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The Economy and Demographics of Lea County and the Larger Region: Report to the Lea County Community Improvement Corporation

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Executive Summary
THE ECONOMY AND DEMOGRAPHICS OF LEA COUNTY
AND THE LARGER REGION

This set of reports looks at economic and demographic developments in Lea County and the larger region, including the New Mexico counties of Eddy, Chaves, and Roosevelt, the adjacent Texas counties of Andrews, Colfax, Gaines, Loving, Winkler and Yoakum, and other West Texas counties encompassed by a region that extends to Lubbock on the northeast and to Midland and Odessa on the southeast. The major objective of the project was to develop a new forecast for the economy of Lea County within the context of the larger region and to “update the Census” by developing new population estimates and projections that reflect the changes occurring within the region.

Major Findings

- The population of Lea County, which was previously projected to slowly decline to below 50,000 by 2030, is now expected to exceed 73,000 in that year – a 48.8 percent increase. The population estimates for 2005 and 2006 have been increased to take account of the population recovery that has occurred since July, 2003, and that reflects an influx of economic migrants attracted to the area by high oil prices and the opening up of job opportunities in other industries, including those at the National Enrichment Facility currently under construction in Eunice. The new projections, which are supported by BBER’s forecast of employment growth, assume continued in-migration. The influx of economic migrants who are predominantly in their peak reproductive and productive years will have a continued residual effect on the population of Lea County during the next 20 years.
- While the resurgence of oil and gas has accounted for a substantial proportion of the new job and income growth in Lea County over the past few years, there is some basis for optimism that the economy will continue to expand, albeit at a moderate rate, and that the bust scenario will be largely averted or at least mitigated as a result of increased diversification of the economy. First, global energy markets are such today that the price of oil is likely to remain high – at or near \$70 per barrel in nominal terms – for the foreseeable future. Such a price should be conducive to continued exploration, drilling and oil well enhancement activities in the rich deposits of the Permian Basin. Second, there are new sources of job creation. Significantly, the region has a new future in energy, a future based less on fossil fuel technologies that create problems of green-house gases and more on energy alternatives, particularly nuclear. The National Enrichment Facility (NEF) is a cornerstone of this new strategy but there are other developments, like the construction of a 550-Megawatt Combined-Cycle Generating Plant outside Hobbs and the high levels of interest that the region has attracted, for example, as a site for facilities of the Global Nuclear Energy

Partnership (GNEP), and for FutureGen, which would be the world's first coal-fueled, near-zero emissions power plant.

- Respondents to BBER's survey of employers in Lea County conducted last winter identified at least 445 currently vacant positions. The total number of vacancies that employers were seeking to fill could be as many as 2,200. Retail trade has the largest percentage share (17%) of current estimated vacancies in Lea County, with the mining industry a close second (17%), followed by leisure and hospitality and professional and business services (15%) and education, health care and social assistance (9%).
- Lea County and surrounding areas are today areas of labor shortage. The existing labor pool in Lea County is small. There is a feeling among employers that many of the people looking for work are young, fresh out of school, and lacking formal training and experience as well as commitment – that everyone who wants to work in Lea County is already working. Efforts to attract and recruit suitable workers, and particularly workers with more education, skills and experience, are seriously hampered by the lack of available housing.
- Lea County has long been the leading oil producing county in the state, but there are other industries where Lea County has a strong regional presence. In conjunction with the Mainstreet Program, BBER calculated pull factors for 2006 for major industries in the largest New Mexico municipalities in southeast New Mexico. The pull factor for each industry in a particular community is that community's taxable gross receipts from that industry per dollar of estimated income as a percent of New Mexico's taxable gross receipts from the same industry per dollar of New Mexico's estimated income. A result of more than one suggests that the community may be pulling in sales from elsewhere. Across all industries, Hobbs has the greatest total pull factor. Consistent with other evidence that Hobbs is a retail center for the larger region, which includes the rural counties of West Texas, the pull factor for retail trade is by far the largest among those for the communities included in the analysis. Only Artesia comes close. Not surprisingly, Hobbs also leads in terms of mining. Other industries in which Hobbs would appear to have a comparative advantage are manufacturing real estate, rental and leasing, health care and social assistance, accommodation and food service, and other services. One has to be careful in interpreting the data. For example, exports of goods are not taxed because of the Interstate Commerce Clause. In some cases, the Hobbs advantage may simply reflect the relatively small population served that actually lives within the City of Hobbs limits versus the surrounding area – less than 29,000 according to the 2000 Census versus more than 45,000 in Roswell.

Project Summary

After decades of at best sluggish growth, Lea County and other areas within the larger region are once again experiencing an energy boom. Ironically, this boom, occasioned by soaring oil prices, comes just as many communities in the region were pursuing an alternative economic vision of an "Energy Corridor", based not solely on fossil fuels but on nuclear energy and on alternative energy technologies that generate less green-house gases.

The region has experience with nuclear projects. The Waste Isolation Project near Carlsbad began receiving nuclear waste shipments in 1999. This project has spawned other investments in the area, including investments by the Washington Group International Engineered Products Department, which makes the TRUPACT II containers used to transport waste to WIPP. WIPP, which is one cornerstone of the energy corridor, recently received the necessary permits to receive and dispose of remote-handled (RH) transuranic (TRU) radioactive waste currently stored at DOE clean-up sites across the country. There is talk about, if no firm plans for, a WIPP 2. Another cornerstone is the National Enrichment Facility (NEF) currently under construction on the Texas border just east of Eunice in Lea County by Louisiana Energy Services (LES), a division of URENCO. The \$1.5 billion NEF facility will take years to complete but should be operational by 2013. Back in 2005, LES and the nuclear energy services company AREVA signed a Memorandum of Understanding that could lead to a second major project, the construction of a private uranium hexafluoride deconversion plant in the region to support the NEF. Another project is the 550-megawatt combined-cycle generating plant under construction west of Hobbs. The project is being developed by Lea Power Partners under a contract with Xcel Energy, which will purchase power from the plant for 25 years. The project will supplement existing capacity, using approximately 10 percent of the water required by a traditional power generating station and able to convert natural gas to electric power efficiently and with fewer emissions. It will serve a market which has been growing at a rate of 8% per year. A much larger but more speculative development would be facilities for the Global Nuclear Energy Partnership (GNEP), which could have a permanent workforce of close to 5,000. The Eddy-Lea Energy Alliance received Department of Energy funding to develop a proposal to site GNEP facilities in Lea County midway between Hobbs and Carlsbad, and there is another site in the region, this one closer to Roswell, that is a contender for GNEP. Across the border, a High Temperature Teaching and Test Reactor Facility (HT3R) is under discussion by UT-Permian Basin to be sited in Andrews County, while a team from Odessa made the initial cut for a site for a FutureGen project. FutureGen is a public-private partnership to design, build, and operate the world's first coal-fueled, near-zero emissions power plant to prove the technical and economic feasibility of producing low-cost electricity and hydrogen from coal while nearly eliminating emissions. A bio-diesel plant based on cotton seed is planned for Seminole right across the border from Hobbs. Also under discussion are facilities to tap the geo-thermal potential of the area.

Meanwhile, with oil prices above \$70 per barrel, Lea County, which sits on some of the richest oil deposits within the Permian Basin, is seeing tremendous investment in exploration and drilling and oil well enhancement. Private sector wage and salary employment in the county grew by more than 6% in 2006, and growth might be at a faster clip except for a labor shortage throughout the region. BBER's survey of Lea County employers documents the difficulties employers across different industries are having in meeting their labor needs. The oil industry and related field services and other support industries have been pulling in relatively unskilled labor, offering higher wages and demanding substantial overtime. Annual earnings in this industry in the third quarter of 2006 were up \$8,000 from a year earlier. Employers in some other industries find it difficult to compete.

Complicating the situation has been a severe housing shortage. The region has seen booms before and those booms were each inevitably followed by a bust, by a contraction that saw people leave the area in droves, leaving behind empty houses and falling property values. The number of housing units in Lea County grew at three-tenths of 1% (0.3%) between the 1990 Census and Census 2000, with a net addition of just over 70 new housing units. The downturn in the oil and gas industry in the late 1980s, and again in the mid-1990s, led to mass out-migration of workers and their families. Migration estimates based on the residence of individuals five years prior to the Census 2000 indicated a yearly loss of over 800 people between 1995 and 2000. The City of Hobbs lost approximately 815 housing units over the decade of the 1990's, experiencing a net reduction of 317 in the housing stock. Typical of sending or out-migration areas, the overall vacancy rate in Lea County in 2000 was high: over 3,700 units, or about 15% of the County's housing stock, were vacant.

Such experiences seem to have created a timidity uncommon among developers, engendering a preference to build small scale, e.g., a few custom homes per year. Further discouraging investment in housing is a lack of readily developable land served by existing infrastructure. Other challenges include the network of oil and gas lines and a thick layer of caliche close to the surface. Landowners are not always willing to make available land for development and particularly if they own mineral rights that may be worth considerably more in the future. Whatever the cause, building permit data from the City of Hobbs show only 110 units (50 single family, 50 manufactured and 10 multifamily) permitted in 2006. Given the housing slump nation-wide, it would seem that Lea County, with its fast growing labor force and future promise, would attract outside developers, but most deals by outside developers have not materialized.

The housing market may be slowly beginning to respond. City of Hobbs data indicate that so far in 2007, there have been 87 permits for single family, 63 for manufactured, and 200 for multifamily. The concern is that the response is too little, potentially too late. The NEF construction project, which has labor needs far in excess of what can be met locally, in terms of both numbers and skill requirements, has completely overhauled its plans in light of the difficulties in lining up housing for in-coming

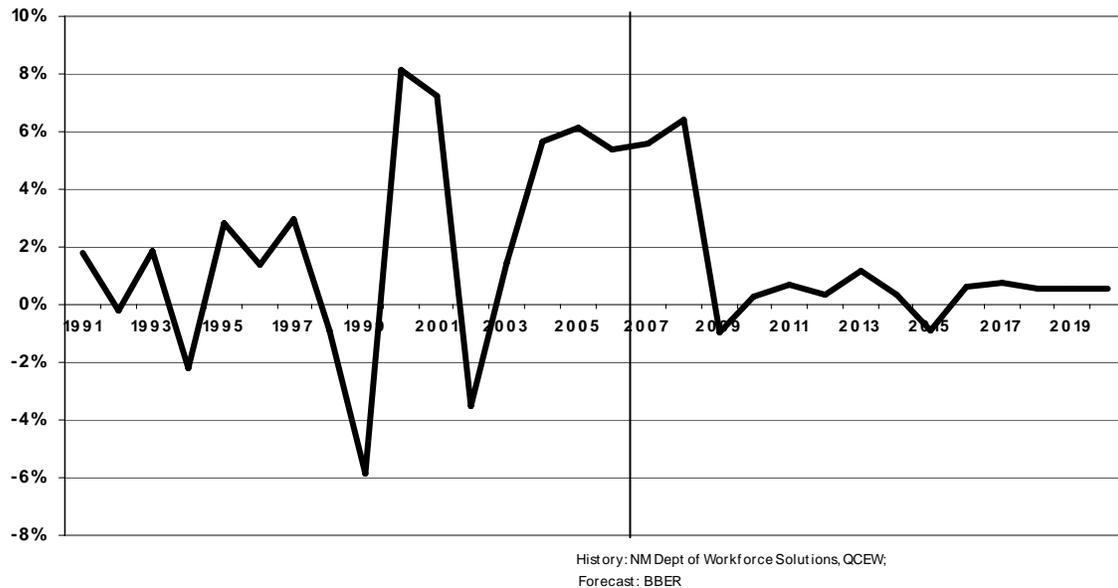
construction crews. The project will now have reduced and relatively stable construction labor requirements while the facility itself is under construction, and the construction schedule has been pushed out at least half a year. Some of the employers who responded to our surveys indicated that they were not even bothering to advertise outside the region to meet their needs for skilled labor because people hired would have such a difficult time finding housing locally.

The situation in the Lea County area today creates a number of challenges for economic forecasting. To deal with these challenges, BBER developed a multi-pronged approach to forecasting employment. First, we developed a multiple regression model to estimate actual wage and salary employment and used the model to forecast baseline employment. Second, we conducted interviews with major new players, e.g., NEF, as a basis for add-factoring to capture employment impacts during construction as well as the on-going impacts associated with operations. Third, we conducted a survey of Lea County employers that collected information on their current vacancies as well as their future plans and expected changes in labor requirements. Finally, we used a regional economic model, IMPLAN, to estimate the additional employment that would be supported by these new investments and export-oriented business expansions.

Figure PS1 charts the history of employment growth in Lea County and presents BBER's forecast. This new forecast anticipates strong growth in the near-term, with growth slowing and then settling down to average 0.5 to 0.6% in the out-years. The forecast assumes that the price of oil will remain at or near current level, but will decline in real terms. State employment growth is expected to average 1.5%, which is below historical trend, with employment growth in the region returning to the long-term trend of under 0.6%.

The 2000 Census found relatively low rates of educational attainment among the population 25 years and older in Lea County, with 32.9% lacking a high school degree, compared with 28.1% in Eddy, Chaves, and Roosevelt Counties, 21.2% in New Mexico and 19.6% in the US. Lea County compares favorably with the rural West Texas counties within the region, where 37.0% were without a high school diploma or equivalent, but in the three urban Texas counties, the figure was 24.1%. Interestingly, according to the 2000 Census, women in Lea County had higher educational attainment than men, especially among the 25 to 34 year olds where 22% of the women versus 13% of the men held a college degree.

Figure PS1. Lea County Annual Employment Growth, Actual and Forecasted



The kinds of jobs created by the oil boom in Lea County provide little incentive, particularly for young males, to continue their education when they can make as much as \$20 an hour plus overtime with minimal skills, education or experience. A commercial drivers license opens up all kinds of opportunities. Consistent with the above, enrollment at the college level has been declining in Lea County, while enrollment in workforce training courses has increased more than fourteen-fold, from 369 in SY 2003 to 5,000 trainees in SY 2006. Economic development strategies that build on the hospitality industry (e.g., gaming, food service) or Lea County's strength as a retail center bring money into the area but offer little promise of directly creating high paying jobs. Nonetheless, we know from our survey, that there are a number of businesses, including hospitals, that have higher labor-skill and education requirements than can be met locally at the present time. The NEF will offer a number of higher level operating positions, but their recruitment efforts seem to be aimed at attracting retired military with some nuclear experience. Power plants pay well and require a skilled workforce, but the number of permanent jobs created is very small. On the other hand, if the strategy of creating an energy corridor is successful and expands beyond the facilities in existence or under construction today, the educational requirements for the workforce directly and indirectly supported in the region would in all likelihood increase. On a much smaller scale, this seems to be happening in Eddy County as a result of WIPP, although to date the additional job creation has been relatively limited. We have not modeled the job creation under the full "energy corridor" scenario sketched out above; nor have we attempted to model the dynamic impacts associated with activities which might be attracted to the area by NES and related facilities.

Forecasting earnings growth is virtually impossible in the current labor market. The housing shortage makes it difficult to bring in skilled labor, while the labor shortage has resulted both in wage increases and in substantial, but un-estimated, use of overtime. The need for overtime should be reduced as the housing situation is addressed and as in-migration increases the supply of labor, but it would be extremely difficult to model the resultant future path of earnings. With strong earnings growth, per capita income in Lea County has caught up with New Mexico and is now about 80% of the US average. Further gains are possible, although parity with the US, such as was achieved, indeed exceeded, around 1980, is unlikely. A comparison with Eddy County is perhaps appropriate here. In 2005, Eddy County per capita income was almost \$1,500 higher than that for Lea County, with dividends, interest and rent accounting for \$640 of the difference. Average annual wages in Eddy County exceeded those for Lea County by \$2,465. In 1998 and before WIPP opened, average annual wages in Eddy County were higher than those in Lea County, but the difference was about \$400.

According to the Decennial Census counts, the population in Lea County grew at an annual rate of 1.2% during the decade of the 1970's but declined slightly over each decade thereafter. The Census Bureau estimates indicate a net population increase for Lea County of 1,801 from April 1, 2000 to July 1, 2006. By contrast, for the same period, BBER latest estimates indicate a net gain of 2,664, with the population recovery beginning in 2003.

BBER uses a bottom up approach and a housing unit method of population estimation. This procedure updates the Census 2000 housing stock with the new building permits which have been address-matched using a Geographic Information System (GIS) software. To these housing units are typically applied the most recent Census occupancy rate and an average household size that has been adjusted using a rate of change calculated from the 1990 and 2000 Censuses on household population. The particular circumstances in Lea County necessitated some modification to this methodology.

The annual percent change in the Lea County population between April 1, 2000 and July 1, 2003 did not exceed two-tenths of a percent. However, in 2003, the oil price began its ascent, turning the economy of Lea County around and attracting economic migrants. Unfortunately, as noted above, the housing market has been relative unresponsive, with very few new units being added to the existing stock. Many in-migrants, unable to rent or buy a home in Lea County, end up housed in trailer parks and hotel rooms. A few have found housing in Gaines or Andrews Counties. After a site visit to Hobbs, BBER staff adjusted the Census 2000 occupancy rates for the Hobbs (Census Tracts 1 to 7) and Eunice areas (Census Tracts 8) upwards starting with the July 1, 2004 estimate to reflect the influx of workers to the oil fields and, more recently, to the NEF facility currently under construction.

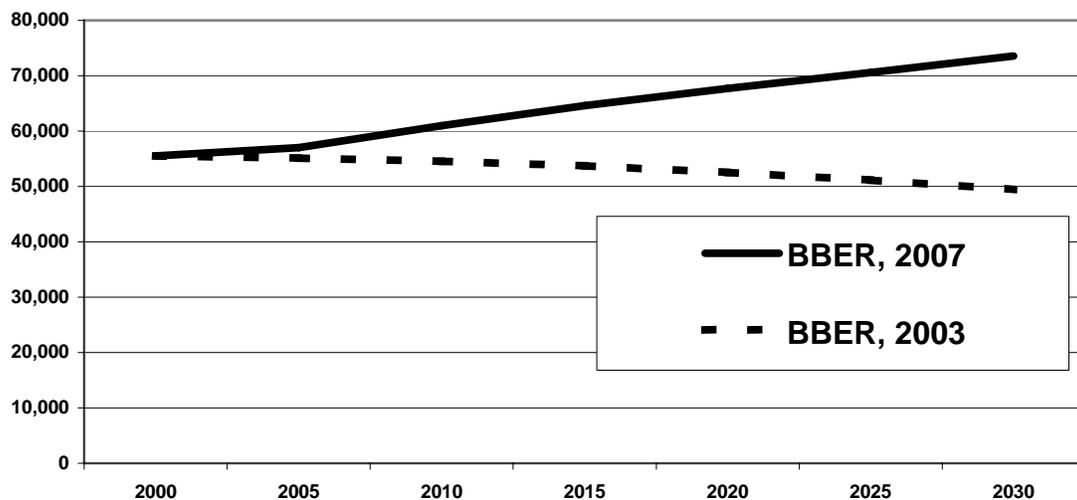
The population recovery in Lea County since 2003 has been geographically uneven, with much of the population growth occurring outside municipal boundaries. This

pattern is most evident in Hobbs, with Census Tract 7, which is outside the City limits, accounting for 38% of the growth in Lea County between 2000 and 2005. The predominance of Minorities, most of whom are Hispanics or Latinos, among the births and in the public school enrollment foretells a change in the racial/ethnic composition of Lea County's population, from an Anglo to a Minority majority population.

In 2002-03, BBER had prepared population projections for all New Mexico counties. The new projection is based on migration trends from 1990 to 2005, which indicated a reversal of the negative net migration that has been the pattern in Lea County since the early-1990s. The annual average number of migrants estimated from several sources was estimated at approximately 200 people. This number was held constant throughout the projection period. Once these individuals are included in the model, they are then subjected to the same fertility and mortality schedules as the county resident population. Under this migration assumption, Lea County will grow from approximately 55,500 people in 2000 to 73,500 by the year 2030. Under this most-likely scenario, Lea County's population will increase by as many as 18,000 people, or by 33%, over 30 years. Should Lea County population grow according to this scenario, the County is likely to outpace both Chaves County and Eddy County. The growth also exceeds that projected for the adjacent rural counties in West Texas. The influx of economic migrants who are predominantly in their peak reproductive and productive years will have a continued residual effect on the population of Lea County during the next 20 years.

Figure 2PS presents both the new 5-year BBER projections for Lea County and BBER's earlier projections. The contrast is striking.

Figure 2PS. Revised Population Projections, Lea County, July 1, 2005 to 2030



BBER also prepared population projections for a high growth scenario based on the assumption that the number of migrants not associated with the construction industry

will continue to increase through the year 2013, when the uranium enrichment plant becomes fully operational. Starting in the year 2013, the number of migrants is expected to decrease to a yearly average of approximately 300 people. Under this scenario, Lea County is projected to increase its July 1, 2000 population by 45%, or by an additional 24,800 people, over 30 years. The high level of migration assumption in the high series is unprecedented and not sustainable without major residential development, a restructuring of the economy to accommodate large numbers of retirees, and sustained recruitment of young adult workers. Nationally, declining fertility combined with very restrictive immigration laws will result in fewer numbers of young adults entering the labor force, so Lea County would have to restructure its economy to successfully compete for these workers in the future. A very rapidly growing population as implied by the high projection series will also need to be retirement friendly to attract the baby boom and boomlet retirees. Viewed in this context, the high scenario is unlikely.