



ZERO WASTE ROADMAP: UAE, QATAR MOVING TOWARDS SUSTAINABLE WASTE MANAGEMENT

By Swaliha Shanavas

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Looking at the waste management scenario in the Middle East, one may be surprised at just how far the region, especially the UAE has come regarding environmental and sustainable waste management issues. Over the past few years, there has been a major shift in attitudes and a better understanding of the urgent need to manage waste in a sustainable manner. Many countries have ramped up efforts to manage sustainably the waste generated by various sectors, very much in line with the strategic

vision of the governments to achieve excellence through sustainable waste management to achieve the ultimate goal of ‘zero waste to landfill’. Various countries have their own ambitious targets and have been introducing several initiatives including their Waste Management Master Plans. For instance, the emirate of Dubai aims to increase recycling rates and attain 75 percent waste diversion from landfills by 2021. There have been many advances, though there are different challenges to be dealt with

as expressed by industry experts in an interview with Waste & Recycling Middle East magazine.

"The UAE Vision 2021 has set the target for the country to achieve 75 percent diversion of non-hazardous waste and the Ministry of Climate Change and Environment (MCCE) has been following up with individual Emirates on this KPI," says **Dr. Udayan Banerjee, Policy & Legislation Specialist at Tadweer – the Center of Waste Management, Abu Dhabi.**

At the Federal level, MCCE is working on certain regulations that are in draft stage and have been reviewed and commented on by the Emirates. One of the key challenges of the Federal target is that the concept of diversion of waste should be looked in association with the recycling targets while it requires an institutional framework for adapting the life cycle approach to ensure sustainable waste management, Dr. Banerjee explains.

"This cannot be implemented by choosing the easiest or short-cut method, to achieve diversion targets by, for instance, going for just waste to energy. Ideally the diversion target should have been coupled with a target for recycling. There are some significant gaps in the Institutional framework in the country that need to be adequately addressed, to achieve the overall objective. The MCCE should have a national policy to promote use of recyclable over natural virgin material," he stresses.

Mark Heesom, Managing Director, Waste Management, Bee'ah says within the UAE, leadership at both the Federal and individual Emirate level is the key to ensuring delivery of initiatives to create a sustainable and diversified economy. "The comprehensive UAE "Vision 2021" is a reflection of one such wide-reaching master plan. Guided by the vision of His Highness Sheikh Dr. Sultan Bin Mohamed Al Qasimi, Member of the Supreme Council, Ruler of Sharjah to establish Sharjah as the leading 'green' emirate, Bee'ah is targeting zero waste to landfill. The UAE's Vision targets

an ambitious 75 per cent diversion of waste away from landfills by 2021."

Bee'ah's was created in 2007 to adopt sustainable practices and maximise recycling initiatives, he notes. "We have already seen government intervention and support in areas relating to energy recovery. This can be seen through the waste-to-energy project that began in 2015 and is currently being developed." Legislation is important to facilitate many of these goals and in fact laws are being introduced that will regulate and officiate on operating standards for waste management facilities, which will ultimately lead to efforts that will minimise environment impact, he adds.

Over the last few years, governments from across the region have been supporting waste recycling initiatives especially in the sorting at source and recycling activities in a reinforced manner through various programmes and incentives, says **Marc Esteve, Executive Director - Environmental Services, Imdaad.** "This goes from providing households with two bins (for general waste and recyclables) to help with segregation at source, to encouraging Material Recovery Facilities for the final processing of collected materials. Each government has also set specific targets, usually expressed in strategic 'diversion from landfill' rates and the whole strategy can therefore be measured, both for waste generated by households and by corporations."

"We have seen these government initiatives flourish in the last 10 years mainly, whereas before segregation and recycling were largely market-driven, thus focusing on valuable materials such as steel and corrugated cardboard from private companies," he comments.

Elsewhere in the region, Qatar has made progress in the waste management sector. Yet, as per national statistics Qatar, only eight percent of the waste generated is recycled and the remaining is dumped in landfills, says **Salman Shaban, Senior Manager, Lucky Star Alloys.**



Dr. Udayan Banerjee

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"Contributing factors include a growing hydrocarbon industry and a booming construction sector, which accounts for 70 percent of the waste generated in the country. Qatar has opened an integrated domestic solid waste management centre that acts as an incineration plan to convert waste to energy and promote recycling activity from covering 8 percent to a target 38 percent recycling of solid waste."

According to the Qatar National Development Strategy of 2011-2016, their strategies include increased support for the recycling industry, incentivising waste reduction, promoting source separation and rolling out public awareness campaigns. "Concrete recycling has markedly increased as associated corporations realise the lower-cost advantage and the relatively less need for fresh concrete supplies in each project," he notes.

“Both the UAE and Qatar’s initiatives are being propelled in the right direction, and the government initiatives in recycling waste in both the countries are gaining momentum,” says **Joseph Mathew, Director of Dulsco Qatar**, also explaining that Dubai Municipality’s ‘My City My Environment’ initiative supported by Dulsco has already started creating awareness amongst a large number of residents in the UAE. In Qatar, he says Dulsco had joined hands with the Ministry of Environment, Qatar for various recycling related campaigns.



Mark Heesom



Marc Esteve

Moving towards a recycling society

Although the society understands the concept of recycling quite well, when it comes to practicing segregation of recyclables at source, especially at residences, “it is practically negligible” says **Dr. Banerjee**. “In Abu Dhabi more than 70,000 villas have been provided with separate bins for recyclables and general waste, however we are still struggling with efficient segregation at source. The emirate has been successful to an extent to enforce commercial and industrial waste producers to maximise recycling, through the waste tariff mechanism.”

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The recycling industry within UAE is also facing several challenges. “illegal waste operations are spoiling their market. Moreover, the recycling industry is facing a critical challenge of marketing the recycled products they produce. In Abu Dhabi, we have put in certain institutional support for the recycling industry,” **Dr. Banerjee** says. Tadweer along with Abu Dhabi Quality and Conformity Council has developed conformity schemes for certain recycled products to promote marketability, and secondly they have an Executive Order enforcing all infrastructure projects to substitute 40 percent of their aggregate requirement

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by recycled concrete aggregate, he elaborates.

“Clearly, as we emerge from the rampant consumerism of the late 20th century, the paradigm shift must firmly be placed on moving away from a “disposable” culture, to a “recyclable” one. Efforts in this regard are being spearheaded by Bee’ah’s education and awareness team and, with so many different nationalities making up the population of the UAE, we must take a multifaceted approach to reaching out to the many communities based here,” says **Mark Heesom**.

There are varying degrees of recycling awareness among the diverse communities in different countries and “while awareness is important, our ability to engage communities and shift perspectives is also heavily influenced by the number of recycling schemes a country has active and also the ease of access

people have to them, in order to regularly recycle,” he remarks. “At the moment, it’s fair to say that there are still far too few recycling facilities in the UAE and awareness amongst business and commercial enterprises is also highly variable. It is, therefore, part of Bee’ah’s mission to address and change that.”

A recent industry report has shown that GCC countries only recycle 10 per cent of plastic waste as compared to 36 per cent in the European Union. “With this in mind, industry analysts have forecasted that waste management will continue to grow as more advancements and innovation will be getting into the picture,” **Marc Esteve** notes. “The industry is pushing for more achievements through innovative solutions; however, one of the main challenges regarding household waste is the fast turnover of populations in the GCC, which means that all awareness campaigns tend to become obsolete after a short time.”

The UAE and Qatar have made significant progress in recycling efforts as the government authorities, corporates and waste management companies have joined hands to spread awareness, **Joseph Mathew** opines. “People and corporates have started taking steps in understanding waste management and have started recycling at homes thanks to campaigns run by government authorities and recycling companies.”

Focusing on domestic waste, **Salman Shaban** says, most of the recycling awareness is what expatriates bring with them from their home countries “where recycling has become a way of life. The more regionally-based population is yet not made aware how critical this lifestyle is to ensure a more sustainable economy. Part of the problem stems from the fact that the government is still in the process of establishing a proper recycling collection system, after which the required awareness will come.”

Regarding non-domestic waste, he says companies still prefer to dispose the waste in landfills due its convenience and as a low-cost option. “As a recycling system gains structure and makes it more viable for companies to contribute to it, we will see tremendous growth in recycling initiatives. The government is working hard to implement target plans that aim to reduce the amount of waste going to landfills from 91 percent to 64 percent, accompanied by large-scale public awareness campaigns to communicate the critical need to adopt recycling as a way of life to build a sustainable Qatar,” Shaban emphasises.

Making a difference

In Abu Dhabi, Tadweer along with Environmental Agency of Abu Dhabi have developed five key waste sector Policies and Technical guidelines, which have been approved for



Salman Shaban

implementation in November 2015, with the aim of reinforcing sustainable waste management in the emirate, says **Dr. Banerjee**. The new policies include a waste classification policy; waste planning policy; waste permitting and enforcement policy; waste collection, segregation, transfer and tracking policy; waste reuse, recycling, resource recovery, treatment and disposal policy; in addition to a technical guideline for waste classification. Of these the most important is the waste classification policy and technical guideline as “it sets the platform for segregation and maximising recycling” he states.

Bee’ah has its own vision of ‘zero waste to landfill’ through its integrated waste management facility at Sa’jah, along with educational and awareness programmes across the region,



Joseph Mathew

says **Mark Heesom**. “Bee’ah is also committed to continued investment in new recovery and recycling facilities, as well as upgrading existing facilities to maximise diversion of waste materials. The delivery of strong integrated and resource recovery solutions for commercial clients, such as at the Burj Khalifa and Dubai World Trade Centre, are helping in transforming traditional disposal models of commercial waste, in order to maximise recovery,” he adds.

Over the years, Imdaad has been developing an integrated waste management programme in Dubai, Abu Dhabi and Qatar, and the company will soon complete plans for a Material Recovery Facility in order to complete the full cycle of source segregation, collection and processing of any recyclables from its Dubai customers, **Marc Esteve** notes. Furthermore, they have finalised strategic partnerships ensuring the proper recycling not only of traditional materials such as cardboard, paper, etc., but also more recently for lamp bulbs, electronic scrap and confidential documents. “We are also servicing communities, be it schools, villas or buildings. Looking to increase more awareness on the importance of environmental sustainability, Imdaad has developed its Bea’ti initiative and its mascot, Khaddour, to ensure that their messages reach out to a wider audience, including the younger generation.”



“At Dulsco, we understand that awareness is the first step to effective waste management and recycling. We focus on educating and creating awareness amongst corporates, residents and schools on the concept of segregating waste at source and reducing the use of plastic,” says **Joseph Mathew**.

In Qatar, Dulsco undertook four key campaigns in 2015 as part of its Recycle to Regain campaign, he notes. “Dulsco joined hands with Qatar’s Safari Mall for its ‘No Plastics Campaign’ last year. Within two hours more than 1,500 enthusiastic shoppers including mall visitors and mall management signed the green pledge.”

Apart from awareness programmes in educational institutions, the company encourages its employees to volunteer for environmental causes, he says. More than 40 employees from Dulsco Qatar (including senior management) came together to clean up the West Coast beach near Doha and collected 725 kgs of waste during the activity.

“As a world-class leading metal recycling corporation in the region, Lucky Group has always supported recycling initiatives that aim to change the status quo of wastefulness and high dependence on landfill dumping,” **Salman Shaban** says, also highlighting the need for establishing collection systems in order to promote sustainable behaviour among communities. “We encourage corporations to dispose of their metal-based waste at our sites to ensure that at least that type of waste will not toxify landfill sites, and instead enter a more cyclical system in which the metal is re-introduced into the production cycle.”

Key issues to be addressed and way forward

Apart from the targets already mentioned, including achieving a high percentage of recycling and diverting waste away from landfill, “at the Federal level a comprehensive regulatory framework should be in put

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in place to promote recycling, starting with a proper waste classification, which Abu Dhabi has already developed and has been reviewed by other emirates and MCCE; therefore it can be considered by the ministry for its national level implementation,” **Dr. Banerjee** remarks.

“Bee’ah has a duty of care to ensure that illegal waste dumping or inappropriate or unsafe treatment cannot occur. Such activities undermine the legitimate waste management operators and risk future investments for improved facilities,” **Mark Heesom** notes. To this end, he says legislation will be key to help create a consistent level playing field that will be essential for the development of the industry.

Moreover, there is a need to ensure that ‘the true cost’ of waste management is accounted for in the gate fees charged at different disposal and treatment sites, he opines. “This will establish a hierarchy of waste treatment and effectively support the 2021 objectives of waste diversion and a cleaner environment. The creation of output standards and incentivisation schemes for the usage of recycled products and feedstock into production will also help the local recycling industry to develop. Further development of legislation governing minimum levels of recycling for each industry and requiring the prioritisation of waste recovery and recycling over disposal, by waste producers, will

play an active and increasing role in achieving waste diversion targets.”

In **Marc Esteve’s** view, recycling is “a push and pull economy. Through close cooperation between governments and service operators like Imdaad, we can encourage the generators to segregate their recyclables from mainstream waste. This is the ‘push’ part of the story. But these materials, once recycled, become end-products for the market and are competing with products made from raw materials. We need regulatory incentives to ‘pull’ the recycled products. In this regard, it is interesting that government bodies make it mandatory to submit tender bids on 100 percent recycled paper.”

Both the UAE and Qatar have similar demographic patterns, leading to similar challenges including a large percentage of mobile expatriate population, so there is a need to sustain the campaigns, **Joseph Mathew** underlines. “With both nations having high consumption resulting in high per capita waste generation, pressure on the landfills is a real threat. Dulsco is actively exploring innovative technologies that can be brought into the region in helping address these issues. Dulsco is one of the only companies in UAE having a robust materials recovery facility.”

On the key issues that need to be addressed in Qatar is C&D waste, **Salman Shaban** states. As Qatar develops its infrastructure rapidly, the resulting C&D waste will be a piling burden on the resources of the country “including the customary tendency to dispose of it in landfill sites”. So, there is a need to establish sustainable disposal systems, and implement nation-wide regulatory standards that discourage current disposal practices and encourage source separation, he underscores. “Qatar is a young country, and one that is keen to adopt new ideas and practices. It just needs some systems-based support to strengthen the upkeep of new ideas; and recycling will be a welcome addition by many homes across the country.” 🌱