

Executive Summary

Many people have been using the word “renaissance” recently when referring to the Gulf Coast economies generally and to Louisiana’s energy economy, specifically. While this seems out of sync with the strained budgets of both the State and the many municipalities, most energy economists see a strong performance since the 2008 recession and a relatively bright future for the state and the region.

1) Over the last five years, with the advent of new extraction technology, there has been a fundamental change in the way we access hydrocarbons, both oil and gas, in this country.

2) As a result of the fracking revolution, the U.S. now enjoys the status of being a low cost source of both natural gas and light sweet crude oil used for transportation, power generation and petrochemical manufacturing.

3) Moreover, because of the rig intensive nature of shale operations and the difficulty of replicating the US onshore drilling fleet, as well as the pervasiveness of our existing and forecasted hydrocarbon transportation infrastructure, our hydrocarbon cost advantage should be with us for a generation.

4) The cost advantage will continue to be a fundamental driver for growth of both existing production capacity and downstream manufacturing operations, as well as a driver for the addition of a number of new production facilities using both current and new technologies.

5) Existing technologies run the gamut of refining, particularly low sulfur diesel and heating oil; petrochemical manufacturing operations, including new Ammonia, Methanol and Ethylene plants; and Chlor-Alkali expansions.

6) New technologies allow plants to be centered on the use of the DRI (Direct Reduction Iron) process to produce pig iron without the use of coke. This is a new industry for Louisiana and the United States. In addition, the use of state-of-the-art GTL (Gas to Liquids) technology will allow for the conversion of a portion of the new natural gas supply into high quality diesel fuel and other refinery products -- another first for the state.

7) Beyond new and existing technologies, we will also see improvement in our export posture, both for Liquefied Natural Gas (LNG); refined products, such as gasoline, diesel and jet fuel; and for petrochemicals such as plastic resins. This has positive implications for our port facilities which are expected to see a marked increase in loadings of refined products and petrochemical intermediates destined for export markets. Evidence of this new traffic can be found in the utilization rates, and consequent increases in charter rates, for the world’s LNG tanker, refined products tankers and chemical tanker fleets. While it is

unlikely that many of these vessels will be built in the United States, new vessels will be added to the international fleet and they, along with the existing vessels, will make increasing calls in Louisiana to pick up cargoes. We should also expect to see additional ship arrivals, both as a result of the widening of the Panama Canal as well as the need to import vital raw materials such as the iron ore (from Brazil) for the new Direct Reduction Iron (DRI) facilities.

Finally, we expect to see increased domestic marine shipments, particularly of refined products. Unless the rules change, these vessels will be built in the United States, crewed and flagged, and will bring potential business to Louisiana shipyards.

In short, the reasons why Louisiana evolved as a major energy center the first time, things like available hydrocarbon supplies, plentiful fresh water, relatively inexpensive power generation, wide ranging pipeline infrastructure, and navigable rivers with numerous port facilities, are all lined up to support the renaissance of Louisiana's industrial complex. This will not just to feed US consumption, but also support demand in the rest of the world as well. In addition, this time around we have a critical mass of well-trained upstream, midstream, and downstream workers. This is not meant to imply that we have a "surplus" of such workers. We will need to do a massive job of training new operators in order to maintain and grow the relevant workforce. However, we do start with a critical mass of trained workers that are not present in other potential energy states.

While there are always setbacks, particularly at the State and Federal policy level, for example the delays in approving the Keystone XL pipeline or the heated debate about the possible impacts of fracking technology, the economic fundamentals for the Gulf Coast in general, and Louisiana in particular, look strong. Existing refineries and petrochemical plants are running near capacity with expansions underway, funded by both domestic participants as well as by new international firms anxious to take advantage of our infrastructure and our fundamental energy cost advantages.