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A MAGAZINE FROM THE WORLD
LEADER IN AUTOMATED WASTE COLLECTION

CONCEPT

THEME: PRIVATE DEVELOPERS & WASTE HANDLING

2:05

NEWS – SINGAPORE, SUSTAINABILITY AS A MUST – DENMARK, JM AT THE FOREFRONT OF ENVIRONMENTAL DEVELOPMENT – LONDON, QUINTAIN BUILDS A NEW WEMBLEY – CHINA, PRESTIGE PROJECT IN BEIJING – SPAIN, SANTA ANA, CARTAGENA – SHANGHAI, THAMES TOWN, ENGLAND IN MINIATURE



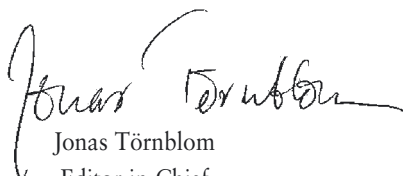
SUSTAINABLE IN PRACTICE, OR MERELY A PASSING FAD?

Sustainability has become a fashionable political catchphrase that is heard in almost all future-oriented contexts. Public construction projects tend to make much of their sustainability. It is often suspected though that this term has become a matter of prestige with no real substance. Does the concept play any role on the private construction market? Does sustainability represent added value for the market, or is it merely a question of image for the leading construction companies?

There's no simple answer. On the one hand, much points to the fact that we simply must build in a more sustainable way. Scarce and expensive raw materials such as steel and oil, rising ground prices in our cities, higher labour costs, tougher environmental and safety requirements, but also the global competition for jobs has forced us to take sustainability and long-term solutions much more seriously than in the past.

On the other hand, the real-estate companies who buy our buildings still have relatively little interest in sustainability. Many of them have noticed that it's difficult to sell sustainable alternatives if they don't imply cost savings. What must be done to make the market interested in new sustainable technology if it simultaneously means higher initial costs than conventional solutions?

In this issue of Envac Concept we look more closely at how some private contractors see questions of sustainability against the background of a decision to install underground waste transport systems. It becomes evident that non-monetary factors such as cleanliness and hygiene, noise and air pollution are nevertheless marketable, and that an excessively narrow, short-sighted and profit-optimised approach often leads to unsustainable projects - not least from an economic perspective.


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NEWS

ENVAC EMPTIES LITTER BINS FROM UNDER THE GROUND IN HOLLAND

The Dutch town of Almere has become the first in the world to install an underground pipe system that links up all the litter bins in the town centre. The system, supplied by Envac's Dutch subsidiary CentralNed, is a real innovation for keeping pedestrian areas and town squares clean.

Two years ago, Almere was the first place in Holland to install an underground transport system to collect the waste from households, offices, shops and restaurants. Now the town's litter bins are also being linked up to the same

underground system.

"We were previously forced to empty the litter bins in the town centre up to five times a day on weekends", notes Anja Vijselaar, CEO of CentralNed. "Now the bins are emptied automatically as soon as they get full and the waste is transported into the underground pipe system."

The director of the Nederland Schoon foundation, Marielle van Aggelen, inaugurated the system in Almere on 3rd November.



Almere, Holland

VOLLSMOSE INVEST IN UNDERGROUND TECHNOLOGY

On 26 August 2005, Denmark's popular environment minister Connie Hedegaard



inaugurated the new underground waste transport system in Vollsmose, a residential district of apartment blocks outside Odense in Denmark dating back to the 1960s. The system interlinks all 1500 local apartments and handles two separate fractions. As the district had become very run down in recent years, Odense municipality decided to upgrade it in 2001. Priority was given to waste disposal, which had previously created

Denmark's environment minister Connie Hedegaard and Envac's Niels-Erik Pedersen at one of the 44 external inlets installed in the district.

major hygiene problems for both local residents and waste collectors. The environment minister praised the system, saying that "It's really positive to see a hygienic and environmentally appropriate solution to the problem", and added that she was very pleased about the commitment shown by local residents to improving their waste environment.



SINGAPORE

A photograph of the Singapore skyline, featuring several tall skyscrapers. In the foreground, there is a white, curved architectural structure with columns. The sky is overcast. The text 'CDL in Singapore - sustainability as a must' is overlaid on the image.

CDL in Singapore -
sustainability as a must

“In view of the fact that Singapore is developing into a leading economic power with living standards on a par with Australia’s and with an acute shortage of labour, it makes no sense to continue handling waste manually, pulling and carrying it around in open, filthy and foul-smelling containers”, points out Eddie Wong, General Manager, Projects, CDL, Singapore’s leading property developer.

“CDL builds properties that are designed to last 40 to 50 years or longer. We cannot expect our children to sort our waste problems out for us. Neither can we rely on foreign labour to do the job for wealthy Singaporeans. That is socially irresponsible behaviour.”

The problems related to waste collection in cities such as Singapore are clearly evident. The basements of the apartments suffer from foul smells from waste disposal inlets and waste rooms. Often, residents also suffer from the presence of cockroaches that spread via the waste inlets. In view of the fact that more than 90% of Singapore’s population live and work in high-rise buildings, essentially all of which have waste disposal inlets, the hygiene problems are considerable. “We have never had any problems with cockroaches in all the projects where we have installed underground waste transport systems for the last six years”, observes Eddie Wong. “We continue to adapt our buildings to vacuum technologies. Five projects with dual waste inlets – one for recyclable waste and one for residual waste – are currently on our drawing boards for a total of over 3000 apartments.”



Eddie Wong, General Manager, Projects, CDL

IMAGE ENHANCEMENT

Reactions to the waste disposal system came from two directions. Firstly from the marketing department. CDL has a reputation for supplying high quality and promoting an ecological approach in its construction of residential properties. That’s why this technology fits in perfectly with the image the company aims to present on the market.

The other reaction came from CDL’s customers. “They asked us how we transported the waste, as they saw no refuse collectors fetching containers from the waste inlets”, says Eddie Wong and adds “Perhaps that’s something that Envac could help us with? To raise awareness among our customers and at the same time increase the level of use of the systems. This would also enhance Envac’s image”, points out Eddie.

“We see that some apartment residents continue to throw out their waste as if they were still using a conventional shaft, which sometimes clogs the system. So we see the need for regular information campaigns.”

VALUE ADDED

Ground-floor apartments benefit particularly from the vacuum system. “The result is more satisfied residents and lower costs for maintenance, disinfecting, waste collection etc.” notes Eddie Wong.

URBANISATION TRENDS

There is a strong trend in Singapore to build what are known as mixed areas.

The aim is to create opportunities for living, working and leisure activities within the same area. The new city district of Marina Bay, where 350 hectares of land have been reclaimed from the sea, will become Singapore's new commercial centre. This is where the island state's government plans to install underground waste transport systems and make it mandatory for contractors and proprietors to be linked to the system. Singapore's restricted space also makes it necessary to build high. To have room for green areas also requires very careful urban planning, and this is where the benefits of underground waste transport systems come into their own.

ENVIRONMENTAL THINKING – MORE THAN A COSMETIC FLOURISH

For CDL sustainability and environmental thinking are no mere cosmetic flourish. "Our environmental, health and safety standards are certified to ISO 14001 and OHSMS 18001. CDL won the Environment Achievement Award in December 2004, the only company from Singapore ever to win this prize. CDL is also certified by ERSIS for achieving the FTSE4Good index of the London Stock Exchange.

CDL uses green specifications and green purchasing when buying-in energy-consuming equipment and products, such as air-conditioning installations. But it also makes demands on the subcontractors to supply solutions that minimize water consumption and on employers to assure an appropriate work environment. The whole program is continuously monitored

with the aid of a five-star assessment program whose results are regularly discussed with the suppliers.

SECURITY

"To ensure a high level of security is obviously a high priority. Thus all our apartments are equipped with individual pass-card systems. From this perspective it's an advantage not to have external collectors fetching the waste from in and around the buildings", adds Eddie Wong.

Eddie Wong ends the interview by urging Envac to increase its commitment to end users still further. "I think that Envac should examine the whole value chain.

You have a fantastic product, but don't stop there. Realize that CDL's customers are Envac's customers. Make the users into ambassadors for your systems and involve them in your vision of sustainability and environmental thinking"!

Changi Rise, Singapore - a residential district with an Envac system



JM Danmark aims to be at the forefront of environmental developments

The maritime inspiration is apparent everywhere, not least in the names of the buildings. “Sextant”, “Compass” and “Lantern” evoke the area’s maritime past. Even the buildings look like luxury cruise liners.

The 18-hectare factory area that used to belong to the Danish East India Company in Copenhagen’s harbour is currently a building site for 1200 new apartments and 2500 new jobs. JM Danmark is one of the leading contractors.

The environmental and sustainability profile is clear in the three buildings that JM Danmark is constructing in the area. A heat recycling system and under-floor heating are examples of environmental installations alongside the underground waste transport system that has been assigned a high priority. “Environmentally compliant approaches are important to us”, says Kenn Amhild, project development manager at JM Danmark. “Not only because we have to ensure that the

buildings we put up satisfy the environmental requirements, but also because we aim to be at the forefront of developments in environmental technology. That is a key part of our corporate strategy.”

Thanks to their closeness to the water and adjoining green areas, the approximately 500 apartments that JM Danmark is building around Iceland Quay have a unique location directly adjacent to downtown Copenhagen. “We didn’t really want heavy garbage trucks driving around the area in the mornings”, continues Kenn Amhild. “And one of the preconditions was that vacuum waste disposal should be no dearer for the residents than traditional waste collection. So we concluded a 20-year leasing agreement with R 98 and have essentially remained within the cost framework for the waste collection system that we planned, even if it has become somewhat more expensive.”

It has been important for JM Danmark that the installations work well. The underground waste transport system has now been in operation for two years and is running smoothly. “Our customers like the system. But the project and installation phases also went off without a hitch. It’s important for the entrepreneur to be present from the outset in order to ensure that everything is properly coordinated”, adds Amhild.

Asked what Envac could do to improve its product, Kenn Amhild replies that a more attractive financing model would make the system much more interesting for new development areas.



Sea view in Havnested

Quintain – an avant-garde operator on the urban

We are looking at a magnificent project. A veritable leisure centre is being created around the new Wembley Stadium. Over 4500 new homes, restaurants, shops, cinemas and offices will be built here. There are even plans to build a giant casino – in cooperation with Ceasars Palace in Las Vegas!

Wembley is one of England's best-known landmarks. "But apart from the stadium and the Wembley arena there's not much that draws people here", points out Mike Youkee, responsible for residential properties at Quintain. "It's our aim to change that! We will utilize the entire potential of the Wembley trademark and absolutely world-class events to create 8000 new jobs."

NEW HOMES IN RESPONSE TO HIGH HOUSE PRICES

London is growing and bursting at the seams. The city is estimated to have an additional 800,000 inhabitants in 2016 compared with today. This strong inward migration is driving already high house prices to sky-high levels, well above those of other cities in Europe. To counter the negative effect such high prices have on growth in the region, London's mayor Ken Livingstone has revised



Nick Shattock & Mike Youkee, Quintain
his expansion estimates in the London Plan upwards by 35% during the summer. Over 30,000 new homes will be built each year during the next decade.

However, the building boom is not completely free of political influence. The buildings must satisfy the requirements for sustainable living quality specified in the London Plan.

"WE WANT OUR PROJECT TO BE SEEN AS A BEACON FOR SUSTAINABLE COMMUNITY BUILDING"

"We want our project to be seen as a beacon for sustainable community building", says Mike Youkee of Quintain. "The politicians are intensifying their demands on social and environmental sustainability in building. But we aim to go further. We are looking actively for technologies that strengthen our environmental and sustainability profile – and that's where Envac's underground waste disposal system fits perfectly".

Another step that Quintain has

recently taken to boost its competence within the sector of sustainable development is a joint venture agreement with BioRegional, a consulting company specialising in issues such as sustainable housing. BioRegional is also a consultant to London's Olympic Committee and was involved in the winning application for the summer games of 2012.

"We are not merely a housebuilder. We are simultaneously an urban developer and an investor. We create new communities that involve a mix of housing, work and leisure facilities. That calls for experience in all areas", points out Nick Shattock, Director of Quintain and member of the Board.

A UNIQUE CONCEPT

"To develop our concept, we need areas where we can build at least 3000-4000 homes", continues Shattock. The concept that Quintain has developed aims to acquire land, build apartments that are subsequently sold, but to retain and operate the infrastructure. This has become possible thanks to the extensive liberalisation of the infrastructure market. "We are negotiating with leading suppliers within the sectors of telecoms, power, water and sewerage. We aim to conclude joint venture agreements to be sure that the area is managed and operated in the right way as well

an development scene

as to participate in the potential earnings. So we're naturally interested in automated solutions offering high quality and low operating costs."

CAREFUL EVALUATION

"We have examined Envac's technology, both in Sweden and Spain, and are convinced that it promotes high quality in the relevant area and creates a good environment for residents, visitors and businesses. That's impor-

tant to us – and for the Wembley trademark", says Mike Youkee. "But we also see clear economic gains with this technology. Including the reduced costs for handling the commercial waste in the area, we estimate a pay-back period of less than 15 years. We also save valuable space in streets and open areas, which makes the system even more attractive."



4500 new flats will be surrounding the new Wembley Stadium. Also 8000 new work places will be created in form of offices, shops and restaurants in the area.



BEIJING

PRESTIGE PROJECT IN BEIJING



The first underground waste transport system in China outside Hong Kong and Taiwan is currently being installed at the Beijing World Centre. The project has leapt ahead. The contract was signed at the end of September this year and the first parts of the system are scheduled to start operation at the beginning of 2007. This rapid pace is not only characteristic of the World Centre but also of many other construction projects in China today.

“The project is located in the middle of Beijing’s new business district and will be characterized by high efficiency and speed in conjunction with an international and modern life style”, says Ma Chonghui, Deputy General Manager of Beijing Capital Land Chaoyang Real Estate Development.

“The system users will have high expectations and it is still much too early to say how far these will be satisfied”, points out Ma.

The Beijing World Centre is located close to the Jiang Guang Centre and the new CCTV tower. The district covers an area of 435,000 m² and will accommodate offices, apartments and shops when it is completed in 2008.

To create the desired leading-edge image, it was decided to prioritise quality and the environment. Both new building techniques and advanced technologies are being implemented to attract investors and tenants.

“Envac’s underground waste technology dovetails very well with this context”, explains Ma. We feel that this is a clean and environmentally friendly technology that also saves labour costs. We expect Envac to succeed its breakthrough in China with this order.”



Santa Ana, Cartagena

"You must be crazy!" When this district was built, it was the first of its kind in Cartagena. Over a million square meters were to be built on to create a new suburb in the middle of open countryside – in any case that's how it seemed to the city's residents.

It was in the late 1980s that the Chairman of the public site management facility SEPES, Gonzalo Navarro, first came in contact with an underground waste transport system. "No-one believed him when he reported on what he had seen during his visit to Sweden", recalls Eusebio Garcia, CEO of Entidad de Conservación del Polígono de Santa Ana, the maintenance utility of the Santa Ana district. But he succeeded in arousing sufficient interest for the technology to swing the decision to install it in the planned residential district of Santa Ana outside Cartagena in southern Spain.



Eusebio Garcia, CEO of the maintenance utility of the Santa Ana district.

CAREFUL PREPARATIONS

How did they proceed to implement the system? "We made considerable efforts to inform prospective investors about the project. Our organisation financed the main network and the collection points. The building plots were sold under the condition that tubes and inlets had to be installed to link up to the main network. Where and how the inlets were to be placed was up to each individual investor to decide."

The costs of running and maintaining the system are included in the general maintenance costs for the whole installation.

HIGH EXPECTATIONS

The expectations on the system were fully satisfied – accessible 24 hours a day with none of the noise or smells associated with conventional waste collection. It has operated perfectly for 15 years, enthuses Eusebio Garcia.

SYSTEM USERS

On the whole, the residents of Santa Ana are now familiar with the system. "But we occasionally run information



campaigns in which we explain how the system works and what it entails. If some residents still place their rubbish bags next to the waste inlets, that's seen as a matter of insufficient information – and not a technical problem."

SUSTAINABILITY IN GENERAL

"I can't deny that the system has contributed to increasing the value of the district. In fact, it's an attraction that we appreciate and often show to visitors", says Eusebio Garcia proudly. "Apart from the underground waste transport system from Envac we have also gone in for renewable energy in the sports facilities by changing over from diesel to natural gas". There are also plans to install solar panels to heat the swimming pools.

"We have set ourselves the goal of achieving maximum possible sustainability in the district. Despite the fact that people in general still have very little idea of what sustainability means, we are continuing our efforts and hope to reach our goal, step by step."

THE FUTURE

"I don't really have any recommendations to make to Envac. We are very satisfied with our mutual cooperation and I have become convinced that this is a well-designed and smoothly operating technology. But I do see a point in having the system run directly by Envac. You know how to keep energy consumption down and ensure that running costs are low", concludes Eusebio Garcia.

"But now that the system has been in operation for 15 years, we can say with certainty that it works and is efficient and clean at the same time", points out Eusebio Garcia.



The designs of the waste inlets vary depending on the surroundings, but they are all linked to the same underground Envac system.



SHANGHAI

THAMES TOWN - England in miniature



It looks like a small English town. Neat terraced houses in red brick framed by trees and lawns. Thames Town, designed by British architects Atkins, is one of several new urban construction projects outside Shanghai that are modelled on European towns.

“It has been very important for us to create a pleasant residential environment throughout”, notes Wu Chun, Deputy Director of Housing Development Department at Shanghai Songjiang New City Construction Development Co. Ltd. “One way of achieving this is to install an environmentally friendly waste collection system that reduces daily pollution in the district.”

Environmentally friendly systems are not merely a matter of prestige for Song Jiang, they are also a priority for both the government and customers. This is shown in concrete terms in the endeavour to find solutions that use less energy and take up less space.

The tremendously rapid development of south-east China in recent years has made the negative consequences of uncontrolled expansion apparent. Both the municipality of Shanghai and the Chinese government are consequently very keen to promote environmentally friendly and sustainable construction projects. “Even if the system requires higher investment we are convinced that it will be less expensive over the long term thanks to lower costs for handling waste and dealing with environmental damage”, points out Wu.



OUR BUSINESS CONCEPT

We offer efficient and environmentally friendly systems for waste collection. Strong support during planning, installation and operation will guarantee high user availability and flexibility. We strive to be regarded as a reliable long-term partner offering first class quality products

SERVICES: Feasibility study, Turnkey installation, Service

APPLICATIONS: Residential, City Centre, Hospital, Kitchen, Airport

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