

## Ban Diego LNG

*"I don't believe what you just told me." Bob Meinholz, Treasurer of Flagler Gas Development Company (FGDP) sat back in his chair and tried to digest what Mel Sebolsky had just told him.*

*"It's true", said Matt. "I just came back from the Partners meeting. Ban Diego Petroleum Company (BDPC) responded to our letter (Attachment 1), both verbally and in writing. Abdullah al-Madi, BDPC's CFO, formally rejected our position that FGDP was not prepared to 'carry' BKPC's equity interest in the venture. No sooner were the words out of Abdullah's mouth than Mashiro Hata piped up and said that Matsubishi Petroleum Company (MPC) 'would be happy to carry BDPC if Flagler would not do so.' Abdullah didn't miss a beat. He immediately thanked Hata-san and opined that BDPC would be willing to increase MPC's equity stake in the project. Abdullah then turned to me and said, "Of course, FGDC would need to participate in the provision of an increased equity stake to MPC by reducing FGDC's own equity." Abdullah then handed me a letter (Attachment 2) on BDPC letterhead, which spelled out what this would mean. BDPC seems dead serious about this. Moreover, they appear to have fully coordinated their position with MPC."*

*"That's just great. Ban Diego LNG (BD LNG) is a good project, so long as FGDC is just financing its own share. It likely is a lot more problematic economically if we have to 'carry' BDPC. That is the reason we wrote to al-Madi originally and indicated FGDC could not afford to provide a carry. FGDC's response puts a new light on things. It's no longer just a question of how a carry impacts FGDC's project economics. We now have to consider our relative position after surrendering equity to MPC. Put another way, we have to consider the relative economics of owning a larger share of the project but extending a carry to BDPC versus owning less of the project and avoiding the carry. This is a whole new ballgame."*

*Matt paused before making his next point, but then decided to proceed. "I agree with you. It's actually more complicated than that. It seems to me that we need several pieces of analysis which, in retrospect, it would have been good to have handy before we sent our letter to Abdullah."*

*"We sent the letter to BDPC because it isn't hard to conclude that 'carrying the Partner' was going to push a good but not great project close to the border line, and because over and above economics, we have a policy to avoid carries. That's water under the bridge right now. What is on your list of economic analyses which we now need?"*

Matt went to the white board and proceeded to list the necessary sets of economics, also outlining a sequence whereby each set of economics matched the chain of decisions which FGDC must decide. Matt's list was as follows:

1. Quantify the NPV cost of carrying BDPC
2. Recalculate the project economics, incorporating the cost-of-carry
3. Compare the project economics with carry versus the project without carry, but at a lower level of FGDC equity ownership

Matt then offered to re-run the project economics to provide these comparisons and review the results with Bob.

## **Project Background**

Ban Diego is a small island located in the Asian region. Hydrocarbons had been discovered there during the 1940's and oil production rose gradually during the decades that followed. By 1970, Ban Diego produced slightly over 750 KB/D of crude oil for export. As the population of Ban Diego numbered only about 200,000 people, per capita income was high, especially by Asian standards.

After Ban Diego assumed full control of its resources following the nationalization of the foreign operating companies in 1975, the country concentrated on developing its proven oil reserves. Ban Diego Petroleum Company, the state-owned firm, gained complete ownership of all reserves and production facilities, and was given a mandate to maximize production. Oil prices were then high and BDPC had ample cash flow to develop projects. By 1980, crude production was approaching 1 MMB/D.

In the process of carrying out this aggressive program, BDPC also discovered the prolific el-Zatar gas field. Petroleum engineers and geologists were amazed by this field. Their estimates indicated that it contained several hundred trillion cubic feet (TCF) of recoverable natural gas. For comparison purposes, the Prudhoe Bay gas cap, North America's largest, was assessed to hold only 45 TCF. BDPC decided however to leave el-Zatar for later development. Several reasons accounted for this decision. Crude oil was easy to market and transport. Any barrel produced by BDPC found buyers bidding from Europe, Japan, the rest of Asia and even North America. Buyers simply loaded crude oil into any one of an ample supply of Very Large Crude Carriers (VLCC's) and moved it to their refineries located within the consuming country markets. Moreover, oil prices were approaching \$40/b for light sweet crude. This all meant that BDPC simply needed to focus on developing and producing crude oil, for which it would be paid a historically high price. Thereafter, buyers would take care of moving it to market, conversion into products and ultimate disposition to consumers.

Developing the el-Zatar gas would be a very different story. For starters, gas traded at a significant price discount to crude oil. Measured on a BTU basis, natural gas traded at prices anywhere from 60-80% of crude oil. Moreover, this price basis reflected local market logistics. In both the U.S. and European markets, gas demand was met from local supply. Delivery logistics consisted of gathering systems in the producing fields and major gas trunk pipelines. Not only were these systems efficient, but there was no need for the gas to move in any form other than as gas. By way of contrast, to export gas from a location like Ban Diego it was first necessary to liquefy the natural gas, then to ship the liquid gas in specially-built LNG tankers, and finally to re-gasify the liquid at an import terminal. Only then would gas from a field like el-Zatar be able to enter the existing pipeline systems for delivery to end-use customers.

The consequences of these facts were several. First, LNG exports were clearly uncompetitive as imports into Europe or the U.S. market. Thus, the market for LNG was quite limited. Only a market with a large demand for gas that could not be met from supplies that were local or contiguous would be interested in LNG.

In the 1980's Japan emerged as the only large-scale market exhibiting these characteristics. Buyers in Japan were willing to sign long-term contracts and invest in import regasification facilities. LNG Producers, however, would still have to bear the heavy capital burdens of field development and liquefaction. In return for doing this, producers would achieve a 'net back' realization, i.e. one that deducted a substantial sum for shipping and re-gasification costs from the selling price.

In view of the limited market, the low gas netback realizations and the high price of crude oil, BDPC was initially content to leave the el-Zatar field undeveloped. By the late 1980's, however, this view began to change. For one thing, the price of oil had dropped. In 1986, the crude price collapsed below \$10/B, some 75% below its 1980 peak. Long-term gas supply contracts at stable prices began to look good by comparison. For another BDPC's crude oil production had reached a plateau at 1MMB/D. BDPC's revenue generation was down sharply and projected to stagnate into the future. These new circumstances stimulated both the Ban Diego government and BDPC to reconsider developing the el-Zatar field.

It took until 1994, however, for BDPC to convert this desire into a project. BDPC found that it could not afford the large capital requirements of field development and liquefaction. Moreover, LNG technology was different from the processes used in conventional oil and gas. Finally, the marketing of LNG required specialized knowledge and contacts with utility companies, the major potential customers in consuming countries.

After considering a range of possible partners, BDPC had selected Flagler as its 'partner of choice'. FGDC had completed the highly successful Kumar project in Terrasia. This project had not only given FGDC 'hands-on' experience with the commercialization and construction of LNG, it had also left Flagler with valuable knowledge of Japan's power generators and likely LNG customers. At Flagler's suggestion, Matsubishi had been identified as the prime customer for el-Zatar gas. To help close the deal, BDPC offered MPC a small equity stake in the project. MPC accepted and the original ownership of the Venture Company was structured as follows:

- BDPC            65%
- FGDC           30%
- MPC             5%

### **Project Economics**

By 1996, the economics of Ban Diego LNG had firmed up. Detailed engineering and contract bidding had defined the project's capital cost with only a 10% contingency factor. Stages 1 and 2 of the project would be executed sequentially over three years with the contractor and startup teams moving directly to Stage 2 upon completion of State 1. The two stages were thus treated as one project for capital appropriation purposes and showed a combined planned expenditure of \$1.5 billion.

Contract negotiations were also well advanced for sale of the gas. MPC had agreed to purchase 80% of BD LNG's output, while another Japanese utility had contracted for the remaining 20%. Contract terms call for 20 years of sales, with the purchases obligated to purchase a minimum of 80% of contract volumes in each year, so long as the gas was offered. Prices were set with reference to a floor of \$3.80/MMBTUs. From there, prices could rise relative to an index that referenced crude oil prices. However, delivered gas

pries were capped at \$5/MMBTU. Relative to these boundary prices, the two buyers were entitled to deduct \$.60/MMBTU to pay for shipping and regasification. Thus the BD LPG consortium was entitled to netback realizations having a floor of \$3.20/MMBTU and a ceiling at \$4.40/MMBTU.

For economic projection purposes, FGDC had used a price of \$3.50/MMBTU for ten years, rising to \$3.80/MMBTU in the second decade of production. Production and sales were assumed to average 95% of physical capacity. Ban Diego provided the project with a concessionary tax rate; thus the combined effect of royalties owed BDPC and income taxes produced a 25% effective rate of 'government take' on FGDC's share of projections. The economics terminated after year 20 of operations, as it was assumed that BDPC would exercise its option to buyout its partners at depreciated book value. Using these bases, the project showed a 14% Discounted Cash flow Return (DCFR) for Flagler and its Partners, computed on a 100% project basis (Attachment 3). Sensitivity cases at higher prices and volumes showed returns ranging from 16 to 20%. Flagler management tended to view the project favorably, appreciating its sound, if not spectacular base return, limited downside and reasonably prospective upside.

### **Project Financing**

Financing BD LNG created some complications for the Partners and their economics. Initially, BDPC asked Flagler to 'carry' their funding requirement. Their initial proposal was that FGDC and MPC fund all cash calls made upon BDPC. This financing would bear interest which would not be taxed by the BD government. Repayment would be accomplished via FGDC being entitled to 50% of BDPC's share of net project cash flows plus 100% of all royalties and taxes which the venture would owe to BDPC/Ban Diego government until the 'carry' was fully amortized. BDPC's share of all project costs totaled over \$1.0 billion. At the proposed interest rate of LIBOR + 2% (8% for planning purposes), it was projected to take more than eighteen years for FGDC and MPC to recover their 'carry' plus interest.

To avoid this, FGDC's Treasurers Department had brought forth an alternate plan involving project financing. Under this approach, all partners would commit to provide their share of equity equal to 40% of project costs and the venture would seek project financing for the remaining 60% of project expenditures. FGDC's Treasurer thought the project had good prospects for raising this amount of debt. Leaders would be confident that FGDC would get the project built and operating. Market and price risks would be addressed by the long-term contracts. Bob Meinhold told his Executive Committee that he thought BD LNG would achieve a low investment grade rating (BBB) and interest rates in the league of LIBOR + 1.5% or U.S. Treasuries +1.25%, depending upon whether floating or fixed rate borrowing was preferred.

Using this approach, BDPC's 65% share of project costs was reduced from ~\$1 billion to ~\$390M. FGDC felt that BDPC could finance this amount, eliminating any need for a carry. This approach also kept the project economics relatively simple. However, Bob felt that the project economics needed to be revised to reflect both altered taxation due to interest deductions and a 'high cost' financing debit for the fact that project financing was being 'imposed' by the Partners' demands. Annex A to Attachment 1 reflects these revised economics; also included is an estimated 'cost to carry' BDPC on the terms originally demanded by their partners but with project financing reducing the principal amount of the 'carry'.

Initially, BDPC seemed to accept Flagler's approach. Abdullah and his team asked many questions about the availability of project financing for an LNG export project, the extent to which the financing would be non-recourse to the Partners, and whether a percentage of debt greater than 60% could be obtained. Bob had replied that he was confident that the 60% debt level could be achieved so long as the Partners also provided their 'several' (separate) Completion Guarantees. Achieving more than 60% debt might even be possible. However, it was imprudent to assume the project could achieve higher leverage, given the fact that Ban Diego LNG was the first such project in the region being financed in this manner.

This feedback seemed to produce a sea change in BDPC's position. First, Bob and his team began hearing comments that the Flagler plan 'still imposed too large a funding requirement' on BDPC; Bob took one occasion to mention to al-Madi that, given BDPC's dominant 65% ownership stake, Flagler's plan greatly economized its capital. At \$390M, BDPC would be providing only 26% of project costs relative to a 65% ownership position. Abdullah's reaction was cool, however, and Bob was left with the feeling that he had not 'sold his case'. Next came the invitation for FGDC to attend a Partners' Meeting. Now they had BDPC's letter indicating a carry had been arranged with MPC and that Partners' equity would be adjusted as a result.

Bob reflected that his upcoming review of Mel's revised economics would provide part, but not all, of the basis for developing a response to BDPC. There was also a need to determine whether Abdullah's expressed course was now fixed on whether he remained receptive to revised proposals from FGDC. Perhaps the revised economics themselves could help keep the Partners' dialogue fluid. Perhaps it could be used to underscore for Abdullah that the requested carry produced unacceptable consequences for FGDC, consequences that threatened the overall project. Perhaps then a better 'win-win' solution might be devised.

Attachment 1

Flagler Gas Development Company  
Stuart Foster, Sr. Vice President  
July 14, 1996

Mr. Abdullah al-Madi, Chief Financial Officer  
Ban Diego Petroleum Company  
BD House, Forester Street  
Ban Diego City, Republic of Ban Diego

Dear Abdullah,

We are writing to respond to BDPC's request that its Partners provide financing for your share of our LNG project's capital costs and expenses.

While understandable from BDPC's perspective, this proposal is not in the best interests of the Partners as a group, nor of the project. The proposal, commonly understood as some Partners 'carrying' another Partner's financial interest, is unfairly burdensome. In effect, FGDC and MPC are being asked to assume all of BDPC's costs and risks, both during the construction phase and for an extensive operating period thereafter. Repayment of this 'carry financing' is to come exclusively out of project revenues, with no credit support from BDPC. This means that FGDC and MPC are assuming all of BDPC's equity risks on the project for the duration of the financing. For this, we are, however, to receive only a debt rate of return.

To illustrate the economic impacts of this 'carry', consider that we typically require a 14% after-tax return on investment capital for a project having the risk profile of Ban Diego LNG. Assuming that LIBOR + 2% averages 8%, FGDC and MPG would incur an annual 6% after-tax debit on the 'carry financing'. Using our agreed base case project economics, over eighteen years are required to repay this ~\$1 billion financing out of BDPC's share of cash flows, project royalties and tax payments. Applying a 6% a.t. debit to this financing profile results in partner costs totaling ~\$237 M of Net Present Value. Netting these debts against our base project return reduced FGDC's NPV to a negative figure, clearly rendering the project uneconomic from our perspective. These economics are provided to you herein in Annex A.

An alternative approach needs to be adopted if Ban Diego LNG is to go forward. We would propose that the 'partner carry' approach be replaced by a 'project financing' plan. Under this alternate course, Ban Diego LNG would be financed with 60% project financing and 40% partner equity. BD LNG is a project well suited to attract financing on a project basis. Once constructed, its operations are relatively straightforward. Market and price risks are substantially mitigated by long-term sales contracts. Partners could appropriate the project with confidence that this level of third party financing can be achieved.

Assuming 60% project loans, the Partners' equity in BD LNG drops to ~\$600M. The Partners' respective shares of these costs would then total only \$390M for BDPC, \$180M for FGDC and \$30M for MPC. At these levels, all Partners should be able to finance their equity shares using their own balance sheets.

This financing plan also offers the advantage of being straightforward and simple to execute. Such an approach is conducive to good project execution. This can save millions of dollars of costs and lost revenues by avoiding project delays and overruns.

We believe that this alternate approach will strike the right balance between BDPC's financing needs, its Partners' economic requirements, and the project's funding and execution plans. FGDC's financial staff, headed by Bob Meinholf, will be happy to meet with you and your

colleagues at a convenient time to explain the approach in some detail and answer any questions.

FGDC remains interested in progressing the BD LPG project. We hope that BDPC will find this financing proposal conducive to reaching our goal of appropriating the project and commercializing el-Zatar gas.

Sincerely yours,

Stuart Foster  
Sr. Vice President

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Attachment 2

Abdullah al-Madi, Chief Financial Officer  
Ban Diego Petroleum Company

July 28, 1996

Mr. Stuart Foster, Sr. Vice President  
Flagler Gas Development Company  
800 Old Katy Road  
Houston, Texas 77024

Dear Stuart,

Thank you for your letter of July 14, 1996. We have taken your proposal under advisement and have, as you suggested, met with Bob Meinholf's key staff, headed by Mel Sebolsky. Our position on FGDC's proposal is outlined below.

We understand FGDC's concerns regarding the economics of financing BDPC's interest in the el-Zatar gas development. BDPC, therefore, agrees that project financing at levels at least equal to those stipulated in your letter should form part of the BD LNG financing plan.

However, we continue to require that its partners finance BDPC's equity share in the project. BDPC has extensive funding requirements for already committed projects and prospective requirements for numerous other attractive opportunities. The el-Zatar gas field is a unique energy resource. Being chosen to participate in developing this resource was a coveted opportunity. Providing financing for the entity chosen by the Ban Diego government to control development of this resource is ultimately one of the requirements of entry into the project.

We have shared our views with our partner MPC. They express no difficulty with providing 'carry financing' equal to their share of the project. Moreover, they have indicated a willingness to provide FGDC's share of the 'carry financing' should you decline to participate.

In recognition of MPC's constructive approach, BDGC has indicated it is prepared to increase their share in the project from 5% to 15%. BDPC and FGDC will each surrender 5% of their current stake to provide MPC with its enhanced position.

As the project finance plan needs definition, we require FGDC's indication as to its preferred course. Does FGDC prefer to provide BDPC with its share of 'carry financing' or instead allow MPC to provide this financing, in which case FGDC's equity will be recalibrated downward from 30% to 25%?

We await your answer by August 10, 1996, latest.

Very truly yours,

Abdullah al-Madi  
Chief Financial Officer

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