networks, relationships, and ultimately business opportunities.
* **Tactic 3.4| Establish a minority and female business owners business development pilot program to improve business and financial education and capacity –** Provide business and financial education, along with soft skills and leadership training, to cohorts of female and minority entrepreneurs, expanding a pilot launched in Spring 2021.

**4. Improve availability of resources outside Greater Bakersfield expanding direct presence through proxy and virtual connections. –** Ensure greater parity among services available to entrepreneurs in Bakersfield, the surrounding cities, East Kern, and smaller towns.

* **Tactic 4.1 | Provide greater access to entrepreneurial resources throughout all communities in Kern County –** Work through “trusted messengers” to help local business owners navigate and connect to regional accelerator and incubator programming, capital access, and other supports.
* **Tactic 4.2 |  Improve digital capability and competency to reduce barriers to business formation and durability in smaller communities –** Upgrade service in these areas and promote greater subscription rates to improve the conditions for business dynamism, while also delivering other quality-of-life benefits.

**5. Establish a more coherent and connected approach to supporting young firms, making the resources easier to find and navigate, ensuring the entire ecosystem knows where best to direct an inquiry, and maximizing investment by defining comparative expertise and seamless referrals based on business needs –** Reduce difficulties in identifying and navigating available resources across a fragmented organizational ecosystem.

* **Tactic 5.1 | Enhance coordination and visibility of resources through improved central directory and digital marketing and search engine optimization –** Create and promote a central repository for services navigation, while providing referrals to and promotion of existing service providers.

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| **Implications for State Policy**  While most elements of the Entrepreneurship and Business Ecosystem strategy will be delivered locally, the State has an important role to play in the strengthening of the region’s ecosystem. Funding available to states under the American Rescue Plan, such as the State Small Business Credit Initiative (SSBCI) and through the Economic Development Administration (EDA), could support expanded programming and supports for Kern businesses. Regional and state leaders should coordinate on how best to pursue these opportunities for maximum benefit. |

**2. AEROSPACE**

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| ***Vision****: Solidify East Kern and the Antelope Valley as a globally-leading aerospace innovation, testing, and production hub where firms can access specialized facilities and deep talent to commercialize ideas and grow, generating high-quality jobs across skill levels.* |

For more than 70 years, East Kern County and the Antelope Valley – Ridgecrest to Palmdale and Lancaster – has been a global center for aerospace research, testing, and manufacturing, from defense to private space exploration. The region is where pilot Chuck Yeager broke the sound barrier in 1947, and five space shuttles made multiple returns to earth. Yet, this long-standing industry concentration offers untapped potential and confronts emerging competitive market threats which demand a comprehensive, organized, and resourced cluster initiative.

Unique regional assets anchor the sector, including like China Lake Naval Air Weapons Station, Edwards Air Force Base, NASA Armstrong Research Center, Mojave Air and Space Port, and Air Force Plant 42, harnessing billions of dollars for innovation in aerospace and adjacent areas like biofuels, sensors, and other adjacent areas. Multinational defense companies like Lockheed Martin, Northrup Grumman, and Boeing have a major presence, as well as new firms such as Virgin Galactic or X-Prize winners Scaled Composites and Masten.

However, the region struggles with the basics of organizing to support and fully leverage its advantages, especially compared to peers. Research showed the need to boost impact on commercialization and business dynamism, assure workforce availability, and promote visibility of a global identity to capture increasingly mobile firms, talent, and investment. Affirmatively, the region must focus on an ecosystem for high-growth small and medium-sized firms around federal innovation, expertise, and facilities. Defensively against other aerospace centers being heavily supported by state strategies in Florida, Texas New Mexico, or Colorado, the region must bolster efficient talent pipelines, advocate for enabling polices, and reduce fragmentation in serving the needs of existing industry and federal stakeholders.

To address these topics at scale, a defined cluster initiative is required to unify private and public interests for mutually beneficial program interventions that promote the sector’s competitiveness, with dedicated staff to deliver it. Doing so will bring the region in line with international best practice for supporting an industry of this size and significance -- providing a center of gravity, greater efficiency and accountability, and higher return on investment.

***Additional program and operational design details on strategies and tactics can be found in the detailed workplan, Appendix III.***

**Strategies and Tactics:**

1. **Launch a cluster leadership entity to serve as the united voice for aerospace sector through the economic region, spanning internal organization and collaboration and external advocacy and visibility –** Organize industry, education institutions, federal installations, and the public to into action, governed by a high-level advisory council and quarterbacked by an executive director with deep industry knowledge capable of bridging interests and delivering accountability for results.

* **Tactic 1.1. Provide central, sector-driven leadership for cluster needs, managing program delivery organizing, oversight, and communications to ensure implementation on agreed tactics, whether through facilitation, resourcing, or execution**.
  + Steward a high-level public-private-federal Advisory Council, including representation from business, Mojave Air and Space Port, China Lake NAWS, Edwards AFB, AFRL, NASA Armstrong Center, and Plant 42, setting a consistent agenda for program action and investment to support the cluster.
  + Convene and coordinate across fragmented local economic development entities and intermediaries on shared aerospace priorities at the functional economic scale, such as Kern and Los Angeles counties, Kern EDC, LAEDC, China Lake Alliance, Indian Wells Valley EDC, AV/EDGE, Aerospace Valley Futures, and the Eastern Sierra Aerospace and Technology Corridor group.
  + Refer, support, or supplement attraction, retention, and expansion activities led by mainstream economic development organizations.
  + Establish and maintain relationships with entities such as GO-Biz, the Governor’s Military Council, and state / mega-regional networks to secure maximum benefit for the region.
  + Monitor relevant federal and state resource opportunities, leading regional aerospace applications and/or exploring collaborations with other regions (e.g. Central Coast).
* **Tactic 1.2**: **Develop a clear narrative about the regional cluster to showcase outside the region and inform ongoing programming**.
  + Conduct ongoing research to better define cluster attributes, gather market intelligence to inform ongoing interventions, and highlight contributions to regional growth.
  + Craft and communicate a shared and consistent global identity for visibility of the cluster, working with other relevant entities and non-traditional brand champions.
* **Tactic 1.3:** **Develop and own a policy and advocacy agenda (local, county, state, federal) to advance specific cluster objectives:**
  + Promote action in areas such as industry-informed infrastructure and financing issues, flexibilities on occupational licensing for military spouses, and potential advancement of a state-wide space strategy (SB-690).
  + Engage mainstream entities throughout the region to support and bolster advocacy as part of an overall economic development agenda, rather than perceived as a special industry interest.
* **Tactic 1.4: Advance improvements to local housing and placemaking.**
  + Convene business and government actors with developers and investors to understand the underlying market, financial, or regulatory impediments to the lack of infrastructure and amenities deemed barriers to talent retention and growth.

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| **Cluster Initiatives**  Reflecting the primary role distinctive industry specialization (e.g. genomics and life sciences in San Diego, energy in Houston) play in driving global competitiveness, cluster initiatives work to nurture and sustain these unique regional specialties through long-term, cross-sectoral developmental leadership and ecosystem-building (versus short-term programmatic activity). Specific areas of focus often include efforts to improve information-sharing within the cluster, improve the talent pool, boost research and commercialization, make fundamental investments in infrastructure, and improve capital access.  Particularly promising models include **Milwaukee**’s supports for its water technology cluster (centered at The Water Center); **St. Louis**’s agricultural technology support ecosystem (including BioSTL and the Danforth Center); and **Syracuse**’s regional unmanned aerial systems strategy, incubated by the regional economic development organization CenterState CEO and industry driver NUAIR Alliance. |

**2.**  **Execute a regional ecosystem strategy enabling business, entrepreneurs, investors, and federal entities to connect on (i) joint problem-solving around innovation needs, and (ii) commercialization of marketable technologies to spur broader and growth** – Reduce barriers to unlocking potential from government innovation and testing assets, building on U.S. defense commitments to expanding access and collaboration with private firms to source ideas amidst growing geopolitical competition.1

* **Tactic 2.1: Improve the visibility of the cluster’s innovation assets –** Aggressively promote the region’s offer to existing firms and potential national entrants to achieve greater utilization.
  + Centralize information and resources for private firms to collaborate with the federal assets and/or access innovation, such as licensing, Commercial Test Agreements (CTA), Cooperative Research and Development Agreements (CRADA), and programs offered by the Air Force’s AFWERX program.
  + Participate jointly in SxSW, the Consumer Electronics Show, and similar national events to promote the regional cluster, its innovation assets, and available supports and programming.
  + Build and manage relationships with the National Security Innovation Network, AFWERX, and other relevant entities to secure new resources and referrals.
  + Execute a focused retention and expansion strategy with dedicated staff to continuously monitor and respond to needs of existing aerospace businesses.
* **Tactic 2.2: Facilitate tech transfer and commercialization through dedicated, hands-on supports for both private and government clients –** Provide supports necessary for firms to translate intellectual property into new applications and growth for the region, and for government clients to source their needs.
  + Offer “concierge” services to help firms navigate opportunities and/or more hands-on assistance.
  + Work with on-base innovation leads to understand specific military problem-solving needs and potential to match with network of regional firms.
  + Provide assistance to firms seeking SBIR/STTR funding, including potential bootcamps or accelerator.
* **Tactic 2.3: Develop an off-base “storefront” location to house supports and provide a physical hub for collaboration.**
  + Establish a central locationto anchor the cluster’s tech transfer and commercialization strategy, centralize programming, and serve clients.

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| **Spurring commercialization and tech transfer around government assets**  Although seemingly counterintuitive to the sensitive nature of some military and government research activity, commercialization, tech transfer, and other collaboration between government and business has been fundamental to both significant mutually-beneficial technological innovation and the growth of regions such as Silicon Valley and San Diego. Government programs such as the Air Force’s AFWERX and the Navy’s Tech Bridges recognize this potential.  Within the Air Force system, private “institutes” such as **Wright Brothers** (near Ohio’s Wright-Patterson Air Force Base); **Doolittle** (near Florida’s Eglin Air Force Base); and **Griffiss** (near Upstate New York’s former Griffiss Air Base and the region’s ongoing Air Force Research Laboratory presence) provide one model. While such approaches typically center on serving military objectives to source innovation for specific problem-solving needs, an intentional focus on regional ecosystem-building and engagement also spurs local benefit.  Often working under partnership agreements with the respective bases, these organizations deliver a wide range of supports, such as (i) operating “storefronts” or other physical spaces for private innovators to access government contacts and partners; (ii) facilitating tech transfer agreements; (iii) running accelerator programs and provide other entrepreneurial services; (iv) providing prototyping facilities; (v) advancing workforce and STEM programming; and (vi) hosting hackathons and networking events.  For example, the NEST (New Ventures, Entrepreneurs, Startups, and Technology) Program connects Wright-Patterson's AFRL assets to Dayton’s ecosystem through identification of commercially-relevant technologies and hands-on support in identifying and enabling access for startups. The Commercialization Academy at Griffiss serves similar aims, identifying relevant AFRL technologies, building cohorts of small companies from inside and outside the region, and working with them to apply this intellectual property through entrepreneurship education, demo days, incubation, and other assistance. |

**3. Ensure a more accessible and sustainable talent pipeline for both industry and military, broadening pathways to good and promising jobs, with particular focus on regional workforce linkages and leveraging scale –** Promote more durable, sustainable access to talent across a spectrum from high-skilled engineers to mid-skill technical occupations.

* **Tactic 3.1: Conduct a rigorous, data-driven analysis to determine specific skills needs within both private and military institutions.**
  + Catalog employer needs and compare against current regional educational and workforce offerings to pinpoint areas of highest common need and greatest impact for intervention.
* **Tactic 3.2: Implement a talent-to-industry exchange among private and military employers and regional educational institutions, such as Cerro Coso College, Antelope Valley College, CSUB, and others throughout Southern California, to collectively meet workforce needs**.
  + Unite and coordinate talent development across institutions to invest in joint solutions for talent identification, development, and retention, shifting from an approach characterized by fragmentation, ad hoc collaborations, and capacity constraints.
* **Tactic 3.3: Partner with Kern County Superintendent of Schools, Antelope Valley Union High School District, and other interests to design exposure and work-based learning programming to broaden awareness and access to aerospace careers, particularly for women and non-white groups.** 
  + Establish a stronger, long-term pipeline for residents in the region, who research shows are far more likely to remain and need access to good and promising jobs**.**
* **Tactic 3.4: Facilitate collective visibility and recruitment to other target regions for high-skill and mid-skill talent, creating economy of scale in costs and attractiveness.**
  + In advance of a stronger local pipeline, invest in joint solutions for attraction from national engineering programs and other aerospace hubs.

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| **Implications for State Policy**  The State has a potentially significant role to play in boosting the competitiveness of the East Kern / Antelope Valley aerospace cluster, particularly given the sizeable attention paid by competing states. While California is unlikely to outbid or outspend Florida, New Mexico, and Texas for new companies and facilities, the development of a cohesive state space policy would offer a more consistent framework for policies and supports.  Establishment of a state-level advocate or authority to implement the plan, supporting and coordinating among regional efforts (such as the Central Coast’s REACH strategy) and promoting the state’s aerospace identity would create some level of parity with competitors and address fundamental gaps. In the nearer-term, more targeted policy action (e.g. relieving occupational licensing barriers for military spouses) could also deliver significant impact to the cluster. |

**3. BUSINESS SERVICES**

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| ***Vision****: Strengthen business and professional services to help advance industry diversification and build a more robust digital skills workforce positioned for success in the tech economy.* |

Business and professional services represent a longer-term bet for economic diversification and quality job growth for Kern County, balancing the loss of good and promising jobs in the energy industry and the coincident growth of locally-serving sectors offering relatively few quality jobs. Further, investment in the tech talent base to service the sector will better position the region and its workers broadly for the digital economy.

While Kern County has seen significant declines in core areas of business services over the past decade – such as engineering, computer services, and insurance services – market data revealed growth in a number of smaller sectors. This provides empirical evidence backing anecdotal success of prominent firms, such as the managed services-focused Stria (which recently secured a contract with the State of Hawaii), and presence of firms servicing military assets in East Kern. Qualitative input further articulated novel potential to capture “outsourcing” from more expensive locations in California, which would otherwise likely be exported out-of-state (e.g. Arizona, Nevada).

Collective action to improve overall sector sophistication and address particular gaps in business services and digital skills talent are imperative to realizing this opportunity. The following strategies and tactics offer a response – grounded in the establishment of a regional business services alliance – to ameliorate these issues.

***Additional program and operational design details on strategies and tactics can be found in the detailed workplan, Appendix IV.***

**1. Establish an industry alliance poised to deliver common benefit and improve the overall competitiveness of the sector, adopting a culture of “collaborating to compete” among regional business services firms --** Recognizing the value of scale to establishing market viability, address common challenges and opportunities around market and talent development, branding, and other programming and supports.

* **Tactic 1.1: Provide central, ongoing, high-capacity leadership, setting a clear, actionable agenda for growing the sector and ensuring accountability for action –** Convene an industry council to shape the alliance’s mission and advise and inform ongoing activities; represent sector-wide interests to other intermediaries and interests (e.g. Kern County, State of California); and manage strategic initiatives outlined in Strategies 2 and 3.

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| **Sidebar: Building a regional services collective**   * **Kansas City** launched [“](https://www.kcglobaldesign.com/)KC Global Design” to organize and market sector strengths in architecture, engineering, and technology, under the umbrella of a broader regional economic development campaign. The group has twenty-four core members representing major regional firms (with two executive-level co-chairs) and is staffed by a former industry HR manager. Activities include organizing and identifying needs among the regional network of firms in the sector, serving as a central source for resources, and marketing. * **Portland** organized regional architecture, engineering, and sustainability firms around a globally-focused campaign, [We Build Green Cities](https://webuildgreencities.com/), to connect the sector to international business opportunities. In addition to developing and marketing a compelling brand, a designated staff lead facilitated relationship development in specifically-targeted global markets. This resulted in numerous international sales and foreign direct investment opportunities, bolstering the strength of the regional sector. Housed at the city’s economic development department, the initiative continues to raise the visibility of and provide business assistance to firms in the sector. |

* **Tactic 1.2: Develop and lead an ambitious market and business development effort to raise the visibility of the regional sector and cultivate new customers –** This includes:
  + Develop and manage an inventory / directory of regional business services firms to bolster awareness of offerings, build connections within the sector, and support strategic initiatives.
  + Establish a compelling brand and story to market business services offerings in Kern County for in-state, out-of-state, and in-region audiences.
  + Identify and organize collective outreach to new markets in-state and out-of-state.
  + Connect firms to technical assistance and problem-solving services to build capacity for growth**.**
  + Gather and assess ongoing market intelligence to identify and support sector needs.
* **Tactic 1.3: Drive a multi-faceted talent development and recruitment initiative to provide regional firms with a stable workforce pipeline and connect Kern residents to good and promising jobs –** This includes:
  + Work across the industry to assess and define talent needs for specific occupations and career pathways, ultimately defining a “digital skills passport” giving employers, workers, and education and workforce providers a clear, shared understanding of talent and skill needs and proficiencies
  + Identify and/or develop new programming (such as a non-profit entity or enhanced services within existing institutions) that trains local talent in digital skills.
  + Enhance and consolidate digital skills work-based learning opportunities (e.g. internships, apprenticeships) to improve efficiency and reduce the burden on small/mid-sized firms.
  + Support upskilling of existing mid-level workers through collective identification of needs and development of programming to address.
    - *Option*: Identify and/or develop new programming (such as a non-profit entity or enhanced services within existing institutions) that trains local talent in digital skills.  Such an intermediary could serve entry-level and mid-level talent, as well as engage disconnected workers to promote greater access to business services and tech careers.

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| **Leveraging work-based learning to improve the region’s business services talent pipeline**   * **San Diego**’s regional economic development organization manages the [Advancing San Diego](https://www.sandiegobusiness.org/about-edc/our-initiatives/advancing-san-diego/https://www.sandiegobusiness.org/about-edc/our-initiatives/advancing-san-diego/) internship program, which coordinates among employer working groups and vetted “preferred provider” educational institutions to identify specifically-targeted skill areas and source and match interns in those areas to small companies. The program also subsidizes the ultimate internships, leveraging corporate philanthropic resources. Sectors of focus include software engineering, engineering, business, and manufacturing. Emphasis is placed on building a more diverse talent pipeline, including many first-generation college students. * **Chicago**’s financial and insurance services firms Aon, Accenture, and Zurich Insurance Group launched [an employer-driven apprentice network](https://www.illinoisworknet.com/DownloadPrint/Chicago-ApprenticeNetwork_BridgingtheGap_Digital_Final.pdf) of over 40 firms working with the City Colleges of Chicago system to source, train, and place over 700 apprentices in areas such as information technology, finance, human resources, and cybersecurity. Human resources managers from corporate leads work with City Colleges to design programming for target roles, while public affairs executives rally additional employer partners and steward the network. Local philanthropy supported a new office of apprenticeships and work-based learning at City Colleges to facilitate the partnership. One Million Degrees, a regional non-profit, provides student support services to promote apprentice success and completion. |

**2. Grow the internal market for business services in Kern County to promote young firm growth and density of the sector through a local customer foundation of anchor institutions**

**–** Build capacity for “exporting” outside the region and bolster near-term growth through a regional industry-anchor institution strategy seeking to better capture business services demand from major anchors within Kern County (e.g. government, universities, hospitals).

* **Tactic 2.1: Recruit and secure anchor institutions commitments for participation** Assess procurement policies and advance adjustments where possible in support of local business services firms (e.g. a designated set-aside for local firms, establishment of local firms as “preferred providers”) and explore opportunities to reach further scale through anchor networks (e.g. CSUB state-wide system).
* **Tactic 2.2: Establish a shared platform / directory for matching local business service firms and anchor institution needs on an ongoing basis –**  Cross-post anchor RFPs and other opportunities on common region-wide platform; develop and promote a directory of regional firms organized and sortable by distinct service lines; offer matching / concierge services, based on deep familiarity with regional market.
* **Tactic 2.3: Offer capacity building services to improve firm access to regional market --** Provide technical assistance to local firms to compete for and secure anchor contracts (with emphasis on improving access for women and minority-owned firms) and referrals to Entrepreneurship and Business Ecosystem strategy services.

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| **Improving local procurement**  *Strategy 2 builds off national models for procurement strategies redirecting business from large regional anchor institutions – typically “eds and meds” – that may be serviced outside the region to support and strengthen local firms. These strategies typically are deployed to support women and minority-owned businesses and boost organizational supplier diversity, but also can be directed to create new markets for local firm growth generally.*   * **Chicago**’s [Chicago Anchors for a Strong Economy](http://www.worldbusinesschicago.com/case/) (CASE) initiative organizes 12+ major health, educational, and governmental institutions to procure from local suppliers in areas ranging from computer systems design and related IT services to management consulting services, printing, and construction. Components include an [online platform](https://chicagoanchors.com/scale-sign-up/) directly matching vetted anchors and suppliers, as well as other network-building and supports. The initiative is managed by two staff at the city’s public-private economic development organization. * Through its “Live, Hire, and Buy” initiative, **Indianapolis’**s regional chamber raises the visibility of procurement opportunities and spurs connections between businesses and suppliers. A dedicated [executive director](https://3odfep1y2phvonddy2b6d18t-wpengine.netdna-ssl.com/wp-content/uploads/2018/08/Procurement-Program-Director.pdf) for anchor institution strategies heads the effort. * Building on a recent [economic impact study](https://www.sandiegobusiness.org/blog/study-release-one-percent-shift-in-procurement-could-mean-thousands-of-jobs-for-san-diegans/) of capturing more local procurement, **San Diego’**s regional economic development organization is organizing a regional “anchor collaborative” to secure commitments. |

**3. Test California market potential for “onshore outsourcing” and locations from coastal firms seeking out-of-state cost advantages, given Kern County’s geographic proximity, price and competitive services, and expertise in state-specific regulation –** Explore opportunity to capture professional and business service functions that coastal firms in high-cost areas may otherwise consider moving to or procuring from out-of-state.

* **Tactic 3.1: Develop relationships with coastal Economic Development Corporations and Chambers of Commerce to capture business services that are moving outside of their regions** – Leverage networks and partnerships to gather market intelligence, understand mechanisms for influencing firm behavior, and source potential leads.
* **Tactic 3.2**: **Create a precise business case for why coastal firms should turn to Kern for outsourcing** – Develop a compelling narrative for Kern’s business services value proposition for coastal firms.
* **Tactic 3.3**: **Market specific Kern County business services in coastal California regions** –Identify and target specific sub-sectors where market outreach suggests Kern has the greatest advantage.

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| **Implications for State Policy**  Opportunity for state collaboration is most ripe in exploring “onshore outsourcing” partnerships with coastal markets, for which the State (in line with the Regions Rise Together initiative) is uniquely positioned to play an intermediary role raising visibility for the concept, securing commitments, and identifying and linking leads between regions. Such support would likely be instrumental to the success of the concept given the difficulty of otherwise pursuing with scale and efficiency, and would offer a model for similar partnerships with other Inland regions. |

**4. ADVANCED MANUFACTURING**

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| ***Vision*:** *Accelerate the growth of specific manufacturing subsectors that concentrate higher-quality jobs and improve workforce access by prioritizing industry support and talent efforts that are common practice in other regions.* |

Kern County possesses several strategic advantages for manufacturing expansion, despite state and national challenges to growth. Alongside momentum in advanced subsectors including aspects of chemicals, plastics, metalworking, and machinery; food processing; and aerospace vehicles and defense, the region holds advantages owing to talent adjacencies between its existing oil and gas workforce and skills demanded by manufacturing sectors; logistics assets that could be leveraged to support growth; and favorable land use policies.

However, more latent opportunity can be unlocked with a prioritized focus on the sector. Accelerating the sector’s growth is particularly important due to its concentration of good and promising jobs. The following strategies and tactics address the opportunity.

***Additional program and operational design details on strategies and tactics can be found in Appendix II.***

**1. Convene a regional industry-workforce exchange to establish a stronger manufacturing talent pipeline and connect Kern residents to good and promising jobs,**offering human resource expertise to smaller firms and better leveraging existing efforts like Bakersfield College’s Industrial Automation program, Kern Regional Occupation Center, and others.

* **Tactic 1.1: Determine how existing workforce programs (e.g. Employment Training Panel) could be applied or prioritized for manufacturing and boost the visibility of such resources**.
* **Tactic 1.2: Continue to build awareness around BC’s Industrial Automation Program; engage industry alliance (see Tactic 2.1) to determine if additional degree programs, certifications, or shorter-term trainings are necessary and develop plan to execute**.  – Prioritize both technical and “soft” skills and support for B3K industries (e.g. energy, aerospace).
* **Tactic 1.3: Organize small and medium-size manufacturers to address recruitment and ongoing skilling needs at scale** – Offer programming around strategic workforce planning, employee engagement, definition of career pathways, guidance on upskilling and incumbent worker training, and other advisory services.
* **Tactic 1.4: In collaboration with KCSOS, KCCD, and others, develop an early exposure campaign setting an ambitious goal for providing K-12 students with manufacturing-focused career experiences** -- Build long-term interest in the sector and identify future talent.

**2. Create a dedicated regional manufacturing lead / desk to provide more focused capacity and supplement program delivery at Kern EDC –** Coordinate opportunities with developers, and link intermediaries like workforce and technical assistance providers.

* **Tactic 2.1: Organize an industry alliance of regional manufacturers to share market insights, collaborate on problems and opportunities, and shape and direct ongoing efforts,** modeled after the San Joaquin Valley Manufacturing Alliance convened by the Fresno Business Council – Provide a platform for collaboration within the region and engagement with broader networks, such as the USC-based Advanced Manufacturing Partnership for Southern California, to promote Kern interests and identify opportunities.
* **Tactic 2.2: Boost the regularity and intensity of manufacturing-specific business retention and expansion activities –** Connect incumbents to existing providers (e.g. California Manufacturing Technology Consulting, Bakersfield College) and new programming (e.g. Manufacturing Innovation Center, exports assistance).
* **Tactic 2.3: Prioritize manufacturing in regional business attraction --** Boost the visibility of the sector through expanded marketing and branding and work with Kern County to direct incentives for the industry.
* **Tactic 2.4: Collaborate with the B3K Aerospace Cluster Initiative to support aerospace manufacturing opportunities in East Kern and potential for Greater Bakersfield-based firms to participate in the supply chain.**
* **Tactic 2.5: Help regional manufacturers connect to global markets and investment opportunities** -- Launch export assistance resources to connect manufacturers to new markets and growth opportunities; explore connections with SoCal Foreign Direct Investment efforts at Los Angeles World Trade Center to attract foreign manufacturers looking for a foothold in the mega-region.
* **Tactic 2.6: Establish a navigator function to expedite permitting and other “red-tape” issues related to manufacturing, provide assistance to firms in navigating such issues and pursue local policies that make Kern County the most compelling place in California for advanced manufacturing firms to locate –** Collaborate with the Bakersfield Chamber and state-wide actors (public and private) to advance more systemic policy changes and advocate for shared priorities, such as improved electricity service.

**3. Establish a regional Kern Manufacturing Innovation Hub to provide more specialized assistance to position for new growth opportunities in different markets and supply chains –** Improve firm competitiveness from product to process.

* **Tactic 3.1: Launch a dedicated physical space for manufacturers to access innovation and problem-solving services, connect with others in the industry, and prototype goods** – In the interim, establish partnerships with other California innovation centers (e.g. CalPoly Hothouse).
* **Tactic 3.2: Boost firm competitiveness and productivity through product and process innovation** – Offer services in areas such as adoption of new technology, digitalization, and automation, supply chain optimization, connections to licensing and innovations from East Kern, and cybersecurity assistance.
* **Tactic 3.3: Improve firm performance through strategic management assistance** – Address areas such as corporate strategy and business development, leadership and supervisory training, obtaining new certifications / accreditations, adoption of new protocols for safety and sustainability, and marketing and branding.

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| **Supporting SME manufacturers and ecosystem-building**  While opportunities to bolster manufacturing through re-shoring or near-shoring of supply chains captured the imagination of many both pre-and post-COVID, the reality is that U.S. firms often need to improve their workforce or adoption of new technologies and processes to boost productivity and compete.[[1]](#footnote-2) Efforts in other manufacturing regions provide models for services that can help small and mid-sized firms.   * In **Northeast Ohio**, [MAGNET](https://www.manufacturingsuccess.org/) (the Manufacturing Advocacy and Growth Network) offers hands-on coaching to firms in areas spanning operations (such as process improvement and automation, quality improvement, and cybersecurity); strategy, sales, and marketing; and technical and engineering services. * In **Chicago**, the [Illinois Manufacturing Excellence Center](https://www.imec.org/) offers similar services, including a particularly [promising initiative](https://www.brookings.edu/research/a-people-centered-approach-to-improving-job-quality-in-chicago/) holistically approaching workforce, product, and process improvements, with a recognition of inclusion. * Employer-driven coalitions, such as the **Louisville**, KY region’s [KY FAME](https://fame-usa.com/fame-program-locations/kentucky-fame/) initiative, in partnership with community colleges and other providers, also offer a model for collective action to define and build a skilled, globally competitive workforce through apprenticeships and other work-based learning opportunities. |

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| **Implications for State Policy**  While California remains the largest manufacturing state in the U.S., producing hundreds of billions of dollars of output on an annual basis, regional firm and intermediary input pointed to the impact of specific regulations in increasing costs and complexity and reducing competitiveness vis-à-vis other markets. This strategy seeks to address those issues with local navigator services and state-level advocacy on identified priorities.  Other potential opportunities for state collaboration in line with Regions Rise Together themes include support for the attraction of new manufacturers via lead generation or incentives, assistance connecting Kern manufacturers to global business opportunities via exports and foreign direct investment assistance, and investment in the Kern Manufacturing Innovation Hub to build a pipeline of higher-capacity Inland manufacturers offering good and promising jobs. |

**5. ENERGY**

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| ***Vision:*** *Building on Kern County’s distinctive industry base, talent and expertise, and geological assets, establish the region as a leading innovator in the emerging global market of renewable fuels and carbon management, while driving long-term economic growth and generating large numbers of new, durable good jobs for residents working in the energy sector.* |

A long-standing economic driver now beset by market and regulatory pressures, the region’s Energy “DNA” nonetheless offers significant potential extending from the historic base of assets and expertise into adjacent subsectors. Such approaches leverage both market opportunity during California’s investment toward climate goals and global demand for related technologies, processes, and solutions. Specific categories encompass: renewable biofuels expansion, including development of new production technologies and processes for export;

other renewable fuels and energy production and innovation, including hydrogen and agricultural or woody biomass; and carbon capture and storage implementation and innovation as first-movers in proof of concepts, products, and services for export, leveraging industry and public-sector demand. [[2]](#footnote-3)

However, realizing these opportunities requires sizeable new investments in innovation, resolution of policy issues, and industry leadership and organizing**.** Response also requires both application of significant substantive and technical expertise and a willingness to find common ground for focusing on new energy areas applying B3K economic principles, while still acknowledging and allowing other ongoing policy disagreements.

During the Strategy Development phase, a preliminary subset of Energy leads supported by the Advisory Team pursued a range of foundational outreach and research efforts, including consultation with energy and environment experts at Lawrence Livermore National Laboratory, initiation of market scanning to track baseline information on business needs and comparison research hub activities, noting innovating firms in the space and new government funding possibilities, and consultation with the curriculum workgroup for the Energy Technology Transfer and Workforce Development (ETT&WD) Planning Task Force led by Bakersfield College under a state High-Road Training Partnership grant.

These interactions led to a draft set of objectives and concepts as a basis for discussion, outlined in this Strategy. Input from additional workgroup members representing a broader range of industry, government, research, education, and civic interests will be required to iterate and finalize the workgroup’s outputs. Ongoing efforts will also need to continue seeking alignment and integration with other regional efforts that overlap in objectives, topics, stakeholders, and potential funding, such as the ETT&WD Task Force.

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| **Energy Workgroup Objectives**   * Establish a collaborative table among energy industry, innovators, regulators, academia, and scientists to develop and execute a roadmap for how Kern County can take advantage of economic opportunities presented by “net zero” demand, leveraging its unique energy strengths and breadth, to generate more quality job creation and sustained prosperity for residents. * Ascertain both (1) the business case (i.e. how to attract internal/external business investment); and (2) the regional cost benefit analysis (e.g. for the community, industry and government) to create a Kern County Clean Energy innovation and production hub, which might include: renewable fuels and local waste stream opportunities for low/negative carbon intensity energy sources; industrial innovation to reduce greenhouse gas emissions (e.g., CO2 and CH4), toxics, and criteria pollutant emissions; and carbon capture utilization and storage; and incubating emerging and cutting-edge technologies and approaches. * Design a complementary workforce agenda to address market opportunities and provide access / transition for energy workforce who may be affected by industry disruptions. * Identify what support (financial, regulatory etc.) is needed from the state to effectuate these strategies and achieve these goals. * Codify an approach to unified pursuit of the opportunities as a region – including who is responsible for what strategy/approach and what resources they need to succeed:   + proposed “first moves” for addressing opportunities;   + long-term strategies for sustaining and capitalizing on opportunities, with clear delineation of responsibility and commitments (e.g., state, local government, business, etc.)   + metrics to measure performance and success of efforts |

Building on these objectives, the workgroup also developed a preliminary concept for a clean energy and carbon management innovation cluster initiative centered around the following elements *(See Appendix II for additional detail)*:

* **RD&D**: Establishing a “Center of Excellence” for applied research, demonstration and validation; attracting best in class researchers through financial incentives; anchoring a statewide research/commercialization network linking university and lab expertise.
* **Business development**: Centralizing and coordinating dedicated firm recruitment; providing incentives through tax, capital, and/or challenge grants; forming or partnering with an industry venture fund; identifying or assembling sites, and/or instituting an infrastructure fund; and creating soft-land programs.
* **Talent development:** Building training programs to provide access to quality jobs in Energy; establishing apprenticeships and on-the-job training; partnering with local high schools and colleges; and creating a collaborative for economy of scale to attract best-in-class talent/expertise.
* **Communications and marketing:** Executing a thought-leadership strategy to advance solutions; creating and articulating a business case for the region’s center of excellence; and marketing Kern County’s assets, experience, and “global identity” in Energy.
* **Policy and regulation**: Creating a local-state navigator function to help firms manage State regulations; support the establishment of a dedicated State interagency team to resolve regulatory issues; codify a legal framework and legislative roadmap.
* **Governance:** Hire a senior lead with industry experience to bridge business and technical perspectives; establish a high-level Advisory Council representing government, business, and civic interests; develop oversight and accountability metrics.

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| **Implications for State Policy**  Across the elements of this Strategy, the impacts of state policy on Energy are the most acute – and fraught with political tensions. In pursuit of its ambitious climate goals, the State has indisputably instituted policies and regulations severely affecting Kern County and its economy. As various interests organize to object to or rally behind these policies, B3K has focused on applying the region’s assets and expertise built through decades of oil and gas activity to additional growth opportunities. Many of these will require state collaboration in the form of university research assets, program investments, and flexibilities to be realized, offering a potential middle ground in parallel with the resolution of broader regulatory issues. |

4. Deep Prosperity Framework

Alongside the five workgroups, a team of diverse cross-sectoral leaders was convened to provide guidance and thought leadership to ensure that individual strategies and the overall B3K effort focus on economic inclusion. The group was facilitated by the Kern Community Foundation, with support from the Advisory Team.

Responsibilities included (i) setting a clear definition of “deep prosperity” goals for which B3K efforts and participants can focus and be accountable; (ii) creating tools for workgroups to ensure that these objectives always are considered in strategies; and (iii) reviewing and providing input on strategies. The group was also tasked with helping to establish inclusion metrics for the overall B3K initiative.

Longer term, some form of a Deep Prosperity Advisory Committee will be part of B3K’s ongoing governance, intended to ensure that diversity, equity and inclusion remain central in implementation design and performance measurement.

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| **B3K Definition of Deep Prosperity**  **Deep Prosperity in Kern County will mean that all residents have equal access to a quality job and family-sustaining wages, eliminating racial and gender disparities in economic opportunities and outcomes, particularly for women and Black and Hispanic populations.**   * **Research Sources and Methods**: representative, disaggregated data informs strategies and tactics * **Outreach and Engagement**: diverse perspectives are consulted and considered in developing strategies and tactics * **Strategic Alignment and Program Design**: strategies and tactics advance quality job creation and explicitly focus on access * **Implementation**: execution of strategies and tactics (e.g. management, marketing) advances broad representation and access * **Metrics**: deep prosperity is prioritized in tracking results and assessing impact |

Guiding questions for workgroups to ensure consideration of whether strategies and tactics address challenges identified in the data around access to economic opportunity for all residents, particularly disparities in race and gender:

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| **Focus Area** | **Questions and Priorities** |
| Research Sources and Methods | * Does the workgroup use current data and information, disaggregated to reflect gender and racial disparities and by geography (I.e. Census Tract, Bakersfield Economic Opportunity Areas, or CalEnviroscreen Areas) where possible in Kern County? * What other information would be helpful to the workgroup? |
| Outreach and Engagement | * Does workgroup participation reflect diverse perspectives? * Is the group engaging diverse perspectives in design & development of the strategies? * Is there need for more expertise? Who else might be helpful to engage to address issues of inclusion where possible? (I.e. via CBOs in disadvantaged communities or educational institutions that have outreach efforts) |
| Strategic Alignment and Program Design | * On an overall basis, do the workgroup strategies align with B3K’s commitment to deep prosperity, as defined above (e.g. focused on industries supporting quality job creation)? * On a specific basis, do the workgroup strategies address how underrepresented groups can access these opportunities (e.g. targeted outreach, expanded access to relevant training)? * Do strategies include explicit focus on addressing policy barriers to deep prosperity? * Do strategies include focus on building/strengthening capacities of individuals/institutions for addressing deep prosperity? |
| Implementation | * Does the ongoing management and operations of the strategies include explicit commitment/plan to diversity (e.g., hiring, contracting, etc.)? * Management teams/staffs/contractors are diverse. * Dedicated marketing of new programs/opportunities to underserved groups (e.g. Spanish language, partnership with minority chambers to disseminate updates, etc.). |
| Metrics | * Implementation plans include specific plans, indicators and metrics to monitor performance against deep prosperity outcome/targets. * Plans to engage diverse community groups in ongoing monitoring and feedback, and to demonstrate how and where community voice was included and the impact it has made. |

5. Economic Performance Dashboard / Metrics

The Research Committee coordinated by CSUB professors, with technical support from the Advisory Team, developed a draft set of new metrics to provide a common foundation for defining, tracking, and assessing regional economic performance generally, and B3K efforts specifically. These metrics will be presented in an online, user-friendly dashboard, offering a shared vision and framework around which different organizations and leaders can align to consider the region’s direction and assess B3K impact.

The measures incorporate B3K principles of “growth, prosperity, and inclusion” for comprehensive economic success, as well as the drivers of economic competitiveness in performance of traded sectors, talent, innovation, infrastructure, and governance. It deliberately differs from standard quarterly reporting on the status of base economic measures like gross product or housing starts.

The group considered existing “dashboard” models from multiple regions across the country, which varied greatly in the scope of topics and level of detail included. It also delved into data sources and coordination across regional researchers, and localizing the subregional factors.

Significant debate centered on the breadth of factors to be covered, particularly social dimensions like housing costs or health conditions. The group decided to focus on indicators that were about inclusive economic, work, and competitive inputs, and within the more direct influence of B3K actors and the region, such as childcare availability versus healthcare or living expenses. Additionally, these elements are not generally reported through other assessments, like the California Dream Index.

Finally, in addition to the general “horizon” goals and competitiveness inputs, the Research Committee will continue to review and guide individual workgroups on their more intermediate strategy and tactic measures to gauge results of interventions.

Draft metrics, still to be finalized and approved by the B3K Executive Committee, include:

1. **Progress in delivering economic growth, prosperity, and inclusion as high-level goals for overall regional performance.**

|  |  |  |
| --- | --- | --- |
| **Growth** | **Prosperity** | **Inclusion** |
| * Employment growth rate * GMP growth rate * Change in jobs at young firms | * GMP per job * GMP per capita * Average annual wage | * Employment rate of adults (18-64) * Median earnings (age 16 and older) * Relative income poverty rate * Struggling working families   (*all with further breakdowns by race and gender*) |

1. **More detailed assessment of performance in bolstering and maintaining core drivers of economic competitiveness.**

|  |  |
| --- | --- |
| **Traded Sectors** | **Entrepreneurship and Business Ecosystem** |
| * Employment growth in tradable industry clusters * GMP growth in tradable industry clusters * Productivity growth in tradable industry clusters | * SBIR and STTR grant submissions (and awards) * STEM graduates (AA and BA) [by race and gender] * High tech industry employment * Patents [US Patent & Trademark Office] * SBA and CDFI loans [by race and gender] * Venture Capital raised [by race and gender] * Loans from all sources businesses w rev < $1 million * New firm startup and five-year survival rate for young firms * Share of businesses owned/share of population by ethnic [by race and gender] * Number & share of jobs at young firms (by poverty/low poverty census track) |

|  |  |
| --- | --- |
| **Human Capital** | **Infrastructure** |
| * Childcare access [by race and gender] * 3rd grade reading standard (percentage attainment) [by race and gender] * 8th grade math standard (percentage attainment) [by race and gender] * College/career Indicator rate [by race & gender, CA School Dashboard/KCSOS] * College-going rate & 2-year-to-4-year college transfer rate [by race and gender] * Higher education attainment rate (AA and BA/BS benchmarks) [by race and gender] * Full-time median earnings ratios [by race and gender] * Net migration of 25-34 year-olds with AA/BA degrees [ACS] | * Population with access to broadband [by race and gender] * Real estate affordability (commercial/Industrial; residential) * Air transport – air traffic/passengers by airport * Mean time to work * Perceptions of community: Gallup Sharecare Well-being Index or Kern COG annual survey (to address perceptions such as "liking where you live, feeling safe and having pride in your community") |

1. **Metrics to track strategy and tactic implementation.**

Examples may include:

* Number of startups participating in accelerator or incubator programming, with emphasis on entrepreneurs of color.
* Number of Spanish-speaking coaches hired at entrepreneurship support organizations.
* Number of commercial licenses procured within the region for use of aerospace technologies based at East Kern installations.
* Number of business services, aerospace, and manufacturing firms utilizing the County’s Employment Training Panel program
* Number of local business firms participating in business services alliance; number of new local procurement contracts.
* Number of business retention and expansion contacts with regional manufacturing firms.

6. Governance

Underlying next steps and implementation of the strategies and tactics in this document is the outstanding question of long-term governance – how B3K efforts should be fostered and sustained, maintaining a collaborative approach to delivery and resourcing.

B3K is a forum and platform for achieving shared economic outcomes via a range of contributing stakeholders, not itself a new entity or institution. However, per findings in the Market Assessment, private, public, and civic sector leadership must agree on roles, norms, and resources, including a “center of gravity” for facilitation and accountability so that agreed strategies are more than a stated ambition without implementation.

The following five functions are particularly critical to advancing collective action and accountability among partners:

1. **facilitating program delivery** by promoting connections and alignment among contributing actors, offering supplemental capacity, and guiding B3K strategy adjustments or evolution;
2. **identifying and coordinating pursuit of implementation resources** for and by stakeholders in a transparent and collaborative manner;
3. **organizing policy and advocacy across interests** on issues specifically related to advancing B3K implementation;
4. **monitoring and reporting regional performance metrics** and tactical progress toward outcomes; and
5. **providing a neutral standing forum** as the consistent entry point for cross-sector regional information-sharing and coordination related to inclusive economic development programs, policies, and funding.

Based on experience and models from other regions, the Advisory Team put forward a proposed distributed implementation model, organized by a trusted regional facilitator, to deliver on these objectives. This approach would allow for active participation from all contributors essential to success, while ensuring efforts are coordinated and cohesive.

A detailed job description for the facilitator role and illustration of the distributed implementation model can be found in the Appendix.

7. Conclusion

Achieving the aspiration of B3K -- building long-term deep prosperity in Kern County -- will require both bold action and steady, patient stewardship.

The region’s economic threats are real, challenging Kern’s identity as an affordable, family-friendly community and aspirations for its future in an increasingly competitive global economy. Longstanding drivers of economic growth may no longer be easily relied upon, with some newer opportunities failing to match previous delivery of quality jobs. Tackling significant hurdles – such as the region’s lackluster educational attainment rates and closing deep gaps in economic inclusion –represent generations-long efforts.

This Strategy outlines tangible recommendations to seize the region’s potential and deliver more good and promising jobs for local residents, advancing data-driven opportunities identified in the B3K Market Assessment and drawing on locally-based collaboration and problem-solving through the Workgroup process.

However, this Strategy document alone will not deliver solutions.

Over the past seven months of organizing and translating findings to action, the scale and challenge of B3K became tangible. With discussion of specific strategies and tactics, contributors began to understand what effective implementation would require in increasing effort or changing current practices, and new resources or capabilities.

In the best of cases, this resulted in engagement of new contributors and building of coalitions, prioritization of objectives, definition of strategies, determination of tactics to some functional specificity beyond a statement, and even initial fundraising and implementation in discrete areas. In other cases, efforts were stymied by inherent complexity of the issues, lack of foundational organization, difficulty securing involvement of critical participants due to availability or skepticism, and overcoming silos. As B3K fully shifts from strategy development to implementation, these challenges are likely to recur.

Achieving long-term regional action at the scale of B3K’s ambition would be a

heavy lift for any region, let alone one that has struggled with implementation on regional economic development and requires significant investments in baseline capacities. It will be up to the region’s institutions and leaders to determine whether B3K ultimately marks a new chapter for Kern County or a momentary diversion from the status quo.

Acknowledgments

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While this strategy was authored by the B3K Advisory Team, it reflects the outputs and contributions of locally-driven workgroups composed of 15-20 business, workforce, community, and academic leaders each who devoted significant time and energy to the effort. A complete list of workgroup chairs and members can be found in Appendix I. Kern County further contributed substantial staff time to supporting workgroup strategy development.

The B3K Executive Committee, led by co-chairs Greg Bielli, Connie Perez-Andreesen, and Dr. Lynette Zelezny, continued to provide valuable oversight and guidance during this phase of work. The full Steering Committee, with representation across sectors and areas of the County, reviewed draft strategies and tactics during an in-person convening in June 2021.

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​The “core team” leadership and staff of the Kern Community Foundation, Greater Bakersfield Chamber of Commerce, Kern County, Kern County Economic Development Corporation, Kern Community College District, California State University Bakersfield, and City of Bakersfield provided extensive support throughout B3K. This assistance included in-kind research, outreach, communications, and project management support. ​

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Appendix I: List of Workgroup Members

**Entrepreneurship and Business Ecosystem**

* J.P. Lake, Co-Managing Partner, Kern Venture Group and Co-Founder, Kern Initiative on Talent and Entrepreneurship (*chair*)
* Nick Ambrosini, CFO/EVP, Valley Strong Credit Union
* Dr. Seung Bach, Associate Dean of Business & Public Administration, CSUB
* Angel Cottrell, Entrepreneurship Resource Centers Program Manager, Kern High School District
* Norma Dunn, Director, MCSC Kern Women's Business Center
* Professor Kailani Henry, Bakersfield College
* Nick Hill, President, Kern County Black Chamber of Commerce
* NaTesha Johnson, Partner, Old Gold Ventures and Upside Productions
* Austin Latch, VP of Engineering, ASG
* Bob Meadows, City of Shafter Business Development Director
* John Pryor, Coach at the CSUB SBDC, Former Executive and Consultant
* Michael Roberts, CEO, Small Business Celebration
* Amy Thelen, VP, Bitwise Bakersfield
* RJ Valentino, President, Grimm Family Education Foundation
* Sue Watson, CEO, Business Initiatives

**Aerospace**

* George Whitesides, Space Advisory Board Chair, Virgin Galactic (*co-chair*)
* Dr. David Smith, Director of Air Force Plant 42 (*co-chair*)
* Col. Randel J. Gordon, Vice Commander, 412th Test Wing, Edwards Air Force Base (*co-chair*)
* Dan Carreño, Director, Weapons & Energetics Naval Air Systems Command, NAWS China Lake
* Richard Cohn, Chief Engineer, Rocket Propulsion Division, Air Force Research Laboratory
* Chris Edwards, Vice President, Operations, Lockheed Martin Skunk Works
* Jenna Edwards, Strategy and Organizational Development Lead, Masten Space Systems
* Dr. Sean Hancock, President, Cerro Coso College
* Todd Lindner, CEO, Mojave Air and Space Port
* Dave Janiec, President, China Lake Alliance
* David McBride, Director, Flight Research Center, NASA Armstrong Center
* Ronda Perez, Executive Director, AVEdge
* Dr. Shawn Phillips, Chief, Rocket Propulsion Division and Site Director, Air Force Research Laboratory
* Connie Reese, Strategic Communications, Northrup Grumman
* Dr. Jeremy Woods, Assistant Professor, CSUB
* Alexia Svedja, California City Chamber of Commerce

**Business Services**

* Jim Damian, Founder and CEO, Stria (*co-chair*)
* Michael Hansen, President, Advanced Data Storage (*co-chair*)
* Jason Cater, Economic Development Planner, City of Bakersfield
* Matt Damian, Senior Relationship Manager and Team Leader, TriCounties Bank
* Ken Keller, President and CEO, Memorial Hospital - Dignity Health
* Chris McGlassen, CEO, LanPro Systems
* Dave Milazzo, Founder and Principal Consultant, MacroScopic
* Robin Paggi, Training Development Specialist, Worklogic
* Doug Pierce, Principal, Pierce and Pierce
* Lizette Peterson, Cazadora Consulting
* Professor Sumita Sarma, Assistant Professor and Director, Business Research and Education Center, CSUB
* Stacy Valdez, Manager, Real Estate / Building & People Services, CRC

**Manufacturing**

* Derek Abbott, Senior Vice President, Real Estate, Tejon Ranch Company
* Rob Ball, Director of Planning, Kern Council of Governments
* Melinda Brown, Vice President, Business Development, Kern EDC
* Anthony Cordova, Dean of Instruction, CTE and Industrial Automation, Bakersfield College
* Gino DiCaro, Senior Vice President, Communications and President, CMTA Service Corporation, California Manufacturers & Technology Association
* Cecelia Griego, Economic Development Principal Planner, City of Bakersfield
* Barry Hibbard, Senior Vice President, SJV Real Estate Inc.
* Jeff Jackson, Factory Manager, Dreyer’s Grand Ice Cream
* Bob McBride, President, AC Plating
* Andrea Medina, Director of Grants and Outreach for the School of Natural Sciences, Mathematics, and Engineering, CSUB
* Nick Ortiz, President and CEO, Greater Bakersfield Chamber of Commerce
* Emma de la Rosa, Policy Advocate, Leadership Counsel
* Blair Truett, Bakersfield College Industrial Automation Program

**Energy:**

* Jennifer Haley, President and CEO, Kern Oil and Refining Co. (*co-chair*)
* Trem Smith, CEO, Berry Corporation (*co-chair*)
* Joe Ashley, Director, Regulatory and External Affairs, CRC
* Maryam Brown, President, SoCalGas
* Dr. Sonya Christian, Chancellor, Kern Community College District
* Shannon Eddy, Large-Scale Solar Association
* Lorelei Oviatt, Director of Planning and Community Development, Kern County (*advisory member*)
* George Peridas, Director, Carbon Management Partnerships at Lawrence Livermore National Laboratory (*advisory membe*r)
* Christina Sistrunk, former President and CEO, Aera Energy (*advisory membe*r)
* Dr. Lynette Zelezny, President, CSUB

Appendix II: Strategy Activation Plans

* Entrepreneurship and Business Ecosystem
* Aerospace
* Business Services
* Advanced Manufacturing
* Kern County Clean Energy and Carbon Management Innovation Cluster Concept Diagram

1. See, for instance, David J. Lynch, “Heartland factories losing ground as Biden reads manufacturing push,” The Washington Post, Feb. 16, 2021, https://www.washingtonpost.com/business/2021/02/16/indiana-manufacturing-biden/ [↑](#footnote-ref-2)
2. While Kern County has established a significant foothold in solar and wind electricity generation, the Market Assessment found that these areas did not offer significant new net jobs. Thus, these areas were not emphasized in the strategy process. [↑](#footnote-ref-3)