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PRESS RELEASE

Paris, 18 December 2014

SUEZ ENVIRONNEMENT IS STRENGTHENING ITS PRESENCE IN CHINA VIA A NEW CONTRACT FOR THE DESIGN, CONSTRUCTION AND OPERATION OF THE FIRST ORGANIC WASTE TREATMENT FACILITY IN HONG KONG

Today, SUEZ ENVIRONNEMENT and Atal Engineering Ltd ("ATAL"), in partnership as part of a 60%-40% joint venture, have signed a new contract to design, build, and operate the first organic waste treatment centre in Hong Kong.
Thanks to this new contract – worth a total of €246 million over 15 years – the SUEZ ENVIRONNEMENT Group is strengthening its presence in China and is confirming its position at the forefront of the Hong Kong waste market with its subsidiary SITA.

A new waste treatment and recovery centre
The new centre – which will be commissioned in mid-2017 – will treat 200 tonnes of food waste (separated at source from commercial and industrial waste) daily and will turn it into biogas and compost, thanks to biological treatment processes like anaerobic digestion and composting. This cutting-edge facility will be fully compliant with Chinese and European standards, and will be operated by the Group, with its partner ATAL, in accordance with the most stringent security and environmental standards.

The treatment of 200 tonnes of waste per day will enable renewable energy to be produced
This new project shows SUEZ ENVIRONNEMENT's involvement in developing a circular economy, particularly by recovering energy from waste.
The biogas produced by the treatment centre will be used as renewable energy. Around 14 million KWh of surplus electricity will be injected into the electrical grid as green energy. By replacing fossil fuel electricity production in this way, this green energy will help reduce greenhouse gas emissions by 25,000 tonnes per year.

Marie-Ange Debon, Deputy Chief Executive Officer in charge of the International activities of SUEZ ENVIRONNEMENT, made the following comments: *"Hong Kong produces large amounts of food waste every day. This is why the Hong Kong Government is seeking sustainable solutions for treating the waste and turning it into useful resources. SUEZ ENVIRONNEMENT and its partners are delighted to be able to provide them with an innovative solution, in order to contribute towards greater environmental protection. Thanks to this project, SUEZ ENVIRONNEMENT is reinforcing its position as the leader in the Hong Kong waste management market, as well as its commitment to helping its clients and the Government to establish a sustainable and circular economy".*

More details on the press-dedicated newsroom: http://newsroom.suez-environnement.com/

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About SUEZ ENVIRONNEMENT

Natural resources are not infinite. Every day, SUEZ ENVIRONNEMENT (Paris: SEV, Brussels: SEVB) and its subsidiaries deal with the challenge of protecting resources by providing innovative solutions to industries and to millions of people. SUEZ ENVIRONNEMENT supplies drinking water to 97 million people provides wastewater treatment services for 66 million people and collects the waste produced by 50 million people. SUEZ ENVIRONNEMENT has 79,549 employees and, with its presence on five continents, is a world leader exclusively dedicated to water and waste management services. SUEZ ENVIRONNEMENT generated total revenues of EUR 14.6 billion in 2013.

SUEZ ENVIRONNEMENT has been operating in China for over 30 years, through its Sino-French Holdings and Sino French Water (SFW), SITA Waste Services and Degrémont subsidiaries.

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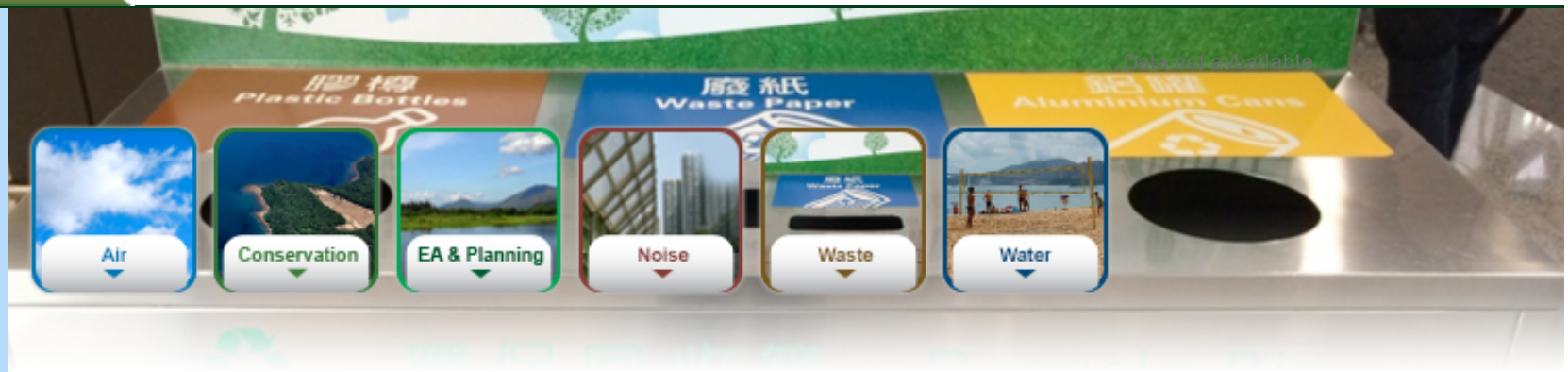


Problems & Solutions

Organic Waste Treatment Facilities

Objectives

The OWTF aims to recycle source-separated organic waste generated from the C (mostly food waste) to useful products, thereby minimizing requirement for landfill disp

Kowloon Bay Pilot Composting Plant and Food Waste Recycling Partnership S

As Hong Kong has little experience in collecting and treating food waste, a Pilot C Plant was developed at the Kowloon Bay Waste Recycling Centre in mid 2008 experience. A Food Waste Recycling Partnership Scheme with the trades and insti

me

Producer Responsibility Schemes

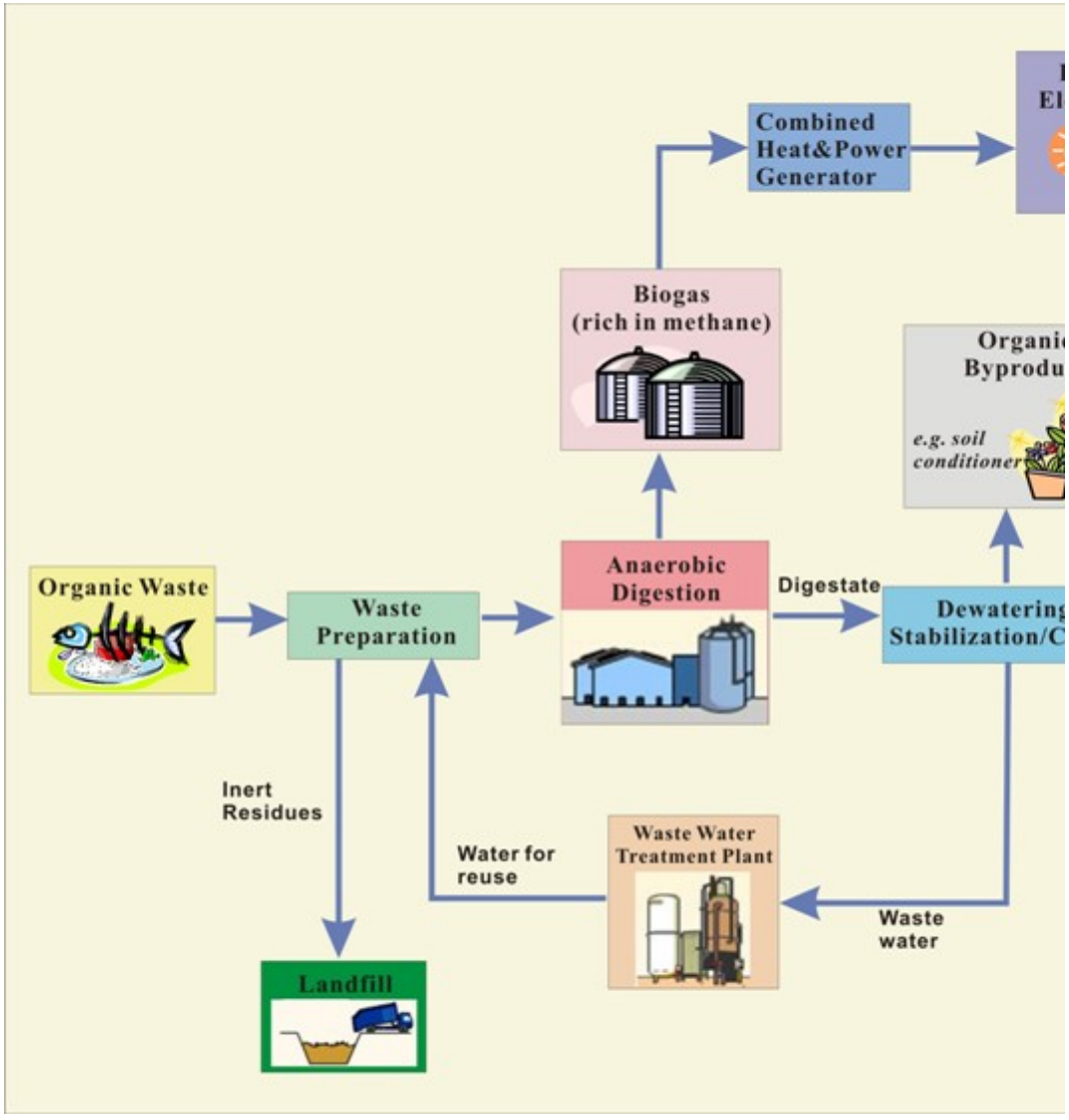
Waste Collectors and Recyclers

experience. A Food Waste Recycling Partnership Scheme with the trades and insti

Food Waste Reduction Program were also established in late 2009 and respectively to promote food waste reduction and source separation of unavoidable for subsequent collection and treatment. The Pilot Plant and Partnership Scheme c food waste management and OWTF development in Hong Kong.

Technology

The OWTF would adopt biological technologies - composting and anaerobic diges below) to stabilize the organic waste and turn it to useful compost products for energy recovery.



Anaerobic Digestion

Benefit

The OWTF will be developed in two phases, where phase 1 would treat 200 tonnes

waste (mostly food waste) for the production of biogas and about 20 tonnes of con day. The biogas produced by the OWTF could be used as renewable energy. It is est for the first phase of OWTF, about 14 million kWh of surplus electricity can be sup power grid per year, which is adequate for use by 3,000 households. This renew production will contribute to reduction of 25,000 tonnes per year of greenhouse gas e reduction in use of fossil fuel for electricity generation.

The two phases of facilities developed will have a total daily treatment capacity of 50 organic waste. Each phase of the OWTF would avoid landfilling of about 200 and 30 waste every day respectively, hence contribute to extending the useful life of landf Kong.

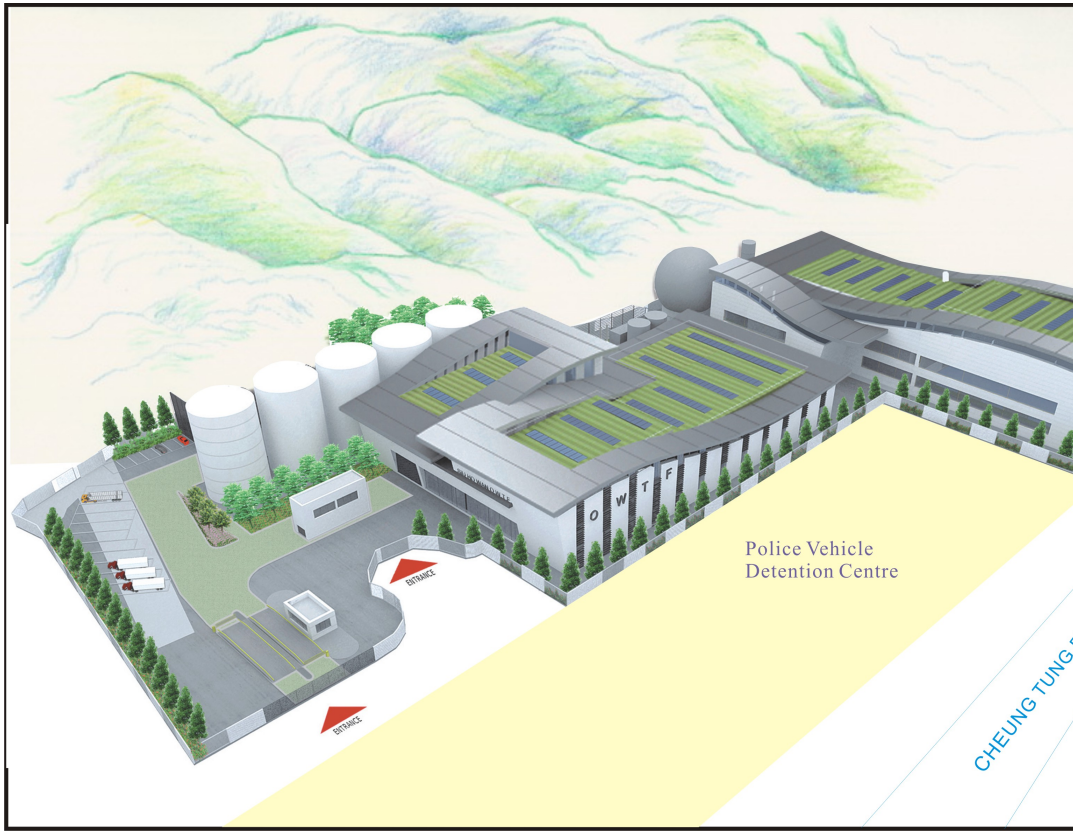
Projects

A site search to locate suitable sites for the OWTF was completed. The proposed s first phase and second phase of the OWTF are located at Siu Ho Wan of North Shaling at North District respectively.

The EIA study for developing the first phase of the OWTF at Siu Ho Wan has examined the potential impact of the Project on the environment and the need for mitigation solutions. The Report determined that with the implementation of the mitigation measures proposed by the Project, no unacceptable residual impact is envisaged. The EIA Report was approved by the Director of Environmental

Protection on 24 February 2010. The design and construction is commenced in Dece and it is expected that the plant will be commissioned in 2017.

The Feasibility Study and EIA for the second phase of the OWTF at Shaling were con late 2011.



Artist's Impression of the Organic Waste Treatment Facilities

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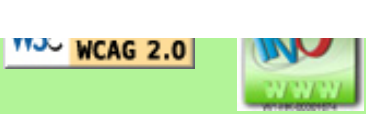
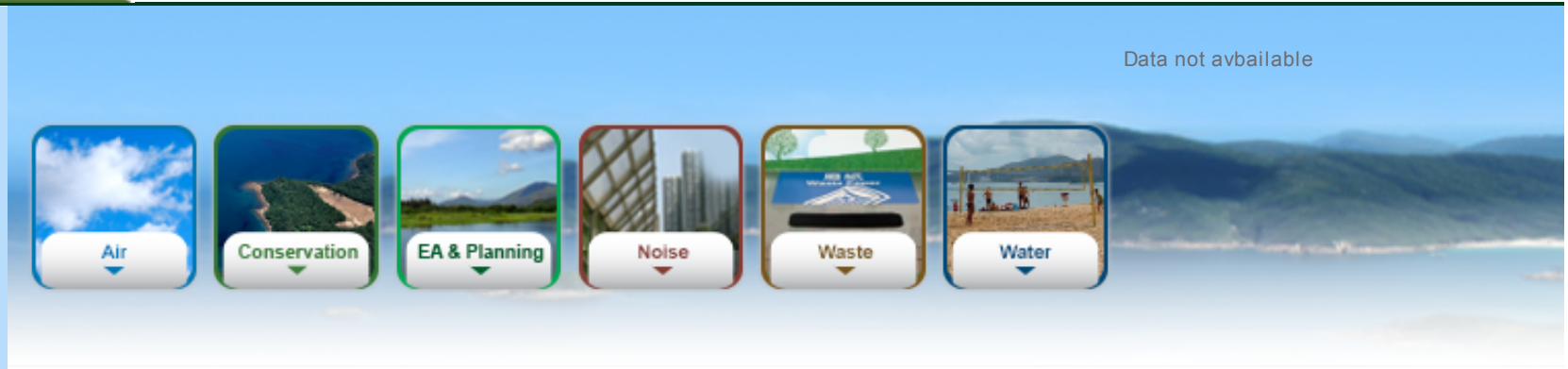
Last review date:30 June 2015



Notice for Invitation to Tender

Reference :	Contract No. : EP/SP/61/10
Procuring Department :	Environmental Protection Department
Subject :	Organic Waste Treatment Facilities Phase 1
Description :	The scope of the Contract comprises design, construction, operation and maintenance of the Organic Waste Treatment Facilities Phase 1 (OWTF) located at Siu Ho Wan of North Lantau in Hong Kong Special Administrative Region to convert source-separated organic waste into biogas and compost using biological treatment technologies. This Contract is scheduled to commence in March 2014 with design, construction, testing and commissioning works completed in June 2016. Apart from the design and construction works, the contract includes operation and maintenance of the OWTF for a period of 15 years.
Contact :	The tender documents and further particulars can be collected after 12:00 noon on Friday, 8 February 2013 from: AECOM Asia Co. Ltd. 8/F Grand Central Plaza, Tower 2, 138 Shatin Rural Committee Road, Shatin, New Territories, Hong Kong Contact Person: Mr. Matthew KO Tel: (+852) 3922 9375 Fax (+852) 3922 9797 Email: matthew.ko@aecom.com
Closing date/time :	12:00 noon on Friday, 5 July 2013
Submission of Tenders :	Tenders must be clearly marked with the tender reference and the subject of the tender on the outside of the envelope (but should not bear any indication which may relate the tender to the tenderer) addressed to the Chairman, Central Tender Board, and placed in the Government Secretariat Tender Box situated in Ground Floor, East Wing, Central Government Offices, 2 Tim Mei Avenue, Tamar, Hong Kong, before 12:00 noon on Friday, 5 July 2013. Late tenders will not be accepted.
Remarks :	(1) Tenderers shall satisfy the requirements stated in the tender documents. (2) In the event a typhoon signal No. 8 or above or a black rainstorm warning is hoisted between 9 a.m. and 12 noon on Friday, 5 July 2013, the tender closing time will be postponed to 12 noon on the first working day of the following week. An announcement of the change will be made through radio.

	(3) This tender is covered by the Agreement on Government Procurement of the World Trade Organization. (4) A charge will be levied for the delivery of the tender documents where the delivery of such documents is requested by a tenderer. A written request must be made. (5) The Government of the Hong Kong Special Administrative Region does not bind itself to accept any tender irrespective of whether the tender is the lowest bid or, where the assessment of the tenders is based on a marking scheme, the tender with the highest combined price and technical score. (6) The Government of the Hong Kong Special Administrative Region reserves the right to negotiate with any tenderer about the terms of the offer. (7) Details of the award of this contract will be published in the Government of the Hong Kong Special Administrative Region Gazette and made available on the Internet. (8) Joint ventures satisfying the requirements stated in the tender document will be considered.



Organic Waste Treatment Facilities Phase 1

Award of Contract

Organic Waste Treatment Facilities Phase 1 - (Awarded in December 2014)

Tender Reference	Tendering Procedure	Subject	Contractors and Addresses	Awarded Quantity	Estimated Awarded Sum (HK$)
			OSCAR BIOENERGY JOINT	Design-	

EP/SP/61/10	Open	Organic Waste Treatment Facilities Phase 1	VENTURE 2801 Island Place Tower, 510 King's Road, North Point, Hong Kong	Build, plus 15-year Operation Contract	$2,380.6M

200 x 365 days x 15 years =1,095,000 tonnes cost 2.3806 billion = HK$ 2,174 per tonne

add transport cost min $ 120 per tonne + tunnel fees HKI/Kln/NT we are looking at $ 200 per tonne extra

$2,374 per tonne less any beneficial electricity or glop sold

South China Morning Post 南華早報

Unfair to compare one-stage UK example with Hong Kong waste plant

Friday, 28 March, 2014, 3:54am
Comment›Letters
SCMP Editorial

I refer to the letter by Emily Lam ("Concerns over new organic waste plant", March 24) and the opinion expressed in Lai See ("Digesting the price", March 15).

Ms Lam is right that despite food waste reduction efforts, adequate food waste treatment and recycling facilities are necessary to treat and recycle food waste.

Phase 1 of the organic waste treatment facility (**OWTF**) at Siu Ho Wan in North Lantau will recycle food waste into biogas for electricity generation and compost.

The compost produced shall be required to meet the compost and soil conditioner quality standards promulgated by the **Hong Kong Organic Resource Centre**, which is the compost standard adopted in Hong Kong.

Our pilot composting plant at Kowloon Bay has demonstrated that the compost products are of good quality. The compost quality produced by OWTF phase 1 can meet the centre's standards.

The average demand for compost in Hong Kong is about 20,000 tonnes per year, therefore, 7,000 tonnes of compost each year from the OWTF phase 1 could be absorbed.

As regards the issue of cost raised in Lai See, the scale, scope, type and site conditions for the food waste treatment plant in Hertfordshire, UK, are very different from those of OWTF phase 1.

The Hertfordshire plant is only a single-stage process using anaerobic digestion to produce electricity only. OWTF phase 1 is a two-staged process using anaerobic digestion and composting to produce electricity and good quality compost and is designed to operate every day throughout the year.

The Hertfordshire plant is located in an industrial area of approximately six hectares. OWTF Phase 1 has to fit into a very compact site of about 2.2 hectares and meet very challenging engineering conditions and stringent environmental standards.

The cost figure for the Hertfordshire plant refers to the construction cost only, excluding, for example, the costs of design, contract administration and supervision, and technology supply. The project estimate for OWTF phase 1 accounts for the total project cost of the design, construction and commissioning.

The Hertfordshire plant is privately owned and does not carry a public education function. The OWTF phase 1 will include public educational facilities.

As indicated in our food waste policy blueprint, we will continue to reduce food waste and develop modern large-scale organic waste treatment facilities in phases.

Elvis W. K. Au, assistant director of environmental protection

More on this:
Letters to the Editor, March 24, 2014 [1]
Digesting the price [2]

South China Morning Post 南華早報

Digesting the price

PUBLISHED : Saturday, 15 March, 2014, 1:45am
UPDATED : Thursday, 20 March, 2014, 6:32am
Business
LAI SEE
Howard Winn
We were intrigued to read about a contract in Hertfordshire, in Britain, for a three megawatt food waste anaerobic digestion plant. The plant will handle some 66,000 tonnes a year or 181 tonnes per day while generating enough energy to power 6,000 homes and produce 18,000 tonnes of compost a year.

The contract was awarded by Tamar Energy to **Imtech Water, Waste and Energy** for £14.5 million (**HK$187.5 million**). The site on which this facility is being built is described as "exceptionally complex".

Hong Kong is planning a similar plant at Siu Ho Wan in North Lantau. It will process 200 tonnes a day of food waste and will supposedly generate some 14 million kilowatts per hour. The plant was discussed at an environmental affairs panel meeting recently when lawmakers were told that construction costs had tripled from HK$489 million to HK$1.5 billion. That's about eight times the price of the British facility. How can that be right when both facilities have a similar capacity?

Have you got any stories that Lai See should know about? E-mail them to howard.winn@scmp.com [1]

Source URL: http://www.scmp.com/business/article/1448917/digesting-price

ANAEROBIC DIGESTION PLANT:

HONG KONG 200 TONNES PER DAY PLANT COST = HKD 1.5 BILLION

UK 181 TONNES PER DAY PLANT COST = HKD 187.5 MILLION

HTTP://WWW.WASTE-MANAGEMENT-WORLD.COM/ARTICLES/2014/02/IMTECH-WINS-14-5M-CONTRACT-FOR-3MW-FOOD-WASTE-TO-BIOGAS-AD-PLANT-IN-HERTS.HTML

IMTECH WINS £14.5M CONTRACT FOR 3MW FOOD WASTE TO BIOGAS AD PLANT IN HERTS

24 February 2014
By Ben Messenger
Managing Editor

UK biogas facility developer, Tamar Energy has awarded a £14.5 million (@12.934) = HK$ 187.5 million) contract to Imtech Water, Waste and Energy to build a 3MWe Anaerobic Digestion plant to process food waste in Hertfordshire.

According to the developer, the plant located in Hoddesdon, Hertfordshire will handle some 66,000 tonnes per year (181 tonnes per day) of unavoidable food waste, while generating enough energy to power 6,000 homes and producing 18,000 tonnes per year of renewables.

The facility will include equipment to depackage waste materials, sanitisation systems that meet Animal By-Product regulations, equipment to clean the biogas prior to use by the gas engine generators, odour control equipment and a biological wastewater treatment plant that will enable the recycling of process water.

Tamar Energy's strategy is to develop a UK network of up to 40 plants over the next five years.

Imtech said that it was selected to deliver this project due to its track record of effective Engineering, procurement and construction delivery of renewable energy projects in the waste and water sectors.

"The ex-power station site is exceptionally complex, with numerous challenges, including a flood plain location, ecological considerations, high pressure gas main through the centre of the site, adjacent 400kVa high voltage overhead power lines, in ground power lines and an adjacent historic asbestos landfill," explained Tony Wilson, director of construction and operations at Tamar Energy.

Clear the Air says:

Where is the Hong Kong legislation on separation of food waste at source ?
Where is the HKG Green bin collection system for food waste and yard waste as exists elsewhere in the modern world (such as Santa Monica where Christine Loh has her home)?
This is all very well to spend taxpayer money but think of the cost. Let us assume the plant lasts for 25 years.
That's HK$1,500,000 / 25 years = 60 million per year plus 75 million per year operating cost (*which will increase over the lifetime of the facility*) … total HK$135 million per year min for treating 200 tonnes a day

That works out at $135,000,000 / 200 tonnes / 365 = $1,849 / tonne… less the value recovered from the electricity (14million kWh at say $1 per kwh) = $1,657/ tonne.
Low grade foodwaste @ 78% - 90% water content = that is pretty costly and we then still have 50 tonnes of low grade compost a day that nobody wants so it will still have to be handled and transported to go in the landfill at $450 per tonne (@), once the airport grass is full of the stuff, assuming the compost does not become Foreign Object Debris (FOD) , that is.

So for every tonne of food waste processed in this way it will cost $1657 + (50 tonnes @ $450 landfilling) = $1,770 / tonne compared with $450 per tonne to handle, transport and put it in a landfill.
We only gain 1.5 MW at best, not enough for 1 large commercial building.

This is not the right way to go….is it ?? Are Legco going to agree to pay for this when they find out how much it will cost when a similar plant in UK in a difficult location and higher labour costs is 800% less expensive ?

Solution is available:
High water content HKG waste food should go through the sewers at minimal cost to garburate it, whether digested or not and the remaining dry MSW with the high calorific and recyclable value after picking out the true recyclables should go to, recycling, not burning - as directed by the Legco Panel on Environmental Affairs in 2012 when addressing the Administration's request for landfill extensions and an incinerator.

Meanwhile dare we ask why there is such a vast disparity between a new plant in UK in a highly difficult location and one proposed in Hong Kong of almost the same capacity ?

@ $450/ tonne of compost is approximately what it really costs, i.e. the total construction cost plus the total operating cost over the life of the facility / gate tonnage received and transportation to landfill or airport for use ….not the subsidized rate that is charged at the facility gate

South China Morning Post 南華早報
Published on *South China Morning Post* (http://www.scmp.com)

Funding proposal for food waste treatment plant passes first hurdle in Legco

Thursday, 13 March, 2014, 12:07pm

News›Hong Kong
ENVIRONMENT
Cheung Chi-fai chifai.cheung@scmp.com
Legislators are concerned about rising construction costs but believe the plant is essential
Lawmakers today threw their support behind a government funding request for the city's organic waste treatment plant in Siu Ho Wan – despite the estimated cost having been tripled.

At the special meeting of the environmental affairs panel this morning, legislators were concerned about the sharp rise of construction cost from HK$489 million to over $1.5 billion, but they believed the facility was essential.

"The government must admit that they might have underestimated the costs as officials might not have a deep understanding about the facility. But the money is still worth spending," said lawmaker Lo Wai-kok, from the engineering sector.

Helena Wong Pik-wan, from the Democratic Party, Elizabeth Quat from the Democratic Alliance for the Betterment and Progress of Hong Kong, Frankie Yick Chi-ming from the Liberal Party, Kenneth Chan Ka-lok also said they supported the funding in principle.

The only lawmaker opposed to the facility was Albert Chan Wai-yip, from People's Power. He was absent from the meeting but his written submission said it was wrong to place the plant on the proposed location.

Despite the support, officials still have to get approval from the Public Works Subcommittee and a final approval from the Finance Committee.

The plant in Siu Ho Wan, north Lantau will have a daily capacity of 200 tonnes. It is scheduled to open by 2016. About a third to 40 per cent of waste being dumped in landfill is food waste.

Elvis Au Wai-kong, assistant director of environmental protection department, said about a third of the cost rise was attributed to the rising construction costs, while another third due to extra environmental mitigation requirements. The rest was caused by additional facilities such as pre-waste screening to the plant.

"We have tried to lower the cost as far as possible. But we still believe this centralised facility will be a cost effective one," he said.

Christine Lo Kung-wai, Undersecretary for the Environment, said the Siu Ho Wan plant will cater for the business sector first because it was easier for "professional kitchen" to sort out food waste. She said they would look at how best to collect and transport the food waste to minimise environmental impacts.

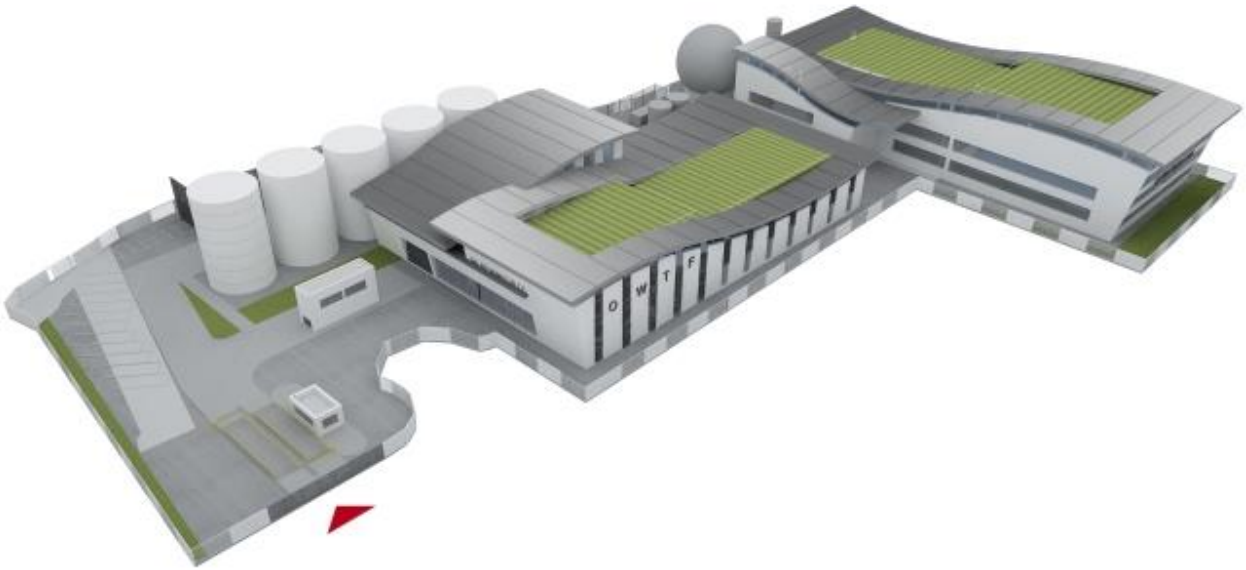
But Loh refused to comment on how the “polluter pay” principle would be applied when it came to recovering the costs of the plant and its annual operating cost of $74 million. Au added that the charging issue would be considered together with the overall waste fee.

The plant will also generate about 14 million kilowatt per hour residual energy from the food waste treatment process**, which was only half the level that lawmakers were previously told.**

Au said part of the power will go to the sewage treatment centre and water treatment facility nearby, **and the rest would be put to the grid of CLP Power.**

More on this:
Hong Kong government to propose cutting food waste by 40 per cent by 2022 [1]
Two-thirds of companies in Oxfam survey dump HK$60m in surplus food [2]

Links:
[1] http://www.scmp.com/news/hong-kong/article/1431357/hong-kong-government-propose-cutting-food-waste-40-cent-2022
[2] http://www.scmp.com/news/hong-kong/article/1429835/two-thirds-companies-oxfam-survey-dump-hk60m-surplus-food



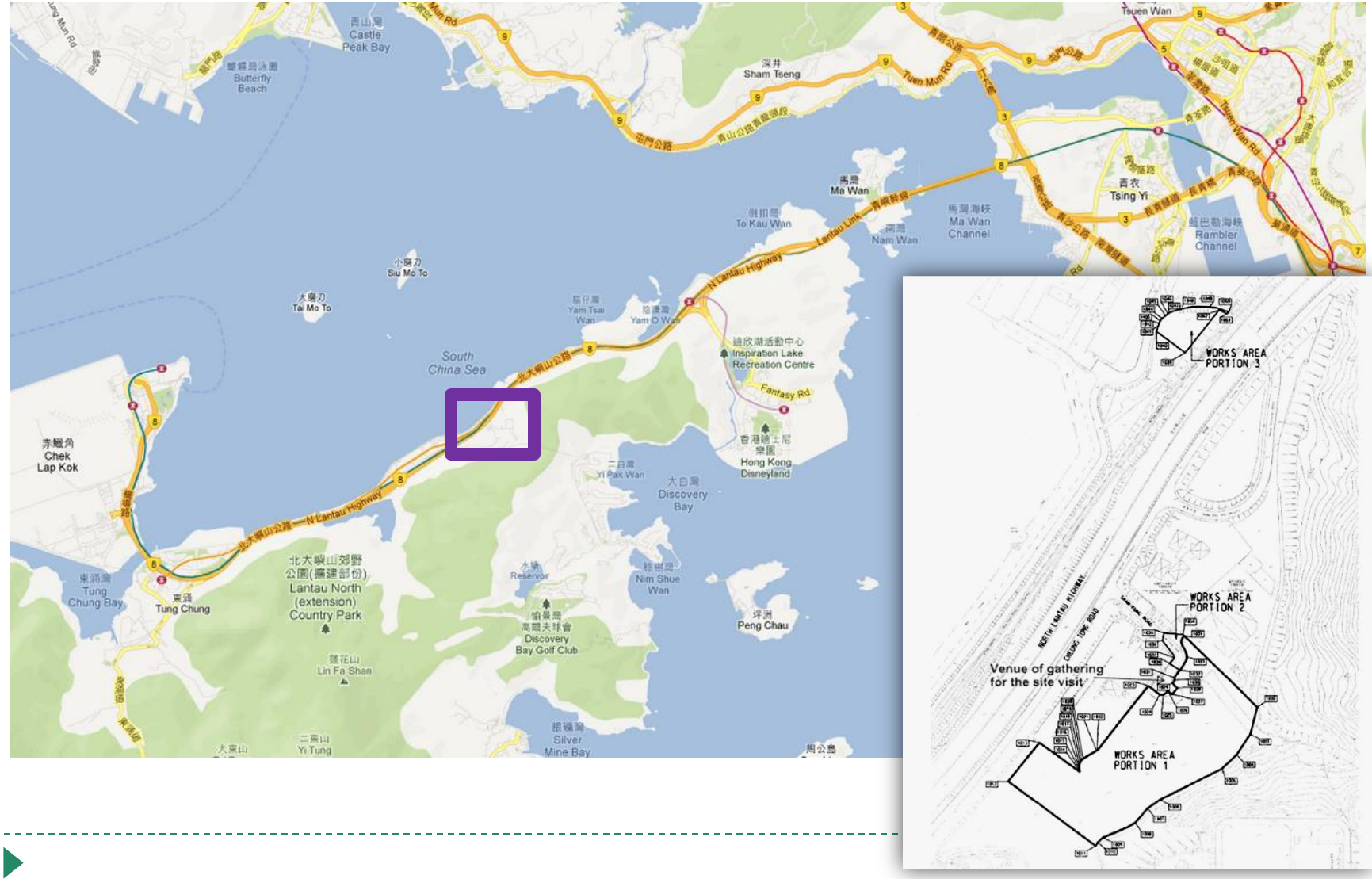
3. Organic Waste Treatment Facilities Phase 1 (Re-Tendering)

EP/SP/61/10

Schedule

Tender Invitation Date:	8 Feb, 2013
Closing Date:	12:00 noon, 5 July 2013
Contract Let:	Feb, 2014 (tentative)
Project Commencement Date:	Mar, 2014 (tentative)
D&B Completed Date:	Jun, 2016 (tentative)
Type of Agreement:	Design, Build and Operate
Expected Duration:	27 months (D&B), 15 years (O)
Major Activity:	Design, construction, operation and maintenance of the Organic Waste Treatment Facilities Phase 1 (OWTF) located at Siu Ho Wan

Location – Siu Ho Wan



Location

Area: 2.2 Hectare (22,000 sq m)

Scope of Works 1

(a) Design, construction, testing and commissioning of the Facility including the treatment process, civil works including site formation, structural works, electrical and mechanical works, building services, and architectural and landscape works. The Anaerobic Digestion Treatment System shall be designed to treat up to 200 tonnes of Treatable Waste per day

(b) Include the following components for proper functioning and secure the Operation of the Facility:

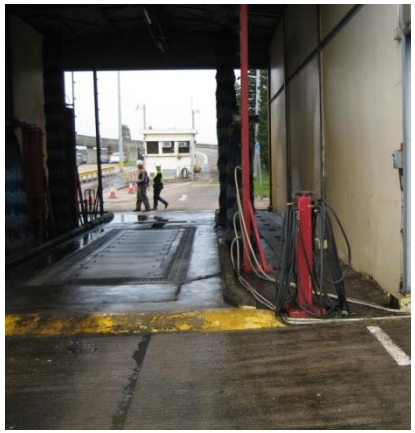
Main Treatment Plant

- Waste Receiving, Storage and Feeding System
- Pre-treatment System
- Anaerobic Digestion Treatment System
- Digestate Dewatering System
- Biogas Cleaning and Storage System
- Heat Recovery and Power Generation System
- Composting System

Scope of Works 2

Ancillary and supporting facilities

- Site security
- Weighbridge System
- Administration Building
- Visitors and Education Facilities
- Vehicle washing facilities
- Maintenance workshop & utility yard
- Drainage system
- Sewerage system
- Wastewater Treatment System
- Centralized Air Pollution Control System
- Continuous Emission Monitoring System (CEMS)
- Instrumentation, control and monitoring system
- Electrical power supply system & electricity export equipment



(c) Operation and maintenance of the Facility for 15 years to comply with the Contract

Scope of Works 3

(d) Liaise and attend meetings with the Employer, District Councils, and relevant parties during the Design, the Works and the Operation of the Facility

(e) Obtain all necessary approvals and permits for satisfactory completion of the Works and the Operation of the Facility

(f) Liaise with CLP on and implement the technical requirements of exporting power to CLP Grid, submit all necessary documents to CLP in relation to power export and export the minimum amount of monthly surplus electricity to CLP Grid during normal operation

(g) Provide all mitigation measures to comply with the Contract associated with environmental protection during the Works and the Operation of the Facility

Screening Requirement 1

- The Applicant OR joint, any one of the participants/shareholders has completed or has currently in hand at least one design-and-build (D&B) or one design-build-operate (DBO) contract, which:
  - (i) has a contract sum or an Adjusted Contract Sum of not less than HK$150 million for the capital works relating to design and construction (excluding operation and maintenance cost in the case of a DBO contract) under the contract; AND
  - (ii) if it is a D&B contract, has been completed within the past seven (7) years counted from the original tender closing date; OR if it is a DBO contract, has the design and construction works completed within the past seven (7) years counted from the original tender closing date.

Screening Requirement 2

- The Applicant OR joint, any one of the participants/shareholders has completed or has currently in hand at least one contract for design and installation of the **electrical and mechanical works** for Organic Waste Treatment Plant adopting **ANAEROBIC** digestion process, which:
  - (i) has a design capacity or an Adjusted Design Capacity of at least 10 dry tonnes per day for treating Organic Waste by the anaerobic digestion process; AND
  - (ii) if it is a D&B contract, has been completed within the past twelve (12) years counted from the original tender closing date; OR if it is a DBO contract, has the design and installation works completed within the past twelve (12) years counted from the original tender closing date.

Screening Requirement 3

- The Applicant OR joint, any one of the participants/shareholders has completed or has currently in hand at least one contract for **operation and maintenance** of Organic Waste Treatment Plant adopting **ANAEROBIC** digestion process, which:
  - (i) has a design capacity or an Adjusted Design Capacity of at least 10 dry tonnes per day for treating Organic Waste by the anaerobic digestion process; AND
  - (ii) has been carried out for a continuous period of not less than five (5) years within the past seventeen (17) years counted from the original tender closing date.

Screening Requirement 4

- The participant(s)/shareholder(s) of the joint venture Tenderer responsible for the Operation shall have financial participation of not less than a total of 40% in the joint venture.

Screening Requirement

- For a non-joint venture Tenderer -
  - For screening criteria nos. 1, 2 and 3: All “Yes”
- For a joint venture Tenderer -
  - For screening criteria nos. 1, 2, 3 and 4: All “Yes”