McKinsey&Company

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Mr. Kevin Brown
Senior Vice President, Refining
LyondellBasell Industries
One Houston Center, Suite 700
Houston, TX 77010

CC: Ron Smith, Vice President Fuel Sales & Marketing

Dear Kevin:

Thank you for giving us the opportunity to meet with you and Ron to review the product strategy of LyondellBasell's fuel business. With the current margin environment being extremely challenging and the outlook for the next few years not being highly encouraging either, we believe that your initiative to address a variety of operational and commercial issues is very timely. This memo summarizes our understanding of the background, the project objectives, our proposed approach, as well as our support model. As discussed, we would be delighted to support you in this critical effort, aspire to serve you in repositioning your business in these challenging circumstances, and deliver against the opportunity on the table.

BACKGROUND

In our last discussion, you highlighted that you were interested in expanding the outlets for your products. The Houston refinery currently sells all products ex refinery gate and the vast majority of products go to 3 to 10 major traders. You mentioned that the refinery has a high level of flexibility and can meet quality specifications for all regional markets. While you currently capture some of the quality differences, when producing fuels for the Arizona market, you see very little of the location differential. The current approach creates a surplus of about 0.02 c/gallon above the Houston Platts quote, and you see an opportunity to get this to 1 to 2 c/gallon while keeping working capital at acceptable levels. In addition, you currently buy RINs that blenders use, but you don't use any of them or do splash blending of ethanol. LyondellBasell is one of the largest buyers of ethanol, and there is a value of 0.1 to 0.3 c/gallon gasoline in ethanol blending.

PROJECT OBJECTIVES

Based on this background and our discussion, we see three main project objectives:

- Identify markets with structural advantages from product quality and/or basis differential perspective. Identify new and existing products and product specifications that have an advantage in these markets
- Develop an integrated go-to-market strategy for these markets, including new/existing products, customers, logistical requirements, and impact on working capital
- Develop high-level business plan with action plans and targets for each opportunity, resource requirement, and ethanol blending program for the refining and optimization department.

PROPOSED APPROACH

Most other large refiners have product trading departments, commercial organizations, or contacts in place with larger players to place their volumes in the market. Physical assets such as terminals, pipelines, hydrocarbon inventory, and retail augment these departments often. If companies do not have sufficient physical assets, they have at least created access via long-term contracts. This access provides the flexibility to arbitrage pricing differences between markets. Since LBI currently does not have physical assets outside the refinery and given its financial situation, we recommend an incremental strategy to build the business and test markets and product offerings. As per our discussion, we would address three main areas in a three-stage effort for the product disposition (Exhibit 1):

1) **Identifying and prioritizing key markets**

It will be important to focus on markets that have regular and sustained quality differentials or volume shortages. We would assess this from posted and rack prices, quality differentials, and discussions with other players in these markets. The objective of this analysis is to narrow the options to 3 to 5 initial markets. For these markets, we would assess which products and specifications would provide an advantage, potential clients for these products, and HRO manufacturing capabilities. We would also assess the opportunities in the ethanol blending space in this analysis. We will analyze production disposition options in markets that can be reached via the main pipeline, including, but not limited to, transportation via Longhorn, Colonial, Teppco, and the Williams system, as well as from the truck loading rack and the wharf at the Houston refinery. The latter would include export markets to the Caribbean for both finished and intermediate (limited treatment) products that could offload the refinery system. We would assess volume estimates via externally sourced data from EAI product demand and flows, market price differentials from posted rack prices (OPIS) or other price sources available to us (Platts and others), and delivery cost from posted pipeline tariffs.

The deliverables of this phase would be a list of 3 to 5 markets and 5 to 10 opportunities by market that have sustained or seasonally delivered price opportunities derived from price differential, regional product quality arbitrage, or lower price component (e.g., ethanol, availability).

2) Define the opportunity in these markets

For the initial roll-out markets, we will do a scan of different customers and channels and assess the logistical and capital requirements. Questions include:

- Should LBI rent terminal/pipeline time?
- What are tankage needs?
- What is the impact on working capital, ease of outsourcing the finishing and placement to a major, and getting a share of the uplift?
- What are the options for ethanol blending?

For the markets that have a structural advantage, we will make an assessment of pipeline capacity, third-party terminal availability, and competitive intensity from the number of players in the market, the products they post, and the differentials between branded and unbranded fuels.

The markets we would look at would be sizeable in their own right, and potential volumes would have to be material for LBI. We will use public as well as private data (e.g., EAI data for motor gasoline and other sources) to understand the materiality of these markets.

In addition, we will assess the landscape of approachable and substantial buyers, retails, industrials, or jobbers. For every opportunity, we would assess the working capital requirement, inventory cost, and need for securing long-term pipeline or terminal capacity.

In parallel, we will look into detailed economics and outlets for direct deliveries from the Houston refinery (e.g., splash blending ethanol, Jet A1, sales of selected high sulfur (untreated) streams or other exports).

The deliverable of this section would be a list of 15 to 20 tactical options to pursue with rationale and business impact, and high-level requirement to allow prioritization.

3) Create individual action plans for specific opportunities and integrated business plan

After developing the fact-base in Phase 1 and 2, LBI will need to evaluate whether it is willing to invest the time, commitment, and expense to pursue this option. End products of this phase are:

¶ A ranked roll-out plan for opportunities prioritized in Phase 2, including volumes to be placed, cost of participation (OpEx and capital), and impact of seasonality. For the different options, we will highlight high-level revenue streams, working capital cost (where applicable), high-level resource needs (capital, tools, human resources), return on investment, as well as risks

¶ A summary business case for presentation to the CEO or Board, including overview on required next steps to target the opportunities.

TEAM CONFIGURATION AND PROPOSED MCKINSEY SUPPORT MODEL

We see this project as a short 4 to 5 week effort that has three phases, with stage gate meetings with you for decision-making and direction-setting. We will be working very closely with Ron Smith, who will lead the effort from your side and who will pull in select data and set up select internal expert discussions on an as-needed basis. We understand there is no further operational analytical resource available, so we will handle all the analytical work and documentation. We will support you with an experienced team which has expertise in refining and is familiar with the LyondellBasell specific context. Tom Janssens will direct the work, and Tim Fitzgibbon will provide necessary expert support and access to the broader McKinsey Oil & Gas Practice expert network and proprietary models. Both have extensive experience with product placement and distribution for major oil companies and independents. We plan to deploy a small-sized, full-time team and propose Rajeev Rao as project manager. Rajeev has led the previous work at LyondellBasell on the 5-year plan and has a significant refining project background at McKinsey.

WORKING ARRANGEMENTS:

We understand your request to source market data directly from EAI (volume estimates: product demand and flows) and OPIS (rack prices). We also understand you are expecting only high-level action plans for the prioritized opportunities. With this understanding, we can offer to conduct the scope in this proposal for a total sum of professional fees equaling $550,000 in a timeframe of 4 to 5 weeks after EAI has provided the required market data. We will to charge out-of-pocket expenses in accordance to the rules set under bankruptcy law on an as-needed basis. We estimate these out-of-pocket expenses to be very minor for this project and max in the range of $1,000 to $2,000 as we do not expect any project related flights, accommodations costs, data acquisition, or outsourced research cost. If we are to source rack price, this will be an additional out-of-pocket expense.

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Kevin, we look forward to working with you on this effort. We are excited about the opportunity to serve LyondellBasell Industries on this critical topic and we are committed to bringing the best of our Firm to support you.