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Translating Military Skills into Energy and Infrastructure Careers

Occupational Matches, Credentials, and State Planning Guidance



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About This Report

This work is intended to help veterans identify occupations in energy and infrastructure sectors that would match the skills and knowledge of their military occupation. The goal is to bridge the gap to a growing sustainable energy and infrastructure sectors for veterans. The intended audiences for this report are organizations and individuals involved in supporting veterans' transitions into civilian employment, especially roles in energy and infrastructure sectors. This audience includes nongovernmental organizations, veteran service organizations, workforce development practitioners, and veterans themselves who are seeking information on how military-acquired skills can translate to energy- and infrastructure-focused jobs.

RAND Epstein Family Veterans Policy Research Institute

This work was conducted within the RAND Epstein Family Veterans Policy Research Institute, which is dedicated to conducting innovative, evidence-based research and analysis to improve the lives of those who have served in the U.S. military. Building on decades of interdisciplinary expertise at RAND, the institute prioritizes creative, equitable, and inclusive solutions and interventions that meet the needs of diverse veteran populations while engaging and empowering those who support them. For more information, visit veterans.rand.org or email veteranspolicy@rand.org.

RAND Lowy Family Middle-Class Pathways Center

This work was conducted within the RAND Lowy Family Middle-Class Pathways Center, which aims to identify ways to create and sustain middle-class employment in the face of rapidly changing labor-market conditions. The center is part of RAND Education and Labor, a division of RAND that conducts research on early childhood through postsecondary education programs, workforce development, and programs and policies affecting workers, entrepreneurship, and financial literacy and decisionmaking. For more information about the RAND Lowy Family Middle-Class Pathways Center, visit www.rand.org/mcpc. For more information about RAND Education and Labor, visit www.rand.org/education-and-labor or email educationandlabor@rand.org.

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Summary

This research examines how service members leaving the military can smoothly transition into jobs within the growing sustainable energy and infrastructure fields. The report highlights the strong overlap between specialized military training and the needs of sectors such as renewable energy, energy efficiency, construction, transportation, and waste management.

The research was designed to help veterans, workforce planners, and organizations supporting veterans understand which military jobs best prepare individuals for civilian roles in energy and infrastructure. Experts analyzed job duties and required skills across the Army, Navy, Marine Corps, and Air Force, comparing them with the needs of high-demand jobs in these sectors. There are a total of 255 matches between military and civilian occupations. The findings show that 55 different military roles align closely with 57 civilian jobs in energy and infrastructure—many of which are expected to grow rapidly and offer above-average pay. For example, wind turbine service technicians are expected to grow by nearly 50 percent over the next decade with a median wage of approximately \$63,000 compared with a current median wage of approximately \$50,000 (U.S. Bureau of Labor Statistics, 2025).

Key findings of the study show that the technical, mechanical, construction, and logistics skills taught in many military jobs are highly valued in renewable energy, power grid modernization, building retrofits, public transportation, and other sustainable energy and infrastructure roles. In addition to technical skills, the leadership, problem-solving, and adaptability instilled in military training are prized by employers in these fast-changing fields.

The report emphasizes the importance of targeted support for service members as they leave the military and seek civilian work. Many of the best-matched roles require only modest additional training or civilian certifications, making the transition relatively straightforward. However, success is more likely when transition programs include guidance on obtaining credentials, partnerships with schools and employers, and information about regional job trends.

Workforce planners and policymakers are encouraged to focus resources on the military specialties that most easily match to energy and infrastructure jobs. By doing so, communities can fill important workforce gaps, help veterans secure stable and rewarding jobs, and support the nation's shift toward a more sustainable economy. Special attention should also be given to helping veterans understand the economic benefits and career advancement paths energy and infrastructure sectors offer, especially in regions where these industries are expanding.

In conclusion, military-to-civilian transitions into sustainable energy and infrastructure provide an opportunity to meet the labor needs of growing industries while supporting those who have served. With thoughtful planning and targeted support, veterans can continue to make a meaningful impact—helping to build a cleaner, more resilient future for all communities.

Key Findings

- Across all four service branches (Army, Navy, Marine Corps and Air Force) there are 255 total matches between military and civilian occupation. Specifically, we identified 55 military occupations that matched to 57 unique energy and infrastructure occupations. Most of these are high-growth occupations, paying above-average wages.
- Some military occupations matched to as many as 18 energy and infrastructure occupations, others to as few as one.
- We show which of the military jobs are likely to be good matches to civilian jobs within areas such as renewable energy generation, and energy efficiency, as well as matches to the “type” of occupation: enhanced skills, increased demand, or new and emerging.
- The narrow scope of matches suggests the need for targeted transition programs to help service members acquire certifications, formal education, or additional training to fully capitalize on these opportunities.
- There are a number of occupational matches for supervisory and training occupations; these occupations are better suited to senior noncommissioned officers who have demonstrated leadership and time management skills, along with the ability to communicate the essentials of the job. Technical nonsupervisory roles are better suited to those who left military service at a lower rank.
- Wages for sustainable energy and infrastructure occupations tend to be higher than the overall economy.
- Significant numbers of veterans are qualified to fill the growing demand for energy and infrastructure jobs because many of the military occupations that match the core competencies for these sectors are some of the most common occupations in the military.
- We find that energy and infrastructure occupations have economic multipliers on the order of 1.3 to 1.5, meaning that a \$1 increase in output from that occupation will result in \$1.30 to \$1.50 in total economic output increased.

Contents

- About This Reportiii
- Summary v
- Tables viii

- Translating Military Skills into Energy and Infrastructure Careers..... 1
 - Sustainable Energy and Infrastructure Occupations 2
 - Research Methods and Data..... 4
 - Overall Findings 8
 - Skill Transferability 15
 - Army-Specific Occupation Matches 24
 - Navy-Specific Occupation Matches 26
 - Marine Corps-Specific Occupation Matches 28
 - Air Force-Specific Occupation Matches 30
 - Comparison of Army, Navy, Marine Corps, and Air Force Matches
to Civilian Sustainable Energy and Infrastructure Jobs 32
 - Guidance for Workforce Planners and Policymakers: Facilitating Military-to-Energy
and Infrastructure Sector Transitions 33
 - Economic Impact of Energy and Infrastructure Occupations..... 34
 - Conclusions..... 35

- Abbreviations..... 37
- References 39

Tables

Table 1. Density of Matches from Military to Energy and Infrastructure Sectors8

Table 2. Military Occupations and Number of Matching Civilian Occupations in the Sustainable Energy and Infrastructure Sectors.....9

Table 3. Military Occupation Matches to First-Line Supervisors of Mechanics, Installers, and Repairers (SOC 49-1011).....12

Table 4. Military Occupation Matches to General and Operations Managers (SOC 11-1021).....13

Table 5. Military Occupation Matches to Training and Development Specialists (SOC 13-1151)14

Table 6. Civilian Occupations Matching to Multiple Military Occupations15

Table 7. Military Occupation Matches to Hazardous Materials Removal Workers (SOC 47-4041).....17

Table 8. Military Occupation Matches to Helpers—Installation, Maintenance, and Repair Workers (SOC 49-9098)18

Table 9. Military Occupations That Match to a Single Civilian Occupation19

Table 10. White- and Pink-Collar Civilian Energy and Infrastructure Sector Occupations Matching to Specific Military Occupations21

Table 11. Blue-Collar Civilian Energy and Infrastructure Occupations Matching to Specific Military Occupations23

Table 12. Number of High-Quality Matches: Army26

Table 13. Number of High-Quality Matches: Navy.....28

Table 14. Number of High-Quality Matches: Marine Corps.....30

Table 15. Number of High-Quality Matches: Air Force31

Table 16. High- and Low-Economic-Multiplier Sustainable Occupations34

Translating Military Skills into Energy and Infrastructure Careers

We follow Dierdorff et al. (2011) and consider “economic activity related to reducing the use of fossil fuels, decreasing pollution and greenhouse gas emissions, increasing the efficiency of energy usage, recycling materials, and developing and adopting renewable sources of energy” (p. 8). Nearly all forecasts indicate that these sectors are some of the faster-growing sectors in the United States and will likely be an important source of new jobs going forward (Dai et al., 2024; World Economic Forum, 2023). Veterans transitioning from military service to the energy and infrastructure sectors represent a promising pathway for veteran employment because the workforce skills are often aligned and these sectors are growing.

Certain military occupations align more closely with civilian roles in energy and infrastructure, offering unique opportunities for veterans to contribute to renewable energy, environmental conservation, and other sustainability initiatives. To better understand these connections, we integrate two strands of research: (1) military-to-civilian transitions and (2) energy and infrastructure occupations and regional capacities for sustainable economic growth.

Our approach involves identifying key sectors, mapping the occupations within those sectors, and matching them with military roles based on shared knowledge, skills, and abilities (KSA) and other attributes. Finally, we assess the potential for these occupations to drive regional expansion of the energy and infrastructure sectors and contribute to broader economic development. The aim of this research is to determine whether those separating from service with only 3–5 years would be good matches for energy and infrastructure jobs.

Each of the service branches has a method for identifying the occupational role of the servicemember. For the Army and Marine Corps, this designation is a Military Occupational Specialty (MOS). MOSs provide occupation descriptions as well as specific training requirements—those can be used to understand potential civilian matches. The Navy uses a system of ratings or rates; these also provide job titles, and occupation descriptions, as well as training requirements. The Air Force uses Air Force Specialty Codes (AFSCs), which like the other service branches provide the aforementioned occupational details.

Overall, we find that 55 military occupations across four service branches (Army, Navy, Marine Corps, and Air Force) match with 57 unique civilian occupations, with a total set of matches of 255 owing to multiple matches on both the civilian and military sides. Most of these are high-growth occupations, paying above-average wages.

The intended audiences for this report are organizations and individuals involved in supporting veterans’ transitions into civilian employment. This audience includes nongovernmental organizations, veteran service organizations, workforce development practitioners, and veterans themselves who are

seeking information on how military-acquired skills can translate to civilian energy and infrastructure jobs. Our goal is to help bridge the gap for veterans seeking employment in these growing sectors.

The remainder of this report is organized as follows. We begin by defining key sectors and key occupations, and by describing our research methods and data sources, including how military occupations are matched to energy and infrastructure jobs. Next, we present overall findings and analyze the extent of skill transferability between military and energy and infrastructure roles. Following this, we provide service-specific results for the Army, Navy, Marine Corps, and Air Force, highlighting unique transition opportunities for each branch. The report then examines the economic impact of sustainable energy and infrastructure jobs, and concludes by summarizing key takeaways and implications for policy and practice. Tables throughout the report illustrate major findings and support our analysis.

Sustainable Energy and Infrastructure Occupations

Our approach to identify energy and infrastructure jobs relies on Dierdorff et al. (2009, 2011). Their goal was to identify (1) how energy and infrastructure economic activities and technologies affect occupations, and (2) new and emerging occupations that are necessary for expansion of sustainable energy and infrastructure sectors. Their approach starts with considering which sectors are likely important within sustainable energy and infrastructure. From there, they consider the jobs that are likely affected within those sectors and then use methods to group similar skills and tasks to classify those jobs into occupations consistent with the Standard Occupational Classification (SOC) system used by the U.S. Bureau of Labor Statistics (BLS). By focusing this way, there is a move away from job titles and KSA approach to workforce development that can exploit all the Occupational Information Network (O*NET), BLS, and U.S. Bureau of Economic Analysis data.

Defining the Sustainable Energy and Infrastructure Sectors

We follow Dierdorff et al. (2011) and consider “economic activity related to reducing the use of fossil fuels, decreasing pollution and greenhouse gas emissions, increasing the efficiency of energy usage, recycling materials, and developing and adopting renewable sources of energy” (p. 8). As such, the sustainable energy and infrastructure sectors are

- Renewable Energy Generation
- Energy Efficiency
- Energy Trading
- Research, Design, and Consulting
- Agriculture and Forestry
- Recycling and Waste Reduction
- Transportation
- Sustainable Construction
- Energy and Carbon Capture
- Environmental Protection

- Manufacturing
- Governmental and Regulatory.

Importantly, not all aspects of these sectors are necessarily part of the sustainable energy and infrastructure sectors. For example, the sustainable construction sector is part of the broader construction sector that has aspects of circular economy, energy efficiency, and longer life cycles, so that many workers in the construction sector could easily be transitioned into the sustainable construction sector.

Growth in Sustainable Energy and Infrastructure Sectors

To see how each of these sectors are expected to grow (or not), we searched the gray literature, leaning toward federal and international reports but also association and business consulting reports for estimates of the growth projections for each of the 12 sectors:

- **Renewable Energy Generation:** The U.S. Energy Information Administration (EIA) projects 44 percent of energy will come from renewable sources by 2050 in the United States (EIA, 2022).
- **Energy Efficiency:** The energy efficiency market for buildings in the United States is expected to grow at a compound annual growth rate of 11.1 percent from 2024 to 2030 (Grand View Research, 2022).
- **Energy Trading:** The electricity trading market in the United States is expected to grow at a compound annual growth rate of 7.8 percent from 2025 to 2037 (Research Nester, 2025).
- **Research, Design, and Consulting:** The research, design, and consulting market in the United States is expected to grow at a compound annual growth rate of 5.7 percent from 2024 to 2029 (The Business Research Company, 2025).
- **Agriculture and Forestry:** The sustainable agricultural market in the United States is expected to grow at a compound annual growth rate of 10.7 percent from 2024 to 2034 (InsightAce Analytic, 2025).
- **Recycling and Waste Reduction:** The waste management and recycling market in the United States is expected to grow at a compound annual growth rate of 4.5 percent from 2023 to 2030 (Maximize Market Research, 2023).
- **Transportation:** The sustainable transportation market in the United States is expected to grow at a compound annual growth rate of 20 percent from 2024 to 2033 (The Brainy Insights, 2024).
- **Sustainable Construction:** The sustainable construction materials market in the United States is expected to grow at a compound annual growth rate of 11.9 percent from 2024 to 2032 (Global Market Insights Inc., 2025).
- **Energy and Carbon Capture:** The U.S. carbon capture and storage market is expected to grow at a compound annual growth rate of 22.2 percent from 2025 to 2034 (Precedence Research, 2025).

- **Environmental Protection:** The U.S. environmental health and safety market is projected to grow at a compound annual growth rate of 6.3 percent from 2024–2030 (Grand View Research, 2024).
- **Manufacturing:** The North American sustainable manufacturing market is expected to grow at a compound annual growth rate of 9.6 percent from 2024 to 2030 (Grand View Research, 2023).
- **Governmental and Regulatory:** There are no comprehensive estimates for the growth rate of regulations in terms of market size available as these are administration-specific and combine state and federal approaches.

Sustainable Energy and Infrastructure Occupations

Dierdorff et al. (2011) identified 215 occupations across three categories of energy and infrastructure occupations. They characterize these occupations as (1) increased demand, (2) enhanced skills, and (3) new and expanding. Increased demand occupations are those that already exist in the economy in robust numbers and, as the sustainable energy and infrastructure sectors expand, are likely to experience increased demand with the same KSA as previously identified in the traditional economy. The second category of enhanced skills occupations may require additional training in terms of skills or knowledge for individuals currently in those occupations to meet the needs of the sustainable energy and infrastructure occupation. The third category is occupations that are either currently in small numbers to be lumped in with a broader occupation or occupations that do not currently exist in BLS databases. Increased demand occupations represent 64 occupations, enhanced skills represent 60 occupations, and new and expanding represent 91 occupations, respectively, of the 215 occupations identified by Dierdorff et al. (2011).

Research Methods and Data

O*NET Database

The primary database containing detailed descriptions of U.S.-based occupations gathered by the BLS is O*NET. O*NET characterizes occupations by KSA, work context, work values, and work styles, as well as the education, experience, and training necessary to successfully perform the work required in that occupation. Additionally, BLS collects statistical data by occupation that can be used to understand where occupations are concentrated geographically, historical trends in both employment and earnings, and future projections of employment growth.

Matching Military to Sustainable Energy and Infrastructure Occupations

Our approach to matching military occupation to sustainable energy and infrastructure occupations involves two steps. First, My Next Move for Veterans (MNMV) database provides a “crosswalk” from all military occupations to close civilian occupations, where “close” is relative to occupational attributes though not concretely defined in any of the documentation. On the military

side, it is exhaustive of all military occupations, but those military occupations do not map to the exhaustive list of civilian occupations. That is, there may exist civilian occupations that would not be a good fit for any military occupation based on skills, knowledge, and other occupational attributes. The MNMV crosswalk should therefore be viewed as illustrative and not exhaustive, as some military roles may be undercounted due to limited public descriptions being available. Next, we consider a subset of the civilian occupations that correspond to sustainable energy and infrastructure occupations as discussed in Dierdorff et al. (2011) and used in Curtright et al. (2024). Our results also show that there is not an onto mapping of military occupations to sustainable energy and infrastructure sectors. In what follows, we provide an overview of how the MNMV database was developed (a detailed documentation of all the steps and assumptions does not exist). Importantly, the mapping between military and civilian occupations does not preclude an individual from transitioning from a military occupation not identified as a close match.

Morris (2020) provides a means to link military occupations to civilian occupations that forms the backbone of the MNMV database. From its inception, MNMV has involved collaboration between the Department of Labor (DoL) and the Department of Defense (DoD),¹ among others, primarily to obtain and improve the mappings between military and civilian jobs. The core military-to-civilian crosswalk initially relied on data from the Defense Manpower Data Center (DMDC). However, recognizing that the straightforward one-to-one links in the original DMDC crosswalk were often too narrow, Congress (through the VOW [Veterans Opportunity to Work] to Hire Heroes Act of 2011, Section 222) mandated a study to enhance this crosswalk. DoL's Employment and Training Administration (ETA), working in collaboration with DoD, commissioned the pilot study *Translating Military Skills to Civilian Employment*, carried out by Solutions for Information Design, Inc. (SOLID) to expand and refine the mapping of MOSs to civilian roles. This pilot study (completed in 2014) greatly influenced the development of MNMV's search algorithm and database, as discussed in detail here. The enhanced crosswalk data from the pilot was integrated not only into MNMV but also into other veteran employment platforms like the resources on the Veterans Benefits Administration website.

Additionally, DoL tapped other partnerships and studies to inform MNMV. Data from the DoD's Credentialing Opportunities On-Line (COOL) programs for each service branch (Army, Navy, Marine Corps, Air Force, Coast Guard) were incorporated to enrich the information on how military specialties align with civilian credentials and occupations. DoD's Office of People Analytics and its Armed Services Vocational Aptitude Battery Career Exploration Program contributed insights, presumably linking the aptitude-based career exploration tools used for recruits to civilian job matches. Moreover, an independent research effort by RAND focused on Army soldiers' KSA (Wenger et al., 2017), was utilized to broaden the pool of potential matches for certain Army MOSs. In summary, the development of MNMV has been a multiagency endeavor: ETA funded and led the effort; O*NET Center developed and maintains the tool; DoD (DMDC and other units) provided crucial military occupation data and expertise; and external research organizations (like SOLID and RAND) performed studies to improve the matching logic. This collaborative foundation ensured that

¹ Executive Order 14347, signed September 5, 2025, authorized the use of Department of War as a secondary name for the Department of Defense. This publication was written before that order was released and thus refers to the secretary and department by their current statutory names under Public Law 81-216, National Security Act Amendments of 1949.

the tool was grounded in authoritative data from both the civilian labor market and the military personnel domain.

The backbone of MNMV is the O*NET database, which contains detailed information on nearly all U.S. occupations. All the civilian career profiles (over 900 occupations) presented on MNMV are drawn from the O*NET database. This includes descriptions of typical tasks and duties, knowledge and skills required, abilities, work activities, work context, job outlook, and salary ranges. The O*NET data itself is gathered through surveys of incumbent workers and occupational experts, along with occupational analyst research. Thus, the MNMV inherits the strengths of O*NET: data that is regularly updated and derived from broad-based research on U.S. labor market roles. For example, information on the importance of certain skills or the required education level for a job in MNMV comes directly from aggregated O*NET survey responses of people in those occupations. The use of O*NET ensures that MNMV's career information is comprehensive and standardized. Each occupation is identified by an O*NET-SOC code, allowing integration with other resources and cross-referencing.

In summary, MNMV is built on a fusion of datasets: the O*NET occupational taxonomy (ensuring comprehensive, research-based info on civilian jobs), the DMDC and enhanced crosswalks (linking military and civilian roles), multiple DoD and research inputs (to widen and validate those links), and BLS/CareerOneStop data (to provide real-time and forward-looking labor market context). The site's architecture reflects this—essentially functioning as a specialized front-end to the O*NET database with an added military occupation search layer. The integration of these sources is automated and continuously maintained. According to O*NET documentation, the military-civilian crosswalk data is updated on a quarterly basis to keep up with any changes (such as new military occupations or revised mappings). The tool employs O*NET Web Services to dynamically fetch the most up-to-date information when users perform searches.

One methodological challenge was to unify multiple sources (DMDC, enhanced crosswalks, Wenger et al., 2017, COOL, and others) into one consolidated mapping database. The O*NET Resource Center detailed a process of automated merging and rational review to build the master crosswalk. Essentially, this loads each source's list of military-to-civilian links and then matches military codes across sources. Because not every source uses identical identifiers or levels of specificity, the center sometimes had to group codes or resolve conflicts. The example given is combining various AFSCs (Helper, Apprentice, Journeyman, etc.) into one broad code for Aerospace Ground Equipment. For each military occupation entry from any source, the center tries to align it with an entry in the authoritative DMDC list or a broad occupation created from DMDC data. Automated string matching on code and title was used for most of this alignment, followed by human review to fix any mismatches. Once unified, each military occupation entry in the database carries all linked civilian occupations from all sources. This means if, say, the RAND study added five new matches for Army 11B (Infantryman) that were not in DMDC or the pilot, those get appended to 11B's list in the master crosswalk. Conversely, if sources overlapped on some matches, duplicates are removed. The result is a "many-to-many mapping": one military occupation may link to multiple civilian SOC codes, and one SOC code may be linked to multiple military occupations. This aggregated crosswalk is then regularly updated (quarterly) to incorporate new data or sources. The data integration here can be seen as a form of data fusion with some aspects of an expert system (rules + human oversight).

The O*NET Resource Center indicated that ongoing updates to the linkages involve a combination of statistical modeling and task analysis approaches. While details are scarce, this suggests that beyond the one-time studies, there may be efforts to algorithmically infer new links or strengthen existing ones by comparing the content of military and civilian job descriptions. For instance, a task analysis approach might involve breaking down the documented tasks of a military role (perhaps from official military job manuals or training curricula) and then using text analysis or manual expert judgment to find analogous tasks in O*NET's civilian job descriptions. A statistical modeling approach could involve creating feature vectors for occupations (e.g., using O*NET's descriptors like skills ratings, work context, etc.) and then computing similarity measures between each military occupation's profile and civilian occupations' profiles. Techniques such as cosine similarity, cluster analysis, or even machine learning classification might be applied here. A plausible method is to use the data from the pilot study and Wenger et al. (2017) (where we have known good matches) as a training set to train a model that can predict match scores for other, unstudied military occupations. For example, one could use a supervised learning model where input features are the overlap of skills/knowledge between a military job and a civilian job (perhaps using O*NET's taxonomy of 35 skills, 33 knowledge areas, etc., and seeing how closely the military job's requirements align with the civilian job's profile). The output would be a likelihood of a match or a rank ordering of possible matches. Such a model could then propose new links that were not previously identified, which analysts could verify (this aligns with the statement that statistical modeling is combined with task analysis—a model suggests and then experts review). RAND's approach was essentially this but using custom-collected data; O*NET might try to replicate it using their existing data fields for all occupations. The inclusion of soft skills in RAND's findings points to the importance of considering factors like work style (dependability, leadership) and perhaps using those as features in any model, not just technical skill overlap.

One important caveat to our methodology is that there may be skills (such as the soft skills mentioned previously) that are important but are underweighted in the matching methods used in MNMV. One consequence is that, while the matches we list below are all thought to be high-quality matches to civilian infrastructure jobs, these matches are not an exhaustive list of all the potential matches. Additionally, the matches likely overweight technical skill components of the military and civilian occupations. Because some military occupations provide less detailed information about the KSA and work attributes necessary to be a top performer in the job, our findings likely underrepresent the number of military matches to these sustainable sector occupations. Finally, we note that there are many occupations across service branches and within service branches that could be clustered. For example, Helicopter Repairers have a core set of skills necessary to repair flight and weapons systems, with some variation in emphasis. In many cases, thinking of similarly skilled military occupations where one matches to civilian sustainable occupations may improve the set of matches that should be considered as easily transferable. These occupations should be thought of more holistically when considering skills transfer to civilian employment. Other occupations such as rifleman (USMC 0311) and infantry have similar core skills, as do firefighters across service branches.

Overall Findings

Military Occupations Matching to Sustainable Energy and Infrastructure Occupations

Using the subset of civilian occupations identified as sustainable energy and infrastructure occupations, we applied a matching algorithm that linked military occupations with similar skill sets to energy and infrastructure occupations. Overall, we found 255 matches between a military occupation and a civilian occupation in the sustainable energy and infrastructure sectors. In many cases, a single military occupation matched to a number of civilian occupations, and a single civilian occupation matched to a number of military occupations. In total there were 55 unique military occupations and 57 unique civilian occupations. In Table 1, we show the number of military occupations and the corresponding number of civilian occupations that matched to that military occupation. For example, there is one military occupation that matches to 18 different energy and infrastructure occupations; conversely there are ten military occupations that match to only one civilian occupation in the energy and infrastructure sectors.

Table 1. Density of Matches from Military to Energy and Infrastructure Sectors

Military Occupations	With Corresponding Number of Civilian Matches
1	18
1	13
1	11
1	10
3	8
5	7
7	6
9	5
3	4
7	3
7	2
10	1
55	Unique military occupations

In Table 2, we show all the military occupations listed in descending order of the number of civilian matches. The leftmost column is the service branch, followed by the military occupation title, the MOS code (for convenience we refer to all of these as MOS even though the Air Force refers to occupation codes as AFSCs and the Navy refers to them as ratings), followed by the number of different civilian occupations that match to that particular MOS, the share of total matches, and the cumulative percentage. Fifteen military occupations comprise just over 50 percent of the matches to civilian occupations (we note that this is not population-weighted). This suggests that just a few military occupations have many high-quality matches in the energy and infrastructure sectors.

**Table 2. Military Occupations and Number of Matching Civilian Occupations
in the Sustainable Energy and Infrastructure Sectors**

Service Branch	Military Occupation Title	MOS	No. of Matching Civilian Occupations	Share of Total Matches (%)	Cumulative (%)
Air Force	Munitions Systems	2W0X1	18	7.1	7.1
Navy	Machinist's Mate	MM	13	5.1	12.2
Air Force	Aircraft Armament Systems	2W1X1	11	4.3	16.5
Navy	Electrician's Mate	EM	10	3.9	20.4
Navy	Aviation Ordnanceman	AO	8	3.1	23.5
Air Force	Aerospace Propulsion	2A6X1	8	3.1	26.7
Air Force	Air Transportation	2T2X1	8	3.1	29.8
Army	Helicopter Repairer	15R/T/U	7	2.8	32.6
Army	Petroleum Supply Specialist	92F	7	2.8	35.3
Navy	Aviation Structural Mechanic	AM	7	2.8	38.1
Air Force	Aerospace Maintenance	2A5X1	7	2.8	40.8
Air Force	Aerospace Ground Equipment	2A6X2	7	2.8	43.6
Army	Wheeled Vehicle Repairer	91B	6	2.4	45.9
Navy	Aviation Boatswain's Mate, Aircraft Handling	ABH	6	2.4	48.3
Navy	Aviation Machinist's Mate	AD	6	2.4	50.6
Navy	Aviation Electrician's Mate	AE	6	2.4	53.0
Navy	Engineman	EN	6	2.4	55.3
Navy	Fire Controlman	FC	6	2.4	57.7
Marine Corps	Combat Engineer	1371	6	2.4	60.0
Army	Indirect Fire Infantryman	11C	5	2.0	62.0
Army	Horizontal Construction Engineer	12N	5	2.0	63.9
Army	Cannon Crewmember	13B	5	2.0	65.9
Army	Fire Support Specialist	13F	5	2.0	67.9
Army	Automated Logistical Specialist	92A	5	2.0	69.8
Navy	Aviation Electronics Technician	AT	5	2.0	71.8
Navy	Electronics Technician	ET	5	2.0	73.7
Marine Corps	Supply Administration and Operations Specialist	3043	5	2.0	75.7
Air Force	Tactical Aircraft Maintenance	2A3X3	5	2.0	77.7
Army	Chemical, Biological, Radiological, Nuclear (CBRN) Specialist	74D	4	1.6	79.2
Army	Unit Supply Specialist	92Y	4	1.6	80.8
Navy	Logistics Specialist	LS	4	1.6	82.4
Army	Combat Engineer	12B	3	1.2	83.5
Army	Cavalry Scout	19D	3	1.2	84.7
Army	M1 Armor Crewman	19K	3	1.2	85.9
Army	Multichannel Transmission Systems Operator-Maintainer	25Q	3	1.2	87.1
Navy	Boatswain's Mate	BM	3	1.2	88.3
Marine Corps	Motor Vehicle Operator	3531	3	1.2	89.4
Air Force	Security Forces	3P0X1	3	1.2	90.6
Army	Infantryman	11B	2	0.8	91.4

Service Branch	Military Occupation Title	MOS	No. of Matching Civilian Occupations	Share of Total Matches (%)	Cumulative (%)
Army	Military Police	31B	2	0.8	92.2
Army	Human Intelligence Collector	35M	2	0.8	93.0
Navy	Master-at-Arms	MA	2	0.8	93.7
Marine Corps	Field Radio Operator	0621	2	0.8	94.5
Air Force	Materiel Management	2S0X1	2	0.8	95.3
Air Force	Services	3M0X1	2	0.8	96.1
Army	Signal Support Systems Specialist	25U	1	0.4	96.5
Army	Intelligence Analyst	35F	1	0.4	96.9
Army	Human Resources Specialist	42A	1	0.4	97.3
Army	Motor Transport Operator	88M	1	0.4	97.6
Navy	Hospital Corpsman	HM	1	0.4	98.0
Navy	Information Systems Technician	IT	1	0.4	98.4
Navy	Operations Specialist	OS	1	0.4	98.8
Marine Corps	Automotive Maintenance	3521	1	0.4	99.2
Marine Corps	Technician				
Marine Corps	Military Police	5811	1	0.4	99.6
Air Force	Knowledge Operations Management	3D0X1	1	0.4	100.0
Total occupation matches			255		
Unique military occupations			55		
Unique civilian occupations			57		

SOURCE: Authors' analysis of sustainable sector jobs and O*NET. Matches provided by MNMV.

NOTE: Occupations sorted by the number of matching occupations in the civilian sector. Color coding in the first column differentiates the different services branches.

Table 2 shows that the military occupations with the highest number of matches to energy and infrastructure jobs are predominantly from technical and mechanical roles in the military. For example, Air Force Munitions Systems (2W0X1) has 18 matching civilian occupations, constituting 7.1 percent of the total matches. Similarly, Navy Machinist's Mates (MM) and Air Force Aircraft Armament Systems (2W1X1) has 13 and 11 matches, respectively. These roles often involve skills such as mechanical troubleshooting, equipment maintenance, and precision work, which are highly transferable skills to jobs in sectors such as renewable energy, energy efficiency, and sustainable manufacturing.

The second important finding from Table 2 is the cumulative contribution of the top occupations. The top five military occupations (Air Force Munitions Systems, Navy Machinist's Mate, Air Force Aircraft Armament Systems, Navy Electrician's Mate [EM], and Navy Aviation Ordnanceman [AO]) collectively account for 23.5 percent of the total matches. The top 15 military jobs (out of 55) account for just over 50 percent of the total matches. This highlights the concentration of transferable skills in specific military roles that align well with energy and infrastructure jobs. Additionally, there appears to be broad representation across service branches. While the Air Force and Navy dominate the top matches, the Army and Marine Corps also contribute significantly, especially in roles such as Helicopter Repairer (15R/T/U), Petroleum Supply Specialist (92F), Combat Engineer (12B), and

Automated Logistical Specialist (92A). This indicates that the transition opportunities span across all branches of the military, though the type of transferable skills may vary.

However, there are also some specialized roles with limited matches. Some military occupations, such as Army Signal Support Systems Specialist (25U), Navy Hospital Corpsman (HM), and Marine Corps Military Police (5811), have only one matching occupation. These roles may require additional training or certification to transition effectively into energy and infrastructure jobs, as their skill sets are more specialized or less directly applicable to these sectors. Overall, the matching civilian occupations suggest that military personnel bring valuable KSA to the energy and infrastructure sectors, including

- **Mechanical and technical skills:** Roles such as Air Force Aerospace Maintenance (2A5X1) and Navy Aviation Structural Mechanic (AM) align with jobs in wind turbine maintenance, solar panel installation, and sustainable transportation systems.
- **Logistical and operational expertise:** Occupations like Army Automated Logistical Specialist (92A) and Navy Logistics Specialist (LS) are relevant to supply chain management in energy and infrastructure industries.
- **Engineering and construction skills:** Army Combat Engineers (12B) and Marine Corps Combat Engineers (1371) can transition into roles in sustainable construction and infrastructure development.

Table 2 highlights the significant overlap between military occupations and civilian roles in energy and infrastructure. The findings demonstrate that technical, mechanical, logistical, and engineering skills acquired in the military are highly transferable to sustainable sector jobs. By leveraging these skills and providing targeted support, military personnel can play a critical role in advancing energy and infrastructure sectors while achieving successful civilian transitions.

In Table 3, we provide detailed examinations into particular energy and infrastructure occupations. We start with the occupations that had the most military matches and examine, in detail, why these military occupations are good matches. Our first example is First-Line Supervisors of Mechanics, Installers, and Repairers (SOC 49-1011). In general, first-line supervisory positions would be open to those with significant experience, most likely senior noncommissioned officers (NCOs), and may require significant sustainable sector experience as well. Workers in this occupation oversee and coordinate the activities of subordinates engaged in the repair, maintenance, and installation of machinery and equipment. They ensure that repairs are completed efficiently and within budget while also managing scheduling, training, and adherence to safety regulations. Additionally, they may be involved in diagnosing mechanical problems and implementing solutions. We can compare SOC 49-1011 with Army 15T UH-60 (Black Hawk) Helicopter Repairer. This occupation includes conducting inspections, troubleshooting issues, performing repairs on both airframe and systems, and ensuring that helicopters are safe and mission-ready. Army 15Rs, 15Ts, and 15Us work with tools, equipment, and technical manuals to carry out their tasks, and they may also train other soldiers in basic maintenance tasks. Because the skill sets are similar, we group all Helicopter Repairers into a single MOS and label it 15R/T/U.

Similarly, the Navy ratings that are good matches have similar attributes as the Helicopter Repairers in the Army. All the aviation mates have responsibilities for different systems, but, given

the relatively broad remit of the first-line supervisors, this could be a good fit for each. For example, an Aviation Machinist’s Mate (AD) in the U.S. Navy is responsible for the maintenance, repair, and troubleshooting of aircraft engines and propulsion systems. This role involves conducting inspections, performing both scheduled and unscheduled maintenance, and ensuring that all equipment meets safety and operational standards. Aviation Machinist’s Mates also work on fuel allocation systems and may be involved in the installation of new equipment and components. Their work is critical to ensuring that aircraft are ready for flight operations.

Table 3. Military Occupation Matches to First-Line Supervisors of Mechanics, Installers, and Repairers (SOC 49-1011)

Service Branch	MOS	MOS Title
Army = 4	15R/T/U	AH-64, UH-60, CH-47 Helicopter Repairer
	25Q	Multichannel Transmission Systems Operator-Maintainer
	25U	Signal Support Systems Specialist
	91B	Wheeled Vehicle Repairer
Navy = 10	ABH	Aviation Boatswain’s Mate, Aircraft Handling
	AD	Aviation Machinist’s Mate
	AE	Aviation Electrician’s Mate
	AM	Aviation Structural Mechanic
	AT	Aviation Electronics Technician
	EM	Electrician’s Mate
	EN	Engineman
	ET	Electronics Technician
	FC	Fire Controlman
	MM	Machinist’s Mate
Marine Corps = 2	0621	Field Radio Operator
	3521	Automotive Maintenance Technician
Air Force = 6	2A3X3	Tactical Aircraft Maintenance
	2A5X1	Aerospace Maintenance
	2A6X1	Aerospace Propulsion
	2A6X2	Aerospace Ground Equipment
	2W0X1	Munitions Systems
	2W1X1	Aircraft Armament Systems
Total	22	

SOURCE: Authors’ analysis of sustainable sector jobs and O*NET. Matches provided by MNMV.

NOTE: Occupations sorted by service branch and then occupation code.

In Table 4, we show which military occupations match to the civilian role of General and Operations Manager (provided by MNMV). We skip discussing this in detail because this occupation is not typically open to junior enlisted personnel. While it is possible that those who are retiring from the military may start their own businesses, this is not the focus of our analysis. The aim of this research is to determine whether those separating from service with only 3–5 years would be good matches for energy and infrastructure jobs. If we examine the types and skills and duties carried out by

general and operations managers, we see that this occupation is geared for those with more experience. For example, general managers must have the capacity for strategic thinking, leadership and team management, budgeting and financial management skills, along with excellent problem-solving and analytical skills, combined with deep knowledge of operational best practices and industry standards.

Table 4. Military Occupation Matches to General and Operations Managers (SOC 11-1021)

Service Branch	MOS	MOS Title
Army = 7		
	12N	Horizontal Construction Engineer
	13B	Cannon Crewmember
	13F	Fire Support Specialist
	15R/T/U	Helicopter Repairer
	25Q	Multichannel Transmission Systems Operator-Maintainer
	35M	Human Intelligence Collector
	91B	Wheeled Vehicle Repairer
Navy = 7		
	ABH	Aviation Boatswain's Mate, Aircraft Handling
	AD	Aviation Machinist's Mate
	AE	Aviation Electrician's Mate
	AM	Aviation Structural Mechanic
	AT	Aviation Electronics Technician
	EM	Electrician's Mate
	ET	Electronics Technician
Air Force = 8		
	2A3X3	Tactical Aircraft Maintenance
	2A5X1	Aerospace Maintenance
	2A6X1	Aerospace Propulsion
	2A6X2	Aerospace Ground Equipment
	2W0X1	Munitions Systems
	2W1X1	Aircraft Armament Systems
	3D0X1	Knowledge Operations Management
	3M0X1	Services
Total	22	

SOURCE: Authors' analysis of sustainable sector jobs and O*NET. Matches provided by MNMV.

NOTE: Occupations sorted by service branch and then occupation code.

In Table 5, we examine the military occupations that are good matches to training and development specialists. While program-level training management may require senior leadership experience, the military routinely tasks junior NCOs and junior enlisted with structured instruction and daily on-the-job training (OJT). We therefore expect strong alignment to entry-level instructional/field coaching/OJT trainer roles for many separating service members, with training program management roles more suited to senior NCOs/officers.

Table 5. Military Occupation Matches to Training and Development Specialists (SOC 13-1151)

Service Branch	MOS	MOS Title
Army = 11	11B	Infantryman
	11C	Indirect Fire Infantryman
	13F	Fire Support Specialist
	15R/T/U	Helicopter Repairer
	19D	Cavalry Scout
	19K	M1 Armor Crewman
	31B	Military Police
	35F	Intelligence Analyst
	35M	Human Intelligence Collector
	42A	Human Resources Specialist
	92F	Petroleum Supply Specialist
Navy = 4	AD	Aviation Machinist's Mate
	AM	Aviation Structural Mechanic
	AO	Aviation Ordnanceman
	MA	Master-at-Arms
Marine Corps = 1	5811	Military Police
Air Force = 4	2A6X2	Aerospace Ground Equipment
	2W0X1	Munitions Systems
	2W1X1	Aircraft Armament Systems
	3POX1	Security Forces
Total	20	

SOURCE: Authors' analysis of sustainable sector jobs and O*NET. Matches provided by MNMV.

NOTE: Occupations sorted by service branch and then occupation code.

There are a diverse set of military occupations that align with the civilian role of Hazardous Materials Removal Worker. Fourteen military occupations across four service branches (Army, Navy, Marine Corps, and Air Force) align with this civilian role. These occupations involve handling, transporting, or managing hazardous materials, making their skill sets directly applicable to this civilian job. We note that Army occupations dominate matches. The Army contributes seven out of the 14 matches, accounting for 50 percent of the total. Occupations such as CBRN Specialist (74D), Petroleum Supply Specialist (92F), and combat-related roles like Cannon Crewmember (13B) and Cavalry Scout (19D) demonstrate a strong alignment. This dominance reflects the Army's focus on roles requiring exposure to hazardous environments, chemical handling, and logistical operations, which are key competencies for hazardous materials removal.

There are, however, specialized roles in other service branches that match to civilian hazardous material removal. The Navy contributes three matches, including Machinist's Mate (MM) and Logistics Specialist (LS), which involve technical skills and logistical expertise. The Aviation Boatswain's Mate, Aircraft Handling (ABH) role also aligns due to experience with hazardous substances like aviation fuel and chemicals. The Air Force provides three matches, including Munitions Systems (2W0X1) and Aircraft Armament Systems (2W1X1), which involve handling

explosives and hazardous materials. Air Transportation (2T2X1) adds logistical expertise relevant to managing hazardous cargo. The Marine Corps contributes one match, Motor Vehicle Operator (3531), whose experience in transporting hazardous materials makes this occupation relevant.

Skill Transferability

Table 6 provides a summary of how many military occupations match each of the civilian occupations and is the analog of Table 2. This shows that most of the civilian occupations that are good matchers are in leadership positions that may or may not necessarily be energy and infrastructure occupations.

Table 6. Civilian Occupations Matching to Multiple Military Occupations

SOC	O*NET Title	No. of Matching Military Occupations	Share of Matches (%)	Cumulative (%)
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	22	8.6	8.6
11-1021	General and Operations Managers	22	8.6	17.3
13-1151	Training and Development Specialists	20	7.8	25.1
47-4041	Hazardous Materials Removal Workers	14	5.5	30.6
49-9098	Helpers—Installation, Maintenance, and Repair Workers	13	5.1	35.7
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	13	5.1	40.8
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	11	4.3	45.1
51-2011	Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	8	3.1	48.2
43-5071	Shipping, Receiving, and Traffic Clerks	8	3.1	51.4
53-3032	Heavy and Tractor-Trailer Truck Drivers	7	2.7	54.1
53-7051	Industrial Truck and Tractor Operators	7	2.7	56.9
13-1081	Logistics Engineers	7	2.7	59.6
51-2031	Engine and Other Machine Assemblers	6	2.4	62.0
11-3051	Biofuels Production Managers	6	2.4	64.3
47-2061	Construction Laborers	6	2.4	66.7
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	5	2.0	68.6
49-9071	Maintenance and Repair Workers, General	5	2.0	70.6
47-2073	Operating Engineers and Other Construction Equipment Operators	5	2.0	72.5
17-2072	Electronics Engineers, Except Computer	5	2.0	74.5
19-5012	Occupational Health and Safety Technicians	4	1.6	76.1
17-3024	Robotics Technicians	4	1.6	77.6
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	4	1.6	79.2

SOC	O*NET Title	No. of Matching Military Occupations	Share of Matches (%)	Cumulative (%)
49-9041	Industrial Machinery Mechanics	4	1.6	80.8
53-1047	Recycling Coordinators	4	1.6	82.4
43-5061	Production, Planning, and Expediting Clerks	4	1.6	83.9
51-8013	Power Plant Operators	3	1.2	85.1
13-1020	Wholesale and Retail Buyers, Except Farm Products	3	1.2	86.3
51-4041	Machinists	3	1.2	87.5
51-1011	First-Line Supervisors of Production and Operating Workers	3	1.2	88.6
43-5032	Dispatchers, Except Police, Fire, and Ambulance	3	1.2	89.8
47-1011	Solar Energy Installation Managers	3	1.2	91.0
33-3031	Fish and Game Wardens	2	0.8	91.8
43-5011	Freight Forwarders	2	0.8	92.5
51-8021	Stationary Engineers and Boiler Operators	2	0.8	93.3
47-4090	Solar Thermal Installers and Technicians	2	0.8	94.1
53-3052	Bus Drivers, Transit and Intercity	2	0.8	94.9
51-2028	Electrical and Electronic Equipment Assemblers	2	0.8	95.7
11-9021	Construction Managers	1	0.4	96.1
49-9051	Electrical Power-Line Installers and Repairers	1	0.4	96.5
47-2211	Sheet Metal Workers	1	0.4	96.9
49-9099	Geothermal Technicians	1	0.4	97.3
47-2051	Cement Masons and Concrete Finishers	1	0.4	97.6
11-1011	Chief Sustainability Officers	1	0.4	98.0
47-2111	Electricians	1	0.4	98.4
47-2011	Boilermakers	1	0.4	98.8
15-1252	Software Developers, Systems Software	1	0.4	99.2
51-9012	Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	1	0.4	99.6
19-4031	Chemical Technicians	1	0.4	100.0
		255		

There are a number of sustainable energy and infrastructure occupations that deserve individual attention. Military personnel transitioning into hazardous materials removal bring specialized KSA that are critical for these roles:

- **Chemical and hazardous material handling:** Army CBRN Specialists (74D) and Air Force Munitions Systems specialists (2W0X1) have direct experience with hazardous substances, making them highly suited for removal and mitigation tasks.

- **Logistical expertise:** Army Petroleum Supply Specialists (92F), Navy Logistics Specialists (LS), and Air Force Air Transportation personnel (2T2X1) are skilled in managing the movement and storage of hazardous materials safely and efficiently (shown in Table 7).
- **Mechanical and technical skills:** Navy Machinist’s Mates (MM) and Air Force Aircraft Armament Systems specialists (2W1X1) provide technical expertise in handling and maintaining equipment exposed to hazardous materials.
- **Combat and operational experience:** Army Cannon Crewmembers (13B) and Cavalry Scouts (19D) bring situational awareness and operational discipline, as well as strong adherence to safety protocols, which are critical for managing hazardous environments.

Table 7. Military Occupation Matches to Hazardous Materials Removal Workers (SOC 47-4041)

Service Branch	MOS	MOS Title
Army = 7	11C	Indirect Fire Infantryman
	13B	Cannon Crewmember
	13F	Fire Support Specialist
	19D	Cavalry Scout
	19K	M1 Armor Crewman
	74D	CBRN Specialist
	92F	Petroleum Supply Specialist
Navy = 3	ABH	Aviation Boatswain’s Mate, Aircraft Handling
	LS	Logistics Specialist
	MM	Machinist’s Mate
Marine Corps = 1	3531	Motor Vehicle Operator
Air Force = 3	2T2X1	Air Transportation
	2W0X1	Munitions Systems
	2W1X1	Aircraft Armament Systems
Total	14	

SOURCE: Authors’ analysis of sustainable sector jobs and O*NET. Matches provided by MNMV.

NOTE: Occupations sorted by service branch and then occupation code.

The military occupations listed in Table 8 align well with the civilian occupation of Helpers—Installation, Maintenance, and Repair Workers due to their focus on technical, mechanical, and operational tasks. These roles emphasize hands-on work, troubleshooting, and assisting in the maintenance and repair of equipment, which are core responsibilities of Helpers, an important entry-level occupation. Examples of high-quality matches include Army Helicopter Repairers (15R/T/U) and Navy Electrician’s Mates (EM), who are trained to perform maintenance, repairs, and installation tasks in high-pressure environments. These skills translate directly to civilian repair and maintenance jobs.

Table 8. Military Occupation Matches to Helpers—Installation, Maintenance, and Repair Workers (SOC 49-9098)

Service Branch	MOS	MOS Title
Army = 2	15R/T/U	Helicopter Repairer
	91B	Wheeled Vehicle Repairer
Navy = 8	AE	Aviation Electrician's Mate
	AO	Aviation Ordnanceman
	BM	Boatswain's Mate
	EM	Electrician's Mate
	EN	Engineman
	ET	Electronics Technician
	FC	Fire Controlman
	MM	Machinist's Mate
Marine Corps = 1	3531	Motor Vehicle Operator
Air Force = 2	2A6X1	Aerospace Propulsion
	2W0X1	Munitions Systems
Total	13	

SOURCE: Authors' analysis of sustainable sector jobs and O*NET.

Matches provided by MNMV.

NOTE: Occupations sorted by service branch and then occupation code.

Once again, there is diverse representation across service branches. The Navy dominates this table with eight matching occupations, reflecting its emphasis on technical and mechanical roles such as Aviation Electrician's Mate (AE), Boatswain's Mate (BM), and Machinist's Mate (MM). These occupations involve working with electrical systems, engines, and machinery, making them highly relevant to installation and repair work. The Army, Air Force, and Marine Corps also contribute matches, demonstrating that technical expertise is a common thread across all branches. For example, Army Wheeled Vehicle Repairers (91B) and Marine Corps Motor Vehicle Operators (3531) bring experience in maintaining and repairing vehicles and equipment, and Air Force Aerospace Propulsion specialists (2A6X1) and Munitions Systems specialists (2W0X1) are skilled in maintaining propulsion systems and handling technical installations.

The Helpers—Installation, Maintenance, and Repair Workers occupation is accessible to individuals who may not have a college degree but possess practical skills and on-the-job training. Military personnel transitioning from these MOS roles often have substantial technical experience, making them highly competitive for these positions. Many of these military occupations emphasize experiential learning and technical certifications rather than formal academic education. For instance, Navy Electronics Technicians (ET) and Helicopter Repairers (15R/T/U) receive specialized training that equips them with the expertise needed for civilian installation and repair jobs. Entry-level roles such as Helpers—Installation, Maintenance, and Repair Workers provide a stepping stone to higher-paying positions in technical fields. Military personnel with relevant experience can quickly advance to supervisory or specialized roles, such as lead technicians or certified repair specialists.

Military personnel transitioning into this civilian occupation bring a range of transferable skills:

- **Mechanical aptitude:** Navy Machinist’s Mates (MM) and Army Wheeled Vehicle Repairers (91B) are skilled in diagnosing and repairing mechanical systems.
- **Electrical and electronics expertise:** Navy Electrician’s Mates (EM) and Electronics Technicians (ET) have experience installing and maintaining electrical systems, which is critical for repair work.
- **Problem-solving and adaptability:** Roles such as Navy Fire Controlman (FC) and Air Force Munitions Systems specialists (2W0X1) require precision, troubleshooting, and adaptability, traits that are highly valued in civilian repair and maintenance jobs.

Installation, maintenance, and repair work is increasingly important in energy and infrastructure sectors, particularly in fields such as renewable energy, energy-efficient appliances, and sustainable infrastructure. Military personnel transitioning into these roles can contribute to sustainable industries by applying their skills to the installation and maintenance of solar panels, wind turbines, and energy-efficient systems.

The military occupations listed in Table 9 align with highly specialized civilian roles that require distinct KSA. These civilian roles often demand focused expertise, which limits the number of military occupations that match directly to them. Examples include Medical and Clinical Laboratory Technologists, Electrical Engineers, and Computer and Information Systems Managers. Several matches involve technical expertise, such as Electricians (Army Signal Support Systems Specialist [25U] and Marine Corps Electrician [1141]) and Electrical Engineers (Navy Operations Specialist [OS]). These roles require in-depth knowledge of electrical systems, troubleshooting, and installation, which are well-developed in specific military occupations but not broadly applicable across other roles.

Table 9. Military Occupations That Match to a Single Civilian Occupation

Service Branch	Military Occupation Title	SOC
Army = 4	Signal Support Systems Specialist	Electricians
	Intelligence Analyst	Training and Development Specialists
	Human Resources Specialist	Training and Development Specialists
	Motor Transport Operator	Heavy and Tractor-Trailer Truck Drivers
Navy = 3	Hospital Corpsman	Medical and Clinical Laboratory Technologists
	Information Technology Specialist	Inspectors, Testers, Sorters, Samplers, and Weighers
	Operations Specialist	Electrical Engineers
Marine Corps = 2	Electrician	Electricians
	Military Police	Training and Development Specialists
Air Force = 1	Cyber Operations Technician	Computer and Information Systems Managers

SOURCE: Authors’ analysis of sustainable sector jobs and O*NET. Matches provided by MNMV.

NOTE: Occupations sorted by service branch and then military occupation code.

The civilian role of Training and Development Specialists appears multiple times, matched to Army Intelligence Analysts, Army Human Resources Specialists, and Marine Corps Military Police. This suggests that these military roles emphasize instructional, leadership, and organizational skills, which align with civilian training and development positions. Army Motor Transport Operators match to Heavy and Tractor-Trailer Truck Drivers, reflecting the direct transferability of skills related to vehicle operation, logistics, and transportation management. Highly specialized military roles like Navy Hospital Corpsman and Air Force Cyber Operations Technician align with civilian occupations that demand advanced technical or scientific knowledge, such as Medical and Clinical Laboratory Technologists and Computer and Information Systems Managers.

Many of the civilian occupations listed require formal education, certifications, or specialized training, which may explain why only one military occupation aligns with each. For example, Medical and Clinical Laboratory Technologists require specific scientific and medical knowledge, which aligns closely with Navy Hospital Corpsman but not with other military medical roles. Computer and Information Systems Managers, meanwhile, require a high level of technical expertise and leadership, making Air Force Cyber Operations Technician a unique match.

Military personnel transitioning into these civilian roles may need additional certifications or formal education to meet industry standards. For instance, Electricians may require state-specific licensing. Medical and Clinical Laboratory Technologists may need certification from organizations such as the American Society for Clinical Pathology. Computer and Information Systems Managers may benefit from obtaining certifications like CompTIA Security+ or CISSP (Certified Information Systems Security Professional). Because of the large array of occupational certifications and licensing that can vary by state or nationally, we do not attempt to match each occupation with the required certification or educational pathway. For many transitioning service members, using services such as the service-branch specific online credentialing tool (e.g., Army or Navy COOL) provides a robust resource for learning about credentialing opportunities.

Table 9 highlights the alignment between specialized military occupations and civilian roles that demand focused expertise. These matches underscore the value of military training in preparing personnel for highly technical, instructional, or logistical civilian jobs. However, the narrow scope of matches suggests the need for targeted transition programs to help service members acquire certifications, formal education, or additional training to fully capitalize on these opportunities. By addressing these gaps, military personnel can successfully transition into these critical civilian roles in energy and infrastructure sectors.

Many of these military occupations translate to a number of good civilian economy jobs. Why then should transitioning veterans be thinking about employment in energy and infrastructure sectors? Part of the reason is its potential for long-term growth. Already wind and solar energy combined with battery storage are comprising significant proportions of generation and consumption. For example, the United States as a whole generates 10 percent of its energy from wind, and another 4 percent from solar (EIA, 2024). By contrast, at 4 p.m. on Tuesday, July 22, 2025, California was generating 81 percent of its energy from renewable sources, with solar making up 63 percent of the total, and wind comprising an additional 14 percent (California ISO, undated). Secondly, wages in this sector are higher than for many other sectors.

Table 10 shows that the wage distribution for white- and pink-collar occupations in energy and infrastructure sectors is shifted upward (higher wages) compared with the overall civilian economy (Table 11 focuses on blue-collar occupations). White-collar occupations are professional, managerial, or administrative jobs typically performed in an office setting, while pink-collar occupations are jobs in the service industry or care-related fields traditionally held by women, such as nursing, teaching, or administrative support. Across all occupations, the 25th-percentile (p25) wage cutoff for the full economy is \$17.66; the 50th percentile (p50), or median, is \$23.80; and the 75th percentile (p75) is \$37.89. In contrast, energy and infrastructure occupations show significantly higher wages, with no white-/pink-collar jobs paying below the p25 threshold, only 8 percent of jobs paying below the median, and 28 percent paying below the p75 cutoff. This indicates that energy and infrastructure white-/pink-collar jobs tend to offer higher wages across the board, reflecting the value placed on specialized skills and knowledge required in these roles.

Table 10. White- and Pink-Collar Civilian Energy and Infrastructure Sector Occupations Matching to Specific Military Occupations

Occupation Title	SOC Code	p25	p50	p75
Management Occupations				
Chief Sustainability Officers	11-1011	\$60.61	\$99.24	\$115.00
General and Operations Managers	11-1021	\$32.29	\$49.50	\$78.91
Biofuels Production Managers	11-3051	\$45.49	\$58.39	\$75.16
Hydroelectric Production Managers	11-3052	\$45.49	\$58.39	\$75.16
Methane/Landfill Gas Collection System Operators	11-3053	\$45.49	\$58.39	\$75.16
Biomass Power Plant Managers	11-3054	\$45.49	\$58.39	\$75.16
Geothermal Production Managers	11-3055	\$45.49	\$58.39	\$75.16
Industrial Production Managers	11-3056	\$45.49	\$58.39	\$75.16
Construction Managers	11-9021	\$40.14	\$51.43	\$66.99
Business and Financial Operations Occupations				
Wholesale and Retail Buyers, Except Farm Products	13-1020	\$28.21	\$36.37	\$47.69
Logistics Engineers	13-1081	\$30.25	\$38.89	\$50.16
Logistics Analysts	13-1081	\$30.25	\$38.89	\$50.16
Training and Development Specialists	13-1151	\$23.51	\$31.66	\$44.02
Computer and Mathematical Occupations				
Software Developers, Systems Software	15-1252	\$49.55	\$63.98	\$81.25
Architecture and Engineering Occupations				
Electronics Engineers, Except Computer	17-2072	\$47.56	\$61.34	\$78.85
Robotics Technicians	17-3024	\$28.16	\$34.02	\$41.98
Electro-Mechanical Technicians	17-3024	\$28.16	\$34.02	\$41.98
Life, Physical, and Social Science Occupations				
Chemical Technicians	19-4031	\$22.44	\$27.78	\$35.07
Occupational Health and Safety Technicians	19-5012	\$23.81	\$28.10	\$35.97
Occupational Health and Safety Specialists	19-5012	\$23.81	\$28.10	\$35.97
Protective Service Occupations				
Fish and Game Wardens	33-3031	\$25.60	\$32.78	\$39.47
Office and Administrative Support Occupations				
Freight Forwarders	43-5011	\$20.91	\$23.99	\$29.92
Dispatchers, Except Police, Fire, and Ambulance	43-5032	\$19.35	\$23.50	\$29.58
Production, Planning, and Expediting Clerks	43-5061	\$22.41	\$27.78	\$34.37
Shipping, Receiving, and Traffic Clerks	43-5071	\$17.81	\$20.77	\$23.75

Occupation Title	SOC Code	p25	p50	p75
All Occupations	00-0000	\$17.66	\$23.80	\$37.89
Energy and infrastructure sector occupations paying less (count of occupations)		0	2	7
Percent of energy and infrastructure sector occupations paying less		0%	8%	28%

SOURCE: BLS Occupational Employment and Wage Statistics.

NOTE: If the energy and infrastructure sectors matched the economy overall, 25 percent of occupations on this list would pay wages within the p25 quartile instead of 0 percent.

Management occupations in the energy and infrastructure sectors stand out for their exceptionally high wages. For example, Chief Sustainability Officers earn \$60.61 at p25, \$99.24 at the median, and \$115.00 at p75, far exceeding the wage distribution of the overall economy. Similarly, other managerial roles, such as Biofuels Production Managers, Geothermal Production Managers, and Construction Managers, consistently offer wages well above the median for the full economy. These positions require leadership, technical expertise, and decisionmaking skills that align with the growing demand for sustainability-focused industries. Most of these jobs are not accessible to the vast majority of transitioning veterans, unless they are college graduates with significant management experience (officers). Additionally, technical roles such as Software Developers and Electronics Engineers also command high wages, reflecting the premium placed on STEM-related skills in energy and infrastructure.

While energy and infrastructure jobs generally pay higher wages, the occupations that fall below the median or p75 thresholds tend to be administrative or support roles. For example, Shipping, Receiving, and Traffic Clerks and Dispatchers earn wages closer to the full economy's distribution, with median pay ranging between \$20.77 and \$23.50. These roles are less specialized and require fewer advanced technical skills compared with managerial or engineering positions, which explains their relatively lower pay in the energy and infrastructure sectors. However, even these roles often offer wages that align with or slightly exceed the full economy's lower quartiles, suggesting that these sectors still provide competitive compensation for less specialized positions.

The wage distribution for blue-collar occupations in the energy and infrastructure sectors reveals a significant upward shift relative to the overall civilian economy (Table 11). At p25, only 6 percent of energy and infrastructure occupations pay less than the full civilian economy's cutoff of \$17.66, compared with the expected 25 percent if the wage distribution mirrored the overall economy. At the median (p50), 34 percent of energy and infrastructure occupations pay below the full economy's cutoff of \$23.80, and at p75, 69 percent of occupations pay below \$37.89. While wages for blue-collar jobs in the sustainable energy and infrastructure sectors are generally higher than the civilian economy at the lower end of the wage scale, the gap narrows significantly at the higher percentiles, indicating a more compressed wage distribution.

Table 11. Blue-Collar Civilian Energy and Infrastructure Occupations Matching to Specific Military Occupations

Occupation Title	SOC Code	p25	p50	p75
Construction and Extraction Occupations				
Solar Energy Installation Managers	47-1011	\$30.00	\$37.83	\$48.17
Boilermakers	47-2011	\$29.92	\$35.26	\$44.96
Cement Masons and Concrete Finishers	47-2051	\$22.13	\$26.28	\$31.66
Construction Laborers	47-2061	\$18.32	\$22.47	\$28.32
Operating Engineers and Other Construction Equipment Operators	47-2073	\$22.97	\$28.23	\$36.42
Electricians	47-2111	\$23.47	\$29.98	\$39.29
Sheet Metal Workers	47-2211	\$22.74	\$29.26	\$38.28
Hazardous Materials Removal Workers	47-4041	\$20.53	\$23.31	\$29.88
Solar Thermal Installers and Technicians	47-4090	\$19.23	\$23.14	\$29.31
Weatherization Installers and Technicians	47-4090	\$19.23	\$23.14	\$29.31
Installation, Maintenance, and Repair Occupations				
First-Line Supervisors of Mechanics, Installers, and Repairers	49-1011	\$29.44	\$37.64	\$47.90
Electrical and Electronics Repairers, Commercial and Industrial Equipment	49-2094	\$27.28	\$34.28	\$40.94
Bus and Truck Mechanics and Diesel Engine Specialists	49-3031	\$23.68	\$29.15	\$35.43
Industrial Machinery Mechanics	49-9041	\$25.34	\$30.65	\$37.53
Electrical Power-Line Installers and Repairers	49-9051	\$31.61	\$44.50	\$51.89
Maintenance and Repair Workers, General	49-9071	\$18.77	\$23.38	\$29.67
Helpers—Installation, Maintenance, and Repair Workers	49-9098	\$16.23	\$18.68	\$22.40
Geothermal Technicians	49-9099	\$19.57	\$23.39	\$29.37
Production Occupations				
First-Line Supervisors of Production and Operating Workers	51-1011	\$27.08	\$34.23	\$41.72
Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	51-2011	\$25.57	\$29.65	\$36.17
Electrical and Electronic Equipment Assemblers	51-2028	\$18.00	\$21.17	\$23.96
Engine and Other Machine Assemblers	51-2031	\$20.57	\$25.26	\$33.68
Machinists	51-4041	\$22.23	\$27.00	\$31.21
Power Plant Operators	51-8013	\$37.21	\$47.92	\$53.84
Stationary Engineers and Boiler Operators	51-8021	\$28.90	\$36.15	\$46.36
Separating, Filtering, Clarifying, Precipitating, and Still Machine Operators	51-9012	\$20.11	\$23.80	\$29.50
Inspectors, Testers, Sorters, Samplers, and Weighers	51-9061	\$18.62	\$22.82	\$28.83
Transportation and Material Moving Occupations				
Recycling Coordinators	53-1047	\$23.44	\$29.76	\$37.27
Heavy and Tractor-Trailer Truck Drivers	53-3032	\$22.71	\$27.62	\$31.50
Bus Drivers, Transit and Intercity	53-3052	\$22.14	\$27.61	\$33.21
Industrial Truck and Tractor Operators	53-7051	\$19.13	\$22.30	\$25.81
Laborers and Freight, Stock, and Material Movers, Hand	53-7062	\$17.03	\$18.72	\$22.29
All Occupations	00-0000	\$17.66	\$23.80	\$37.89
Energy and infrastructure sector occupations paying less (count of occupations)		2	11	22
Percent of energy and infrastructure sector occupations paying less		6%	34%	69%

SOURCE: BLS Occupational Employment and Wage Statistics.

NOTE: If the energy and infrastructure sectors matched the economy overall, 25 percent of occupations on this list would pay wages within the p25 band instead of 6 percent.

Table 11 also shows that occupations requiring specialized skills or supervisory responsibilities tend to pay well across all percentile bands. For instance, Electrical Power-Line Installers and Repairers earn \$31.61 at p25, \$44.50 at p50, and \$51.89 at p75—well above the civilian economy’s wage distribution. Similarly, Solar Energy Installation Managers and First-Line Supervisors of Mechanics, Installers, and Repairers offer competitive wages at all levels, reflecting the value of technical expertise and leadership in sustainable industries.

Occupations such as Maintenance and Repair Workers, General and Geothermal Technicians provide solid wages at p25, but their pay at p50 and p75 aligns more closely with the civilian economy. For example, Maintenance and Repair Workers, General, earn \$18.77 at p25 (above the civilian cutoff of \$17.66), but their p75 wage of \$29.67 falls below the sustainable sector’s higher-paying roles. This suggests that while these jobs offer better entry-level wages, they may lack the upward mobility seen in more specialized positions.

Occupations such as Helpers—Installation, Maintenance, and Repair Workers, and Laborers and Freight, Stock, and Material Movers, Hand have wages that fall closer to the civilian economy’s benchmarks, especially at p50 and p75. For example, Helpers—Installation, Maintenance, and Repair Workers earn \$16.23 at p25 and \$22.40 at p75, which is competitive at the lower end but distinctively lower than the full economy at higher percentiles. These roles may serve as entry points for workers transitioning from military service into sustainable energy and infrastructure jobs.

Many sustainable construction roles, such as Solar Energy Installation Managers, Boilermakers, and Electricians, show strong wage performance across all percentiles. These roles require technical expertise and are critical to the expansion of renewable energy infrastructure, making them highly valued.

Table 11 underscores the upward wage shift for blue-collar occupations in sustainable energy and infrastructure sectors, particularly at 25p, where only 6 percent of jobs pay below the civilian economy’s cutoff. Specialized and supervisory roles consistently offer higher wages across all percentiles, reflecting the demand for technical expertise and leadership in sustainable industries. However, entry-level and general labor roles, while competitive at the lower end of the wage scale, exhibit less differentiation at higher percentiles. These findings highlight the potential for providing well-paying opportunities for transitioning military personnel in energy and infrastructure sectors, particularly those with technical skills or experience in skilled trades. For those in general labor roles, the sector offers competitive entry-level wages, though upward mobility may require further specialization or training.

Army-Specific Occupation Matches

The Army occupations with the highest number of matches to energy and infrastructure jobs are heavily concentrated in technical and mechanical roles. For example, Helicopter Repairer (15R/T/U) and Petroleum Supply Specialist (92F) each have seven matches, while Wheeled Vehicle Repairer (91B) follows closely with six matches. These roles involve hands-on technical expertise, equipment maintenance, and logistical operations, which are highly transferable to civilian jobs in sustainable industries, such as renewable energy systems, energy-efficient transportation, and infrastructure.

Several combat support and logistical roles also show strong alignment with energy and infrastructure jobs:

- Automated Logistical Specialist (92A) and Unit Supply Specialist (92Y) have five and four matches, respectively, reflecting the importance of supply chain management and inventory control in energy and infrastructure industries.
- Horizontal Construction Engineer (12N) and Combat Engineer (12B) align with sustainable construction and infrastructure development, showcasing the relevance of engineering and construction skills to energy and infrastructure.

Combat-focused roles such as Indirect Fire Infantryman (11C), Cannon Crewmember (13B), and Fire Support Specialist (13F) each have five matches, but their alignment with energy and infrastructure jobs is less direct compared with technical or logistical roles. These matches likely reflect transferable skills such as teamwork, operational planning, and adaptive problem-solving rather than specific technical expertise.

Occupations such as Signal Support Systems Specialist (25U), Intelligence Analyst (35F), and Human Resources Specialist (42A) have only one match each. These roles are highly specialized and may require additional civilian training or certifications to transition effectively into energy and infrastructure jobs. For example, Signal Support Systems Specialists align with roles in electrical systems installation or maintenance, while Intelligence Analysts align with training and development roles in the civilian sector.

The results reflect the Army's organizational structure, which emphasizes specialized MOSs tailored to specific operational needs. Technical and mechanical roles, such as Wheeled Vehicle Repairer (91B) and Petroleum Supply Specialist (92F), are highly transferable to energy and infrastructure jobs due to their focus on equipment maintenance, operational efficiency, and logistical management—skills critical to sustainable industries.

Army engineering roles, such as Horizontal Construction Engineer (12N) and Combat Engineer (12B), align well with sustainable construction and infrastructure development. These MOSs emphasize skills in heavy equipment operation, structural design, and problem-solving, which are essential for infrastructure projects like renewable energy installations and eco-friendly building construction. Administrative and analytical roles, such as Human Resources Specialist (42A) and Intelligence Analyst (35F), have fewer matches to energy and infrastructure jobs. This reflects the specialized nature of these roles, which may not directly align with the technical or operational focus of many energy and infrastructure occupations. However, transferable skills such as organizational management and data analysis could still be leveraged with additional training or certifications.

The results in Table 12 highlight the strong alignment between Army technical, mechanical, and engineering roles and energy and infrastructure jobs. These occupations offer clear pathways for transitioning service members, particularly those in roles involving equipment maintenance, logistical operations, and construction. Combat-focused and specialized roles, while less directly aligned, still provide valuable transferable skills that can be leveraged with targeted training or certifications. Transition programs should prioritize high-match occupations while providing support for less directly aligned roles to maximize opportunities for Army personnel in the energy and infrastructure sectors.

Table 12. Number of High-Quality Matches: Army

Job Title	MOS	No. of Matching Jobs
Helicopter Repairer	15R/T/U	7
Petroleum Supply Specialist	92F	7
Wheeled Vehicle Repairer	91B	6
Indirect Fire Infantryman	11C	5
Horizontal Construction Engineer	12N	5
Cannon Crewmember	13B	5
Fire Support Specialist	13F	5
Automated Logistical Specialist	92A	5
CBRN Specialist	74D	4
Unit Supply Specialist	92Y	4
Combat Engineer	12B	3
Cavalry Scout	19D	3
M1 Armor Crewman	19K	3
Multichannel Transmission Systems Operator-Maintainer	25Q	3
Infantryman	11B	2
Military Police	31B	2
Human Intelligence Collector	35M	2
Signal Support Systems Specialist	25U	1
Intelligence Analyst	35F	1
Human Resources Specialist	42A	1
Motor Transport Operator	88M	1
Total matches		75
Unique jobs in energy and infrastructure sectors		30

SOURCE: Authors' analysis of sustainable energy and infrastructure jobs and O*NET. Matches provided by MNMV.

NOTE: Occupations sorted by the number of matching occupations in the civilian sector.

Navy-Specific Occupation Matches

The Navy ratings with the highest number of matches to energy and infrastructure jobs are heavily concentrated in technical and mechanical occupations. For example, Machinist's Mate (MM) leads with 13 matches, followed by Electrician's Mate (EM) with ten matches, and various aviation-related roles such as Aviation Structural Mechanic (AM) and Aviation Ordnanceman (AO) with seven and eight matches, respectively. These roles emphasize mechanical systems, electrical expertise, and aviation equipment maintenance—skills that are highly transferable to energy and infrastructure jobs such as renewable energy systems, sustainable transportation, and energy-efficient infrastructure maintenance.

Several matches reflect the Navy’s unique focus on maritime and aviation operations:

- Boatswain’s Mate (BM) and Aviation Boatswain’s Mate, Aircraft Handling (ABH), align with civilian roles requiring expertise in heavy equipment handling, hazardous materials management, and logistics, which are critical for sustainable industries like wind turbine installation and port-based renewable energy projects.
- Aviation-related ratings, such as Aviation Machinist’s Mate (AD) and Aviation Electrician’s Mate (AE), demonstrate strong alignment with energy and infrastructure jobs requiring electrical and mechanical expertise in energy-efficient aviation systems or sustainable transportation technologies.

Ratings such as Operations Specialist (OS), Information Systems Technician (IT), and Hospital Corpsman (HM) have only one match each. These roles are highly specialized and may not directly align with the technical or operational focus of many energy and infrastructure jobs. However, their transferable skills—such as data management, systems analysis, and health care expertise—could still be leveraged with additional training or certifications to expand their applicability to sustainable industries.

Navy enlisted personnel are trained to operate and maintain complex systems in maritime environments, which makes their technical expertise highly relevant to energy and infrastructure jobs. For example, Machinist’s Mate (MM) and Engineman (EN) are skilled in maintaining engines, turbines, and other mechanical systems, which align with civilian roles in renewable energy infrastructure, such as wind turbine and hydroelectric plant maintenance. Electrician’s Mate (EM) and Electronics Technician (ET) bring expertise in electrical systems and electronics, which are essential for energy and infrastructure jobs involving solar panel installation, energy-efficient building systems, and electrical grid modernization.

The Navy’s aviation-related ratings, such as Aviation Structural Mechanic (AM) and Aviation Electronics Technician (AT), highlight the Navy’s unique focus on aviation maintenance and operations. These skills translate well to civilian roles in sustainable transportation systems, including energy-efficient aircraft maintenance and the development of sustainable aviation technologies.

Ratings such as Logistics Specialist (LS) and Boatswain’s Mate (BM) emphasize supply chain management, equipment handling, and operational planning, which are critical for sustainable industries. For example, logistics expertise is vital for managing the supply chains of renewable energy projects, while equipment handling skills align with roles in sustainable construction and infrastructure development.

Table 13 demonstrates the strong alignment between Navy technical, mechanical, and aviation-related ratings and civilian sustainable-sector jobs. The Navy’s focus on maritime operations, aviation expertise, and technical systems maintenance makes its enlisted personnel uniquely suited for roles in renewable energy, sustainable transportation, and energy-efficient infrastructure. Transition programs should prioritize high-match ratings while providing targeted support for specialized roles to maximize opportunities for Navy personnel in the sustainable economy. This approach will ensure that the Navy’s unique skill sets are fully leveraged in advancing sustainability goals.

Table 13. Number of High-Quality Matches: Navy

Job Title	Rating	No. of Matching Jobs
Machinist's Mate	MM	13
Electrician's Mate	EM	10
Aviation Ordnanceman	AO	8
Aviation Structural Mechanic	AM	7
Aviation Boatswain's Mate, Aircraft Handling	ABH	6
Fire Controlman	FC	6
Engineman	EN	6
Aviation Machinist's Mate	AD	6
Aviation Electrician's Mate	AE	6
Electronics Technician	ET	5
Aviation Electronics Technician	AT	5
Logistics Specialist	LS	4
Boatswain's Mate	BM	3
Master-at-Arms	MA	2
Operations Specialist	OS	1
Information Systems Technician	IT	1
Hospital Corpsman	HM	1
Total matches		90
Unique jobs in energy and infrastructure sectors		36

SOURCE: Authors' analysis of sustainable sector jobs and O*NET. Matches provided by MNMV.

NOTE: Occupations sorted by the number of matching occupations in the civilian sector.

Marine Corps-Specific Occupation Matches

The Marine Corps MOS with the highest number of matches is Combat Engineer (1371), with six matches to energy and infrastructure jobs. This MOS emphasizes construction, infrastructure development, and heavy equipment operation, which align closely with roles such as sustainable construction, renewable energy infrastructure, and eco-friendly building projects. Combat Engineers are trained to work in challenging environments, making their skills highly adaptable to the demands of energy and infrastructure industries.

The Supply Administration and Operations Specialist (3043) role has five matches, reflecting the importance of logistical expertise in sustainable industries. This MOS focuses on inventory management, supply chain coordination, and operational efficiency, which are critical for supporting renewable energy projects and sustainable manufacturing processes.

Motor Vehicle Operator (3531) contributes three matches, highlighting the transferability of transportation and logistics skills to roles such as energy-efficient fleet management and sustainable transportation systems.

The remaining Marine Corps MOSs, such as Field Radio Operator (0621), Automotive Maintenance Technician (3521), and Military Police (5811), have fewer matches (two or fewer). These roles are more specialized and may not directly align with the technical or operational focus of many energy and infrastructure jobs. However, their transferable skills—such as communication system expertise, vehicle maintenance, and public safety—could still be leveraged with additional training or certifications.

Marine Corps personnel are trained to operate in diverse and challenging environments, which enhances their adaptability to civilian roles. For example, Combat Engineers (1371) are skilled in construction, demolition, and infrastructure repair, making them highly suited for sustainable construction projects and renewable energy installations. Motor Vehicle Operators (3531), meanwhile, are experienced in transporting materials and equipment under demanding conditions, aligning with logistical roles in energy and infrastructure industries.

The Marine Corps places significant emphasis on logistical and operational support roles, as evidenced by the strong matches for Supply Administration and Operations Specialist (3043). This MOS's focus on inventory management and operational efficiency makes it a natural fit for jobs requiring coordination of resources and materials.

Unlike the Army and Navy, which have a broader range of technical MOSs, the Marine Corps has fewer highly specialized technical roles. This is reflected in the smaller number of matches for MOSs like Automotive Maintenance Technician (3521) and Field Radio Operator (0621). However, the Marine Corps' emphasis on adaptability and cross-functional skills provides opportunities for personnel to transition into jobs with additional training or certifications.

Table 14 highlights the alignment between Marine Corps MOSs and sustainable energy and infrastructure jobs, with a focus on engineering, logistics, and transportation roles. The adaptability and versatility of Marine Corps personnel make them well-suited for transitioning into these industries, particularly in construction and logistical support. Transition programs should prioritize high-match MOSs while providing targeted support for specialized roles to maximize opportunities for Marine Corps personnel to contribute to the sustainable economy. By leveraging their unique skills and training, Marines can play a vital role in advancing sustainability goals while achieving successful civilian career transitions.

Table 14. Number of High-Quality Matches: Marine Corps

Job Title	MOS	No. of Matching Jobs
Combat Engineer	1371	6
Supply Administration and Operations Specialist	3043	5
Motor Vehicle Operator	3531	3
Field Radio Operator	0621	2
Automotive Maintenance Technician	3521	1
Military Police	5811	1
Total matches		18
Unique jobs in energy and infrastructure sectors		16

SOURCE: Authors' analysis of sustainable sector jobs and O*NET. Matches provided by MNMV.

NOTE: Occupations sorted by the number of matching occupations in the civilian sector. Due to differences in training, MNMV finds more civilian matches for Marine Corps Combat Engineers than for Army Combat Engineers.

Air Force-Specific Occupation Matches

The AFSCs with the highest number of matches are heavily concentrated in technical and maintenance-related occupations. Munitions Systems (2W0X1) leads with 18 matches, followed by Aircraft Armament Systems (2W1X1) with 11 matches, and Aerospace Propulsion (2A6X1) with eight matches. These roles emphasize specialized technical expertise, equipment maintenance, and operational readiness, which align closely with jobs such as renewable energy systems maintenance, energy-efficient transportation, and infrastructure development.

Several AFSCs reflect the Air Force's unique focus on aerospace operations and maintenance. For example, Aerospace Maintenance (2A5X1) and Aerospace Ground Equipment (2A6X2) both have seven matches, highlighting the relevance of aerospace-related skills to civilian roles in sustainable transportation systems and renewable energy infrastructure. Tactical Aircraft Maintenance (2A3X3) contributes five matches, showcasing the transferability of aircraft maintenance expertise to jobs requiring precision and technical proficiency.

Logistical roles such as Air Transportation (2T2X1) and Materiel Management (2S0X1) demonstrate strong alignment with energy and infrastructure jobs. These roles focus on supply chain management, cargo handling, and inventory control, which are critical for supporting renewable energy projects, sustainable manufacturing, and eco-friendly transportation systems.

AFSCs such as Security Forces (3P0X1), Knowledge Operations Management (3D0X1), and Services (3M0X1) have fewer matches (three or fewer). These roles are more specialized and may not directly align with the technical or operational focus of many jobs. However, their transferable skills—such as organizational management, data handling, and public safety—could still be leveraged with additional training or certifications.

Air Force personnel are trained to operate and maintain highly complex aerospace systems, which makes their technical expertise highly relevant to energy and infrastructure jobs. For example, Munitions Systems (2W0X1) personnel are skilled in handling hazardous materials and precision

equipment, aligning with civilian roles in renewable energy systems and environmental remediation. Aircraft Armament Systems (2W1X1) personnel bring expertise in maintaining and troubleshooting complex systems, which translates well to sustainable industries requiring technical precision and operational reliability.

The Air Force’s emphasis on global mobility and logistics is reflected in roles such as Air Transportation (2T2X1) and Materiel Management (2S0X1). These AFSCs focus on efficient transportation and supply chain operations, which are crucial for managing resources in industries like renewable energy and sustainable manufacturing. Many technical AFSCs, such as Aerospace Propulsion (2A6X1) and Aerospace Ground Equipment (2A6X2), provide a foundation for transitioning into emerging technologies. These roles involve maintaining engines, electrical systems, and ground support equipment, which are critical for renewable energy installations and sustainable transportation systems.

Table 15 highlights the strong alignment between Air Force technical, maintenance, and logistical AFSCs and energy and infrastructure jobs. The Air Force’s focus on aerospace operations, precision skills, and global mobility makes its enlisted personnel uniquely suited for roles in renewable energy, sustainable transportation, and energy-efficient infrastructure. Transition programs should prioritize high-match AFSCs while providing targeted support for specialized roles to maximize opportunities for Air Force personnel in energy and infrastructure. By leveraging their unique skills and training, Airmen can play a vital role in advancing sustainability goals while achieving successful civilian career transitions.

Table 15. Number of High-Quality Matches: Air Force

Job Title	AFSC	No. of Matching Jobs
Munitions Systems	2W0X1	18
Aircraft Armament Systems	2W1X1	11
Aerospace Propulsion	2A6X1	8
Air Transportation	2T2X1	8
Aerospace Maintenance	2A5X1	7
Aerospace Ground Equipment	2A6X2	7
Tactical Aircraft Maintenance	2A3X3	5
Security Forces	3P0X1	3
Materiel Management	2S0X1	2
Services	3M0X1	2
Knowledge Operations Management	3D0X1	1
Total matches		72
Unique jobs in the sustainable economy		29

SOURCE: Authors’ analysis of sustainable sector jobs and O*NET. Matches provided by MNMV.

NOTE: Occupations sorted by the number of matching occupations in the civilian sector.

Comparison of Army, Navy, Marine Corps, and Air Force Matches to Civilian Sustainable Energy and Infrastructure Jobs

The Army, Navy, Marine Corps, and Air Force all demonstrate strong alignment between their military occupations and energy and infrastructure jobs, but the nature of these matches reflects the unique training and operational focus of each service branch. The Army exhibits a broad range of matches across technical, logistical, and combat support roles, with occupations like Helicopter Repairer (15R/T/U) and Petroleum Supply Specialist (92F) leading the way. These roles emphasize equipment maintenance, logistical operations, and engineering expertise, which translate well to jobs in renewable energy systems, logistics, and infrastructure development. While combat-focused roles such as Cannon Crewmember (13B) and Indirect Fire Infantryman (11C) have fewer matches, they highlight transferable skills like teamwork and operational planning. In contrast, the Navy's matches are dominated by technical and maritime expertise, with occupations like Machinist's Mate (MM) and Electrician's Mate (EM) leading the list. The Navy's focus on mechanical systems, electrical work, and aviation maintenance aligns closely with jobs in renewable energy, sustainable transportation, and energy-efficient infrastructure.

The Marine Corps has fewer total matches compared with the Army and Navy but stands out for its emphasis on adaptability and logistical support. The Combat Engineer (1371) leads Marine Corps matches, reflecting the branch's expertise in construction, infrastructure repair, and heavy equipment operation—skills that are critical for sustainable construction and renewable energy projects. Logistical roles like Supply Administration and Operations Specialist (3043) also highlight the Marine Corps' focus on inventory management and operational efficiency, which are vital for sustainable manufacturing and renewable energy supply chains. In contrast, the Air Force demonstrates a strong focus on aerospace and precision maintenance roles, with occupations like Munitions Systems (2W0X1) and Aircraft Armament Systems (2W1X1) leading its matches. These roles emphasize technical expertise and operational reliability, making Air Force personnel uniquely suited for jobs involving renewable energy systems, sustainable aviation technologies, and advanced transportation infrastructure. The Air Force also contributes logistical expertise through Air Transportation (2T2X1), aligning with eco-friendly transportation and supply chain management roles.

While all four branches show alignment with energy and infrastructure jobs, the nature of their matches highlights key differences in training and operational focus. The Army and Navy have broader representation across technical and logistical roles, with the Navy emphasizing maritime and aviation expertise and the Army showcasing versatility across combat support, engineering, and maintenance occupations. The Marine Corps, while smaller in scope, demonstrates strong alignment with construction and logistical roles, reflecting its adaptability and cross-functional training. The Air Force stands out for its aerospace and precision maintenance expertise, which aligns with emerging technologies and renewable energy infrastructure. Together, these findings underscore the unique contributions of each branch to energy and infrastructure sectors and highlight the importance of tailoring transition programs to the specific strengths and training of service members from each branch. By leveraging these differences, military personnel can play a critical role in advancing sustainability goals while achieving successful civilian career transitions.

Guidance for Workforce Planners and Policymakers: Facilitating Military-to-Energy and Infrastructure Sector Transitions

Workforce planners and policymakers have a significant opportunity to connect transitioning military personnel with the rapidly growing energy and infrastructure sectors. Evidence shows that technical, mechanical, logistical, and engineering military roles—such as Aerospace Maintenance (2A5X1), Aviation Structural Mechanic (AM), Automated Logistical Specialist (92A), and Combat Engineer (1371)—offer strong alignment with civilian occupations in renewable energy, energy efficiency, sustainable transportation, and infrastructure. These matches are most prevalent in the Army and Navy’s engineering and technical occupations, the Marine Corps’ construction and logistics roles, and the Air Force’s aerospace and precision maintenance specialties.

Key actions to improve military-to-civilian transitions in energy and infrastructure include

- **Focus on high-alignment occupations.** Target recruitment, training, and support initiatives toward military roles that directly match high-growth civilian occupations, such as wind turbine maintenance, solar installation, sustainable construction, and supply chain management. Use mapping tools like MNMV to identify close matches and develop pathways tailored to the unique strengths of each service branch.
- **Bridge certification and training gaps.** While many military-acquired skills are highly transferable, some aligned civilian jobs may require additional certifications, licenses, or formal education. Transition assistance should include information and support accessing credentialing resources (e.g., Army or Navy COOL), as well as partnerships with community colleges or technical schools to create streamlined programs for military veterans. We note that in some of our findings we recommend occupations that may require licensing or certification; readers should access the relevant COOL website for more details.
- **Support transition for specialized and limited-match roles.** For military personnel whose occupations have limited direct matches (e.g., Intelligence Analysts [35F], Military Police [31B], or Hospital Corpsmen [HM]), develop targeted programs that offer training in emerging areas within the sector, such as cybersecurity for renewable energy, environmental health and safety, or data management.
- **Leverage economic and regional opportunities.** Prioritize workforce development efforts in regions where renewable energy and infrastructure sectors are expanding and where the economic multipliers are greatest in order to maximize spillover benefits for local economies.
- **Communicate economic advantages.** Publicize the higher-than-average wages and long-term growth potential in energy and infrastructure occupations, as well as accessible entry-level opportunities for those without a college degree. Highlight the upward mobility afforded by technical and supervisory roles, attracting more veterans to pursue training for these pathways.

By aligning training programs, credentialing support, and outreach with the military occupations that best match the needs of the energy and infrastructure economy, policymakers and workforce planners can accelerate veteran transitions, close skills gaps in vital sectors, and realize broad economic and sustainability benefits.

Economic Impact of Energy and Infrastructure Occupations

To better understand how these occupations affect the broader economy, we estimate the likely knock-on effects of expansion of particular occupations. When there is expansion of one sector, it has the potential to cascade into other sectors; this occurs because some outputs from one sector are inputs into another sector. If sector A expands, all sectors that are inputs to sector A also expand and create multiplier effects throughout an economy as long as the inputs are produced in the economy and not imported. Importantly, some occupations exist across multiple economic sectors. For example, electricians exist in construction, manufacturing, and many other sectors. Our approach draws from previous work in Lauland et al. (2022) that considered the risk-reward trade-off during the COVID-19 pandemic of opening up different sectors in terms of economic multipliers and the risk of exposure based on some important aspects of the O*NET database regarding transition risk dimensions.

Our approach is to use the BLS occupation by industry for the North American Industry Classification System (NAICS) three-digit disaggregation. We calculate the proportion of each occupation in each sector and use that to provide weights to calculate the weighted average of the economic multiplier for each occupation. To construct economic multipliers, we use a national model implemented in IMPLAN (2013) and aggregate to the three-digit NAICS codes. This provides us the multipliers for each of the sectors that can be used to create the weighted average.

Results

Interestingly, of the 57 occupations that are associated with military occupations, 41 have weighted economic multipliers of between 1.3 and 1.5. This means that an increase in GDP of \$1 associated with that occupation corresponds to an increase in total GDP of between \$1.30 and \$1.50. In Table 16, we provide the occupations that have multipliers greater than 1.5 and less than 1.3. Interestingly, those occupations with the lowest economic multipliers are associated with new and emerging occupations. This may be because the inputs to production in those sectors associated with those occupations tend to use nonmarket inputs such as wind, solar, geothermal, and biomass, meaning that there exist no economic multipliers associated with them.

Table 16. High- and Low-Economic-Multiplier Sustainable Occupations

SOC	O*NET Title	Sustainable Occupation Category	Employment Projections 2023–2033	Economic Multiplier
33-3031	Fish and Game Wardens	Increased Demand	–5	1.65
53-3052	Bus Drivers, Transit and Intercity	Increased Demand	5.2	1.65
13-1151	Training and Development Specialists	Enhanced Skills	11.5	1.61
11-1011	Chief Sustainability Officers	New and Emerging	5.5	1.52
51-1011	First-Line Supervisors of Production and Operating Workers	Increased Demand	0.6	1.51
11-3051	Biofuels Production Managers	New and Emerging	2.8	1.29

SOC	O*NET Title	Sustainable Occupation Category	Employment Projections 2023–2033	Economic Multiplier
11-3051	Hydroelectric Production Managers	New and Emerging	2.8	1.27
11-3051	Methane/Landfill Gas Collection System Operators	New and Emerging	2.8	1.27
11-3051	Biomass Power Plant Managers	New and Emerging	2.8	1.27
11-3051	Geothermal Production Managers	New and Emerging	2.8	1.27
11-3051	Industrial Production Managers	Increased Demand	2.8	1.27
51-4041	Machinists	Enhanced Skills	1.7	1.27
51-9012	Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	Enhanced Skills	1.7	1.26
51-2028	Electrical and Electronic Equipment Assemblers	Increased Demand	7.2	1.24
51-2031	Engine and Other Machine Assemblers	Increased Demand	-21.3	1.24
51-2011	Aircraft Structure, Surfaces, Rigging, and Systems Assemblers	Enhanced Skills	-16.4	1.16

NOTE: Employment projections are from BLS and economic multipliers are weighted averages of BLS multipliers.

Conclusions

There are many reasons why ex-service members can find it hard to transition to the civilian economy. One of the most common reasons is the skills mismatch between military and civilian occupations. However, in this analysis, we find substantial potential for transitioning military personnel into energy and infrastructure jobs, leveraging the unique skills, training, and expertise developed across the Army, Navy, Marine Corps, and Air Force. These matches demonstrate the alignment between military roles and the growing demand for technical, logistical, and operational expertise in renewable energy, energy efficiency, sustainable transportation, and infrastructure. By identifying specific pathways for military personnel to enter these occupations, this research highlights opportunities to support veterans while taking advantage of the growth associated with these industries.

Across all service branches, technical and mechanical roles emerge as the most transferable to energy and infrastructure jobs. The Army, with its focus on engineering and logistical operations, excels in roles such as Helicopter Repairer (15R/T/U), Petroleum Supply Specialist (92F), and Horizontal Construction Engineer (12N), which align well with renewable energy systems and sustainable construction. The Navy, on the other hand, demonstrates strong alignment in maritime and aviation-related roles, such as Machinist’s Mates (MM) and Aviation Structural Mechanics (AM),

which are critical for sustainable transportation systems and energy-efficient infrastructure. The Marine Corps emphasizes adaptability and logistical support, with Combat Engineers (1371) and Supply Administration and Operations Specialists (3043) contributing to sustainable construction and renewable energy supply chains. Meanwhile, the Air Force stands out for its aerospace expertise, particularly in Munitions Systems (2W0X1) and Tactical Aircraft Maintenance (2A3X3), which align with emerging sustainable technologies and renewable energy installations.

While the majority of matches are concentrated in technical roles, specialized technical occupations such as Intelligence Analysts (35F), Human Resources Specialists (42A), and Field Radio Operators (0621) show fewer matches to energy and infrastructure jobs. These roles may require additional certifications or targeted training to transition effectively into these industries. Furthermore, occupations with limited matches highlight the need for tailored programs to bridge gaps in technical or managerial expertise. For example, transitioning military personnel in administrative or security roles could benefit from certifications in data management, cybersecurity for renewable energy systems, or environmental health and safety.

The wage analysis underscores the economic benefits of energy and infrastructure jobs, particularly in technical and supervisory roles. Both white-collar and blue-collar occupations exhibit upward wage shifts compared with the overall civilian economy, with specialized roles offering competitive pay across all percentiles. Entry-level positions, such as helpers in installation and repair work, provide accessible pathways for military personnel without college degrees, while supervisory and technical roles offer opportunities for career advancement. Transition programs should focus on equipping veterans with the necessary certifications and skills to access higher-paying roles in the energy and infrastructure sectors.

Economic multiplier analysis further highlights the knock-on effects of expanding energy and infrastructure occupations. Many of the identified jobs, particularly those in renewable energy and sustainable construction, have significant economic spillover effects, creating growth across related industries. Occupations in emerging sustainable technologies, such as biofuels production and geothermal energy management, may have lower multipliers due to their reliance on nonmarket inputs, but they remain critical for long-term sustainability goals. By prioritizing regions with strong potential for these industries, policymakers can maximize the economic benefits of transitioning military personnel into these roles.

In conclusion, the transition of military personnel into sustainable energy and infrastructure jobs represents a strategic opportunity to support veterans while addressing the growing demand for skilled workers in these industries. This research underscores the importance of tailoring transition programs to the unique strengths of each service branch, providing certifications, targeted training, and career pathways that align with sustainable-sector needs. By leveraging the adaptability, technical expertise, and leadership skills of military personnel, the sustainable economy can benefit from a highly capable workforce, advancing both environmental and economic goals. Ultimately, this approach not only ensures successful civilian transitions for veterans but also contributes to building a more sustainable and more resilient future for society.

Abbreviations

ABH	Aviation Boatswain's Mate, Aircraft Handling
AD	Aviation Machinist's Mate
AE	Aviation Electrician's Mate
AFSC	Air Force Specialty Code
AM	Aviation Structural Mechanic
AO	Aviation Ordnanceman
AT	Aviation Electronics Technician
BLS	U.S. Bureau of Labor Statistics
BM	Boatswain's Mate
CBRN	chemical, biological, radiological, and nuclear
COOL	Credentialing Opportunities On-Line
DMDC	Defense Manpower Data Center
DoD	Department of Defense
EM	Electrician's Mate
EN	Engineman
ET	Electronics Technician
FC	Fire Controlman
KSA	knowledge, skills, and abilities
LS	Logistics Specialist
MA	Master-at-Arms
MNMV	My Next Move for Veterans
MM	Machinist's Mate
MOS	Military Occupational Specialty
NCO	noncommissioned officer
O*NET	Occupational Information Network
SOC	Standard Occupational Classification
11B	Army MOS code for Infantryman
11C	Army MOS code for Indirect Fire Infantryman
12N	Army MOS code for Horizontal Construction Engineer
13B	Army MOS code for Cannon Crewmember
13F	Army MOS code for Fire Support Specialist
15R/T/U	Army MOS code for Helicopter Repairer
17-2072	SOC code for Electronics Engineers, Except Computer
17-3024	SOC code for Robotics Technicians

19D	Army MOS code for Cavalry Scout
19K	Army MOS code for M1 Armor Crewman
3043	Marine Corps MOS code for Supply Administration and Operations Specialist
3531	Marine Corps MOS code for Motor Vehicle Operator
47-2061	SOC code for Construction Laborers
47-2073	SOC code for Operating Engineers and Other Construction Equipment Operators
47-4041	SOC code for Hazardous Materials Removal Workers
49-1011	SOC code for First-Line Supervisors of Mechanics, Installers, and Repairers
49-2094	SOC code for Electrical and Electronics Repairers, Commercial and Industrial Equipment
49-3031	SOC code for Bus and Truck Mechanics and Diesel Engine Specialists
49-9071	SOC code for Maintenance and Repair Workers, General
49-9098	SOC code for Helpers—Installation, Maintenance, and Repair Workers
51-2011	SOC code for Aircraft Structure, Surfaces, Rigging, and Systems Assemblers
51-2031	SOC code for Engine and Other Machine Assemblers
51-9061	SOC code for Inspectors, Testers, Sorters, Samplers, and Weighers
53-3032	SOC code for Heavy and Tractor-Trailer Truck Drivers
53-7051	SOC code for Industrial Truck and Tractor Operators
53-7062	SOC code for Laborers and Freight, Stock, and Material Movers, Hand
2A5X1	AFSC for Aerospace Maintenance
2A6X1	AFSC for Aerospace Propulsion
2A6X2	AFSC for Aerospace Ground Equipment
2T2X1	AFSC for Air Transportation
2W0X1	AFSC for Munitions Systems
2W1X1	AFSC for Aircraft Armament Systems
3P0X1	AFSC for Security Forces
74D	Army MOS code for CBRN Specialist
91B	Army MOS code for Wheeled Vehicle Repairer
92A	Army MOS code for Automated Logistical Specialist
92F	Army MOS code for Petroleum Supply Specialist
11-1021	SOC code for General and Operations Managers
11-3051	SOC code for Biofuels Production Managers
13-1081	SOC code for Logistics Engineers
13-1151	SOC code for Training and Development Specialists
19-5012	SOC code for Occupational Health and Safety Technicians

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In this report, the authors examine how service members leaving the military can smoothly transition into jobs in sustainable energy and infrastructure sectors, meeting the labor needs of these growing industries and supporting those who have served. Job duties and required skills across the Army, Navy, Marine Corps, and Air Force are analyzed and compared with the needs of high-demand jobs in sustainable energy and infrastructure sectors. A total of 255 matches between military and civilian occupations are identified, with 55 different military roles aligning closely with 57 civilian jobs in these sectors, many of which are expected to grow rapidly and offer above-average pay.

Key findings reveal the technical, mechanical, construction, and logistics skills taught in military jobs are highly valued in renewable energy, grid modernization, building retrofits, transportation, and other sustainable energy and infrastructure roles. In addition to technical skills, the leadership, problem-solving, and adaptability instilled in military training are prized by employers in these fast-changing fields.

The report emphasizes the importance of targeted support for service members leaving the military and seeking civilian work. Many of the best-matched roles require only modest additional training or civilian certifications, making the transition straightforward. However, success is more likely when transition programs include guidance on obtaining credentials, partnerships with schools and employers, and information about regional job trends.

The intended audience includes nongovernmental organizations, veteran service organizations, workforce development practitioners, and veterans themselves who are seeking information on how military-acquired skills can translate to sustainable energy and infrastructure jobs.

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