"Design and Make": Upcycling of Waterworks Sludge









15. Which of the following special waste has a higher average daily quantity (not disposed of at landfills) and what is the treatment method?	
Incineration ash and pulverised fuel ash, incinerated at T·PARK	Dewatered sewage sludge, incinerated at T·PARK
Incineration ash and pulverised fuel ash, used to manufacture concrete or stored in lagoon	O Dewatered sewage sludge, used to manufacture concrete or stored in lagoon
16. Which of the following is the treatment method for sewage sludge generated from sewage treatment works in Hong Kong?	
Disposed of at landfills	V Incineration
Concrete manufacturing, stored in lagoon	Export to oversea
17. According to the Monitoring of Solid Waste in Hong Kong 2022 published by the Environmental Protection Department, what is the average daily quantity of dewatered sludge disposed of at landfills in Hong Kong?	
0 tonnes	0 68 tonnes
27 tonnes	✓ 34 tonnes
18. Which of the following is the treatment method of the waterworks sludge generated from water treatment works in Hong Kong?	
Oisposed of at landfills	
Concrete manufacturing, stored in lagoon	Export to oversea
19. According to the Monitoring of Solid Waste in Hong Kong 2022 published by the Environmental Protection Department, what is the average daily quantity of dewatered waterworks sludge disposed of at landfills in Hong Kong?	
○ 30 tonnes	
	0 or tonnes

1. Which of the existing waste treatment facility in Hong Kong can turn special wastes to energy or resources?

T · PARK

 If the sludge generated from the sewage treatment works is not incinerated at T· PARK and is directly disposed of at landfills, please elaborate on the negative environmental impacts.

Sludge occupies space in landfills and will expedite the remaining capacity of

landfill to be exhausted. (The volume of sludge can be reduced by up to 90%

after incineration at T·PARK.) Additionally, it generates landfill gases such as

methane, carbon dioxide, which generates unpleasant odours. The pollutants in

the sludge may also infiltrate into groundwater, causing contamination.

(Reasonable answers are acceptable)



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1. What would you propose to optimise the future waste management policy in Hong Kong to reduce the disposal of special waste (such as waterworks sludge or sewage sludge) at landfills so as to alleviate the pressure on landfills?

The Government could make reference to the methods used by other countries

to treat and temporarily store sludge, in order to reduce the negative impact

of sludge on public health and the environment. It could also promote local

scientific research to explore different treatment methods suitable for Hong

Kong. Additionally, efforts could be made by strengthening the environmental

education and awareness campaigns to promote the 4R principles "reduce,

reuse, recycle, replace". Constructing more waste-to-energy or waste-to-

resources facilities could also be considered.

(Reasonable answers are acceptable)