Cause for Concern Over the Tumaco Pipeline

By David Jacoby
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Venezuela, run by Hugo Chávez, a man desperate for influence, is losing its traditional export market for oil as demand shifts from OECD to non-OECD countries, particularly driven by growth of demand in Asia. Oil demand from OECD countries has fallen 9% from its all-time peak of 50.1 million barrels per day in 2005 to 45.6 million barrels per day in 2011. Meanwhile, oil demand from non-OECD countries has risen 27.7% from 34 to 43.4 million barrels per day. Based on this trend, non-OECD consumption should exceed OECD consumption next year (in 2013). Of particular relevance to Venezuela is the decline of consumption in the American market, which makes up 23% of Venezuelans exports: North America imported 5.3% less oil per year from Venezuela during the 2006 to 2010, largely due to the United States’ economic malaise.

The Chinese market offers an attractive, almost inevitable, alternative market for Venezuelan crude. PDVSA signed an agreement with CNPC in 2010 to build a $8.7 billion refinery in Jieyang city, Guangdong province, to process 400,000 bpd of Venezuelans heavy crude (8% of China’s crude oil imports). The investment locks China in as a strategic importer because there are limited facilities for refining the (16 degree API) heavy crude coming from Venezuela.

However, transit via the Panama Canal is currently limited to Panamax vessels due to beam and draft limitations, which rules out the use of supertankers (VLCC & ULCC) that are more cost-effective. A new, third lane will accommodate Post-Panamax ships by 2014, but it still will not accommodate VLCC or ULCC vessels.

A pipeline through Colombia beckons as an alternative. Last November, President Santos of Colombia and President Chavez of Venezuela, ostensibly the leaders of traditionally adversarial nations, and quite different in their relationships with the United States, signed a letter of commitment to move forward with the pipeline. The “Binalonal Project on the Venezuela-Colombia Oil Pipeline” envisages a $6.7 billion pipeline, which is estimated to be complete in 2016. Shipment via the pipeline from Venezuelas Faja heavy-oil region, west across Colombia to the Pacific port of Tumaco (3,000 km), would take 36 days (three days less than routing through the Panama Canal).

Does the pipeline make sense? The Panama Canal expansion will be complete two years before the pipeline is ready for use, providing an alternative that could render the investment in the project useless. In addition, three factors cause reason to be concerned about the plan:

- Sending the crude to China for refining might give away value added production that could bring economic benefit to Venezuela, Colombia, or both.
- Tumaco is a tiny port (11-15 foot channel depth and a 26-30 foot cargo pier) that would take enormous capital investment to expand, and similarly large operating expenses to keep dredged to the depth that would be required of the size of vessels that might make the project worthwhile in the first place (larger vessels
than would fit through the expanded Panama Canal).

- Ongoing attacks by FARC, including a serious attack one week before the announcement of the pipeline and multiple attacks since the announcement, could greatly increase the financial and environmental cost of the pipeline project, both in the construction and the operating phases.

Three key strategic and logistical questions should be answered before further serious effort is put into the project.

- How much economic benefit could be derived from refining the crude before exporting it? Ecopetrol and Unco United Refineries proposed a refinery and tank farm project at Tumaco in 2008, but a FEED study put its capacity at 100,000 bpd, compared to the proposed pipeline capacity of 880,000 bpd. Refining scenarios could range from no pre-refining to a full-scale complex at Tumaco similar to Jubail in Saudi Arabia, complete with satellite processing of byproducts and downstream (e.g., petrochemical) production operations that would generate economic benefit.

- What is the cost of using the Canal versus building the pipeline? The cost will depend on which vessel size is used, as well as the cost of expanding and maintaining (especially tank farms and dredging) the port at Tumaco to support each vessel class. Multiple scenarios are possible, each with different flow rates and associated capital and operating costs. The cost comparison should include an analysis of the feasibility and cost of protecting the pipeline from attacks.

- Would an alternate export port or an offshore loading facility make more sense than a conventional liquid bulk port expansion at Tumaco? The draft required by large VLCCs and ULCCs is leading an increasing number of oil and gas operators to set up transloading and storage operations offshore rather than onshore.

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