

Waterleau: Water Treatment Innovation in the Food and Beverage Industry

Investing in global trends

Throughout the turbulence of the financial, economic and political landscapes of the past 4 years, few trends have been commonly recognised and accepted in advance by the public majority. This is emphasised by the abundance of trading losses incurred by top city speculators on short-term positions over the past few years. There have developed, however, a few mid/long-term trends during this time which were predicted in advance and remain undisputed: increasing fresh water scarcity, continued population growth, global growth in the middle classes and rising food prices. With these long term trends comes business opportunities.

The Food and Beverage (“F&B”) industry: rapid growth in emerging markets

The key driver for the branded F&B market will be the explosive growth in its middle class customer base. Back in 2009, The Economist famously announced that over half of the world’s population belonged to the middle class as a result of rapid growth in emerging economies (*). An important conclusion of the article was that in many emerging economies, the middle class had not grown incrementally, but explosively. As a result of this demographic shift during the past decades, the demand for branded F&B products in emerging markets has grown considerably. To reduce costs a lot of global brands manufacture F&B products locally, particular drinks (which have high transportation costs compared to the overall costs of product), which means they need to treat process water and waste water locally.

Demand realised by the F&B industry is also very stable, which is yet another reason why it is such a fantastic place to be growing a business right now. After all, everybody has to eat and drink, recession or not. This was highlighted during the downturn, in which the industry generally weathered the storm and emerged with minimal impact. In some countries, large blue chip corporations even experienced double-digit growth during these periods.

Leveraging F&B exposure in growth hotspots

Two issues that can easily damage a blue chip brand are inconsistency and contamination. One way in which both of these risks can be reduced is via investment in advanced production technologies. Water technology is at the heart of these issues, since poor water quality can open up a potential gateway for product contamination while also being a hurdle to product consistency. On the ethical side, water is again at the forefront of current debate, with wide scale water pollution caused by fertilisers, pesticides and industrial chemicals becoming a global issue. In this day and age, a single report of pesticide pollutants in a beverage or chemical anomalies in food can be sufficient to bring irreconcilable damage to a brand’s reputation.

The F&B industry is reliant on the use of high volumes of water, and hence, when combined with the trend of global water scarcity, it provides the perfect foundation to add value by optimising the use of water in operations. Similarly, any opportunities for F&B businesses to increase

production efficiency are likely to prove beneficial in allowing these companies to price their products more competitively. The main ways in which efficiencies can be achieved in the F&B industry are:

- i. Reduction in water usage by increasing operational efficiency.
- ii. Reduction in waste water treatment costs: most large industrial players pay for the treatment of their waste water dependant on the volume of wastewater and/or the biological oxygen demand (“BOD”) and or chemical oxygen demand (“COD”) of their waste stream.
- iii. Energy and resource recovery: some technologies can harvest valuable nutrients, resources, and produce renewable energy from the waste stream. These are all sources of operational cost reductions and/or additional revenue streams, which often also help reduce wastewater treatment (“WWT”) costs downstream. Interestingly, the more polluted the water is (higher BOD, for example), the more energy can be derived from it. The F&B industry tends to have waste streams with high biological loads, providing an ideal foundation for implementing value-from-waste technologies. Approximately sixty per cent of food industries claim that energy bills are their main concern (**).

Anaerobic digestion is a key technology in realising the above efficiencies. Whether resulting from fermentation, soaking, cleaning, rinsing or coagulation, the organic content of F&B industrial effluents are usually high due to the organic ingredients used in the process. This makes it a prime target in which to apply anaerobic digestion, which can produce alternative energy by using this organic matter as a feedstock, while simultaneously reducing the BOD of the resultant waste stream, and also forming the initial stages of a full secondary and tertiary treatment cycle to enable water reuse.

Waterleau: positioning to harvest the F&B opportunities

We know that the F&B industries are likely to grow rapidly in developing countries, and also that they provide an ideal foundation on which to apply innovative water technologies. But how has Aqua Resources Fund Ltd (“Aqua”) gained exposure to this?

One of Aqua’s portfolio companies, Waterleau Group N.V. (“Waterleau”), has diligently noted the opportunities presented in these markets, and has been steadily growing and building a proven track record in anaerobic waste water treatment (amongst other applications). With more than 200 references in this field, Waterleau has already become a top 3 world player. Entering these new high-growth markets is not easy and Waterleau’s established track record in this field is very valuable. Recently, the environment has become even more challenging due to recent political developments in such markets as North Africa, the Middle East. In addition, due to their main “hunting grounds”, such as Europe, shrinking too due to the economic problems, many competitors are now starting to chase opportunities in these new markets. Waterleau’s track record will help them to retain their position in these markets and to harvest future growth opportunities on the back of the rapidly growing F&B industry when the political situation stabilises.

(*) The Economist, “Burgeoning bourgeoisie”, Feb 12th 2009

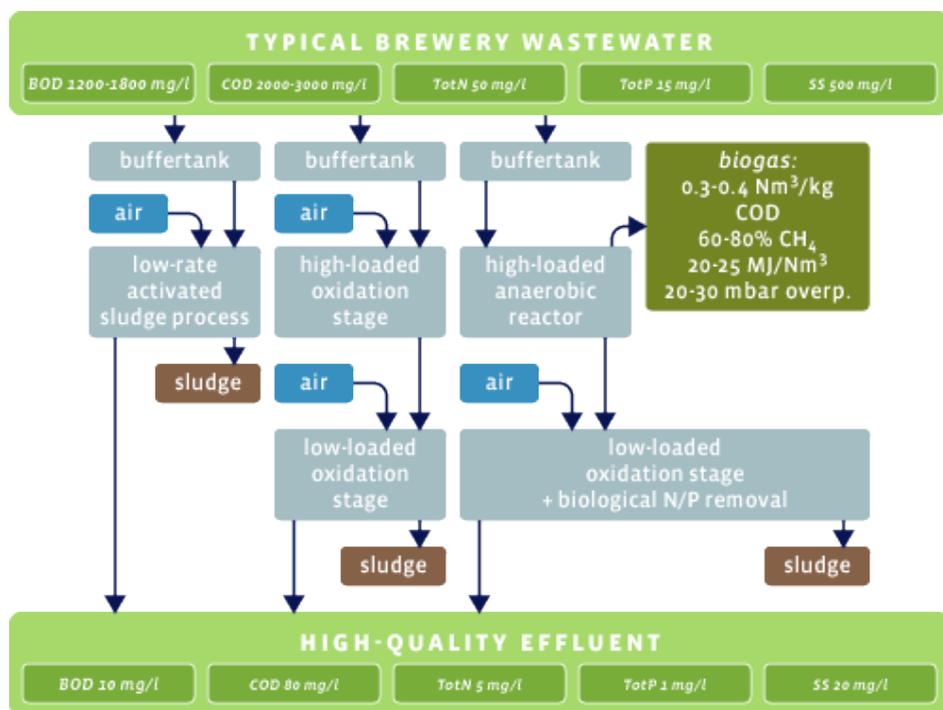
(**) Veolia, <http://www.veoliawater.cn/en/services/industrials/food-beverage/>

Global Water Intelligence recently published a report stating that worldwide annual capital expenditure on water technologies in the F&B industry has recently been forecast to grow from circa \$3.3bn in 2011 to around \$6.0bn by 2020 (**). This would represent a compound annual growth rate ("CAGR") in the marketplace as a whole of 6.7% over 9 consecutive years, broadly out performing most other markets. It is, however, expected that Brazil, Russia, India, China ("BRIC") and emerging markets such as Africa will continue to outpace the market substantially, providing double-digit CAGRs during the period. The relatively low cost of Waterleau's anaerobic solution is crucial to its success in emerging markets. Many of the large F&B players present in these regions already have stretched budgets due to their high ambitions for growth, hence cash is limited and allocated sparingly.

However, these large corporations have brand images that must be protected, hence an affordable WWT solution must be employed. This is where Waterleau comes in.

Although much of the technology in question has been available in some shape of form for several years now (see below), it is only recently that energy prices and water scarcity have shifted sufficiently to cause the value proposition to add up. With the fundamentals that drove these economic shifts looking set to continue in the long-term, it is logical to assume that businesses will continue to re-position themselves to take advantage of the fortuities presented to them by the water industry's technologies.

Waterleau continues to expand its portfolio of references internationally and is continuing to focus on new opportunities in the F&B industry in emerging markets, such as Africa, south East Asia and Latin America.



Waterleau's Sequencing Batch Reactor ("SBR") for Heineken in Nigeria.

A typical Waterleau Bacteria Treatment System ("BTS"), as installed in more than 50 breweries worldwide. Waterleau's proprietary "LUCAS" BTS system was first developed in the 1980s for a project for the Stella Artois brewery in Leuven, Belgium.

(**) Global Water Intelligence, "Water for Food & Beverage", April 2012.

About FourWinds Capital Management (Aqua's investment manager)

FourWinds is a specialist in global commodities and natural resources with products investing across energy, metals, agriculture, timber, water, waste, and alternative energy.

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About the Fund

Aqua Resources Fund Limited is an LSE-listed investment fund (H2O) managed by FourWinds Capital Management, investing in the full value chain of global water. The strategy combines direct investments in projects, companies, and infrastructure across water-related business areas. www.AquaResourcesFund.com

Fundamentals of Aqua Resources Fund

Listing date:	24 July 2008
Ordinary shares outstanding:	72,464,340
Latest audited NAV (31/12/2011):	EUR 0.9499
Latest unaudited NAV (31/3/2012):	EUR 1.02086
Number of investments/continents:	5 / 3
Total invested:	EUR 69.1 million (93.4% of portfolio)

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