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U.S. DEPARTMENT OF AGRICULTURE

Rural America at a Glance

2023 Edition

A map of the United States where each state is filled with a different rural scene. The scenes include a large steel arch bridge over a river, a traffic light, a silo, a farm building, a lighthouse, and various landscapes with trees and water.

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The U.S. rural population is growing again after a decade of overall population loss, with growth of approximately a quarter percent from 2020 to 2022. This growth occurred because rural in-migration was larger than declines in the natural rate (the number of births compared with the number of deaths) of population growth. The rural population is also experiencing declines in poverty. In 2021, 9.7 percent fewer nonmetropolitan counties experienced persistent poverty (20 percent or more of the population had poverty level household incomes in each of the last four decennial Census years) compared with a decade earlier. Still, more than half of extremely low-income nonmetropolitan renter households experienced housing insecurity. This issue was particularly acute for American Indian or Alaska Native and Hispanic households. This report examines recent issues such as rural population and migration trends, poverty, housing insecurity, employment, and clean energy jobs. The report finds that rural employment levels and annual growth rates nearly returned to those seen in the years prior to the Coronavirus (COVID-19) pandemic. Finally, highlighting an emerging employment area of interest, approximately 1 percent of nonmetropolitan workers hold clean energy jobs.





Overview

The U.S. population residing in nonmetropolitan areas in July 2022 was 46 million people, or 13.8 percent of the U.S. population.¹ The nonmetropolitan population grew approximately a quarter percent from mid-2020 through mid-2022, a period of renewed growth after declining or near-zero annual growth rates between 2010 and 2020. The increases in nonmetropolitan population resulted from gains in net domestic migration. These gains exceeded natural declines due to more deaths than births in the same period. Most nonmetropolitan counties experienced net domestic in-migration, particularly counties located near large metro areas and in recreation and retirement destinations. However, 42 percent of nonmetropolitan counties decreased in population from net domestic out-migration.

The share of the nonmetropolitan population experiencing poverty or housing insecurity is a key indicator of population well-being. Of particular interest are nonmetropolitan counties that are experiencing persistent poverty, defined as counties with poverty rates greater than 20 percent over the prior three decades (specific definition provided on pages 10–11). Of the 270 nonmetropolitan persistent poverty counties in 2021, 55 are no longer persistent poverty counties compared to 2011. Only 26 became newly persistent poverty counties over the same period.

People living below the poverty line have a higher risk of housing insecurity. Over the 5-year period from 2015 to 2019, more than half of extremely low-income and one-quarter of very low-income nonmetropolitan renter households experienced housing problems. These problems include a severe housing cost burden,

¹ Throughout this report, the terms “rural” and “nonmetro” are used interchangeably, as are the terms “urban” and “metro.” Unless otherwise stated, statistics are calculated using the 2013 U.S. Office of Management and Budget (OMB) metropolitan area definitions based on data from the 2010 U.S. Census. Of the 3,143 counties in U.S. States, 1,976 are nonmetropolitan and 1,167 are metropolitan. The exact number of counties in a category may differ depending on data source used. For more on definitions of metropolitan and nonmetropolitan areas, as well as related concepts such as urbanized areas and central counties, visit the USDA, Economic Research Service web page “What Is Rural?”.

lack of full kitchen or plumbing facilities, and/or dwelling unit overcrowding. Further, almost one-quarter of American Indian, Alaska Native, or Hispanic (any race) nonmetropolitan households experienced severe housing problems (as defined above), about 10 percentage points higher than for all other racial groups.

Jobs are a major contributor to rural household well-being. Following nonmetropolitan job losses of 10 percent in 2020 due to the COVID-19 pandemic, nonmetropolitan household employment rebounded in 2021 and continued to recover throughout 2022 and 2023. By the first quarter of 2023, total nonmetropolitan employment had nearly fully recovered, returning to 99 percent of prepandemic employment levels.² Nonmetropolitan annual employment growth for 2022 was 0.5 percent, a return to a growth rate similar to those rates observed for the years prior to the pandemic. Similarly, the nonmetropolitan unemployment rate declined from 11.3 in 2020 to 3.8 percent in 2022.

More than 243,000, or 1 percent, of jobs in nonmetropolitan counties were in clean energy in 2021. In comparison, around 239,000 nonmetro jobs were in coal, petroleum, and natural gas fuels. The U.S. Department of Energy defines clean energy in its 2023 U.S. Energy and Employment Report as jobs in the technologies that align with net-zero³ greenhouse gas emissions, including those in renewable energy and biofuels. The nonmetropolitan clean energy employment share varied across U.S. States, ranging from less than one-half a percent in Arizona to 2.6 percent in Vermont. Of all States, Texas had the most clean energy jobs (15,000 representing 0.96 percent) in nonmetropolitan counties.



² Urban employment returned to 100 percent of prepandemic employment by the second quarter of 2022.

³ Net-zero emissions refers to achieving an overall balance between greenhouse gas emissions produced, avoided, and removed from the atmosphere.

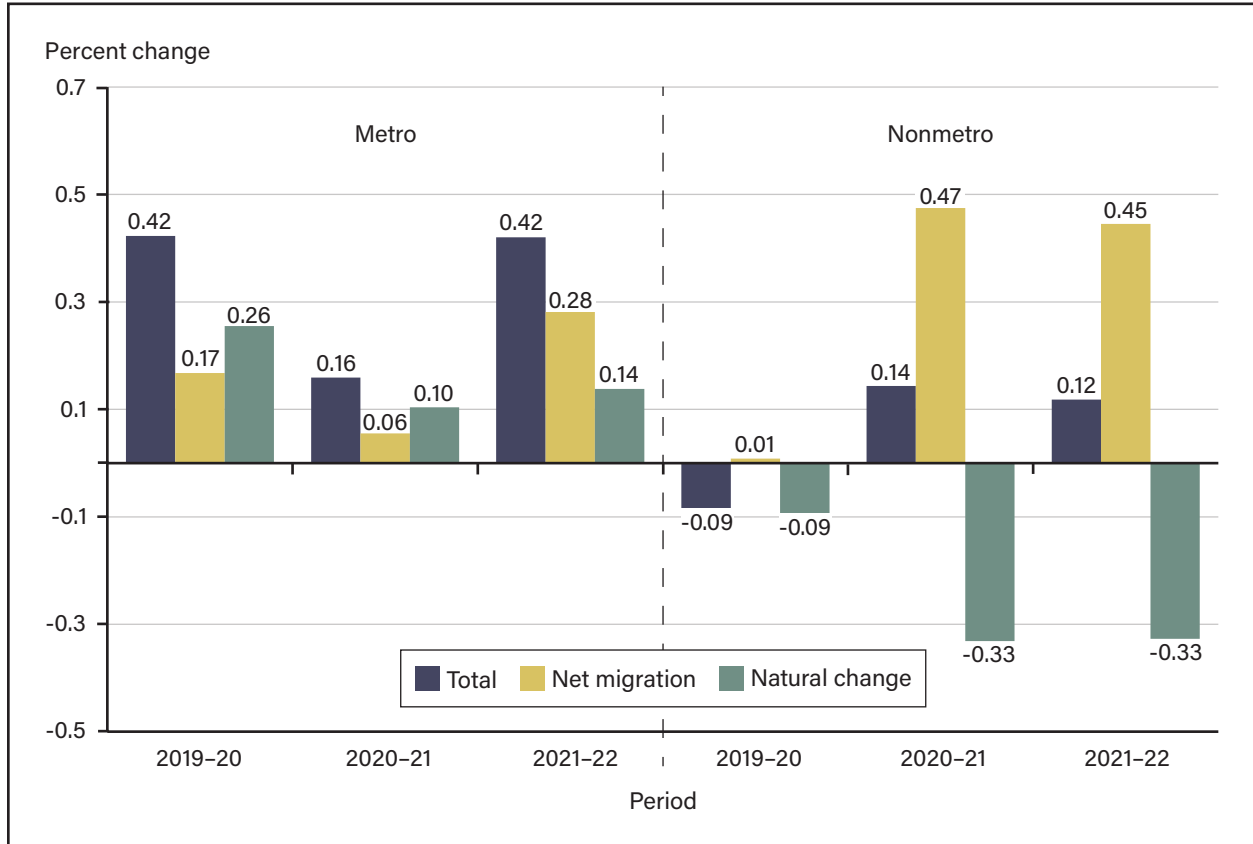
Nonmetropolitan Population Has Recently Grown Due to Migration

The 46 million U.S. residents living in nonmetropolitan (nonmetro) areas in July 2022 made up 13.8 percent of the U.S. population. The COVID-19-related renewal of nonmetro population growth first seen in 2020–21 (July through June) continued at roughly an equal rate in the same period the following year (0.14 percent and 0.12 percent growth, respectively), according to the latest U.S. Department of Commerce, Bureau of the Census population estimates as shown in figure 1. This growth represents a large upward shift from a 0.09-percent population decline in the previous year (2019–20), which came at the end of a decade of overall nonmetro population loss. The population number in metro areas followed a different trend in 2019–20 and 2020–21, dropping from 0.42 to 0.16 percent growth between the two periods before returning to 0.42 percent in 2021–22.

Overall, population change in a given area can be subdivided into changes due to net migration (the number of people moving in minus the number of people moving out) and natural change (the number of births minus the number of deaths). The population numbers in nonmetro areas experienced COVID-19-related gains despite a population loss due to a natural decrease (more deaths than births), which shifted from -0.09 percent in 2019–20 to -0.33 percent in both 2020–21 and 2021–22. While hundreds of individual nonmetro counties have experienced more deaths than births for decades, a natural decrease for nonmetro areas (as a whole) is a new phenomenon, first appearing in 2017–18. Given decreasing fertility rates for the United States overall and the aging of the nonmetro population, a natural decrease is likely a permanent fixture for nonmetro areas. Thus, future population growth in nonmetro areas as a whole will depend on retaining current residents and attracting newcomers.



Figure 1
Population change and components of change, metropolitan and nonmetropolitan areas, 2019–20, 2020–21, and 2021–22



Note: The 1-year periods comprise July through June.

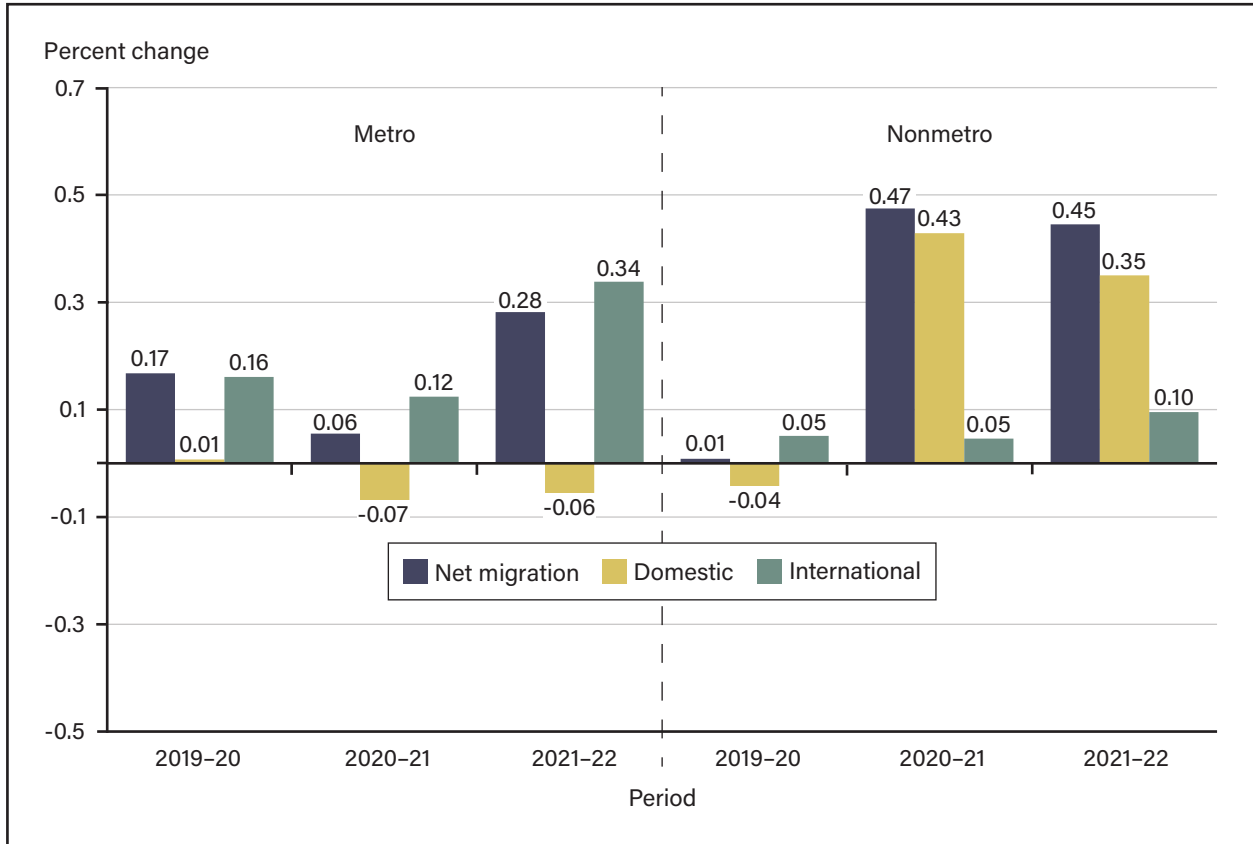
Source: USDA, Economic Research Service using data from the U.S. Department of Commerce, Bureau of the Census.

Fear of exposure to COVID-19 in metro areas and the subsequent increase in remote work contributed to a major shift in migration patterns.⁴ Net migration declined for metro areas (from 0.17 to 0.06 percent between 2019–20 and 2020–21), and a mirror-image jump in nonmetro net migration (from 0.01 to 0.47 percent) occurred at the same time. As shown in figure 2, net migration can be further subdivided into domestic net migration (occurring between areas within the United States) and international migration. In 2020–21, more people moved from metro to nonmetro areas than in the opposite direction, resulting in a 0.07-percent decline in metro population and a 0.43-percent gain for nonmetro areas due to net domestic migration. Net domestic migration favoring nonmetro locations continued in 2021–22. The overall increase in net migration for metro areas in the past 2 years was due almost exclusively to a near tripling of international migration, from a 0.12-percent gain in 2020–21 to a 0.34-percent gain in 2021–22. Figure 2 summarizes the changes in net migration, broken down by domestic and international components.

⁴ Nonmetropolitan net migration growth rates were negative from 2010 to 2016 and near zero from 2017 to 2020, as shown in figure 1 in USDA's Rural America at a Glance, 2022 Edition.

Figure 2

Net migration change and components of change, metropolitan and nonmetropolitan areas, 2019-20, 2020-21, and 2021-22



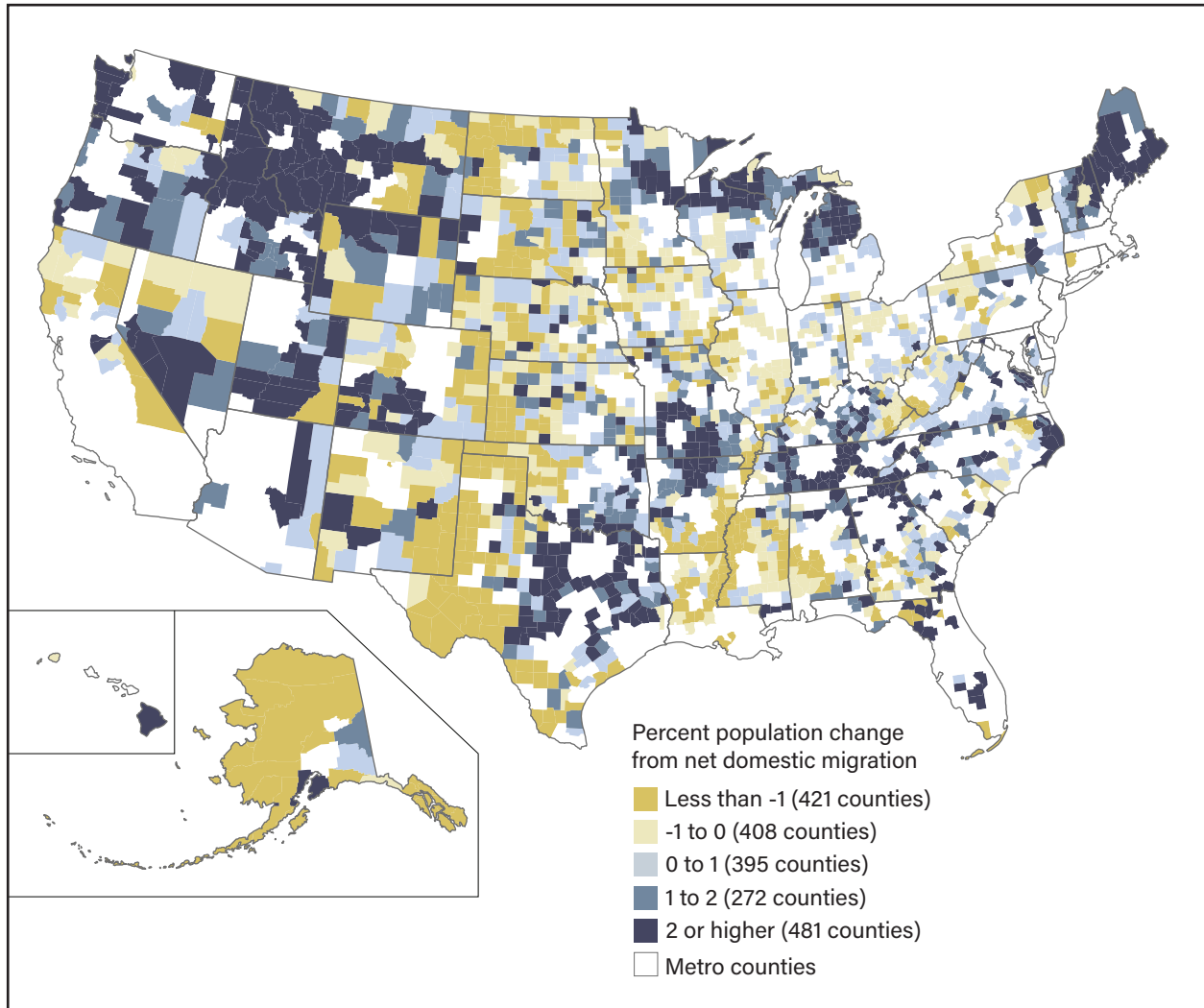
Note: The 1-year periods comprise July through June.

Source: USDA, Economic Research Service using data from the U.S. Department of Commerce, Bureau of the Census.

Population growth from domestic net migration was not evenly distributed across all nonmetro counties. In figure 3, for the two yearly periods of 2020–21 and 2021–22 (July through June in both periods) combined, 829 nonmetro counties (out of 1,976) continued to experience net domestic out-migration, with more than half of the counties losing more than 1 percent of their population. These included many high-poverty counties in the South, some farming counties in the Midwest, and several isolated and sparsely settled counties in the West. The majority of counties with out-migration were located in the Great Plains, including in some regions dependent on oil and gas extraction,⁵ which saw COVID-19-related downturns in production. Most nonmetro counties saw gains in population due to net domestic migration, with 481 growing by 2 percent or more during 2020–22. These counties are located on the periphery of large metro areas and in recreation and retirement destinations such as the northern Great Lakes, the southern Appalachians and Ozarks, and the Rocky Mountains. Based on previous research, this increase in “amenity migration” (people choosing locations to live based on quality-of-life factors) is not surprising given that baby boom retirement is reaching its peak, and remote work is allowing more locational freedom for working-age adults.

⁵ Such regions include the Williston Basin in western North Dakota and eastern Montana, the Oklahoma panhandle, southeastern New Mexico, and west Texas.

Figure 3
Net domestic migration rate, nonmetropolitan counties, 2020-22



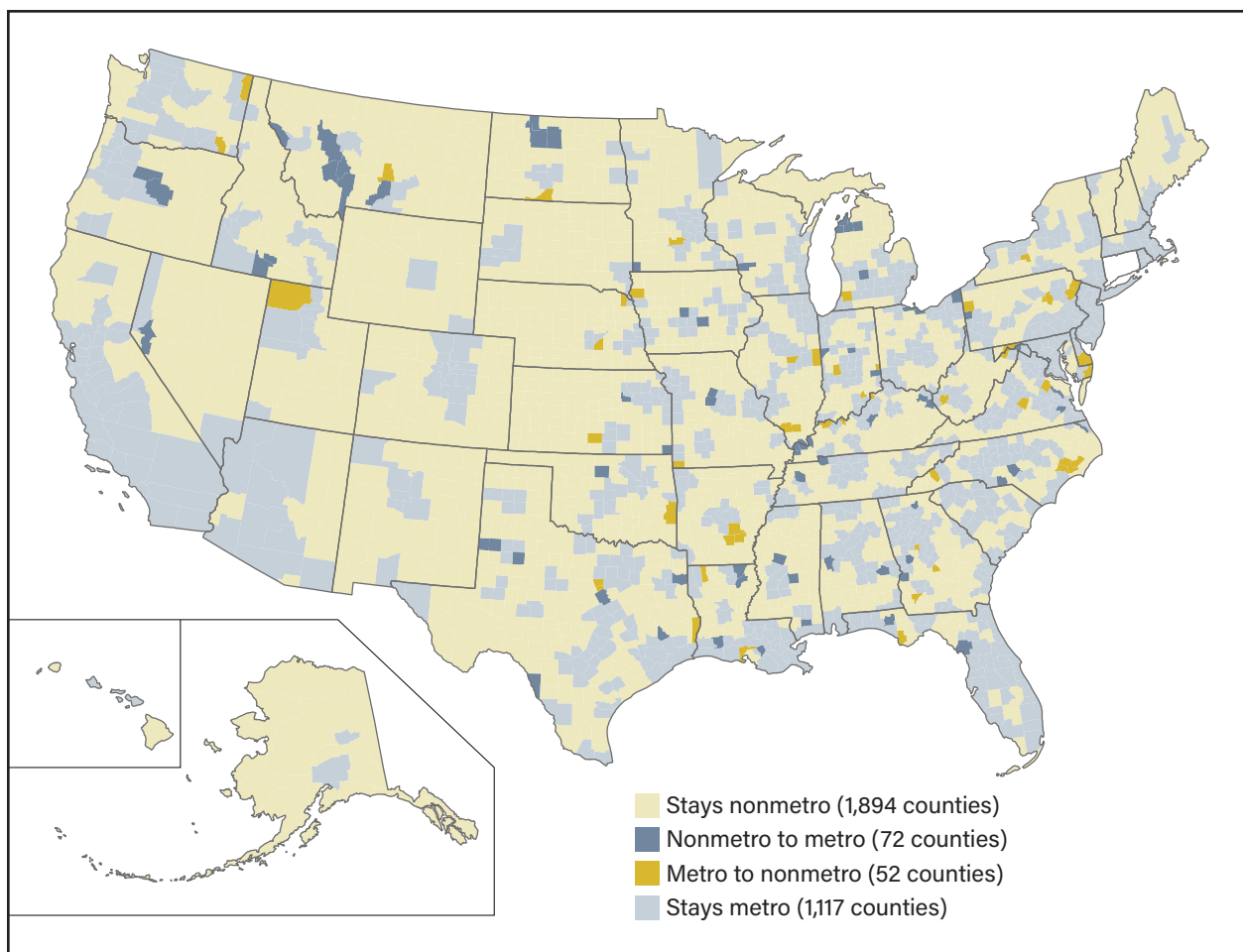
Note: The figure shows the net domestic migration rate for each nonmetropolitan county for the period July 2020 through June 2022. The rate is defined as the difference between the number of people moving into a county and the number moving out per 100 of the population of the county at the beginning of the period.

Source: USDA, Economic Research Service using data from the U.S. Department of Commerce, Bureau of the Census.

Changes in Metropolitan Areas in 2023 Caused a Small Reduction in Nonmetro Population

Most demographic and economic studies of rural conditions and trends (including this report) refer to conditions in nonmetropolitan (nonmetro) counties, which lie outside metropolitan (metro) areas, as defined by the U.S. Office of Management and Budget (OMB). Every 10 years, OMB identifies a new set of metro areas based on the most recent decennial census. While many nonmetro counties continue to lose population, others have grown large enough over the past decade to become reclassified as metro. Historically, this reclassification each decade has led to large nonmetro population losses. In the latest decennial update announced by the OMB in July 2023, 72 nonmetro counties with 2,289,693 million people switched to metro status (dark grey on the map in figure 4). At the same time, 52 metro counties with 2,127,332 residents switched to nonmetro status (dark yellow on the map). The net loss for nonmetro areas due to reclassification (162,361 people) is by far the lowest for any decade since 1950 when metro areas were first delineated. The change marks a historic downturn in urbanization during 2010–20 caused by a number of factors, including a much lower overall population growth rate for the United States and lower levels of suburbanization through much of the decade.

Figure 4
Counties changing metropolitan status, 2013–23



Note: Connecticut switched from counties to planning regions for the Census reporting between 2013 and 2023 and thus cannot be classified here.

Source: USDA, Economic Research Service using data from the U.S. Department of Commerce, Bureau of the Census.



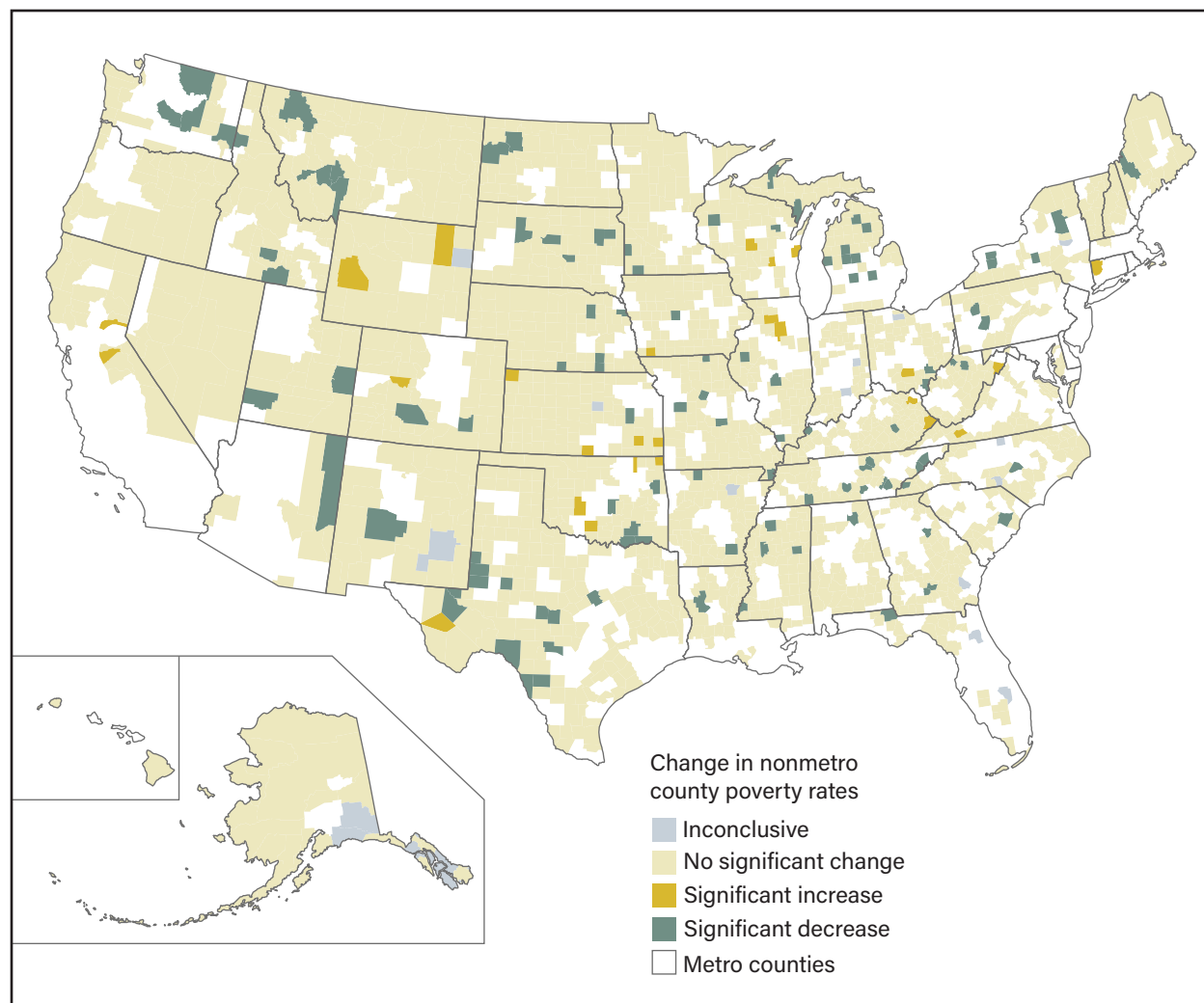
Recent Trends Suggest Progress in Reducing Rural Poverty

High poverty (poverty rate greater than or equal to 20 percent)⁶ area status, an indicator of low well-being of area residents, is a persistent problem for some counties. For other residents, transitions into and out of high poverty happen in concert with macroeconomic cycles or major events—such as the Great Recession, the 2010–19 economic expansion, and the COVID-19 pandemic. These transitions often reflect short-run, circumstantial poverty rather than a permanent change in areawide poverty conditions. Therefore, absolute changes in poverty rates over a relatively short period can be misleading. Combining information about macroeconomic cycles or major events with trend analysis offers greater insight into whether poverty conditions are likely to improve, deteriorate, or stagnate.

An analysis of annual county-level poverty rate estimates for 2007 through 2021 indicates that the majority (86 percent) of all nonmetropolitan (nonmetro) counties experienced a downward trend in poverty over the 15-year period. The decrease in poverty rate was statistically significant (i.e., clearly declining) for 109 nonmetro counties. Poverty rates rose in 13 percent or 252 of all nonmetro counties, with a statistically significant increase in poverty rates for 26 of those counties. (The remaining 1 percent was stagnant or inconclusive.)

⁶ The poverty rate is defined by the Office of Management and Budget Statistical Policy Directive 14. The poverty rate is the ratio of the number of people whose income falls below the poverty line. The poverty line is defined by income thresholds that vary by family size and composition. For more information, see the Census Bureau’s “How the Census Bureau Measures Poverty” and USDA, ERS’s “Poverty Area Measures” websites.

Figure 5
Poverty rate trends for nonmetropolitan counties, 2007-21



Note: Significant change is based on statistical significance at the 90-percent level. "Inconclusive" represents low data reliability or missing data for one or more data periods.

Source: USDA, Economic Research Service (ERS) using U.S. Department of Commerce, Bureau of the Census, Small Area Income and Poverty Estimates, 2007 to 2021 and nonmetropolitan county designations derived from the U.S. Office of Management and Budget's 2010 Standards of Delineating Metropolitan and Micropolitan Statistical Areas.

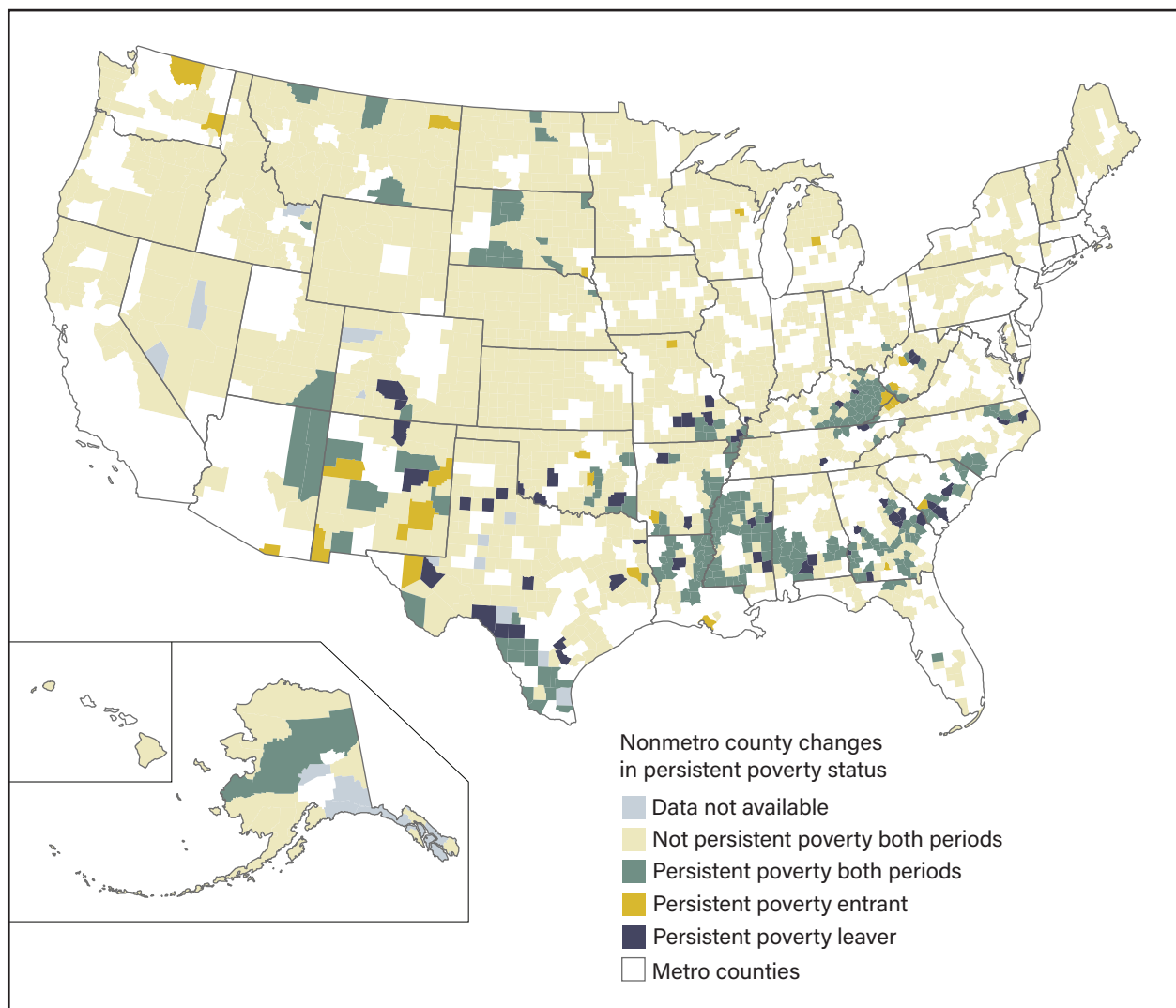
The downward trend in poverty rates for nonmetro counties resulted in a decrease in the number of persistent poverty counties as well. Persistent poverty counties for the period ending in 2007–11 are those counties with poverty rates equal to or greater than 20 percent in every decade, as measured by the 1980, 1990, and 2000 Decennial Census and 2007–11 American Community Survey (ACS) 5-year period estimates. Persistent poverty for the period ending in 2017–21⁷ includes the 1990 and 2000 Decennial Census and ACS 5-year periods 2007–11 and 2017–21. These counties represent areas where poverty conditions have persisted for 30 years or more. In the period ending in 2021, there were 318 (combined metro and nonmetro) persistent poverty counties, compared with 353 for the period ending in 2011. Overall, there were 282 counties that remained persistently poor from one period to the next, 36 counties that entered into persistent poverty

⁷ Estimates for 2020 are constructed using the 5-year period estimates published by the American Community Survey (ACS). The ACS 5-year files pool together years of the survey to release data for detailed geographies.

status, and 70 counties that left persistent poverty status. Nonmetro counties comprise 84.9 percent (270 counties) of the 318 persistently poor counties for the period ending in 2021. This number includes 244 counties that remained persistently poor since the prior period, 26 persistent poverty entrants, and 55 leavers. The nonmetro counties that entered into a persistent poverty area status are largely characterized by poverty among the resident Hispanic population, as well as re-entrants (previously left persistent poverty status and then returned) within historically poor areas such as central Appalachia.

These trends suggest that regardless of changing and often challenging macroeconomic conditions between 2007 and 2021, there was some progress toward persistent poverty reduction in nonmetro counties, including those where poverty has historically been intractable.

Figure 6
Change in nonmetropolitan county persistent poverty area status, 2007-21



Note: Change in persistent poverty status is based on the comparison of persistent poverty county status for the period ending in 2007-11 (1980, 1990, and 2000 Decennial Census and 2007-11 American Community Survey) to the period ending in 2017-21 (1990, and 2000 Decennial Census and 2007-11, and 2017-21 American Community Survey). “Data not available” represents low data reliability or missing data for one or more data periods.

Source: USDA, Economic Research Service (ERS) using USDA, ERS’s Poverty Area Measures data product and nonmetropolitan county designations derived from the U.S. Office of Management and Budget’s 2010 Standards for Delineating Metropolitan and Micropolitan Statistical Areas.



Housing Insecurity Risk Is Greater for Some Rural Household Groups

Housing insecurity is an umbrella term that refers to housing-related problems that contribute to shelter instability, poverty, and health concerns for individuals and families. This insecurity may include high housing costs relative to income, poor housing quality and housing shortages, overcrowding, lack of safety in the home and neighborhood, and homelessness. The threat of housing insecurity is particularly high for rural households with low income and historically underserved racial/ethnic population groups.

Housing cost as a percentage of household income is one of the most commonly used measures of housing affordability. A household is considered to be cost-burdened if that cost percentage exceeds 30 percent and severely cost-burdened if it exceeds 50 percent. Severe housing cost-burden is a high-risk indicator of shelter instability. Housing units characterized by substandard housing (lacks full kitchen or plumbing facilities) and overcrowding (more than one person per room) are associated with greater health and safety risks for residents than units without these characteristics. Renter households in the lowest income categories disproportionately experience these risks.

Over the 5-year period ending in 2019, more than half of extreme low-income (less than or equal to 30 percent of the U.S. Department of Housing and Urban Development's [HUD] area median family income [HAMFI]) nonmetro renter occupied households experienced one or more of four housing unit problems (severe housing cost burden, lack of full kitchen facilities, lack of full plumbing facilities, or overcrowding). The percentage shares were lower for all other nonmetro renter income groups and all nonmetro owner income groups that experienced one or more of these problems.

Figure 7

Compared with homeowners, low-income renters in nonmetropolitan areas are more likely to experience severe housing problems



Note: Income categories are based on U.S. Department of Housing and Urban Development's (HUD) area median family income (HAMFI). Extreme low income is ≤ 30 percent of HAMFI, very low income is 30.1 to 50 percent of HAMFI, low income is 50.1 to 80 percent of HAMFI, moderate income is 80.1 to 100 percent of HAMFI, and higher income is > 100 percent of HAMFI. Severe housing unit problems are defined by the household experience of one or more of four problems: lacking complete kitchen facilities, lacking complete plumbing facilities, overcrowding (more than 1 person per room), or severe housing cost burden (monthly housing cost as a percent of household income exceeds 50 percent). Nonmetropolitan area status is based on U.S. Office of Management and Budget's 2010 Standards for Delineating Metropolitan and Micropolitan Statistical Areas.

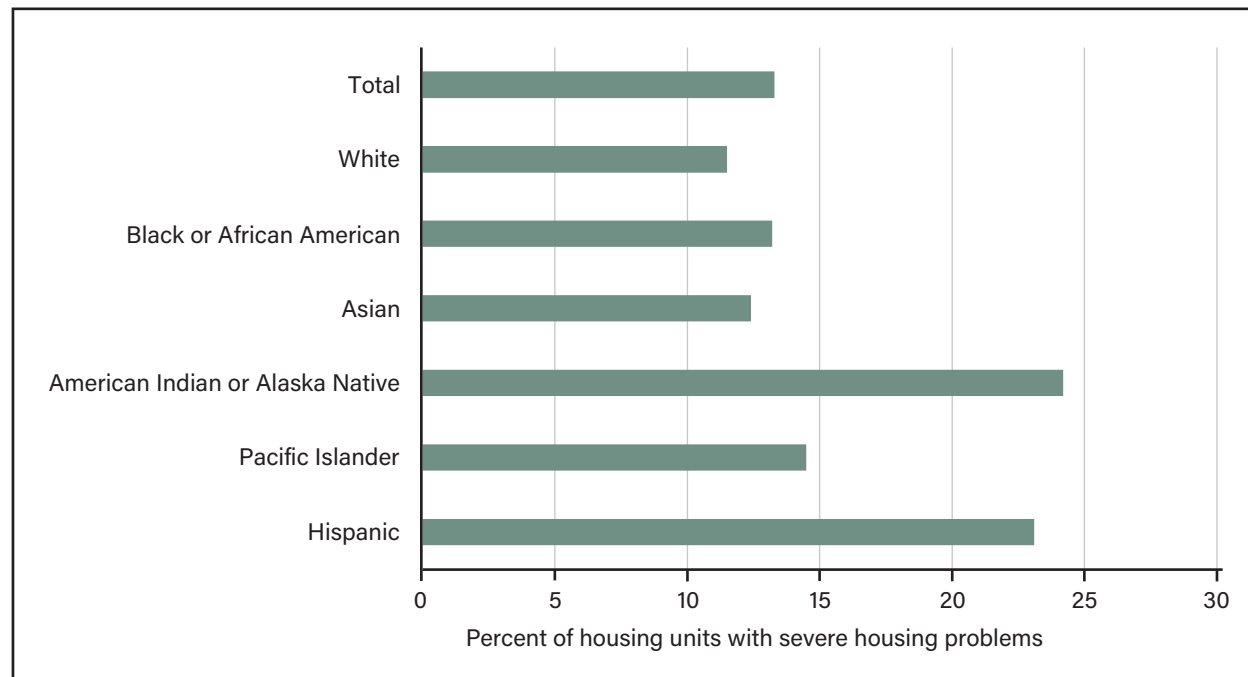
Source: USDA, Economic Research Service using data from HUD's Comprehensive Housing Affordability Strategy (CHAS) data, 2015-19.

Over the 5-year period ending in 2019, the share of housing units with severe housing problems for all other racial groups was about 10 percentage points lower than it was for the American Indian or Alaska Native (24.2 percent) and Hispanic (23.1 percent) groups. An understanding of these and other differences in housing insecurity risks can help inform efforts to ensure that affordable, stable, and livable housing is available to all people regardless of tenancy, income level, and racial/ethnic identity.



Figure 8

Severe housing unit problems by race and ethnicity, total renters and owners, all income levels in nonmetropolitan areas over the 2015-19 period



Note: All race categories are single race (alone), non-Hispanic; the Hispanic category includes any race. Severe housing unit problems are defined by the household experience of one or more of four problems: lacking complete kitchen facilities, lacking complete plumbing facilities, overcrowding (more than 1 person per room), or severe housing cost burden (monthly housing cost as a percent of household income exceeds 50 percent). Nonmetropolitan area status is based on U.S. Office of Management and Budget's 2010 Standards for Delineating Metropolitan and Micropolitan Statistical Areas.

Source: USDA, Economic Research Service using data from the U.S. Department of Housing and Urban Development's Comprehensive Housing Affordability Strategy (CHAS) data, 2015-19.

Nonmetro Employment Resumed Slow Growth and Unemployment Rates Reached Record Lows in 2022

The total number of rural residents employed had not yet recovered to prepandemic levels by early 2023. Rural employment decreased 10 percent (from 20.2 million to 18.3 million employed) from the first to the second quarter of 2020, as stay-at-home orders were put in place across much of the Nation in response to the COVID-19 outbreak. Employment increased quickly in the third and fourth quarters of 2020 as stay-at-home orders were lifted, but employment remained 3 percent below the prepandemic levels of 2019 in rural areas. Following the rapid gains in late 2020, rural employment growth slowed to an annual rate of 1.4 percent in 2021 and 0.5 percent in 2022. As of the second quarter of 2023, rural employment stood at 20.2 million people, 1 percent below the prepandemic (fourth quarter, 2019) level of 20.4 million.

Figure 9

Quarterly employment change in metropolitan and nonmetropolitan counties: first quarter 2019 to second quarter 2023



Q1 = first quarter; Q2 = second quarter; Q3 = third quarter; Q4 = fourth quarter.

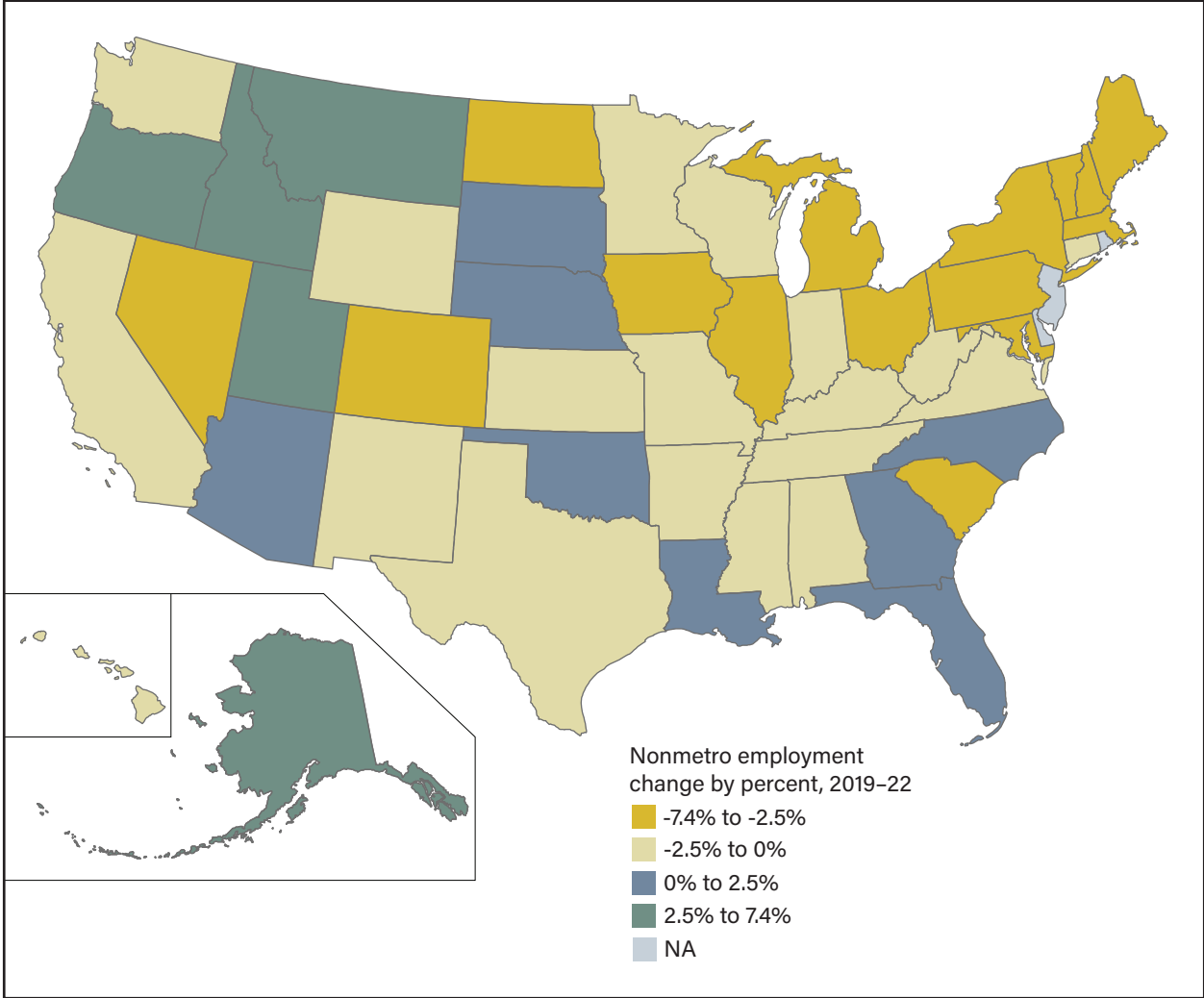
Note: Metropolitan and nonmetropolitan designations are based on the 2013 definition of metropolitan counties as determined by the U.S. Office of Management and Budget. Data are seasonally adjusted.

Source: USDA, Economic Research Service using data from the U.S. Department of Labor, Bureau of Labor Statistics, Local Area Unemployment Statistics program (August 2, 2023, release).

The impact of the pandemic on unemployment rates affected people in rural and urban areas differently and varied by educational attainment levels. Unemployment rates were slightly higher in rural areas (4.1 percent) than urban areas (3.6 percent) before the pandemic. However, that pattern reversed during the pandemic when unemployment rates increased to 13.3 percent in urban areas and 11.3 percent in rural areas in the second quarter of 2020. Unemployment rates remained higher in urban areas throughout 2020 and 2021 as the economy recovered. Urban workers ages 25 to 64 with less than a bachelor’s degree were particularly affected, as their unemployment rates remained 2.6 percentage points higher in 2021 than the rates were before the pandemic in 2019. In rural areas, the unemployment rate for workers with less than a bachelor’s degree remained 1.2 percentage points higher in 2021 than in 2019. The unemployment rate for urban workers with a bachelor’s degree or higher also remained 1.2 percentage points higher in 2021, while the rate for rural workers with a bachelor’s degree or higher was only 0.7 percentage points higher. The urban unemployment rate dropped below the rural rate once again in the second quarter of 2022. However, at 3.8 percent or less throughout 2022 and early 2023, rural unemployment rates remained at their lowest point since before 1990.

The slow employment growth rate (0.5 percent) in rural areas in 2022 was similar to the rural growth rates in the years between the Great Recession of 2008 and the COVID-19 pandemic. From 2010 to 2019, the annual average employment growth rate in rural areas was only 0.4 percent compared with 1.6 percent in urban areas. In fact, employment growth during this period was sufficiently low that, by 2019, rural total employment had still not fully recovered from the Great Recession. Overall, by 2023, the rural economy had mostly recovered from the COVID-19 pandemic and resumed the familiar employment growth rates from the 2010s.

Figure 10
Nonmetropolitan employment percent change by State, 2019–22



Note: Metropolitan and nonmetropolitan designations are based on the 2013 definition of metropolitan counties as determined by the U.S. Office of Management and Budget. Delaware, New Jersey, Rhode Island, and Washington, DC have no nonmetropolitan counties and are therefore omitted from the analysis.

Source: USDA, Economic Research Service using data from the U.S. Department of Labor, Bureau of Labor Statistics, Local Area Unemployment Statistics program (May 3, 2023, release).

Employment levels for rural areas of the United States had nearly returned to prepandemic levels by the beginning of 2023, but the rural recovery varied regionally. The rural portion of Idaho had the largest increase in employment from 2019 to 2023, with an increase of 7.3 percent, while employment levels in the rural portions of Maryland and Illinois decreased by more than 5 percent. Four of the 5 States with the highest rural employment growth (Idaho, Utah, Montana, and Oregon) were also in the top 10 States with the most prime-working-age rural population growth during the period. The other State in the top five in employment growth, Alaska, had the largest decrease in rural unemployment rates during the period.

Clean Energy Jobs Are 1 Percent of Rural Employment

Recent Federal legislation (most notably the Inflation Reduction Act of 2022) provides funding and tax benefits to promote the development and expansion of a domestic clean energy industry within the United States. Before this legislation, however, clean energy had already grown into a large industry, creating millions of jobs and comprising about 40 percent of all energy jobs (U.S. Department of Energy, 2022). This section analyzes the prevalence of these jobs in rural America.

This report uses the definition of net-zero aligned jobs (referred to here as “clean energy jobs”) from the U.S. Department of Energy’s U.S. Energy and Employment Report (USEER). This definition includes jobs in “renewable energy; grid technologies and storage; traditional transmission and distribution; nuclear energy; a subset of energy efficiency; biofuels; and plug-in hybrid, fully electric, and hydrogen fuel cell vehicles and components.” Due to the limited availability of county-level data, however, information related to several notable industries is excluded from this report, including various aspects of energy efficiency, geothermal and nuclear electricity generation, traditional transmission, distribution, and storage in renewable energy, and plug-in hybrid and fully electric vehicles. Therefore, the numbers presented in this report underestimate the total number of clean energy jobs in rural America, including data only on renewable energy, biofuels, and select efficiency and transmission and storage technologies.

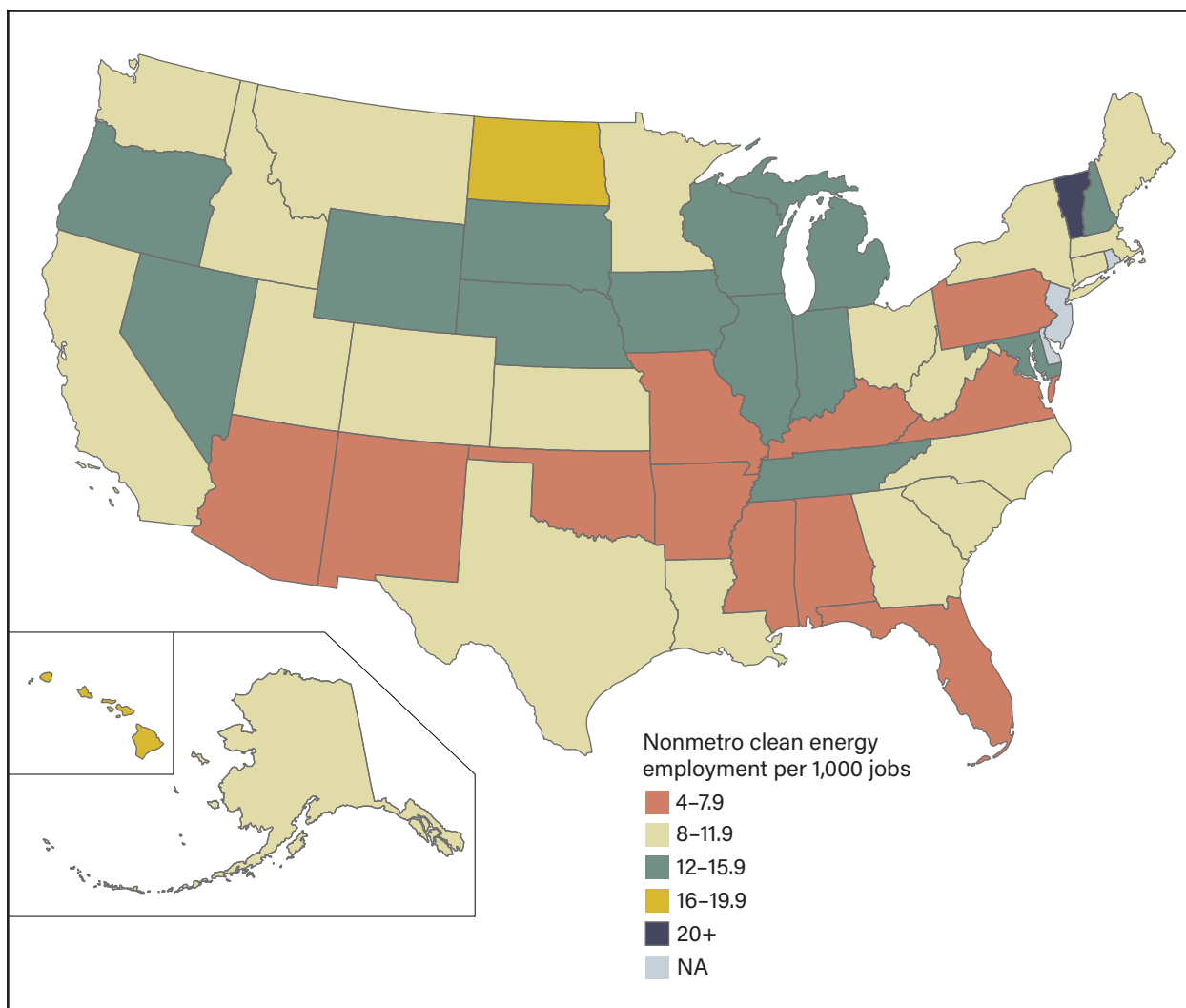


In 2021, there were more than 243,000 clean energy jobs in nonmetropolitan (nonmetro) counties.^{8,9} This number represented more than 1 percent of jobs in rural America. Clean energy jobs in rural areas were well distributed across all States and regions. The rate of rural clean energy employment reached a high of 26 jobs per 1,000 total jobs in Vermont—with Hawaii, North Dakota, Iowa, and Nevada rounding out the top 5. Conversely, Arizona has the lowest rate of clean energy employment in rural counties, with less than 5 jobs per 1,000 total jobs—followed by Arkansas, New Mexico, Virginia, and Mississippi. Considering the number of jobs rather than the employment rate, Texas led all States with more than 15,000 clean energy jobs in nonmetropolitan counties.

⁸ USEER reports “<10” jobs in counties when applicable. The U.S. Department of Energy aggregated nonmetropolitan jobs at the State and national level to avoid measurement error using the 2013 OMB definition of metropolitan/nonmetropolitan status based on the 2010 Census.

⁹ As discussed, the 243,000 clean energy jobs figure is an underestimate of the total number of clean energy jobs due to some omitted industries. USEER county-level data include an “Other Fuels” industry, which includes (among others) nuclear and geothermal energy. The authors estimate that there are approximately 24,000 jobs in rural America in this industry, although this category would include other energy sources that are not considered clean energy.

Figure 11
Clean energy employment per 1,000 jobs in nonmetropolitan counties, 2021



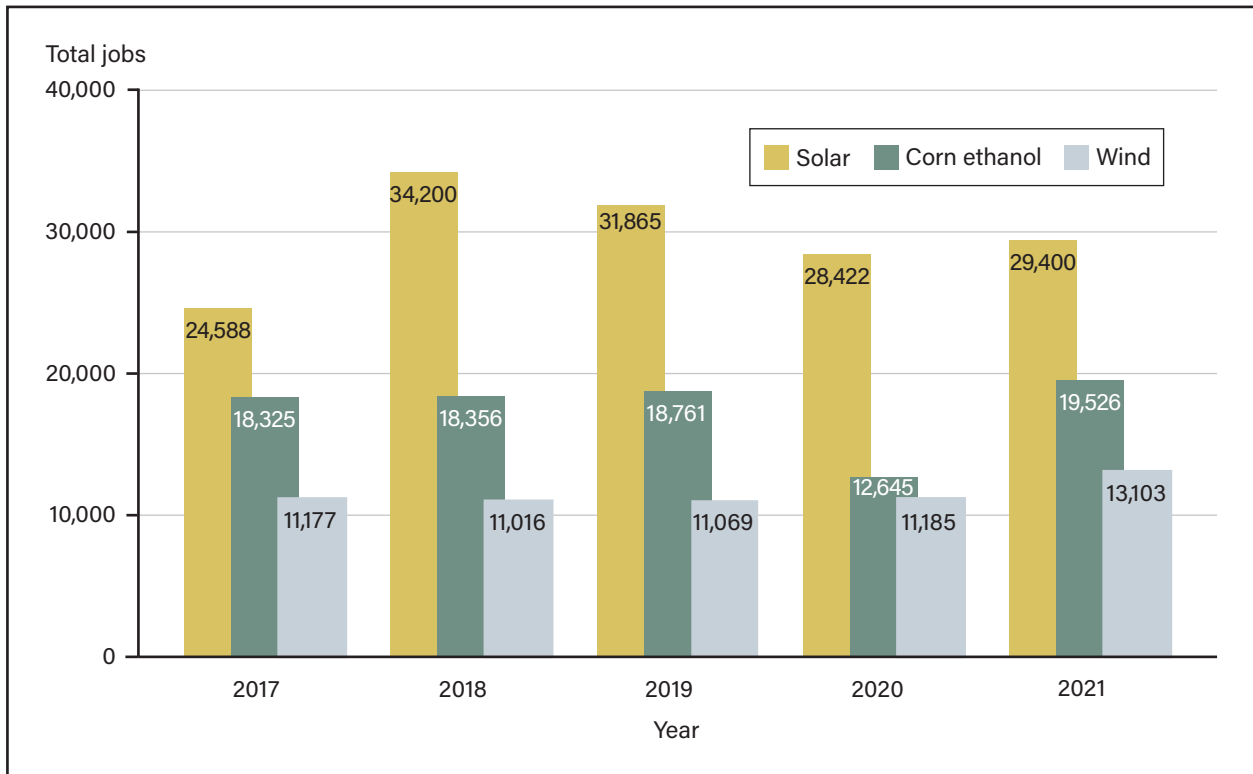
Note: Clean energy jobs include those from wind, solar, and hydroelectric electric power generation; corn ethanol, woody biomass, and other clean fuels; electricity storage; microgrid, smart grid, and other grid modifications; ENERGY STAR efficient lighting; high-efficiency heating, ventilation, and air conditioning (HVAC); and advanced insulation materials. Due to data limitations, jobs are omitted from other clean energy industries, such as geothermal, nuclear energy, traditional transportation, distribution, and storage for clean energy electric vehicles. Rural jobs are defined using the U.S. Office of Management and Budget (OMB) definitions for nonmetropolitan counties based on data from the 2010 Census. Delaware, New Jersey, Rhode Island, and Washington, DC have no nonmetropolitan counties and are therefore omitted from the analysis.

Source: USDA, Economic Research Service using data from the U.S. Department of Energy's 2022 U.S. Energy and Employment Report (USEER) and total employment information from the U.S. Department of Commerce's Bureau of Economic Analysis (BEA).

Clean energy job growth in nonmetropolitan counties differed significantly by industry. Solar jobs grew by almost 10,000 between 2017 and 2018 but declined the following year. In 2021, the solar industry had 29,400 jobs, below its peak of 34,200 in 2018 but a slight increase from 2020. Conversely, corn ethanol jobs remained relatively stable until 2020, when the industry experienced a steep decline due to the COVID-19 pandemic. However, by 2021, corn ethanol jobs rebounded and attained a 5-year high of more than 19,500 jobs. Wind energy employment experienced little change in rural areas through 2020, staying consistently near 11,000 jobs before increasing to 13,000 jobs in 2021.

Figure 12

Trends in solar, wind, and ethanol in nonmetropolitan counties, 2017-21



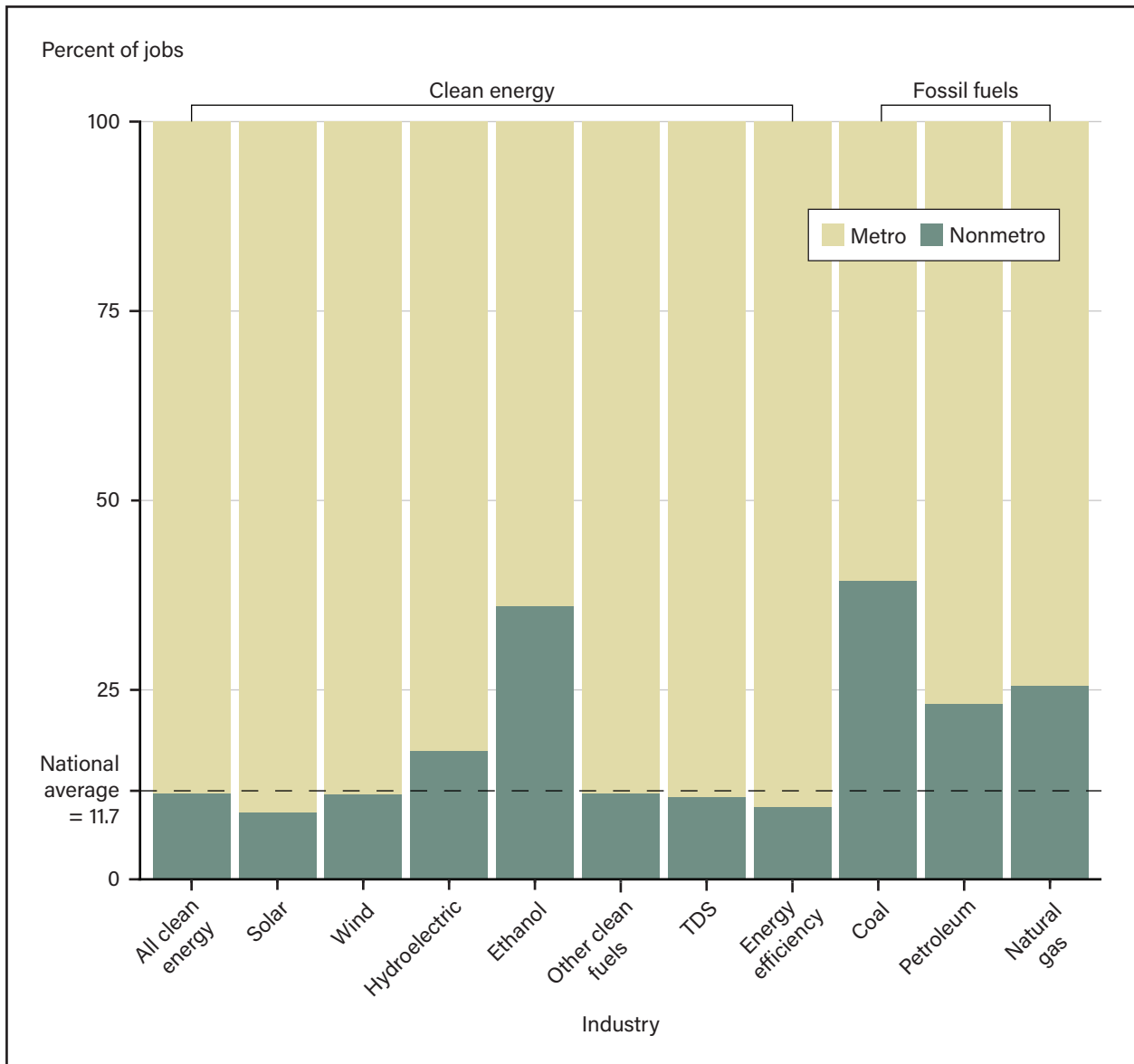
Note: Solar and wind include the total of electric power generation (EPG) jobs in all nonmetropolitan counties in each respective industry. Corn ethanol includes all jobs in nonmetropolitan counties attributed to corn ethanol fuels. Nonmetropolitan jobs are defined using the U.S. Office of Management and Budget (OMB) definitions for nonmetropolitan counties based on data from the 2010 Census.

Source: USDA, Economic Research Service using data from the 2021 and 2022 U.S. Department of Energy's U.S. Energy and Employment Report (USEER) and county-level data from the 2018, 2019, and 2020 BW Research Partnership's U.S. Energy and Employment Report.

Figure 13 shows how the share of clean energy jobs located in rural areas was similar to the rural share of total employment: 11.3 percent of all clean energy jobs in 2021 were in nonmetropolitan counties, compared with 11.7 percent of total jobs. Most clean energy industries employ a similar share of workers in rural counties. For example, 11.2 percent of wind energy jobs and 10.8 percent of transmission, distribution, and storage jobs were in nonmetro counties. The solar energy industry skews slightly more toward urban areas, with just 8.8 percent of jobs located in nonmetro counties. Two industries that skew disproportionately toward rural areas are hydroelectric power (where rural counties employed approximately 16.9 percent of the industry) and corn ethanol (where 36.1 percent of jobs were in nonmetropolitan counties).

The proportion of clean energy jobs in nonmetro counties, although aligning closely with total employment, still lagged behind the share of traditional fossil fuel extraction and generation jobs in nonmetro counties. For example, about 40 percent of coal jobs were in nonmetro counties. Similarly, rural counties employed 23 percent of petroleum fuel and 25 percent of natural gas jobs in 2021. The scale of nonmetro clean energy jobs is of a similar order of magnitude to those from traditional fossil fuel extraction for the industries included in the USEER—with more than 243,000 in clean energy jobs compared with about 239,000 jobs in coal, petroleum, and natural gas extraction and power generation.

Figure 13
Percent of energy jobs in metropolitan and nonmetropolitan counties, 2021



TDS = Transmission, distribution, and storage.

Note: The horizontal black dotted line represents the total percent of jobs in nonmetropolitan counties in 2021 (roughly 11.68 percent). Clean energy jobs include those from wind, solar, and hydroelectric electric power generation; corn ethanol, woody biomass, and other clean fuels; electricity storage; microgrid, smart grid, and other grid modifications; ENERGY STAR efficient lighting; high-efficiency heating, ventilation, and air conditioning (HVAC); and advanced insulation materials. Due to data limitations, jobs are omitted from other clean energy industries, such as geothermal, nuclear energy, traditional transportation, distribution, and storage for clean energy electric vehicles. Fossil fuel jobs include fuel extraction “fuel” jobs and electric power generation, as defined by the U.S. Department of Energy. Traditional TDS jobs (attributable to renewable and fossil fuel generation) are also excluded. Nonmetropolitan jobs are defined using the U.S. Office of Management and Budget (OMB) definitions for nonmetropolitan counties based on data from the 2010 Census.

Source: USDA, Economic Research Service using data from the U.S. Department of Energy’s 2022 U.S. Energy and Employment Report (USEER) and total employment information from the U.S. Department of Commerce’s Bureau of Economic Analysis (BEA).

Conclusion

Changes in rural America's population, poverty, and employment over the last few years reveal three main findings. First, the rural population is growing again following a decade of negative or near zero growth rates. This growth has been driven by domestic migration into rural areas. Second, rural poverty has declined over the last 15 years in most rural counties, but not all, and the declines have been modest. Housing insecurity is an issue for low-income renters, a particularly acute problem for American Indian or Alaska Native and Hispanic households. Finally, rural employment has almost fully recovered from the COVID-19 pandemic and has returned to modest annual growth rates similar to prepandemic levels. This report also found that 1 percent of nonmetropolitan employment is in clean energy jobs. Overall, recent results show positive developments in the rural economy.



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