EVERGREEN TECHNOLOGY
Simpler, Cleaner, Revolutionary Waste Management
by VOsPS

Santa Clarita 1550 ton/day, 1140MM UTOC EFW Plant Summary

Sep 2025

Context

Values herein are preliminary pending identification of preferred scope and results of detailed designs / calculations of associated project quantities / CAPEX / expenses / carbon tax and-or credit benefits / revenues / cost offsets / tariff impacts / potential landfill gas fractions requiring special UTOC materials and-or emissions controls.

VOsPS Inc., incorporated in and operating out of Manitoba, is the developer, owner and sole international supplier of UTOC https://www.vosps.co/ **technology.**

Plant

A 1140MM (1,140 million Btu / hour; 334,017 $kW_{thermal}$ / hour feedstock organics conversion rate) UTOC Energy From Waste facility (12 of 95MM UTOC modules) on ~14 acres at the Chiquita Canyon Landfill site.

Chiquita Canyon Landfill gas wells provide ~45% of project energy; Santa Clarita daily Municipal Solid Waste deliveries ~55%.

Energy from the UTOC system is a ~1,093,000 lb / hour ~1,340°C outlet gas flow consisting of ~8.3% water vapour, ~61.9% CO_2, ~29.0% N_2, ~0.8% O_2, ~25 mg/m^3 NO_x (as NO_2), zero organic particulate, zero CO, zero CH_4.

Plant Inputs

- **1,300 tons / day** [**tpd**] of Municipal Solid Waste from Santa Clarita (current 1,078 tpd MSW plus ~20% residual capacity)
- **250 tpd** (1/2 the ~13,500 Scfm plus ~20% residual capacity) of methane from the Chiquita Canyon Landfill gas wells piping network that conveys landfill gasses directly into UTOC system modules.
- **~370,000 USgal / day** of UTOC temperature control waste water (leachate / raw sewage / etc.); 135,700 of which is leachate from Chiquita Canyon Landfill
- **~200,000 USgal / day** of turbine steam condenser cooling tower makeup water
- **~200,000 cfm** (~3.5 air changes / hour) exhaust from the feedstock receiving / preparation / handling area is thermally deodorized as the UTOC system combustion air supply

Plant Outputs

- **~85 MW_e / hour electric power**; steam turbine generated
- **~170 MW_t / hour residual useful heat** from turbine steam condensing system for Energy From Waste plant site, or desalination of potable water if desired,
- **~30,000,000 L of desalinated water / day** (~8,000,000 USgal / day) **if all residual useful heat is used for water purification** in which case ~200,000 USgal / day of turbine steam condenser cooling tower makeup water **would not be required**
- **~77 tonne dry ash / day** (an agricultural land nutrient or asphalt / concrete block aggregate, depending on post processing to remove metals ***and laboratory analyses***)

Site and Building

- ~14 acres at the Chiquita Canyon Landfill site
- ~700' long, 350' wide (280,000 ft^2), 55' clear height at peak, 30' clear height at sidewalls, column supported roof

Feedstock Receiving / Preparation / Handling

- Garbage / sludge / hazardous waste delivery trucks (conventional compaction and rear dump trailer configurations) back diagonally into 11 bunkers and discharge their loads
- electric telehandlers (e.g. JCB 525-60W at https://www.jcb.com/en-gb/products/telescopic-handlers/525-60e-hi-viz) manage bunker garbage inventories and load feedstock shredders, each of which supplies a UTOC module via inclined auger that fills a surge hopper with top feedstock levelling screw (attached "typical 100MM module ELEVATION")
- telehandler operators are vigilant for items containing heavier metal fractions (than strollers / hand carts/etc.) that will be transferred to a disassembly location for removal of heavier metal pieces before loading remaining materials into shredders

Financials (US$)

The preliminary project Class 4 (https://www.processengineer.com/insights/capital-cost-estimate-classes) CAPEX estimate (excluding taxes and tariffs) is **US$400,000,000**

Annual Project Revenues and Cost Offset Estimates

1.	MSW / sludge / dead animal disposal [$38 / ton); 520,000 ton / year]	$ 19,760,000
2.	85 Mw_e / hour (744,600,000 kW_e / year) at $0.13 / kWh	$ 96,798,000
3.	170MW_t of steam condensing heat value (1,500,000,000 kW_e / year) at $0.07 / kWh	$ 105,000,000
4.	On site disposal of Chiquita Canyon Landfill leachate; 49,530,500 gal / yr @ $0.15	$ 7,429,500
5.	Additional leachate disposal fees: 85,884,500 gal / yr @ $0.15 (e.g. from LA landfill)	$ 12,882,600
6.	Eliminates ALL fines and growing landfill / neighbourhood problem mitigation costs[1]	$ 8,966,000
7.	VOsPS inc. annual UTOC system O&M support fee	$ 570,000
8.	annual payroll for 80 plant O&M personnel mostly labour entry & eqpt operators)	$ 7,000,000
9.	annual plant maintenance	$ 10,000,000
	Net annual revenues/cost offsets	$ 233,266,100
	$19,438,842 / month	

[1] Financing 2 years of $70 million / year fines and landfill emissions mitigation costs until UTOC project goes on line; amortized over 30 year UTOC project life are eliminated.

Project ROI Estimates Without Desalination System

CAPEX estimate $400,000,000 financed over 30 years at 5% = $768,514,577

At net annual revenues / cost offsets of $233,266,100; **Project Payback = 3.3 years**

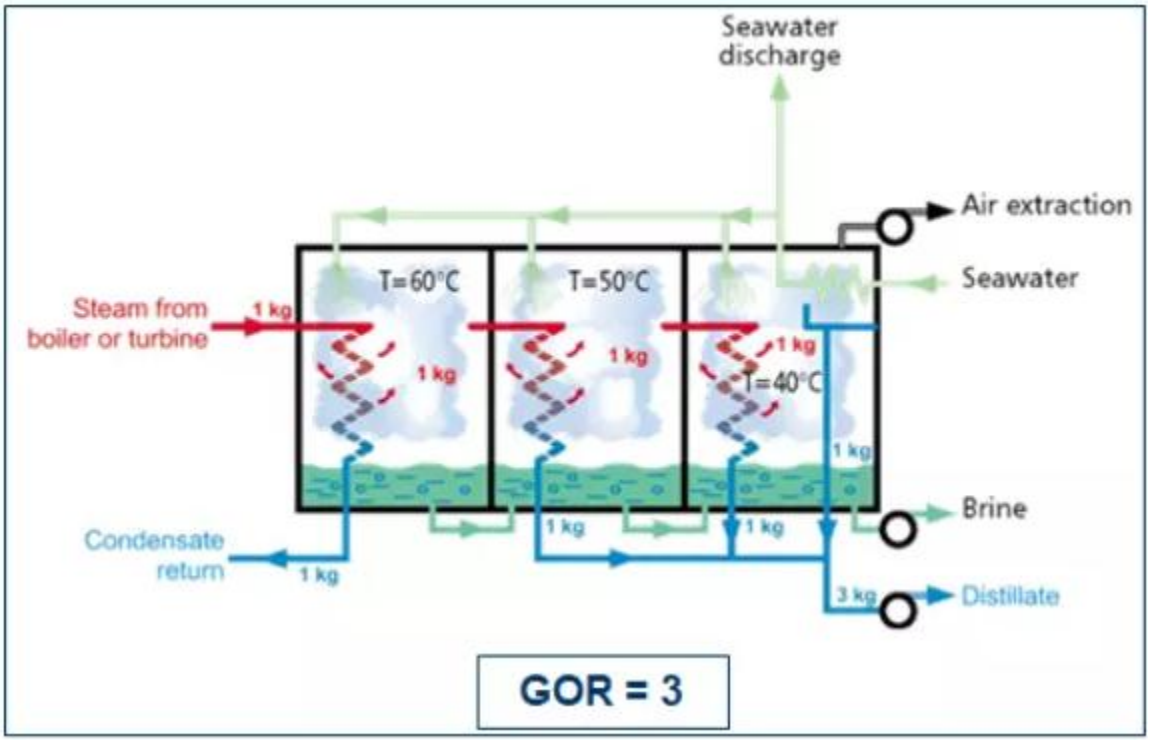
Project mortgage payments over 30 years: ~$2,134,763 / month

NET 30 year ROI estimate ~$17,304,079 / month; ~$6.2 billion

Desalination Option

A desalination system producing distilled potable water could be substituted for the power generation turbine steam condensing cooling tower with no significant project CAPEX change. The cost of pumping seawater to the UTOC site and returning residual flow plus distillation residue brine to the ocean would be an additional expense.

Heat from condensing turbine steam would produce ~30 million L (7.7 million gallons) of desalinated ocean water / day from a MED (Multiple Effect Distillation) sea water desalination system like at anz.veoliawatertechnologies.com+1



The ~200,000 USgal / day of turbine steam condenser cooling tower makeup water would not be required for this option.