



Potential economic impacts of the Bayou Bridge pipeline.

Prepared on the behalf of Energy Transfer



David E. Dismukes, Ph.D.
Gregory B. Upton, Jr., Ph.D.
Center for Energy Studies
Louisiana State University
February 7, 2017

Table of Contents

1.0	Executive Summary
2.0	Project Background
3.0	Project Relationship to Louisiana Energy Economy
4.0	Estimated Statewide Economic Impact/Benefits
5.0	Conclusion and Summary of Benefits

EXECUTIVE SUMMARY – PROJECT OVERVIEW

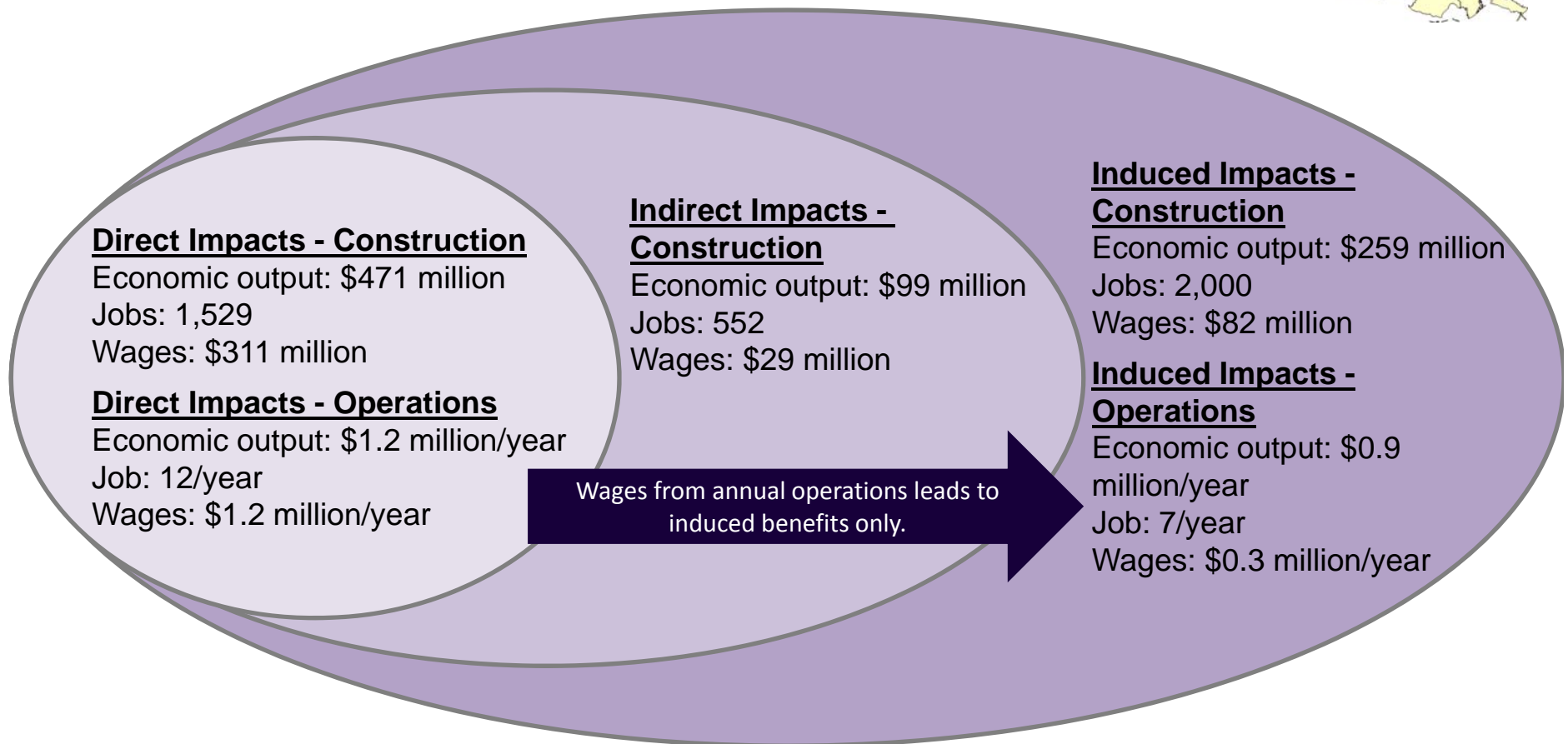
The Bayou Bridge Pipeline is a **critical energy infrastructure expansion project** that will connect an existing crude oil pipeline from Lake Charles, Louisiana to a market hub in St. James, Louisiana. The **pipeline will deliver multiple grades of crude oil** to existing terminalling facilities in St. James for distribution to in-state refineries.

The Bayou Bridge Pipeline Expansion is comprised of **162 miles** of 24-inch pipe and will require a **\$488 million** capital investment, **\$471 million** of which will be tied to Louisiana alone.

This report was prepared by the Center for Energy Studies (“CES”), at the request of Energy Transfer, the project developer. The purpose of this study is to educate stakeholders about the **nature of the investment**, how the investment **fits into Louisiana’s larger energy economy**, and to estimate the likely **economic benefits** that will accrue to the state, region, and communities where the project will be sited.

EXECUTIVE SUMMARY – STATE LEVEL IMPACTS

Construction of the Bayou Bridge pipeline expansion is estimated to generate an **economic benefit of over \$829 million** in economic output for the state. Post construction, annual operations will result in an increase of **\$2 million in state-wide economic output**.



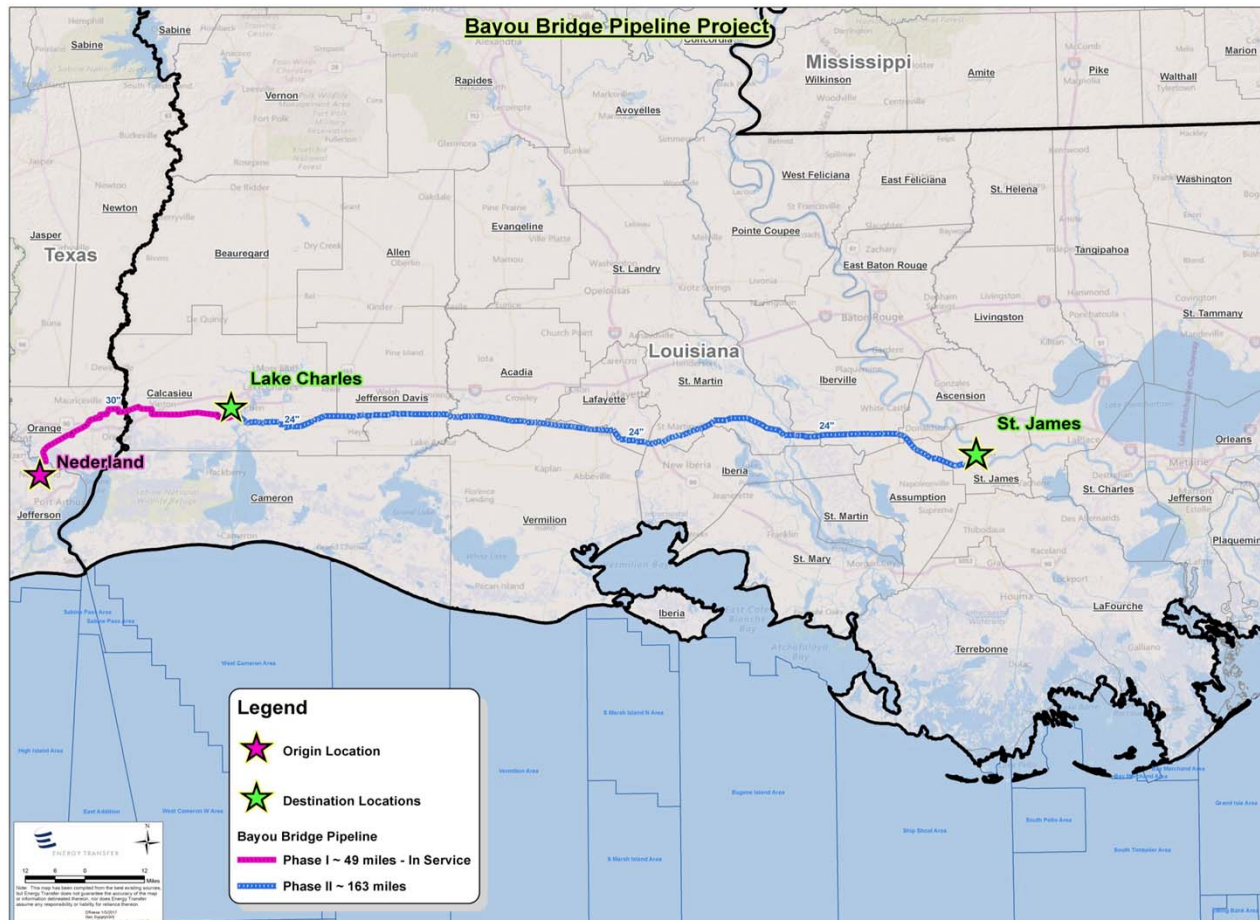
EXECUTIVE SUMMARY – ADDITIONAL BENEFITS

- The project will help **diversify Louisiana’s supply of crude oil.**
- The project will lead to **greater crude oil transportation alternatives**, which should help to make crude oil **transportation rates more competitive**, thereby reducing refinery costs and **increase Louisiana refinery competitiveness.**
- The project will increase Louisiana refinery access to growing, high-quality U.S. domestic crude oil production that can **displace foreign crude oil imports.**
- The project will help leverage Louisiana’s growing role in **global energy trade** and facilitate **U.S. crude oil and refined product exports.**
- **Pipeline-based transportation is considered safer** and usually involves fewer spills than other forms of crude oil transportation. Bayou Bridge represents **an effective and safe alternative** to truck, rail and waterborne transportation of crude oil that should increase overall safety to the public and environment.
- The project will help **expand** Louisiana’s critical energy infrastructure, its energy economy, and leverage existing in-state energy infrastructure such as refineries, processing and storage assets.

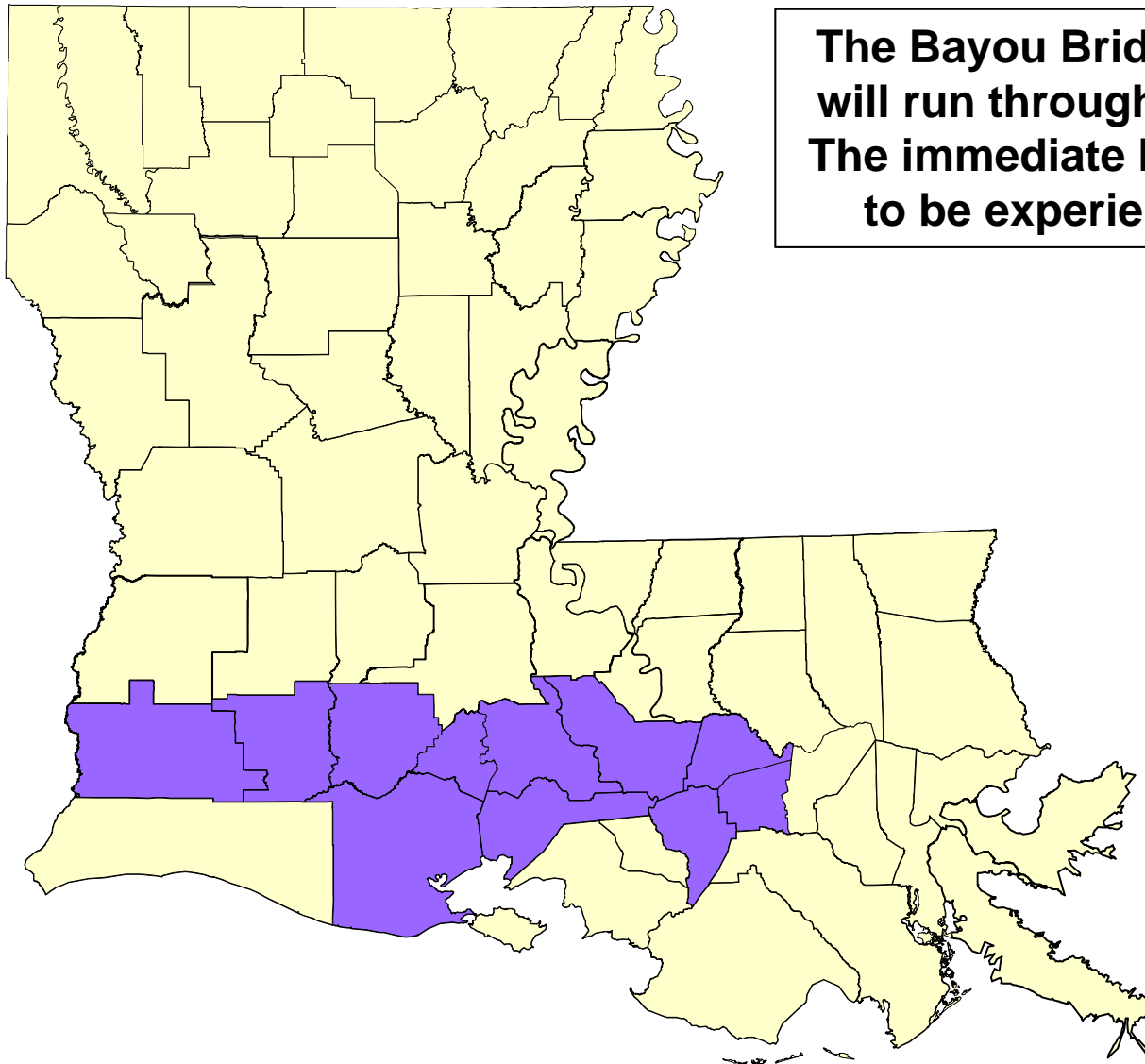
Section 2: Project Background

Project Geographic Scope

The new segment of the Bayou Bridge Pipeline will run from Lake Charles, Louisiana to St. James, Louisiana. Crude from the St. James terminalling facility will be redistributed to refineries located along the Gulf Coast.



Project Geographic Scope



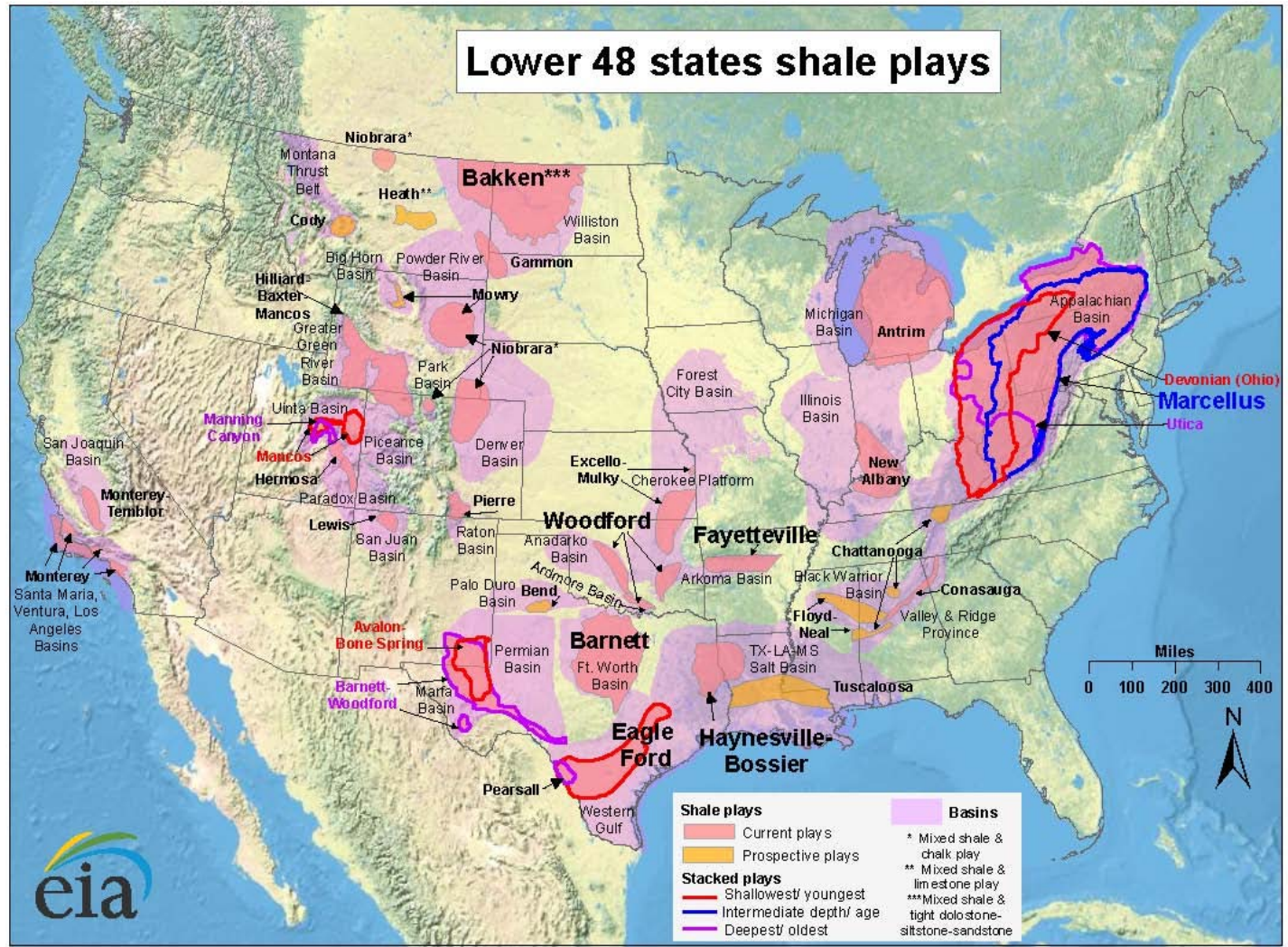
The Bayou Bridge Pipeline expansion will run through 11 different parishes. The immediate local benefits are likely to be experienced in each parish.

Miles of Pipeline per Parish	
Parish	Miles
Calcasieu	23.22
Jefferson Davis	23.84
Acadia	19.70
Vermilion	12.68
Lafayette	9.81
Iberia	1.36
St. Martin	36.40
Iberville	16.30
Ascension	1.76
Assumption	10.10
St. James	6.41
Total	161.56

Section 3: Louisiana's Energy Economy

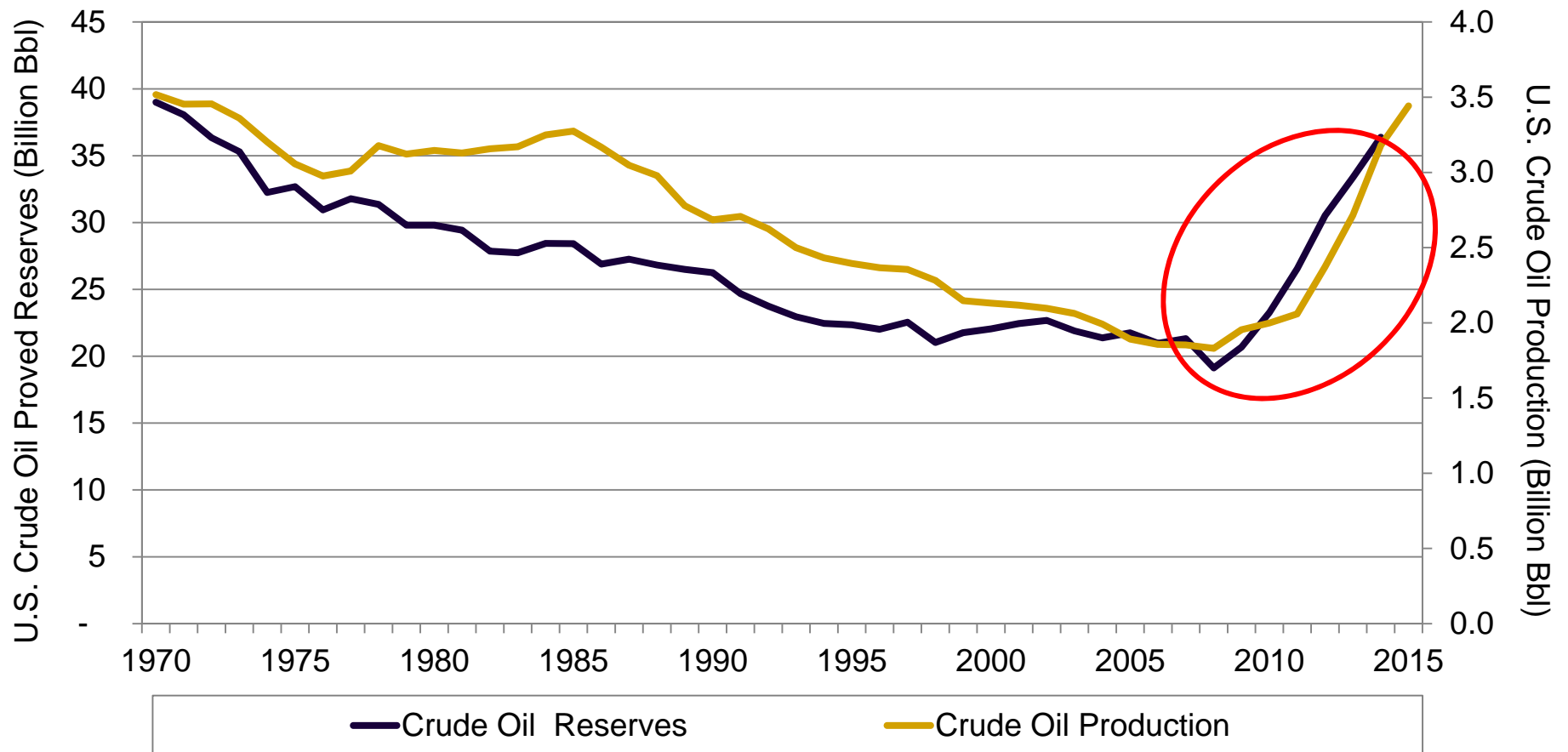
Domestic Shale Gas Basins and Plays

U.S. unconventional production from shale plays has unleashed a considerable level of domestic energy production. This production, however, is arising in new areas, necessitating new infrastructure in order to deliver to the market.



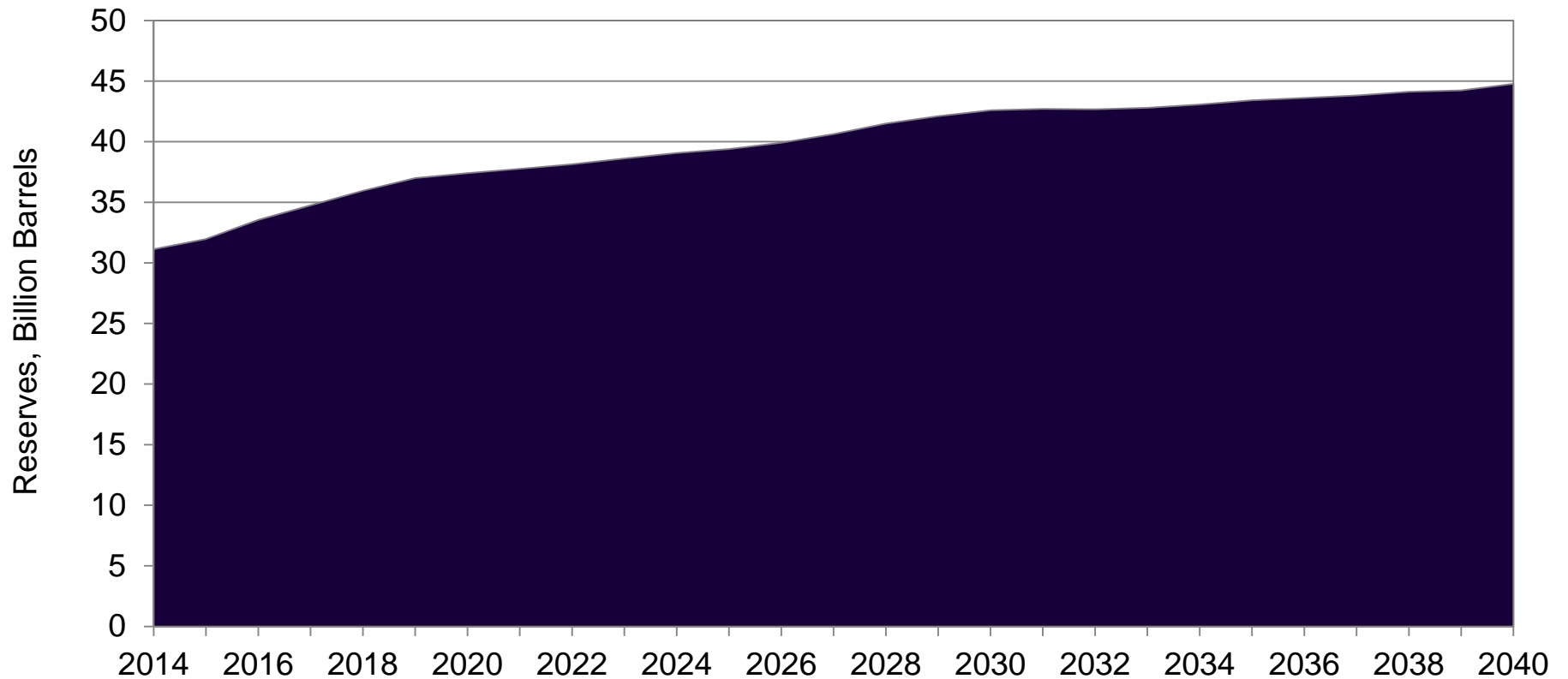
Changes in Crude Oil Reserves and Production

Crude oil production and reserves are climbing back to levels not seen since the early 1980s (reserves). Creates new domestic resource opportunities for U.S. refineries.



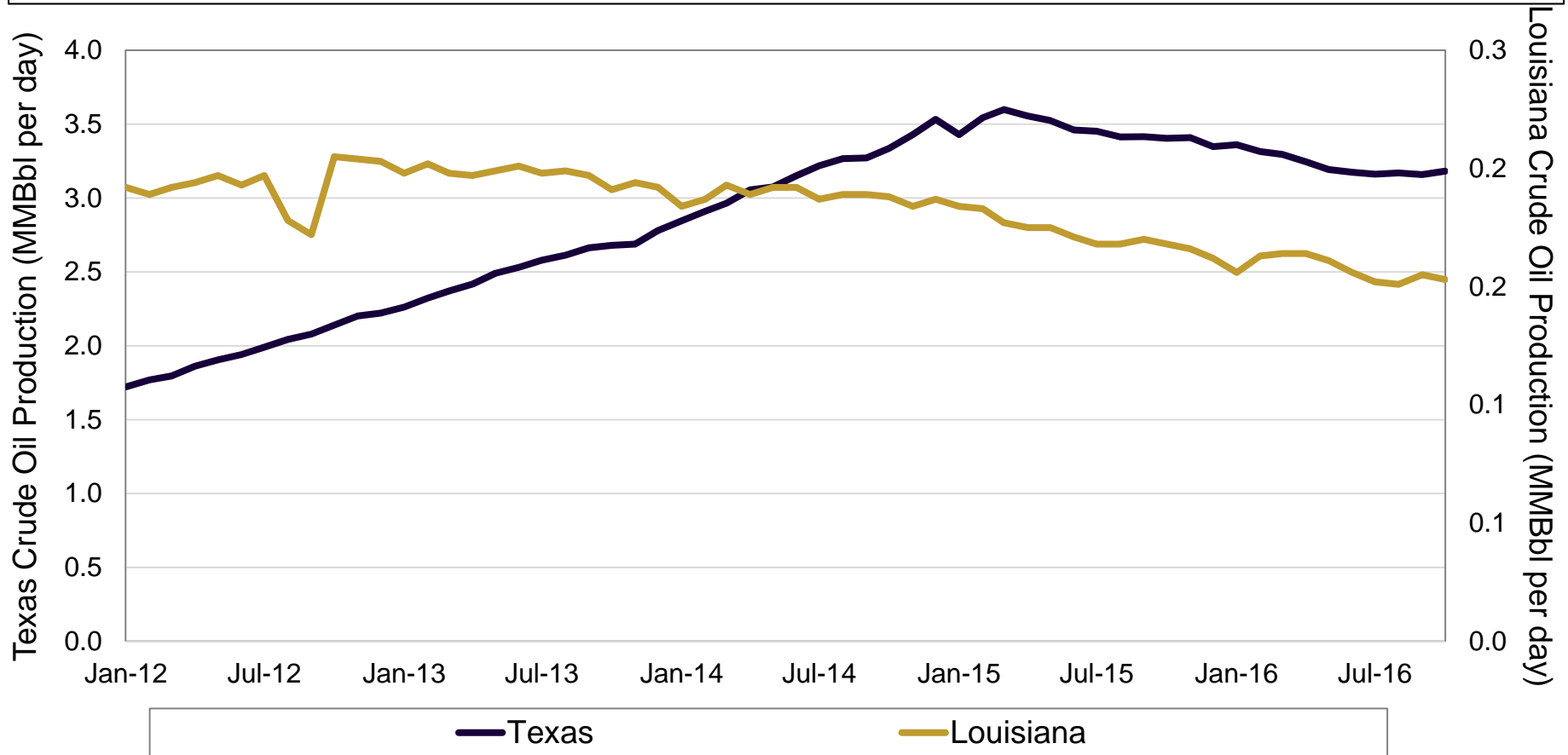
Annual Energy Outlook, Crude Oil Reserves

U.S. crude oil reserves are expected to increase 20 percent by 2020 and increase by another 20 percent by 2040.



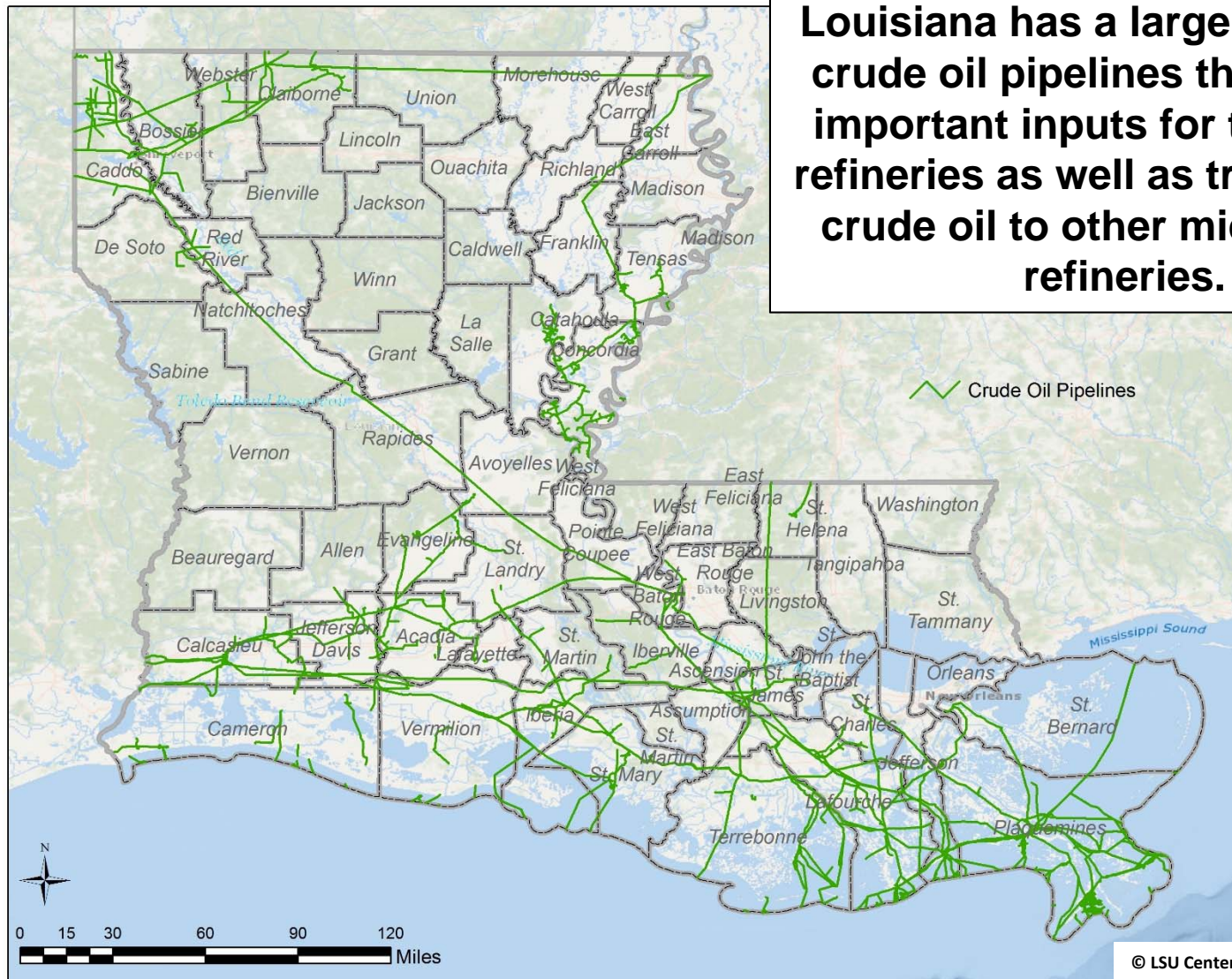
U.S. and Texas Crude Oil Production

While crude oil production in Louisiana has been falling in recent years, crude oil production in Texas has increased significantly, jumping 75 percent between 2012 and 2015 due to unconventional development.



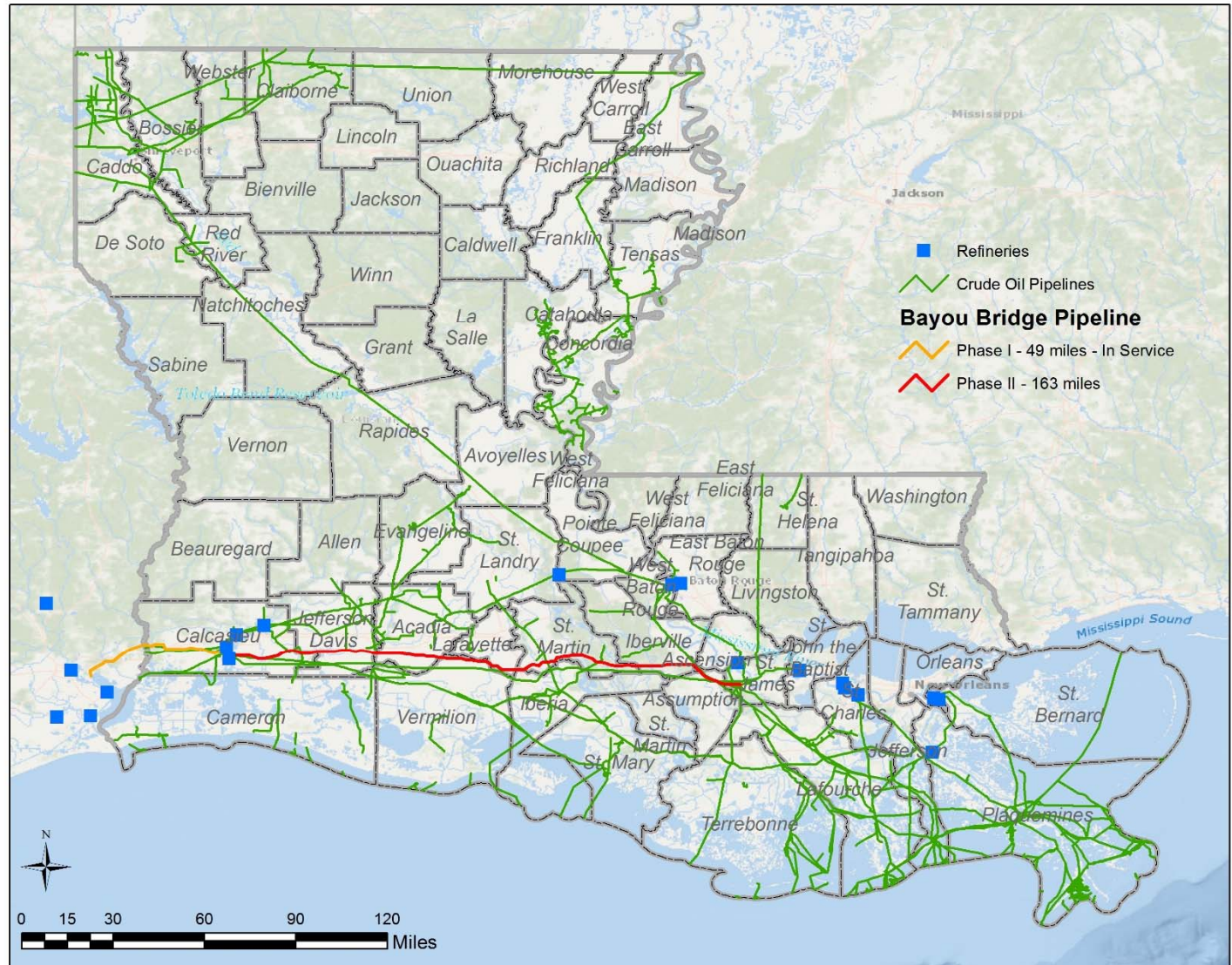
Louisiana Crude Oil Pipelines

Louisiana has a large number of crude oil pipelines that provide important inputs for the state's refineries as well as transporting crude oil to other mid-western refineries.



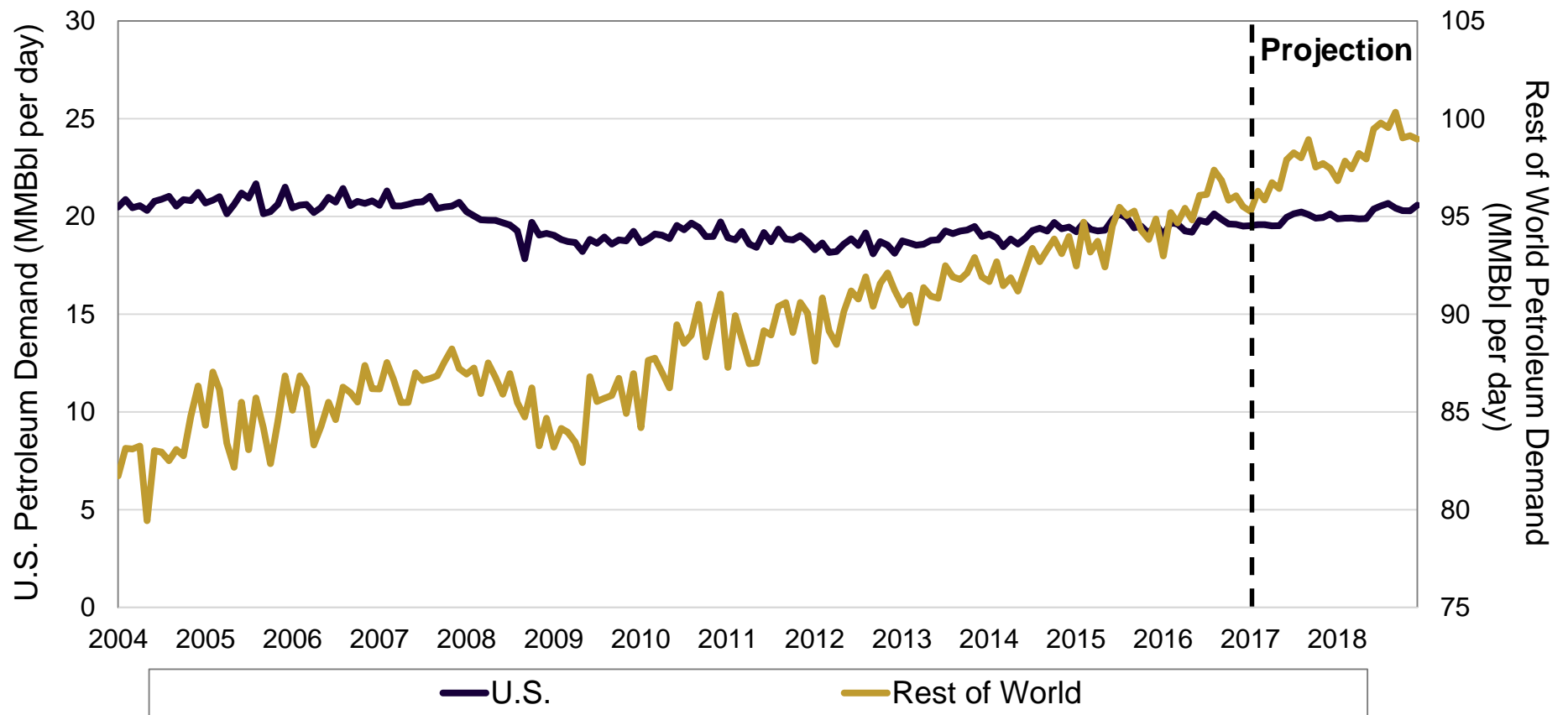
Louisiana Crude Oil Pipelines, Proposed Project and Refineries

Bayou Bridge will link prolific, lower-cost unconventional crude oil to Louisiana refineries.



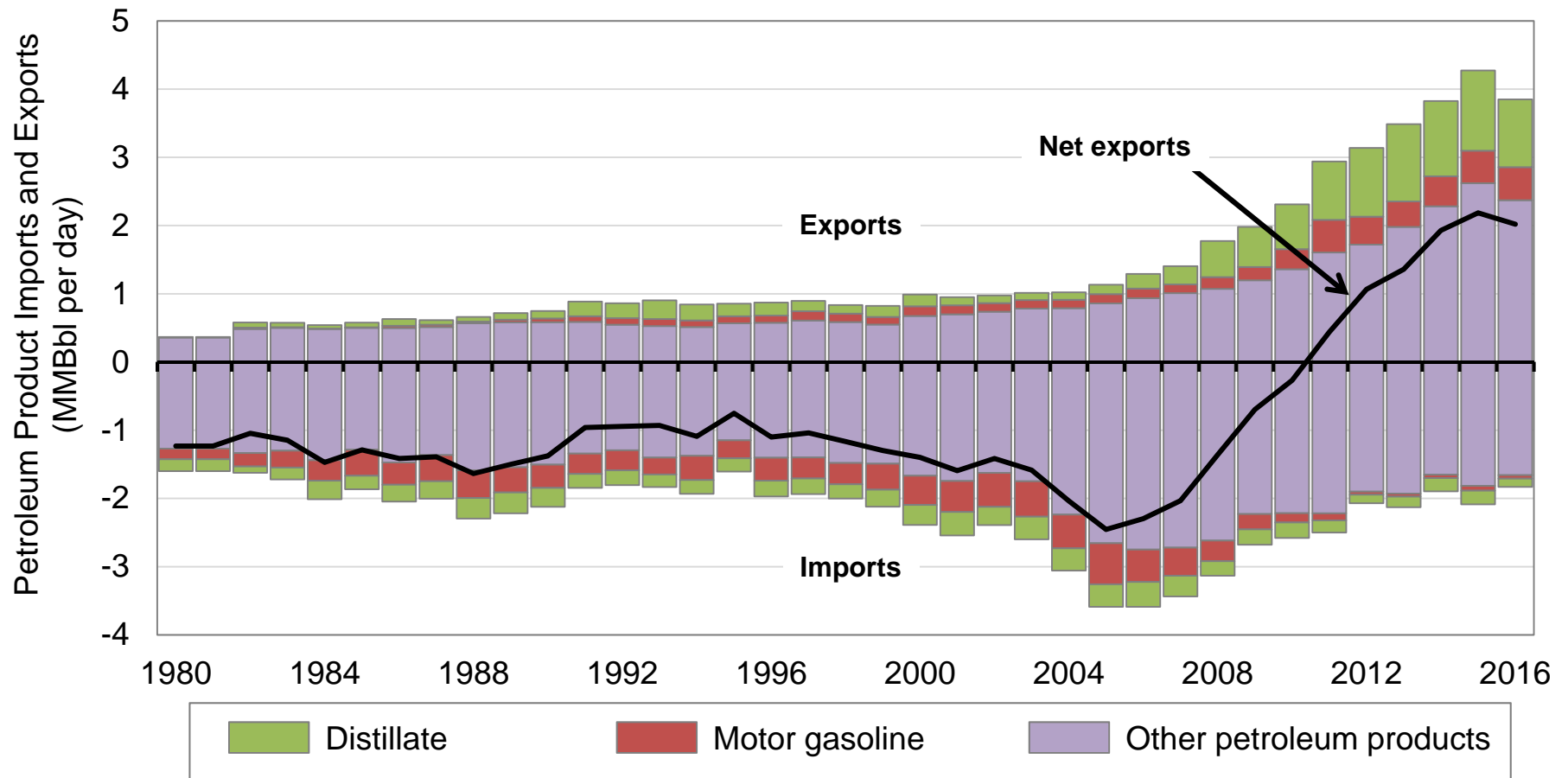
Petroleum Demand

U.S. demand for liquid fuels has been relatively flat, while demand in the rest of the world has been increasing underscoring the opportunities for new Louisiana-based energy exports.



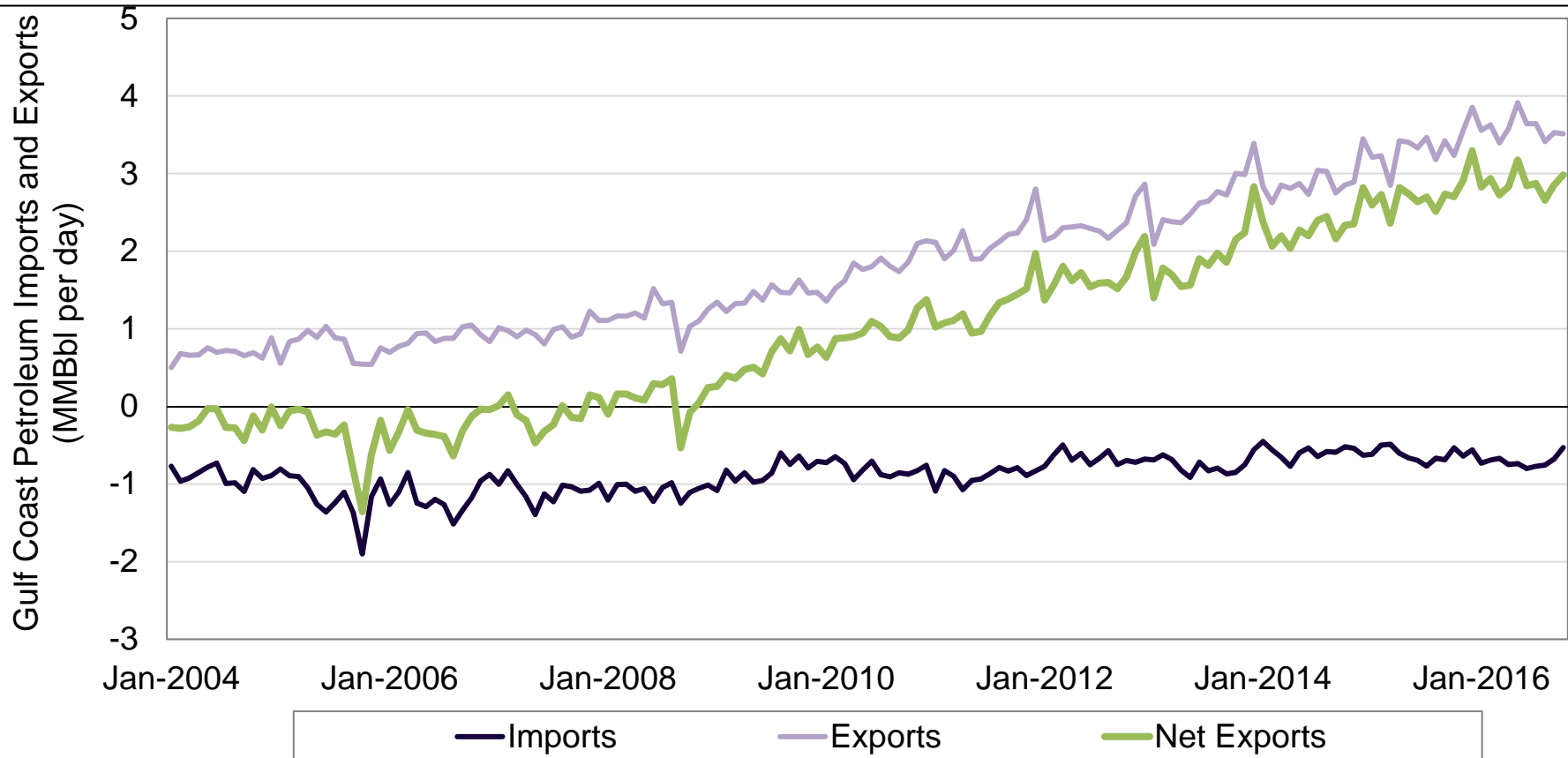
U.S. Petroleum Product Imports and Exports

In 2011, the U.S. became a net exporter of petroleum products. Net exports have increased 360 percent since then.



Gulf Coast Petroleum Net Exports

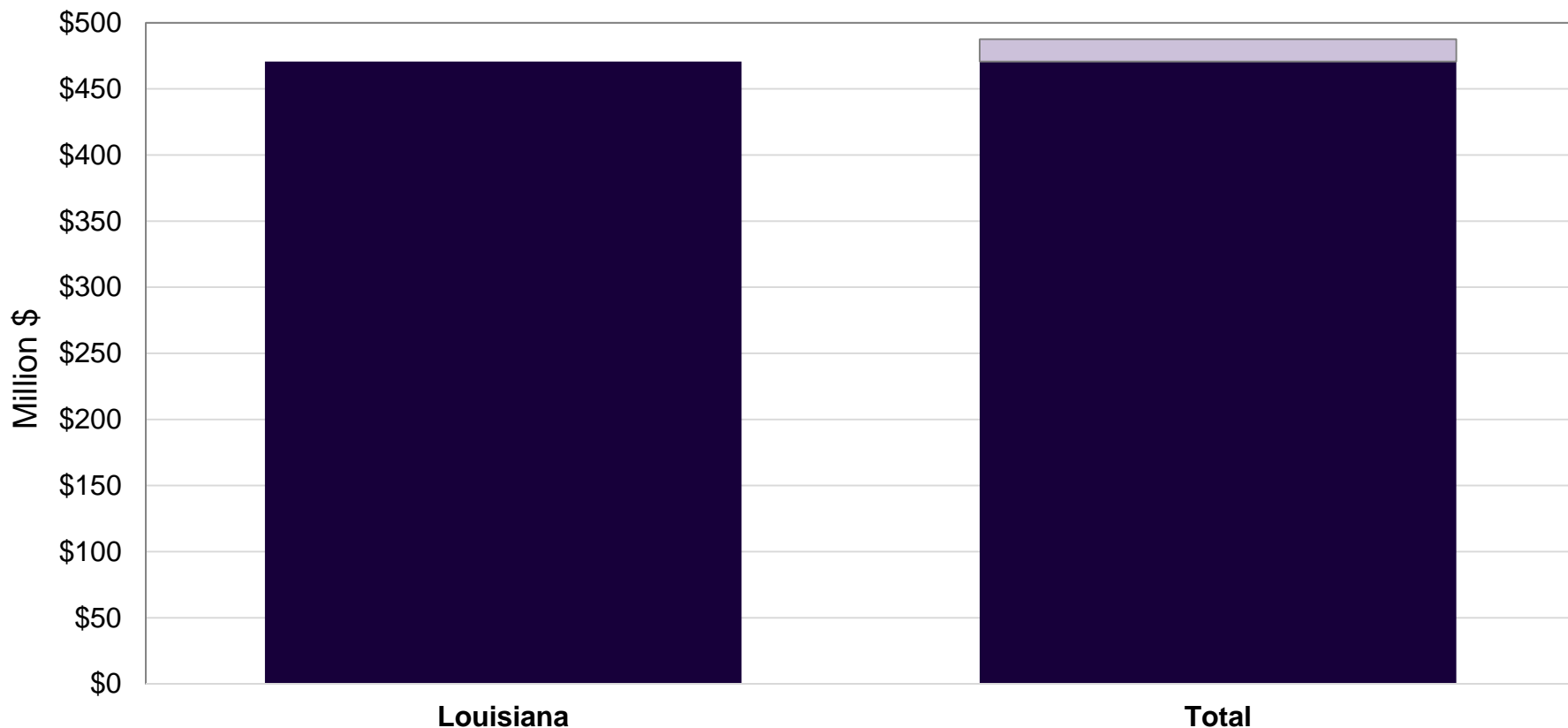
The Gulf Coast region became a net exporter of petroleum products at the end of 2008. Since then net exports have increased at an average annual rate of 40 percent.



**Section 4: Potential Statewide Economic
Impact/Benefits**

Estimated Construction Capital Expenditures

The Bayou Bridge Pipeline Expansion will require a \$487.6 million investment in 2017. Approximately \$470.7 million, or 97 percent of that investment will be made in Louisiana.



Estimated Economic Impact/Benefits

Construction Impacts				
Impact	Output (\$)	Employment (jobs)	Wages (\$)	State/Local Tax (\$)
Direct	\$ 470,696,224	1,529	\$ 311,110,312	\$ 37,190,434
Indirect	\$ 99,254,747	552	\$ 29,464,884	\$ 3,363,067
Induced	\$ 259,410,206	2,000	\$ 81,902,438	\$ 15,023,206
Total	\$ 829,361,176	4,081	\$ 422,477,634	\$ 55,576,707

Operating Impacts (5-Year)				
Impact	Output (\$)	Employment (jobs/year)	Wages (\$)	State/Local Tax (\$)
Direct	\$ 6,066,360	12	\$ 6,066,360	-
Indirect	-	-	-	-
Induced	\$ 4,626,418	7	\$ 1,460,707	\$ 267,830
NPV	\$ 9,583,408	19	\$ 6,869,321	\$ 247,991

The construction phase of the Project is estimated to lead to over \$800 million in direct Louisiana economic impacts, over 4,000 jobs, more than \$400 million dollars of total wages and over \$50 million in taxes.

During the first 5 years of operations, the Project is estimated to lead to over \$9.5 million in direct Louisiana economic output, 19 jobs/year, close to \$7 million in total wages and over \$200,000 in taxes.

Conclusion and Summary of Benefits

Conclusions

When developed the Bayou Bridge Pipeline **will help diversify** Louisiana's crude oil supply and expand the state's energy economy.

Construction of the Bayou Bridge Pipeline project is likely to generate over **\$829 million** in new economic activity in 2017, over **4,080 job-years**, and over **\$420 million** in new wages and employee compensation in 2017. Project construction is estimated to generate almost **\$56 million in state and local tax revenues**.

The annual operation of the Bayou Bridge Pipeline is likely to generate over **\$2 million** in new economic activity, **19 permanent full time equivalent jobs**, and **\$9.5 million** in new wages and employee compensation over its first five years of operations. Annual operations of the Bayou Bridge Pipeline is estimated to generate **over \$200,000 in state and local tax revenues** over this same time period.

Further, the Bayou Bridge Pipeline project will likely **create additional benefits not easily quantified** that include diversifying Louisiana's crude oil supply and expanding Louisiana's refining and petrochemical manufacturing base, and expanding the opportunities created by Louisiana's energy economy.