GEOGRAPHIC UNITS USED FOR SOCIOECONOMIC IMPACT ANALYSIS IN THE GULF OF MEXICO REGION

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Research Questions

1) Do the geographic units being used by BOEMRE for planning purposes obscure or distort the potential socioeconomic impacts from offshore oil and gas activity in some of the regions or counties included in the geographic unit?

2) Are there alternative units or approaches that will reduce or avoid such problems?

Geographic Units:

- The 132-county area identified as the potential affected area for federal offshore activities on the Gulf of Mexico is organized into

- 13 Economic Areas (EA) and subdivided further into
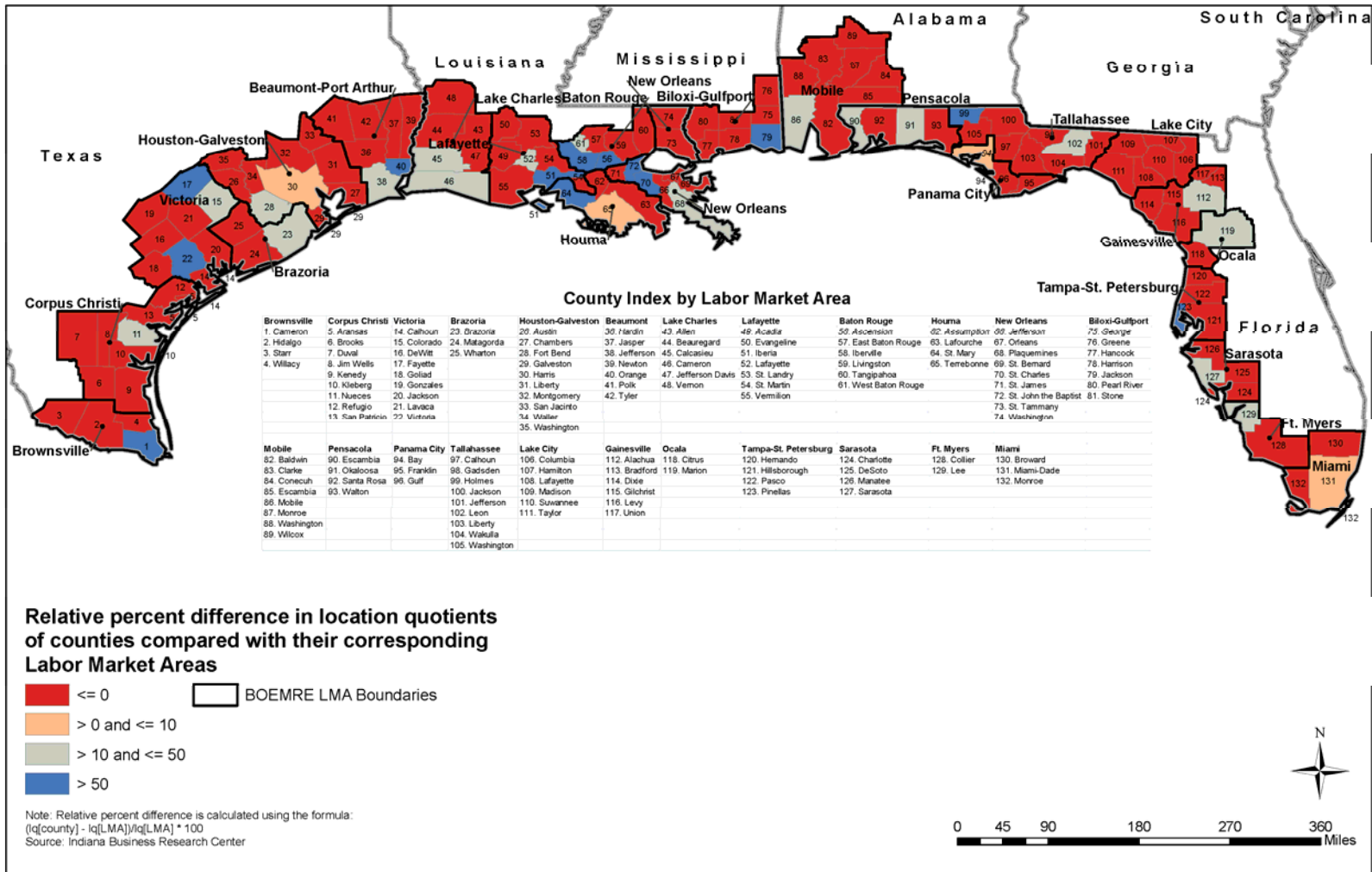
- 23 Labor Market Areas (LMA).

From the tip of Florida to the Texas/Mexico border through five states

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Data

- Industrial Clusters (17) from IBRC supported by EDA

- NAICS Employment data via WholeData 2001 to 2008 for oil and gas and associated categories, as well as Travel/Recreation
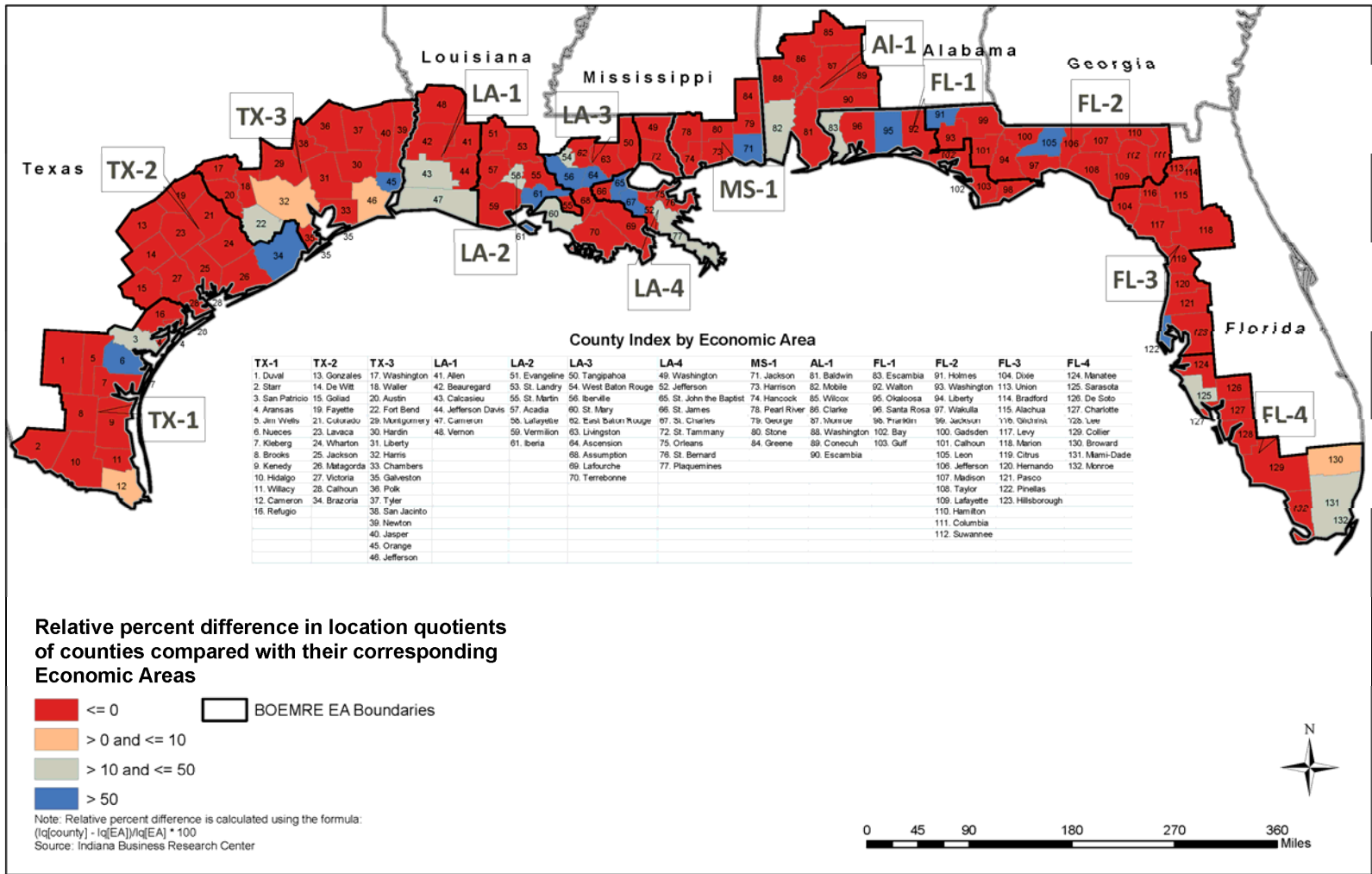
Relative percent difference in location quotients of counties and Economic Areas (2008 energy sector employment)

Relative percent difference in location quotients of counties and Labor Market Areas (2008 energy sector employment)

Some Findings:

- Numerous instances of **values calculated for 13 Economic Areas (EAs) obscuring or distorting dimensions of the cluster or industry observable at the level of the 23 Labor Market Areas or 132 counties.**

Categories of Distortion:

- **"Cancelling Out" Some EAs/LMAs are composed of counties that are very different with very different proportions of oil and gas activity that EA-level measures tend to "cancel out."** EGs. TX-1: Corpus Christi/Brownsville, LA-3 Baton Rouge/Houma

- **"Numerical Dominance" Some EAs/LMAs include counties that are so large relative to the others that even extreme concentrations or changes in smaller counties do not influence the unit totals.** TX-3: Houston/Galveston, LA-1 Lake Charles (travel & recreation).

Categories of Distortion - cont.

- **"Meaningless Averages" Some counties in units are so different in relative importance and concentration that the average for the EA or LMA does not represent any of the members.** LA-4 New Orleans
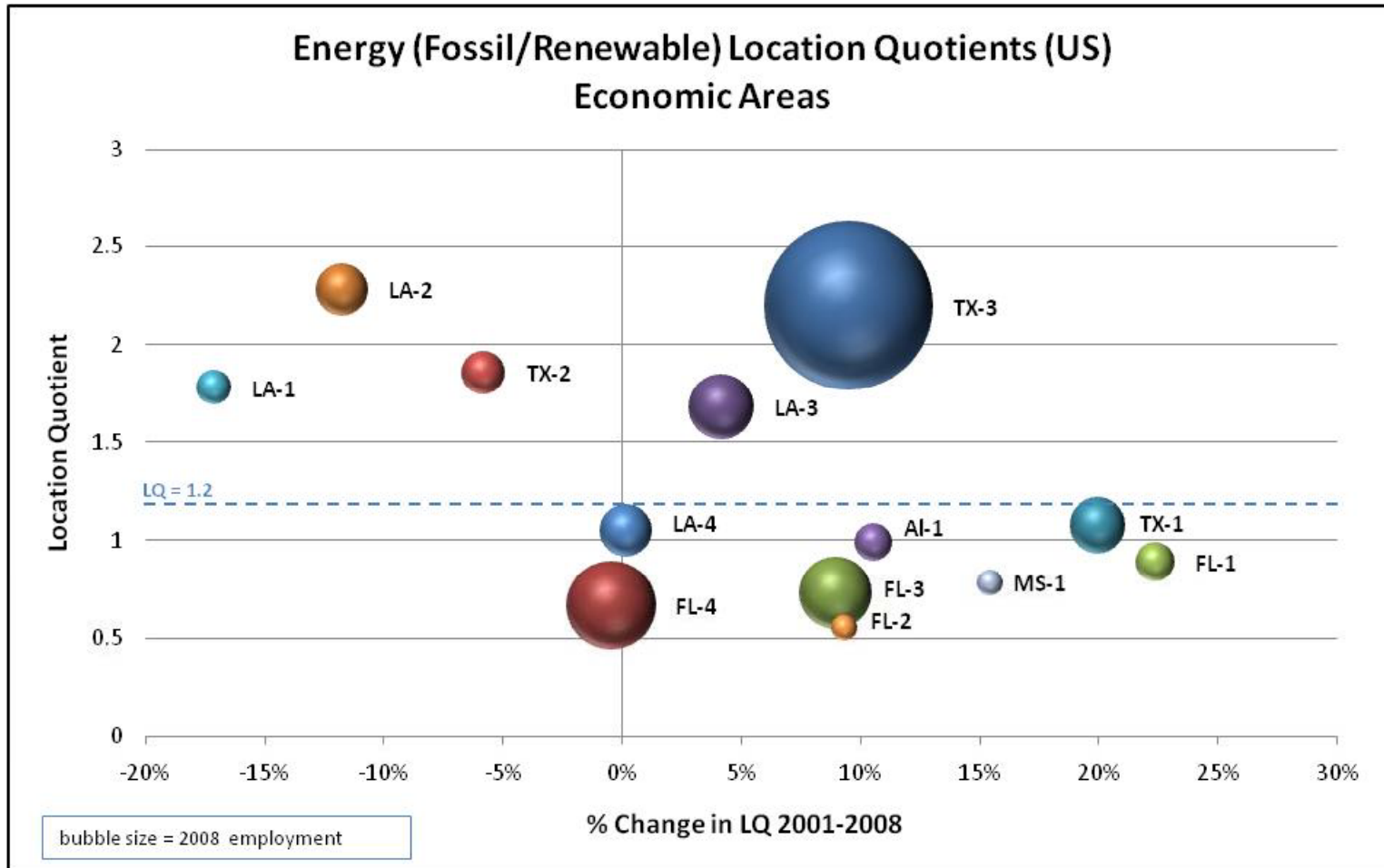
Data source: IBRC

Economic Areas—Energy (Fossil/Renewable)

Energy & Fossil Fuel Location Quotients (US) Labor Market Areas
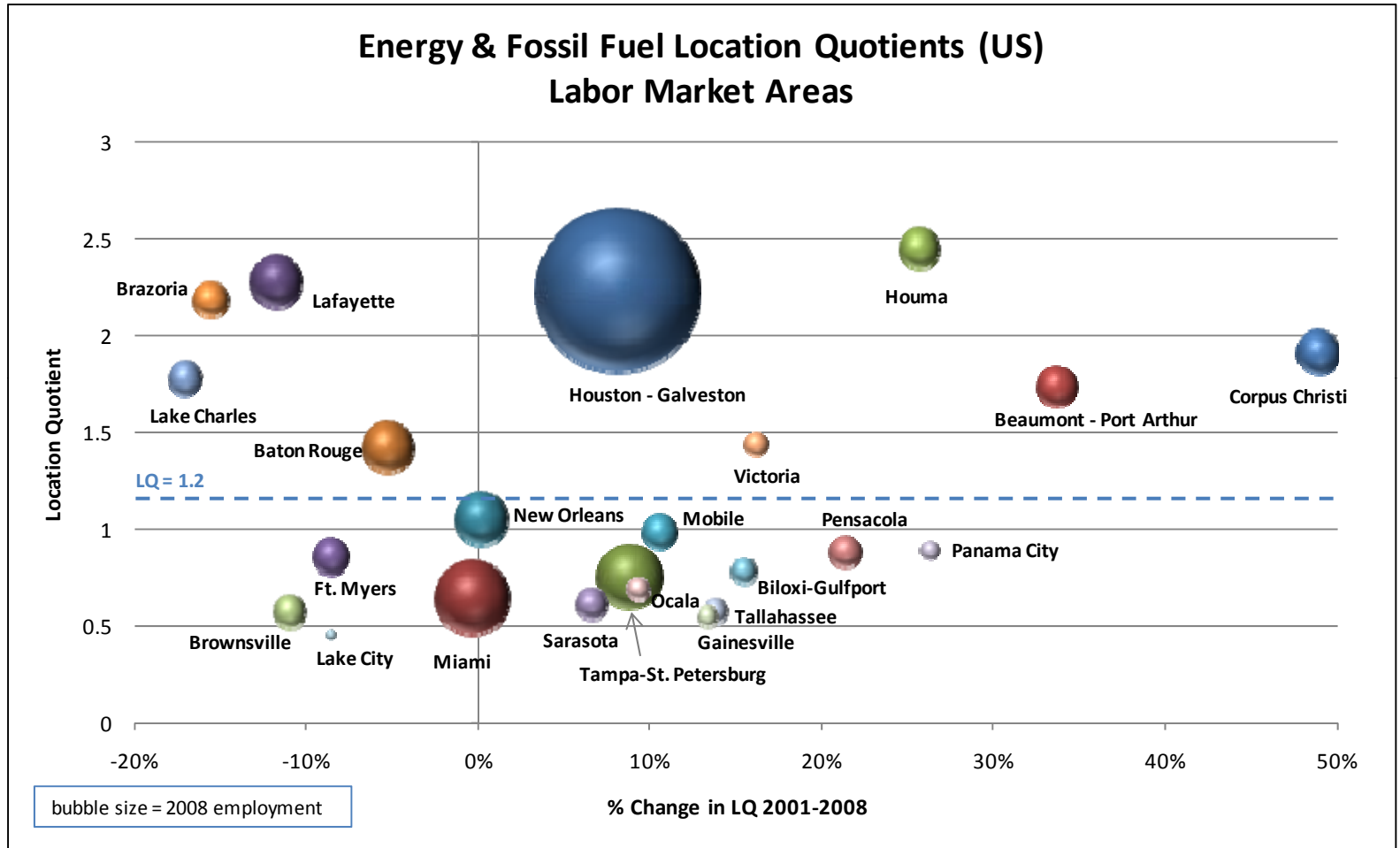
Labor Market Areas—Energy (Fossil/Renewable)

Oil and Gas Extraction Location Quotients
Economic Areas
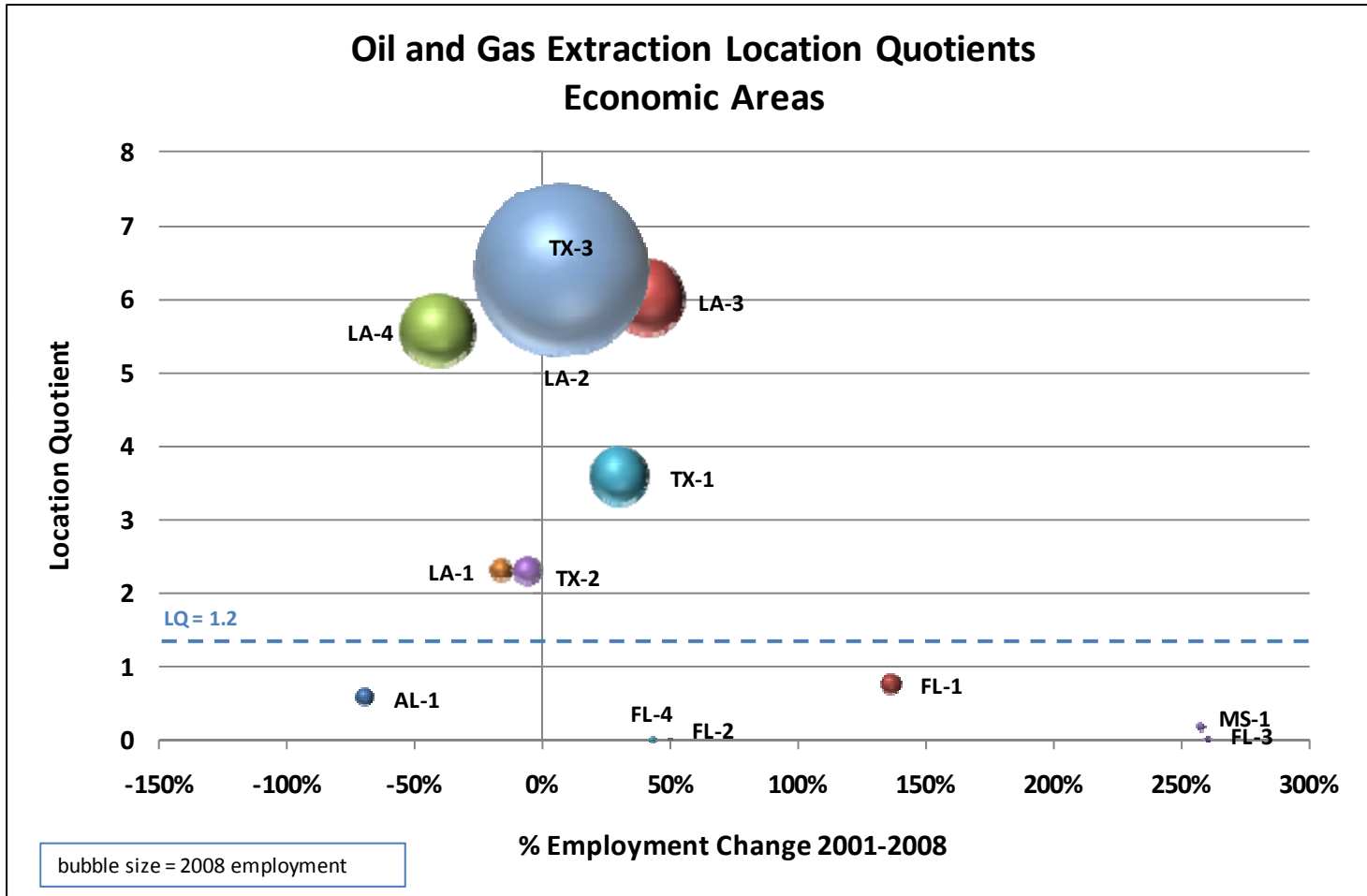
Data source: WholeData, 2008 County Business Patterns

Economic Areas—Oil & Gas Extraction (NAICS 211)

Labor Market Areas—Oil & Gas Extraction (NAICS 211)

Economic Areas—Drilling Oil & Gas Wells (NAICS 213111)

Drilling Oil and Gas Wells Location Quotients
Labor Market Areas

Location Quotient (y-axis)

- 23
- 18 — Houma
- Corpus Christi
- 13 — Lafayette
- LMAs w/ empl. < 25:
  - **Mobile, AL**
  - **Biloxi-Gulfport, MS**
  - **all Florida LMAs**
- 8
- Houston-Galveston
- 3
- LQ = 1.2
- Brazoria
- Victoria — Lake Charles — Baton Rouge — Beaumont-Port Arthur
- Brownsville
- New Orleans
- -2

% Employment Change 2001-2008 (x-axis): -200%, -100%, 0%, 100%, 200%, 300%, 400%, 500%, 600%, 700%

bubble size = 2008 employment
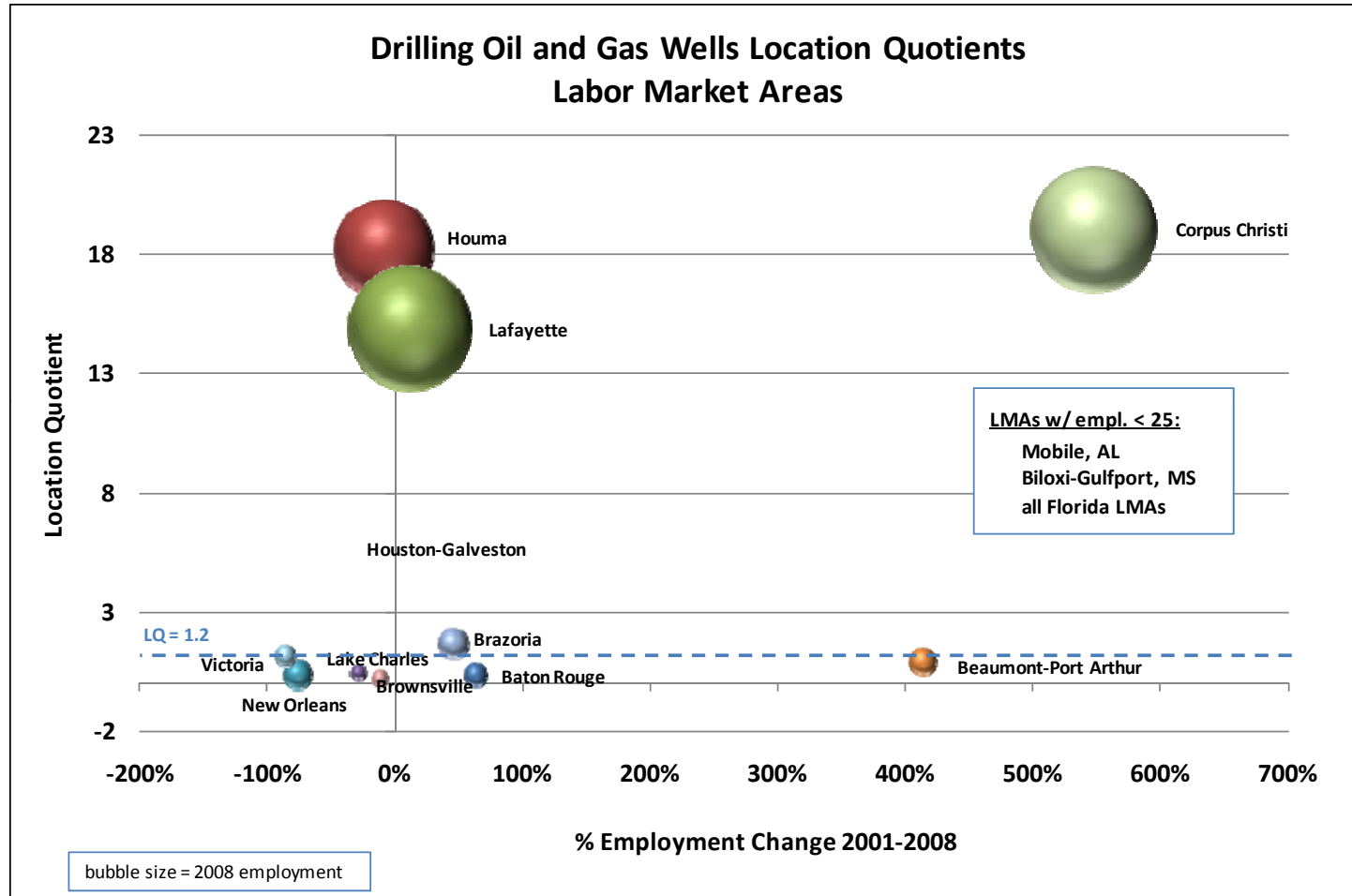
Data source: WholeData, 2008 County Business Patterns

Labor Market Areas—Drilling Oil & Gas Wells (NAICS 213111)

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Energy (Fossil/Renewable) Location Quotients (US) Counties in Houston-Galv/Beaumont-Pt. Arthur EA

bubble size = 2008 employment
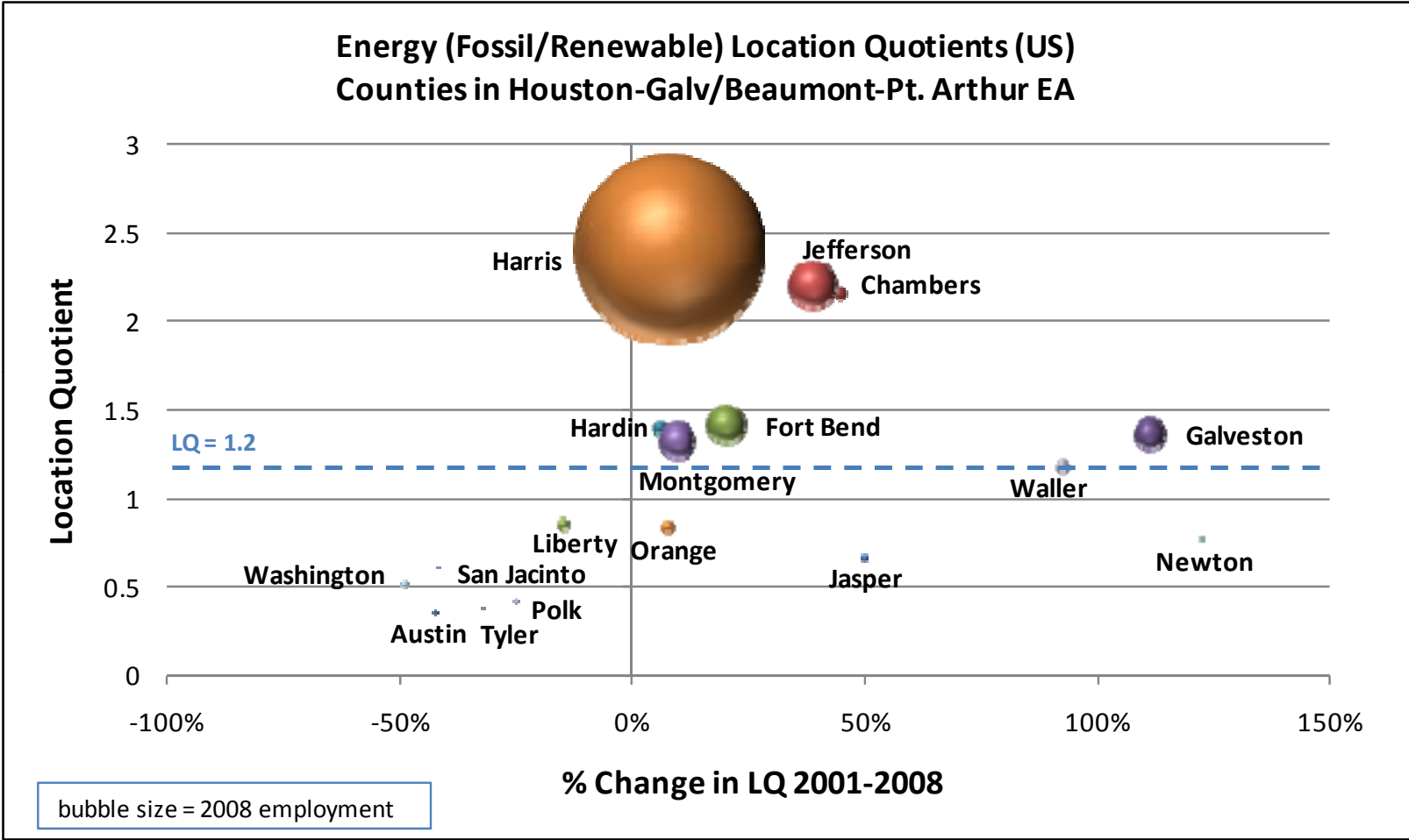
Data source: IBRC

Houston-Galveston/Beaumont-Port Arthur Economic Area (TX-3)

Travel and Recreation Location Quotients
Lake Charles, LA Parishes (LA-1)
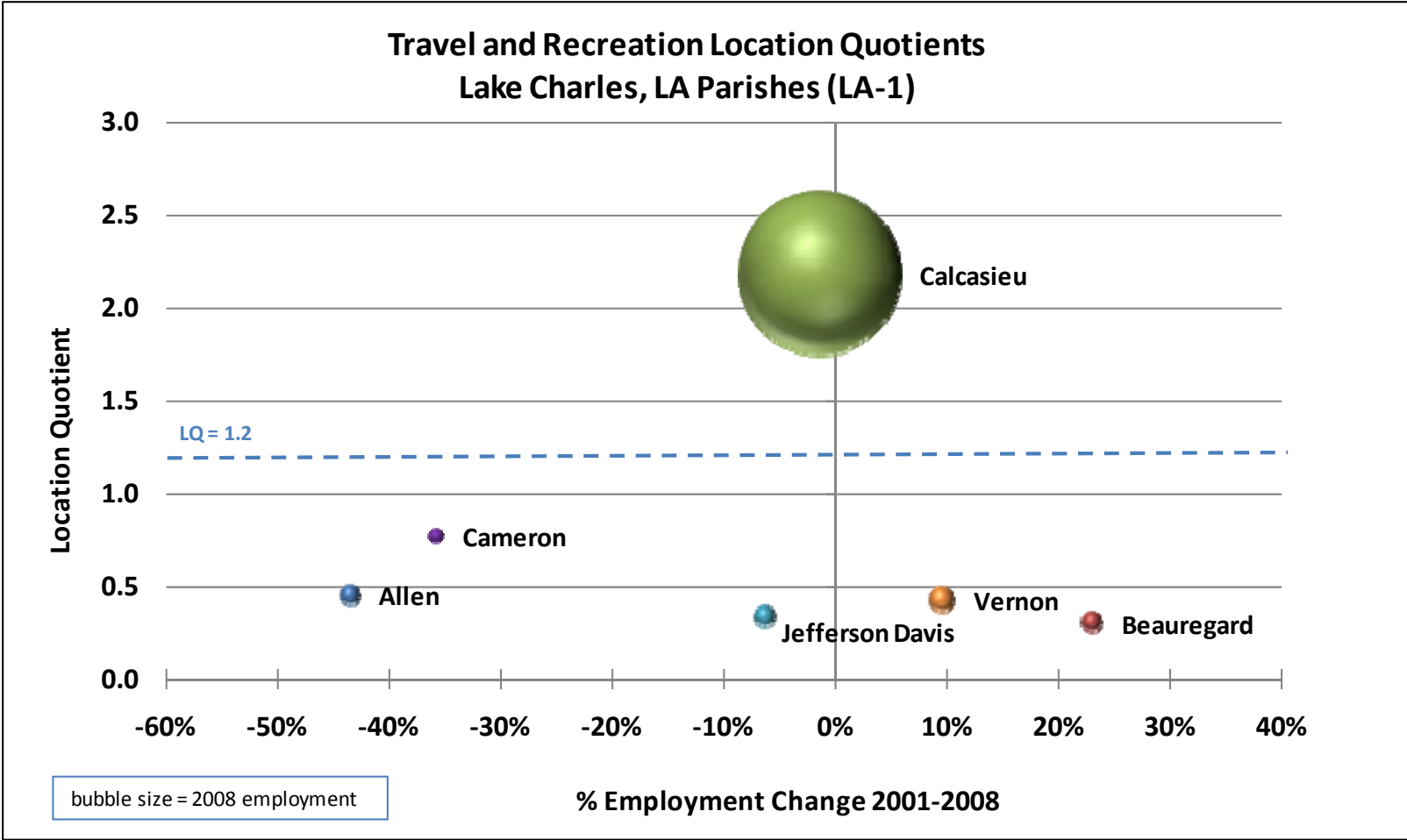
Data source: WholeData, 2008 County Business Patterns

Lake Charles Economic Area (LA-1)

Energy (Fossil/Renewable) Location Quotients (US)
Parishes in Lafayette EA
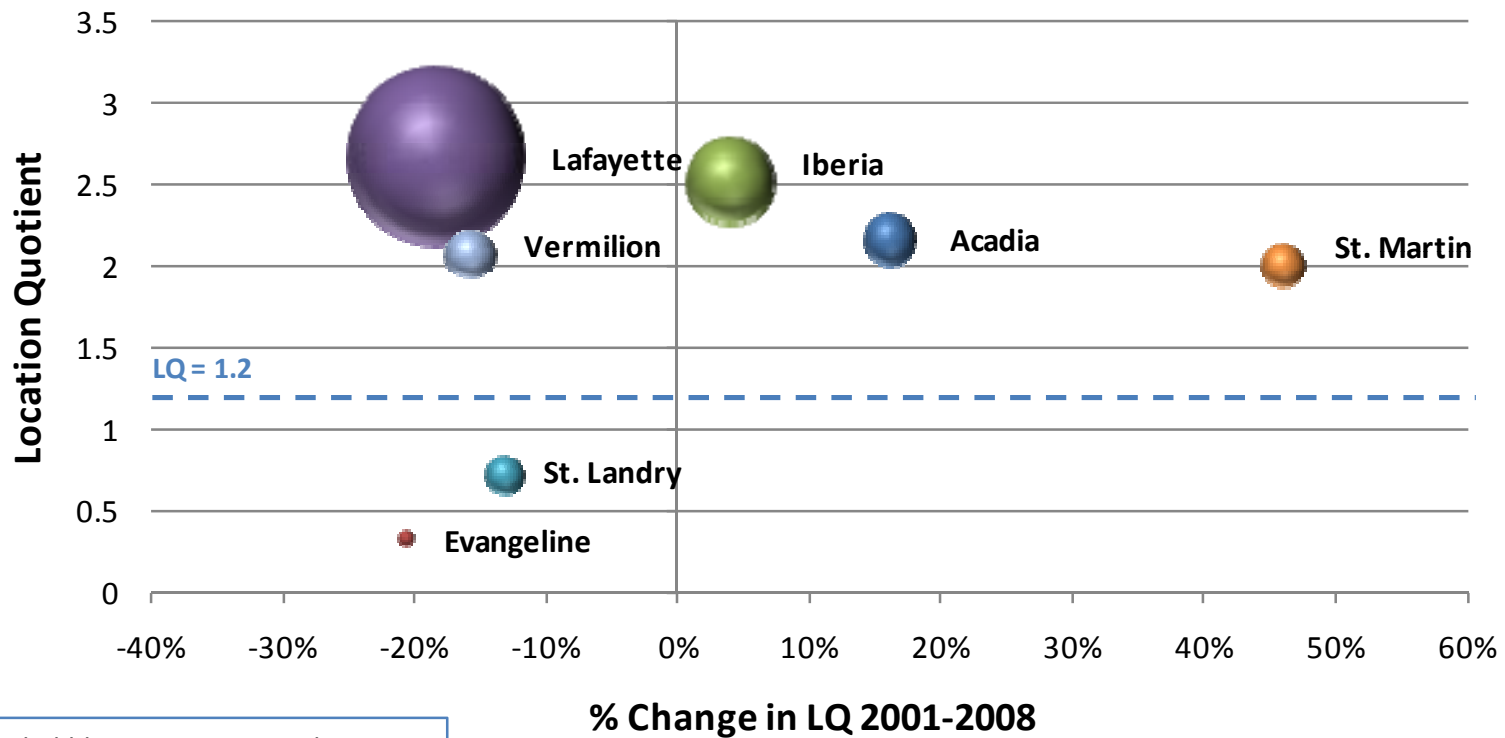
bubble size = 2008 employment

Data source: IBRC

Lafayette Economic Area (LA-2)

Summary Table -- 2008 Employment Location Quotient > 1.2 For NAICS Classifications by Geographic Unit *[Preliminary--not for distribution]*

| | County Business Patterns | | | | | | | | IBRC Cluster Data | |
| EA/LMA/County | Extraction | Drilling | Support | Field Mach. | Oil & Gas[1] | Pipeline Trans.[2] | Shipbuilding | Travel & Recr.[3] | Energy Cluster | Trans & Logis. Cluster |
	211	213111	213112	333132	(5 total)	(4 total)	336611	(9 total)		
AL-1	-	-	-	2.5	-	2.2	18.4	-	-	1.2
Mobile	-	-	-	2.5	-	2.2	18.4	-	-	1.2
Baldwin	-		-		-	-		1.3	-	-
Clarke						4.4		-	-	-
Conecuh						2.5		-	-	-
Escambia		2.3	10.3		5.0	-		1.7	-	-
Mobile	-		-	3.9	-	2.9	28.6	-	-	-
Monroe	-				-	-		-		
Washington	2.7				-	4.2		-		
Wilcox						8.9		-		
FL-1	-	-	-	3.1	-	-	3.5	-	-	-
Panama City			-	12.9	1.4		13.6	1.6	-	-
Bay			-	13.8	1.5	-	14.5	1.6		
Franklin						6.2		2.8	-	-
Gulf							3.9	-	1.3	
Pensacola	-	-	-		-	-	-	-	-	-
Escambia	-		-		-	-	-	-	-	-
Okaloosa		-			-	-		-	-	-
Santa Rosa	9.1	-	-		2.4	-		-	-	-
Walton		-	-		-	2.4	3.1	-	-	-
FL-2	-		-		-	-		-	-	-
Lake City	-				-	1.8		-	-	-
Columbia					-	1.5		-	-	-
Hamilton						6.5		-	-	-
Lafayette	-				-	-		-		
Madison								-	-	-
Suwannee								-	-	-
Taylor						1.9		-	-	-
Tallahassee			-		-	-		-	-	-
Calhoun						1.9		-	-	
Gadsden					-			-	-	-
Holmes						9.1		-	-	-
Jackson								-	-	-
Jefferson						2.2		1.8	-	-
Leon						1.7		-	-	-
Liberty									-	
Wakulla						2.3		1.2	-	-
Washington			-		-	11.5		1.5	-	-

EA/LMA/County	Extraction	Drilling	Support	Field Mach.	Oil & Gas[1]	Pipeline Trans.[2]	Shipbuilding	Travel & Recr.[3]	Energy Cluster	Trans & Logis. Cluster
	211	213111	213112	333132	(5 total)	(4 total)	336611	(9 total)		
LA-2	**5.6**	**14.9**	**22.4**	**19.4**	**16.7**	**5.4**	**7.4**	**-**	**2.3**	**-**
Lafayette	**5.6**	**14.9**	**22.4**	**19.4**	**16.7**	**5.4**	**7.4**	**-**	**2.3**	**-**
Acadia	5.3	10.8	26.7		15.2	43.5		-	2.2	1.3
Evangeline	2.3		-		-	-		-	-	
Iberia	1.4	18.4	14.7	16.4	12.2	-	13.8	-	2.5	1.2
Lafayette	7.6	17.6	29.1	27.5	21.9	1.9	9.1	-	2.7	-
St. Landry	1.7	5.9	-	6.1	2.5	4.4		-	-	-
St. Martin	5.8	19.2	18.1	16.4	14.9	4.7		-	2.0	-
Vermilion	4.4	1.5	26.1		12.7	17.6	5.1	-	2.1	-
LA-3	**6.0**	**4.7**	**7.9**	**7.8**	**6.6**	**3.6**	**11.7**	**-**	**1.7**	**1.5**
Baton Rouge	**-**	**-**	**-**		**-**	**2.5**	**1.6**	**-**	**1.4**	**-**
Ascension	5.6	-	2.9		2.6	7.4		-	1.9	-
East Baton Rouge	-	-	-		-	-		-	1.6	-
Iberville	3.1	6.6	-		2.1	2.6	7.8	-	-	1.9
Livingston	-	-	-		-	7.8		-	-	-
Tangipahoa		-	-		-	6.2		-	-	1.5
West Baton Rouge	5.6		11.2		6.2	2.9	44.5	-	1.4	2.7
Houma	**21.7**	**18.2**	**29.5**	**31.7**	**24.8**	**6.7**	**42.5**	**-**	**2.4**	**3.5**
Assumption	11.1	-	-		2.9	24.8		-	-	-
Lafourche	4.0	7.3	25.1		13.4	8.7	70.3	-	-	6.5
St. Mary	9.9	-	51.8	33.3	28.3	4.5	40.5	1.9	2.5	3.5
Terrebonne	38.3	34.9	21.8	50.3	30.5	5.8	30.5	-	3.6	1.8
LA-4	**5.6**	**-**	**3.8**	**2.2**	**3.3**	**2.5**	**13.3**	**1.5**	**-**	**1.2**
New Orleans	**5.6**	**-**	**3.8**	**2.2**	**3.3**	**2.5**	**13.3**	**1.5**	**-**	**1.2**
Jefferson	-	-	6.2	4.9	3.5	3.2	26.7	-	1.3	1.2
Orleans	11.8	-	-		3.3	-	3.7	3.2	-	-
Plaquemines	48.8		26.1	9.2	23.6	8.8	8.4	-	2.4	4.1
St. Bernard	9.4		-	3.0	3.0	5.9	3.3	-	-	2.0
St. Charles	-		1.5		-	5.2		-	1.9	2.2
St. James						3.5		-	-	1.5
St. John the Baptist			9.5		4.2	7.3	13.5	-	-	2.0
St. Tammany	1.9	-	-		-	1.3	4.9	-	-	-
Washington		-			-	4.5		-	-	-
MS-1	**-**	**-**	**-**		**-**	**-**	**123.0**	**3.3**	**-**	**-**
Biloxi-Gulfport	**-**	**-**	**-**		**-**	**-**	**123.0**	**3.3**	**-**	**-**
George								-		
Greene			-		-	14.6		-		
Hancock			-		-	-		5.4	-	-
Harrison			-		-	-	6.4	5.3	-	-
Jackson		-	-		-	1.3	375.5	-	-	-
Pearl River		-	-		-	-		-	-	-