

Mexico Market Size Estimate Explanation for the Four Major Water Subsegments

In past presentations at WWEMA and WEFTEC events, the LGA Consulting General Manager provided extensive water sub segment market size estimates for municipal and industrial wastewater and municipal and industrial potable/clean water markets. In this article we hope to fully explain the methodology behind the different sub sector scenarios and their respective numbers for these areas.

On the public sector side, this exercise is important since (a) it is hard to get decent budget estimates from Conagua, (b) even when you get them, their accuracy is often questionable, and (c) even if budget information is accurate, it is often not a reflection of the actual money spent by Conagua on projects. Often Conagua budgets funds for a state or municipal project and the local politics, personal interests (i.e. corruption), errors in bidding or lack of sufficient complementary local funds can postpone or even cancel projects duly confirmed with Conagua. For example, in another related article in this edition, we describe how less than 50% of 204 wastewater projects planned for 2011 that were submitted to Conagua and approved with 65% or more financial support simply did not materialize.

On the private sector side, while we don't have to deal with the uncertainties and politics of the public sector in these efforts, private sector market size estimates and scenarios can be even more difficult to develop. In these cases, we don't have public sector budgets as a benchmark nor can we interact with officials for information at a central agency like Conagua that happens to supply more than 50% of the funding for all projects and has a decent feel for what will be coming on line during the year. That being said, we are able to speak with different private sector companies selling into these sub segments, and these opinions tend to be more accurate and based on truer, realistic sales estimates. However, in the case of the private wastewater sub segment, with the less than extensive, viable or credible enforcement of the applicable treatment regulations, it is hard to get a good handle on the size of the sub segment because you cannot base it on an analysis of the universe of non-compliant companies.

Despite these challenges, LGA Consulting has tried to come up with some estimates for these water sub segments that we believe are better than any others simply because we of our extensive research and, frankly, because in some cases we are the only ones taking a stab at these estimates. Below are the descriptions and explanations of the different market size scenarios/estimates along with median and average figures for the scenarios of the five above water sub segments. We also provide our opinion about what we believe are the best market size

scenarios and most likely estimates for each sub segment.

Municipal Potable Water Market Size

The largest of the five water sub segments but probably the most challenging, especially for foreign companies, is the Municipal Potable Water Market. We include some analysis of the hydro-agricultural sub segment in this section as well. This sub segment is tricky for foreign companies in general and especially in 2012 for three reasons. First, since the great majority of Mexican consumers do not drink tap water, the demand for many potable water services is less clear and not at the level of not only developed countries but also developing countries where potable water product is used more extensively for drinking purposes. Therefore, while potable water funding is still a high priority in many developing countries and despite the fact that Mexico still has many potable water challenges, often other sub segments get priority funding over the potable water sub segment. Second, for legal reasons and despite NAFTA, all sales in this public sector sub segment must go through a Mexican-based distributor or integrator/contractor. Third, local elections happen every three years and reelection is legally prohibited at all levels of government which can make it a nightmare to deal with municipal officials who have limited experience and when a sales cycle for some of these projects can be 2-3 years. With 2012 being a Presidential election year and with 25% of the state governorships and 50% of municipal positions up for election, these difficulties become even more complicated and unpredictable in 2012.

Scenario Details – LGA Consulting has created or “deduced” one budget scenario for this sub segment and a budget scenario for the agricultural sub segment. The Conagua water budget for 2011 was listed as approximately \$3 billion US with 50% of the budget for projects and 40% for potable water projects. This provides us with a figure of \$600 million US from federal sources. LGA estimates that 1/3 to 1/2 of federal figures represent the additional, matching funds that come from state and local sources which brings this number up to \$800-900 million US. If we assume that approximately 50% of these budgeted funds go to construction and other purely basic, local content, then the other 50%, or \$400-450 million US, are probably funds that should be used for products and services that could or maybe should be sourced from abroad. Somewhat ironically, the US Embassy estimated in 2005, arguably two years before the international economic crisis begin, that this sub segment represented \$470 million US with \$370 million US likely targeted for products and services that need to be sourced abroad. We tend to feel that US Embassy estimates for the water sector tend to be a bit on the generous side. If so, we feel that our figure demonstrates the strength of this sub segment without overestimating its importance or likely spending.

The hydro-agricultural sector figure is a much simpler deduction where 19% of the total federal water budget is destined for this sub segment and this figure is \$570 million US. With the Mexican agricultural sector heavily dependent on subsidies and with it using about 75% of all water resources in the country and losing more than 50% in bad delivery systems, this will be a key area for current and future investment and funding. Since 2008, federal funding for this hydro-agricultural sub segment has increased and impressive 60%. However, the tiny, barely inflationary increase of 4% in 2011 demonstrates that despite it being a priority sub segment, it can and will be underfunded when there is economic malaise or budget shortfalls. This sub segment offers enormous short, medium, and long term opportunities to companies with

agricultural water products and solutions. However, working with the agricultural sector in Mexico can be very difficult in light of its very provincial mentality. Also, with its needs often being very basic, it is hard to understand how and where these funds will be spent. For this reason, we think that at the most, 50% of these funds or \$285 million US, can be earmarked for products that might be viable areas for foreign companies. If the money trail is hard to identify in Conagua and difficult to identify in local water agencies, it is even harder to identify in the predominantly rural agricultural areas that lack central organization and administration.

Municipal Wastewater Market Size

The second largest water sub segment, the municipal wastewater market, is also the one with the most references and potential benchmarks and the one that LGA Consulting has most analyzed. This segment, like the municipal potable water sub segment, is equally tricky for foreign companies. First, as mentioned above, foreign companies need to sell through Mexican-based intermediaries and can be inhibited by national content regulations. Second, and also referenced above, three year local municipal terms and the Presidential, governor, and municipal elections in 2012 further complicates things this year. Third, many, many Mexican municipalities ignore Conagua fines and instructions with impunity if their residual waste is not compliant with wastewater standards.

If you put these factors together it can become an “imperfect storm” of sorts that can lead to a municipality with wastewater problems to simply ignore the problem. In light of these problems, Conagua and many municipalities are pushing for BOT or PPP projects but most foreign companies who have experience in these areas still have reservations about the uncertain revenue and relatively high political risk associated with these types of projects.

Despite these problems and reservations, in the emerging world, when urban potable water and sewerage systems reach 90% plus figures and leakage issues are addressed, wastewater treatment generally come on line shortly thereafter. If this is a valid trend, and if Mexico will divert less money to potable water projects than in most other emerging markets for the reasons mentioned above, we should see considerable more spending on municipal wastewater treatment, especially in tourist and medium-sized cities (60 with over 100,000 persons and 45 with over 250,000), perhaps not in 2012 with the distraction of federal, state, and federal elections, but very likely from 2013-2018 during the next presidential administration.

Scenario Details – LGA has taken information from several different sources to come up with 5 separate scenarios for this sub segment along with average and median figures for these scenarios to try to arrive at a single point of reference. The first three scenarios are based on Conagua 2011 budget categories, one is from a Frost & Sullivan Latin American water segment study and the last is an estimate of the sub segment by the US Embassy. These scenarios provide us with a somewhat broad range, from a little over \$200 million US to a high of \$546 million US, creating an average between the five scenarios of \$321 million US and a median of \$280 million US.

The first Conagua budget scenario is \$195-220 million US in annual spending. This scenario is based on the total 2011 Mexican federal budget for the water segment (\$3 billion US) and breaking it down in the following four ways (a) 48% of the Conagua budget for Projects (\$1.53

billion US); (b) 12% of Projects budget for Saneamiento or municipal sanitation/treatment (\$183 million US); (c) 80% of Saneamiento for municipal wastewater projects (\$146 million US); plus (d) municipal and state matching funds (1/3 to 1/2 of federal funds) which gives us a figure of \$195-220 million US.

The second Conagua budget scenario is based on the “Saneamiento” or drainage/sanitation budget concept which includes wastewater treatment spending, and is a much simpler formula, taking the “Saneamiento” or sanitation/treatment budget of \$189.8 Million and applying two figures to it: (a) 80% of Saneamiento destined for municipal wastewater projects (\$152 million US); plus (b) the municipal and state matching funds (1/3 to 1/2 of federal funds or \$200-230 million US).

The third Conagua budget scenario is based on the following, specific Conagua wastewater related categories: S218, K007, S074 and S075. These four wastewater specific categories total just over 3 million pesos or \$255 million US. If, once again, we estimate that 1/3 to 1/2 of federal fund figures equal the amount of matching state and local funds, then this figure increases to \$340-380 million US.

The fourth scenario is based on a Frost & Sullivan Latin America-wide municipal wastewater treatment figure for 2008 of \$43.1 billion US where they assigned 27.5% of the total or \$11.85 Billion to Mexico. If we take this Mexico figure that we believe is a fair estimate for 2011 if not 2012 figures and apply the following formulas similar to those mentioned above, we arrive at a figure of \$546 million US: (a) 48% of the Conagua budget for Projects; (b) 12% of Projects budget for Saneamiento; and (c) 80% of Saneamiento budget for municipal wastewater projects.

Finally, a US Embassy 2010 study on Mexico Water and Wastewater Imports provided us with bases to use their information to arrive at the final scenario. This study established the entire (federal and local) water budget in 2010 as \$3.922 billion US with the specific, municipal water segment estimated at \$2.9 Billion US. If we apply the above-mentioned concepts (12% of Projects budget for Saneamiento and 80% of Saneamiento budget for municipal wastewater) to this figure, we come to an estimated municipal wastewater market size of approximately \$280 million US.

Industrial Wastewater Market Size

The third largest water sub segment is one of great need but without the necessary regulatory support to allow it to be a sub segment that is easy to predict. Industrial wastewater equipment and related products are required by the more than 400,000 Mexican companies that use water for their manufacturing processes, especially by many high water use and high contaminating industrial segments. However, Conagua says that only 19% of industrial waste is currently treated; and, it generally fails to clarify that this figure is for industrial wastewater dumped into federal bodies that are regulated by NOM 001. Conagua officials admit that they have no idea how much industrial wastewater is dumped into municipal bodies/sewerage systems or how much is treated, and only 35-40% of municipal wastewater is currently treated. As a result, it is entirely possible that Mexico treats less than 10% of its current industrial wastewater.

Scenario Details - LGA took information from three different sources to come up with 4

separate scenarios for this sub segment along with average figures for these scenarios to try to arrive at a single point of reference. The first two scenarios are based on US Embassy information. The third scenario is based on Conagua 2011 budget information and the last scenario is based on a 2010 Frost & Sullivan Latin America Industrial Wastewater Equipment study. These scenarios provide us with an equally broad range, from a little over \$100 million US to a high of \$350 million US, creating an average between the four scenarios of \$277 million US. While we will comment on this in the conclusions section, we consider the three highest scenarios, those based on information from the US Embassy and Frost & Sullivan sources, to be on the high side while we consider the scenario based on Conagua information to be on the low side. As a result, we think that a more appropriate figure to be closer to a \$220 million US figure.

The first scenario based on US Embassy information is an estimation from a 2006 Mexico Industrial Wastewater Equipment study that estimated the sub segment market size as \$325 million US in 2005 and \$346 million US in 2006. Considering that this figure is from one of the last pre-international crisis years and that it was not until 2011 or perhaps 2012 that we could claim we were at a full recovery stage, we feel that this 2006 number could stand on its own for 2011 or 2012. The US Embassy estimates that 40% of the money spent in this category is with large companies and 60% with small and medium size companies.

The second scenario, also based on US Embassy information, is an estimation based on figures on imports from a 2010 Total Mexico Water & Wastewater Imports study that estimated the size of total water and wastewater imports as \$3.314 Billion US. The document establishes that 88% of this figure is for products rather than services and 20% of this product figure is for products, arriving at a total water figure of \$593 million US. The consensus is that 50% and perhaps more of water products would correspond to municipal wastewater rather than municipal potable or clean water products. The low figure of 33% would represent \$221 million US and the moderate figure of 50% would represent \$336 million US. Despite the fact that we think that the moderate percentage is probably closer to the mark, we feel that the lower figure of \$221 million is probably a more accurate estimate of the size of this sub segment.

The third scenario is a simple estimate of the most appropriate percentage of the Conagua municipal wastewater sub segment water budget that would represent the industrial wastewater sub segment. Two reputable private sector water sources felt that this percentage would be 30-33% of the total or 50% of the municipal wastewater sub segment. In this case, half of the average between the five municipal wastewater scenarios (\$321 million US) and half of the median (\$280 million US) would be \$160.5 million US and \$140 million respectively.

The final, multiple scenario based on information from the 2010 Frost & Sullivan Latin America Industrial Wastewater Equipment study, establishes total 2012 industrial wastewater spending in Latin America as \$1.17 billion US and 2014 spending in the region as \$1.27 billion US. Other private sector sources have confirmed that if Mexico represented 27.5% of the municipal wastewater market, the industrial wastewater sub segment in Mexico should represent about 25% of the Latin American figure and at least 20% of the total. Using these percentages, the moderate 25% figure for 2012 would be \$295 million US while the lower 20% figure would be \$234 million US. Likewise, in 2014, the moderate 25% figure would be \$320 million US while the lower 20% figure would be just over \$250 million US.

Industrial Clean Water Market Size

The smallest of the traditional water sub segments is industrial clean water and high purity industrial use water. Unlike the other three traditional sub segments, this sub segment is the only one that is not affected by government policy and regulatory enforcement or lack thereof as tends to be the case in Mexico. This sub segment is driven by almost exclusively bottom line manufacturing and related process issues and therefore should be an area for targeting during the tumultuous 2012 Presidential election year when the other three sub segments, especially the two public sub segments, should see at best unpredictable growth and project follow-through.

Scenario Details – These scenarios are much less true scenarios with formulas and more estimates from what we consider to be reliable private sector contacts. These contacts estimate that the industrial clean water and related products sub segment probably represents somewhere between 25% and 33% of the total industrial water market, that is, 33-50% of the industrial wastewater sub segment. 33% of the average of the four industrial wastewater scenarios (\$277 million US) would be approximately about \$90 million US while 50% would be just under \$140 million US. We believe that this is a faithful range for this sub segment and therefore we would estimate its size at approximately \$125 million US with considerable potential for growth as Mexican industrial water prices continue to increase beyond inflation and as water scarcity and stress continue in the arid north and somewhat arid central parts of Mexico where 87% of the Mexican economy and industry are based.

Conclusions

With the Presidential election, 1/3 of Governor elections and 100% of municipal elections taking place in July 2012, with the new federal administration not coming into office until December 2012 and with the majority of cabinet and Conagua director appointments not likely to take place until the at least the first quarter of 2013, we think that the two largest sub segments, those focused on the public sector, are those that are the least clear and the most likely to disappoint. As a result of this dynamic and for other positive private sector reasons, we think that the best sub segments to target in 2012 are actually the three smallest sub segments all focused on the private sector: industrial wastewater, industrial clean water, and to some extent residential clean water. From a number of sources, LGA Consulting has come to believe that most industrial projects will not be negatively affected by or delayed because of local, state, or federal elections in 2012.

In summary, below are the LGA projections of the annual spending for four water sub segments listed above:

- A. Municipal Potable Water: \$450 million US
- 1. Hydro Agricultural Water: \$ 285 million US
- B. Municipal Wastewater: \$ 280 million US
- C. Industrial Wastewater: \$ 220 million US
- D. Industrial Clean Water: \$ 125 million US

Finally, we hope that you find these estimates helpful and we welcome all comments and constructive criticism about the bases or details concerning these scenarios.