



CBRE CLARION SECURITIES  
MASTER LIMITED PARTNERSHIPS:  
GLOBALIZATION OF ENERGY MARKETS LEADING TO  
SECULAR GROWTH

MAY 2014

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**CBRE**  
CLARION  
SECURITIES

# MASTER LIMITED PARTNERSHIPS: GLOBALIZATION OF ENERGY MARKETS LEADING TO SECULAR GROWTH EXECUTIVE SUMMARY



*Investment in select Master Limited Partnerships (MLPs) can provide targeted access to the secular growth in U.S. energy export activity.*

- Historically one of the world's largest net importers of oil and other energy resources, the United States is beginning to reposition itself on the global stage as a significant exporter of energy resources.
- Global demand for energy resources from stable sources (like the U.S.) continues to grow, highlighted by recent geopolitical tensions (Eastern Europe) and natural disasters (Japan's 2011 nuclear meltdown). As a result of the above dynamics, energy exports from the U.S. are already at record levels and are expected to continue to grow for the next decade as announced export infrastructure is placed into service.
- In response, MLPs have accelerated their development of targeted pipeline transportation, storage and terminal infrastructure that focuses on supplying energy markets beyond North America.
- We believe that certain MLPs are better positioned than others to capitalize on capital investment opportunities directly related to America's evolving role in the global oil, natural gas and petroleum products market.
- CBRE Clarion's experienced MLP investment team operates within a global infrastructure investment team, and is, we believe, uniquely positioned to assess the growing role of MLPs within the worldwide energy value chain and to select those MLPs that we believe will outperform as a result.

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## MLPs LINK U.S. PRODUCTION WITH GLOBAL DEMAND

Oil and natural gas production growth in the United States is creating increased opportunities to export products derived from those commodities, including refined products (gasoline, diesel fuel) and natural gas liquids (such as propane and butane). Growing U.S. supplies of export-restricted commodities are also generating political momentum for potentially approving additional liquefied natural gas (LNG) export projects and relaxing the ban on crude oil exports, potentially leading to additional export opportunities.

While export opportunities emerging from the growing U.S. supply bottleneck are expected to create capital investment opportunities for MLPs as a group, we believe a select number of MLPs are best positioned to benefit from the export infrastructure build out. For those MLPs that can go global, we expect that these projects will generate attractive risk-adjusted returns on capital leading to higher than average distribution growth in the coming years.

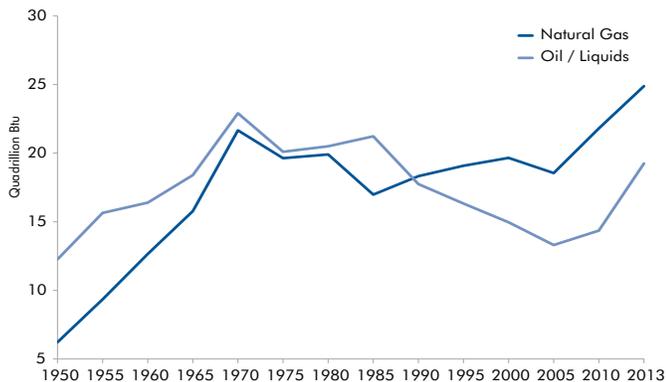
### BOOMING PRODUCTION: ENERGY RENAISSANCE REVIEW

Oil, natural gas, and natural gas liquids (NGLs) production in North America is increasing rapidly, reversing production declines that had been persistent for four decades starting in the early 1970s. Technological advances in hydraulic fracturing, horizontal drilling, seismic analysis and pad drilling have driven the surge in production from basins which had previously experienced little production (e.g. the Eagle Ford Shale and the Bakken Shale), or had been in steady decline (e.g. the Permian Basin).

As a result, the United States has surpassed Russia as the world’s largest producer of natural gas and has grown oil production by 56% in the past five years. According to the Energy Information Agency, U.S. production of natural gas is expected to grow 30% by 2024, while later this decade, crude oil production could eclipse previous production highs achieved in 1970.

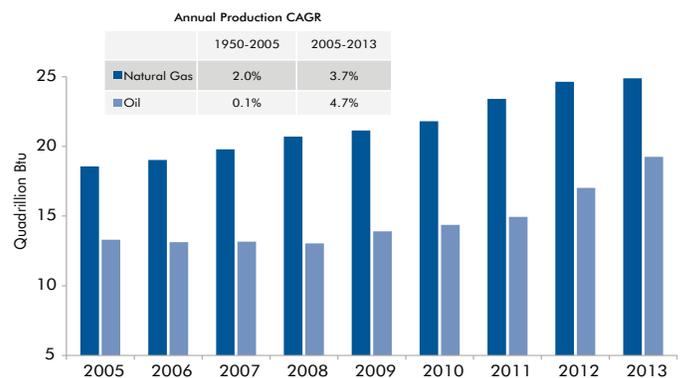
We covered the North American energy renaissance in our prior report and the story is fast becoming common knowledge. We mention it briefly here as the backdrop for the next stage of infrastructure development that is already underway: connecting the new North American energy supply with global demand markets through exports.

Annual U.S. Production (1950-2013)



Source: U.S. Energy Information Administration as of 12/31/2013

Annual U.S. Production (2005-2013)



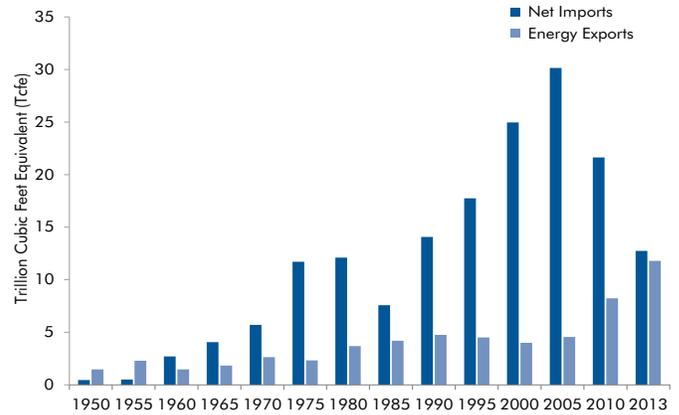
## COST ADVANTAGE: TRANSITION TO GLOBAL SUPPLIER

Preceding the recent production boom, the U.S. energy landscape was being developed from a position of net energy imports. In the early-to-mid 2000's with production in a declining state, over \$100 billion of capital investments were made in LNG regasification facilities with capacity to import 18 bcf/d of natural gas from overseas producers. This amounted to roughly 25% of total U.S. natural gas demand at the time. Moreover, the U.S., which is the global leader in crude oil consumption, was importing on average nearly 10 million barrels of oil per day (MMbpd) while producing less than 6 MMbpd.

Over the last 5 years, the U.S. energy landscape has flipped. U.S. net energy imports dropped to 12.7 trillion cubic feet equivalent (Tcfe) in 2013, the lowest annual level in 25+ years, representing just 42% of the 2005 peak net imports (30.1 Tcfe). As U.S. energy demand has stagnated and supply has grown, exports provide an outlet to balance the market, changing the U.S. into a net energy exporter. U.S. energy exports have set records each of the last 4 years, and have nearly tripled since 2000. In 2013, aggregate energy exports from the U.S. totaled 11.8 Tcfe (8.7% annual growth rate since 2000).

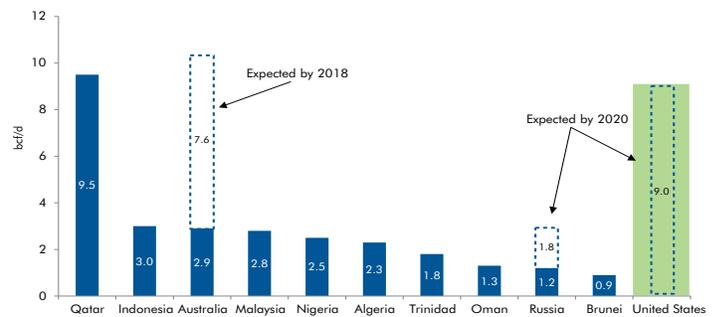
A sustainable energy cost advantage has already made the U.S. the world leader in the global supply of propane, surpassing Qatar in 2013. In addition, the U.S. is expected to grow its LNG exports from nothing to the third largest in the world by 2020.

## U.S. Energy Trade



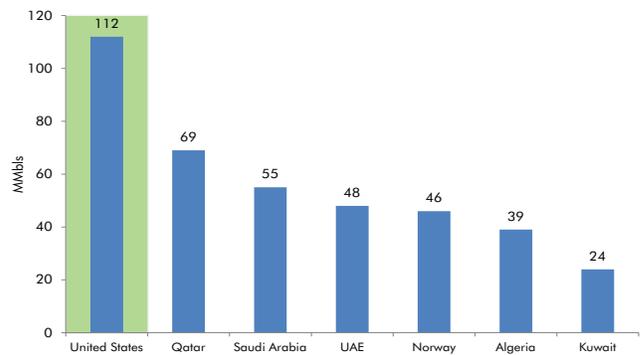
Source: U.S. Energy Information Administration as of 12/31/2013

## LNG Supply (Exports) by Country



Source: IHS Cera, RBC Capital Markets as of 12/31/2013. U.S. supply of 9.0 bcf/d based on 86% utilization rate applied to 10.4 bcf/d of liquefaction supply in 2020.

## 2013 Propane Exports



Source: Waterborne and Enterprise Fundamentals as of 12/31/2013

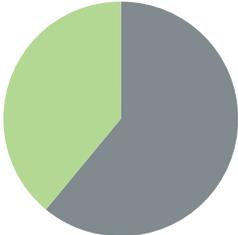
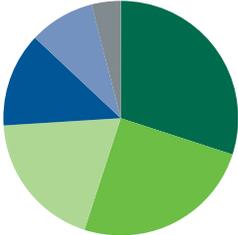
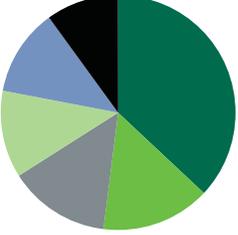
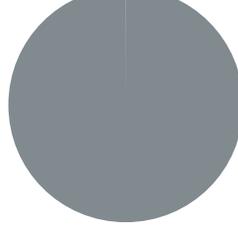


*The U.S. is on track to be a leading exporter of gas.*

## GLOBAL DEMAND

If the U.S. can build the necessary infrastructure to supply energy to the global marketplace, there are large companies from a diverse group of countries eager to purchase that energy. The U.S. currently sells most of its NGLs and refined products to Latin America and Europe, and we expect incremental exports to reach those same general geographic areas. Existing natural gas and crude oil exports remain restricted to Mexico and Canada. Future natural gas exports from LNG terminals that come online in the next 5-10 years are contracted to companies in Asia (Japan, South Korea, Indonesia and India) and Europe (Spain and the UK).

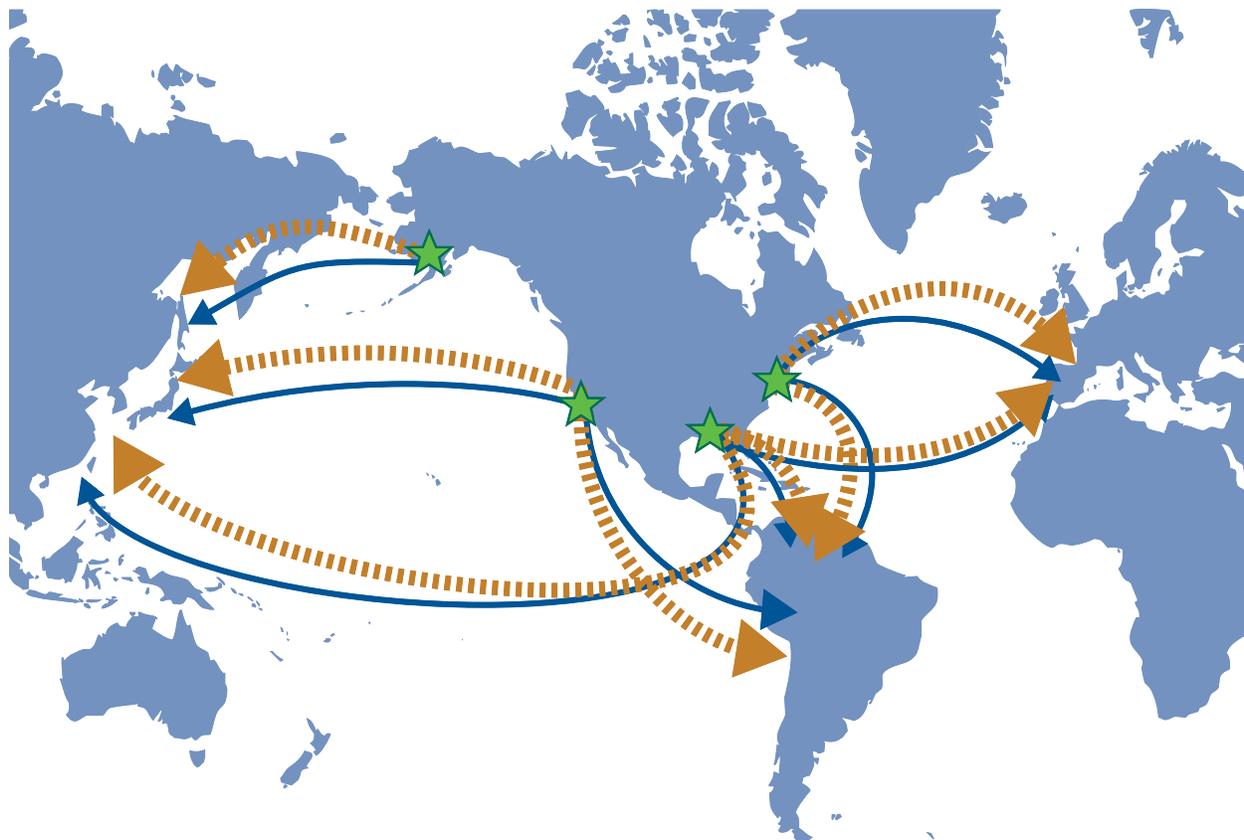
For countries that rely on imports to satisfy needs, diversity of supply is critical. Geopolitical tensions (such as between Russia and Eastern Europe) and natural disasters (such as the 2011 Japanese earthquake and subsequent Fukushima nuclear plant meltdowns) have drawn attention to the issue of diversity of supply. The entrance of the U.S. into the world market is additive to supply diversity, diluting the pricing and political power of any single energy producing nation, and reducing the risk of energy scarcity in case a natural disaster impairs other energy sources of a given import-oriented nation.

| U.S. Energy Product Exports   |  |   |   |  |
|---|--|---|---|--|
|   | Breakdown of Current U.S. Export Destinations  | Likely Destination for Incremental U.S. Exports | MLP Infrastructure Investment Opportunity   |  |
| <b>Natural Gas</b>  |  <ul style="list-style-type: none"> <li>■ 61% Canada</li> <li>■ 39% Mexico</li> </ul>   | Asia<br>Europe                                  | Pipelines (for land-based exports), LNG liquefaction facilities at origin, pipeline and storage infrastructure at origin. |  |
| <b>Natural Gas Liquids</b><br>(Ethane, Propane, Butane, Natural Gasoline) |  <ul style="list-style-type: none"> <li>■ 30% Latin America</li> <li>■ 25% Europe</li> <li>■ 19% Mexico</li> <li>■ 13% Other</li> <li>■ 9% Asia</li> <li>■ 4% Canada</li> </ul>    | Latin America<br>Asia<br>Europe                 | Export terminals and related infrastructure.  |  |
| <b>Refined Products</b><br>(Gasoline, Diesel, Jet Fuel, Plant Condensate) |  <ul style="list-style-type: none"> <li>■ 37% Latin America</li> <li>■ 15% Europe</li> <li>■ 14% Canada</li> <li>■ 12% Mexico</li> <li>■ 12% Asia</li> <li>■ 10% Other</li> </ul> | Latin America<br>Europe                         | Terminals for storage, blending, and loading.   |  |
| <b>Crude Oil</b>  |  <ul style="list-style-type: none"> <li>■ 100% Canada</li> </ul>  | Asia<br>Europe<br>Latin America                 | Terminals for storage, reversing existing pipelines, construction of export pipelines.                                    |  |

Source: U.S. Energy Information Administration as of 12/31/2013

## U.S. Positioned to Significantly Increase Energy Exports

The following map depicts the current U.S. energy export environment and the projected development of energy exports. The green stars indicate general locations of U.S. export facilities, the bulk of which are currently in Texas and Louisiana along the Gulf of Mexico while new facilities are being built on the East and West Coasts. The solid lines show the major path of existing energy exports (primarily refined products and natural gas liquids) while the dotted lines highlight where additional export growth is expected in the next several years (new markets as well as new products like liquefied natural gas as well as crude oil). As the map suggests, the U.S. will be sending more products to the same regions, in addition to new products gaining access to new markets.



### IMPACT ON MLPs

Certain MLPs are facilitating energy exports by investing in high-return projects that directly connect cheap U.S. supply with growing global demand. These projects include LNG and NGL (propane, butane, ethane) export terminals, natural gas pipelines to Mexico and Canada, condensate splitters, and expansions to existing refined products export facilities.

In a recent study conducted by IHS Global Inc. for the American Petroleum Institute, it was estimated that \$890 billion in total direct investment of oil and natural gas transportation and storage infrastructure will be required through 2025 to support increased production.<sup>1</sup> Of that amount, approximately \$50 billion of direct capital investment in LNG and NGL export facilities is projected to be needed, which is significant, but doesn't capture the full export-related capital opportunity for MLPs.

A large portion of the remaining \$840 billion estimated infrastructure investment is expected to be dedicated to connecting new supply sources with the East and Gulf coasts of the U.S. where they can be consumed or exported. Such projects in support of exports include natural gas pipeline reversals, new crude oil pipelines, refined products storage terminals, and railroad terminals. We believe those MLPs that have well-located operations engaged in the activities above will be able to tap into the global energy value chain, and will see more opportunities to invest in attractive capital projects at attractive returns. This, in turn should lead to faster distribution growth than other MLPs.

### FUTURE OPPORTUNITIES

Additional MLP opportunities (not included in the estimates above) exist in owning and operating the specialized tankers engaged in long-haul transportation of LNG, crude oil and refined products. There are several MLPs that own and operate large tanker ships under long-term contract arrangements. As traffic from the U.S. increases, there will be opportunities for these shipping MLPs to invest in new ships and put them in operation at attractive rates of return, leading to distribution growth.

<sup>1</sup> Oil & Natural Gas Transportation & Storage Infrastructure: Status, Trends, & Economic Benefits, IHS Global Inc., December 2013

## ECONOMIC AND REGULATORY CHALLENGES

The ability of U.S. companies to export commodities produced domestically varies by product due to a combination of physical and regulatory challenges. The chart below highlights the principal hydrocarbon components, their level of restriction and ease of transport. Generally speaking, energy commodities are allowed to be exported without much limitation once they have been minimally processed or refined. In some cases, the refined version of the product is much easier to transport than the commodity itself. Refined products (gasoline, jet fuel, diesel fuel) are not limited by federal restrictions, while natural gas faces lengthy and expensive approval processes.

| U.S. Energy Product Exports  |                                  |                               |  |
|--|----------------------------------|-------------------------------|--|
|  | Export Status                    | Governing Body                | Ease of Transport  |
| <b>Natural Gas</b>   | Restricted:<br>Approval Required | Department of Energy,<br>FERC | Very difficult: Requires liquefaction at origin, special refrigerated tankers, and regasification at delivery point, extensive support infrastructure. |
| <b>Natural Gas Liquids</b><br>(Ethane, Propane, Butane,<br>Natural Gasoline) | Limited Restrictions             | Department of Commerce        | Varied: Ethane-specific ships and terminals that are expensive, while other natural gas liquids are simpler to transport.                              |
| <b>Refined Products</b><br>(Gasoline, Diesel, Jet<br>Fuel, Plant Condensate) | Limited Restrictions             | Department of Commerce        | Proven via traditional tankers.  |
| <b>Crude Oil</b>   | Restricted:<br>Approval Required | Department of Commerce        | Proven via traditional tankers.  |

## CONCLUSION

- Oil and gas production growth is leading to a sustainable energy cost advantage for the U.S.
- Global demand from countries importing energy is growing.
  - Recent geopolitical tensions and natural disasters have made diversity of supply increasingly important to importing countries
  - Abundant supply and a relatively stable government in the U.S. make it an attractive new supplier to the global market
- Sustainable U.S. energy cost advantage and secular global demand growth are creating capital investment opportunities for MLPs to connect U.S. producers with global markets
  - MLPs that can join the global value chain through well-executed capital projects will be positioned to outperform
- With the combination of a global infrastructure team in place around the world and an experienced MLP investment team, we believe that CBRE Clarion is uniquely positioned to assess the growing role of MLPs on the world stage and to select the MLPs we believe will outperform as a result

We welcome the opportunity to share with you our capabilities at CBRE Clarion Securities for investment in this growing asset class. For more information, please contact:

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