

Can Latin American Refining Investment Keep Pace with Demand?

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One of the biggest surprises in Atlantic Basin products trade flows of recent years has been the sudden emergence of a burgeoning deficit in Latin America's oil products requirements. Net imports have mushroomed from a level of no more than about 50 kb/d in 2009, to over 1.75 mb/d last year – most of which is being supplied by grateful US refiners.

The increasing gap between regional demand and production is causing widespread problems for governments grappling with balance of trade and currency issues and has been created by the compounding forces of strong demand growth and deficient refining output. The region faces a major challenge in maintaining a growth in refinery capacity and utilisation, which can keep pace with demand in order to stem this growing shortfall.

Buoyed by relatively robust economic growth in recent years, the energy picture in Latin America is characterised by a

strong demand for almost all fuel forms. In the case of oil, demand has risen by around one-tenth since 2009 and we expect a further increase of at least 1.3 mb/d by 2020. (Figures 1 and 2)

So, how much longer will this last? At best, it seems the level of net imports could stabilise in 2–3 years' time, but any slippage in refinery expansions could see a continued growth in imports towards the end of the decade, when they could reach over 2 mb/d.

Much of this demand growth is derived from the transportation sector. Gasoil demand for instance in both Mexico and Brazil grew by 6 percent year-on-year last year. Apart from the increasing fleet of vehicles, this reflects the extent to which some countries' economies have outpaced infrastructure expansion. This has led (in some cases) to an unusually high dependence on road freight; for example in Brazil, road freight accounts for over

60 percent of all goods transportation, almost twice the level compared to the USA and China.

The second main factor shaping oil demand in the region is the issue of subsidies. These are still widespread in the continent although there is a progressive shift underway, most notably in Mexico, Brazil and Argentina to reduce and eventually eliminate them. The subject is even being broached in Venezuela (lowest gasoline price in the world). Fuel prices in the country have seen no increase over the last 17 years and after the latest currency devaluation in March the 95 octane gasoline price in dollars slipped further to just 0.015 \$/lt.

The third factor driving high demand growth is shortfalls in other energy forms, particularly for power generation, which directly impact on oil demand, usually residual fuel oil or diesel. Although this is sometimes the result of droughts affecting

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hydro-power, more often than not it is the result of inadequate investment: shortages of natural gas, insufficient water reservoirs, or inadequate power generating capacity all leading to surges in oil usage. Gasoil used in Venezuelan power plants last year was over one-third higher than in 2011, whilst fuel oil use in Mexico grew by 20 percent year-on-year during Q4 2012 as a result of shortfalls in natural gas supplies.

Turning to the refining sector, operations in Latin America have been characterised in the past few years by poor reliability, weak refinery margins and low utilisation. In the early part of this year the region’s total refinery throughput was averaging only 5.9 mb/d of crude, representing about 77 percent utilisation, still 700 kb/d below the level of 2008, when oil demand was 600 kb/d lower.

Nor has Latin America escaped capacity closures. Two Caribbean refineries, Aruba and the Hovensa plant, with a combined capacity of about 735 kb/d, were shut down last year. Both these refineries were the wrong type of plant in the wrong place and were more orientated towards supplying the US market, at a time when the country was a major importer (as opposed to its current status as the world’s largest gross products exporter). This may not be the end of refinery closures in this region either, since the long-term future of the 335 kb/d Curacao plant looks doubtful and there are over 300 kb/d of small, generally uneconomic plants in the Caribbean and Central America, which are being kept alive by the Petrocaribe agreement and the discounted crude supplied by PdVSA, which may be more difficult to maintain in the post-Chavez era.

Looking ahead to 2020, we believe that oil demand will continue to grow relatively robustly, although at a slower pace than recently, by around 15 percent overall compared to the 2012 level.

In all we can identify at least 5.5 mb/d of new refining projects in the region but achieving even half of these by 2020 will

Figure 1: Latin America – Projected Demand vs Refining, Base 2006 (mb/d)

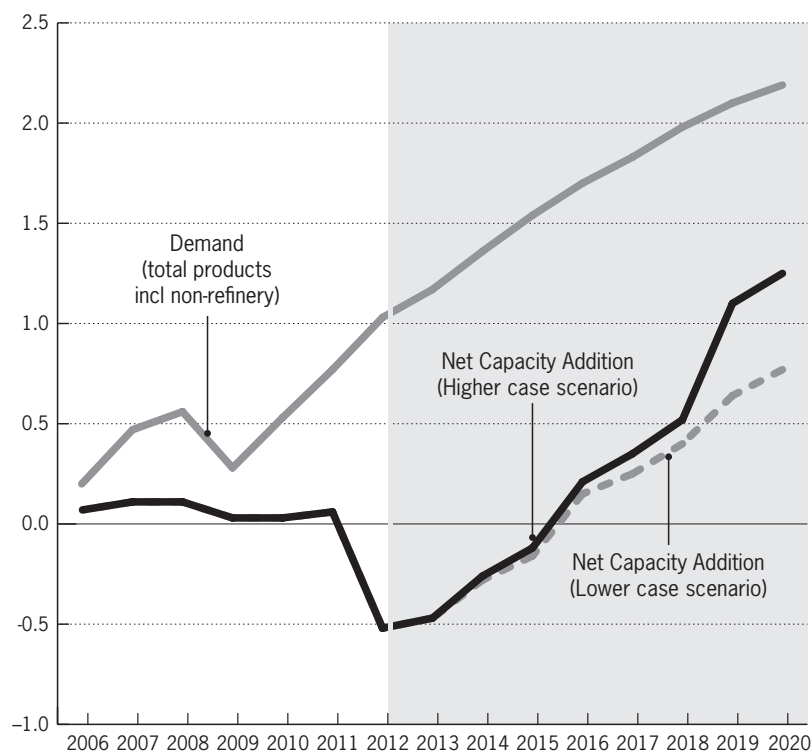
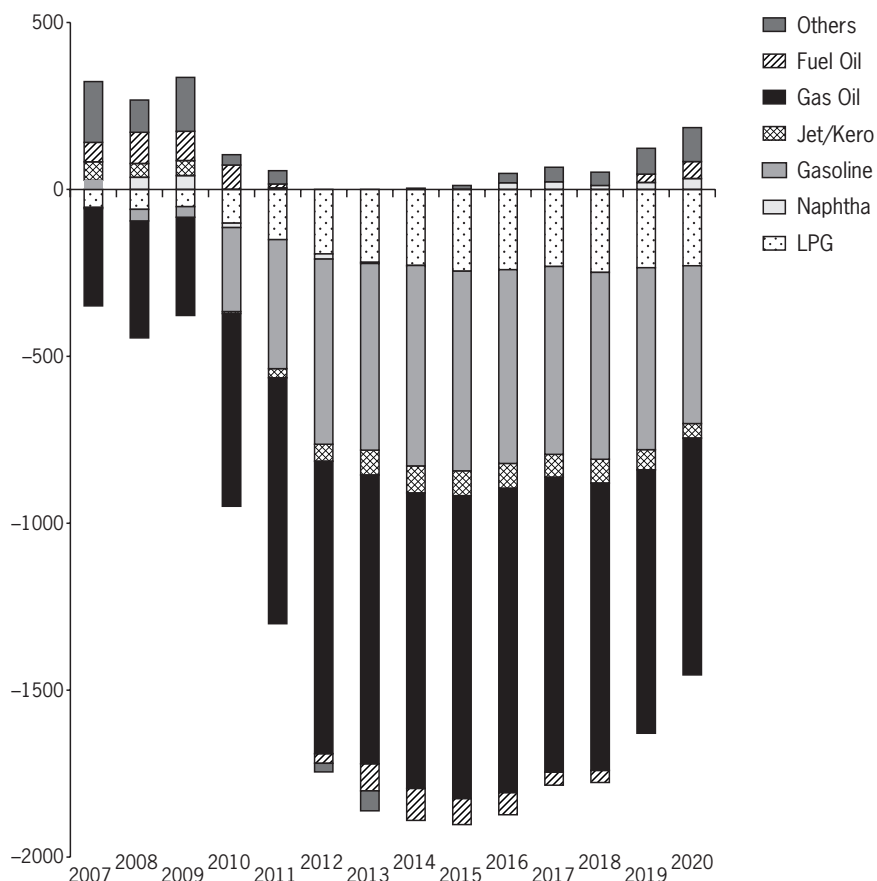


Figure 2: Latin America - Projected Net Oil Products Balance (kb/d)



be a major challenge. Unlike the buoyant investment programmes in the East, driven by fully-fledged state oil companies, investments in Latin American refineries are reliant on cash-strapped governments or commercially-driven financing and in particular face the following hurdles:

- Poor margins and subsidised fuel market prices;
- Sometimes poor project management and cost containment;
- Shareholder pressure to divert investment funds to the upstream sector;
- Political considerations overriding economics;
- The withdrawal of the integrated IOCs from the downstream sector and difficulties in finding credible partners to help fund the projects;

The single most important player in refining investment is Petrobras in Brazil, which is hampered only by its role as a semi-state entity. On the one hand it has the responsibility of providing domestic products for its growing home market, but on the other, it has to placate foreign shareholders who see the upstream as a much more attractive place to invest, particularly given the recent downgrading of production targets. Yet the company is suffering financially from high products imports and low domestic prices – reporting an \$11bn loss last year from its downstream operations.

The company is thus revamping its major refining projects more along lines of profitability, with 'Premium' plants (totalling 900 kb/d) and the second stage of the COMPERJ refinery (165 kb/d). The 230 kb/d Abreu e Lima project, the first greenfield refinery in the country

since 1980, epitomises the difficulties it faces: with construction initiated in 2007 and with a final cost currently estimated at around \$17bn, it has yet to commence operations.

Petrobras has, nevertheless, learnt to maximise use of its existing capacity having recently had a consistent run of record high utilisation rates of about 97 percent during the first quarter of this year. In contrast, in Mexico, PEMEX's utilisation rate last year was only 70 percent and, although it inaugurated a new 165 kb/d expansion at its Minatitlan refinery in mid-2011, it has taken at least 18 months to begin operations at the new units and to raise runs above pre-expansion levels. Mexico meanwhile is desperately trying to start construction at the much-delayed new 250 kb/d refinery in Tula, but with cash-strapped PEMEX the only investor, this much-needed new plant will at best, we believe, come on stream in the latter years of this decade.

Above all, Venezuela highlights the difficulties faced in the refining sector of the region. Following a fire and major accident at its giant 640 kb/d Amuay refinery last August, the country saw its position as one of the region's major products exporters virtually disappear as it struggled to restart operations. Seven months after the accident, PdVSA is only now contemplating the full restart of the plant, which has been limping along at only 55 percent of capacity in recent months. PdVSA has a wide range of projects on its books but faced with funding limitations, has been seeking to finance much of these via loans granted by foreign banks and under joint ventures with other companies directly repaid in crude or products (usually Asian-based). However, the company seems likely to

prioritise investments aimed at modernising the existing plants and increasing the heavy conversion capacity. Looking more vulnerable, however, are the more politically-inspired projects, such as the 300 kb/d El Pacifico refinery in Ecuador, the 150 kb/d El Supremo Sueno de Bolivar refinery in Nicaragua and the expansion of both the 36 kb/d Petrojam refinery in Jamaica and the 33 kb/d Refidomsa refinery in Dominican Republic.

In contrast, in Colombia, Ecopetrol's planned investment projects appear to have much more solid grounding. The company is planning to expand capacity at two refineries with a current combined capacity of 322 kb/d. Its programme for increasing capacity by 136 kb/d over the next four years seems to be on course and achievable. At the end of 2012, the expansion and modernisation of the 247 kb/d Barrancabermeja and 75 kb/d Cartagena refinery were reported to have advanced respectively to 14 percent and 74 percent of completion. The single most important difference between Ecopetrol and the larger state operators in Brazil, Mexico and Venezuela is the commercial basis on which its downstream operations stand since, alone out of these four countries, Colombia has no price subsidies and refining margins remain good.

Perhaps, therefore, subsidies are more important in influencing refining investment levels than might be assumed. Subsidised fuel prices in poor economies are politically sensitive and notoriously difficult to remove, yet maintaining them in high demand growth markets helps create a vicious circle where the enforced low profitability of downstream operations restricts investments and generates greater import needs, thus squeezing profits further. ■