



# Singapore Healthcare Management 2017



# Food Waste Recycling



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## Introduction

1. Changi General Hospital (CGH) disposes a daily average of 5.7 tonne of general waste. Of this amount, an estimated 0.8 tonne of the food waste is generated from the Dietetic & Food Services (DFS).
2. The food waste from DFS is manually thrown into the general waste compactor by 2 housekeeping staff. This activity is ergonomic challenging for our elderly workers.
3. As the compactor is cleared once daily, the food waste left inside the compactors can cause odour pollution and vermin infestations under our local humid weather condition.

## Objectives

- ✓ Food waste recycling is one of the green solutions CGH adopts to protect the environment and conserves resources by building on National Environment Agency (NEA) "3R Reduce, Reuse and Recycle" and "ZeroWaste" initiatives. There are many environmental benefits derived from this recycling project.
- ✓ Reduce the strenuous activity for our elderly workers.
- ✓ Cost savings derived from the disposal fee with the reduction in the tonnage from the general waste load.

## Methodology

1. Environmental Services Department had installed an "ecoDigester" food recycling system to replace the old method of disposal.
2. This system can convert the food waste into non-portable water by adding enzymes to accelerate the decomposition process. The water can be safely recycled back into the machine or to use for general floor cleaning.
3. DFS staff will sort the food waste into separate bins from the kitchen food waste. Housekeeping staff will place these bins on the auto-lifter attached to the machine. This enables the food waste to drop directly into the "ecoDigester" with just a press of a button.
4. The computer readings on the machine will capture the weight of the food waste each time the staff load this into the "ecoDigester".

## Results

- ✓ Cost avoidance derived from the NEA disposal fee at approximately \$1,900/month with the reduction in the general waste output.
- ✓ Environmental benefits and conservation of resources with the reduction in waste volume going to the incineration plant and lowers the carbon emissions.
- ✓ Housekeeping staff has feedback that the lifter has eased their workload and make their disposal tasks more manageable.

## Conclusion

With the "ecoDigester" food recycling system, CGH is able to recycle and convert the food waste into non-portable water. This project is in line with the NEA recycling initiatives and has also brought an increase in staff morale and ergonomics. Staff no longer needs to manually lift and throw the heavy waste bags into the waste compactors.

## BEFORE Previous Method of Food Waste Disposal



2 housekeepers need to lift the food waste bag from the bin and throw it inside the compactor

## AFTER Implementation of "ecoDigester" System

**Step 1**  
DFS staff sort and segregate the food waste into dedicated bins for recycling



**Step 2**  
Housekeeper transport the bins to the "ecoDigester" and load the bins on the auto-lifter



**Step 3**  
Food waste drop directly into the "ecoDigester" for recycling and convert into non-portable water

