

# Singapore Sets Its Sights on the Future: A Pilot Project in Waste Management using Regreen Technology

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Singapore is a country that is smart about recycling. With limited land space, this island city-state has had to get innovative when it comes to resource management. When it became clear that the rate of waste disposed by its citizens had risen six-fold between 1970 and 2000, **Singapore decided to lay out an ambitious goal to achieve a zero waste, zero landfill future.** The 2002 Singapore Green Plan 2012 (SGP2012) created a 10-year blueprint designed to address the challenges of sustaining Singapore's environmental vision despite increasing population and development pressures. It set a strict 60% target for recycling the island's waste by 2012, which has since been met. **Now, with the island's only landfill projected to be full by 2040, a loftier target of 70% (minimum) diversion has been set for 2030.** The country's National Environmental Agency (NEA) has scanned the globe, looking to incorporate cutting-edge waste management technologies that will work to ensure a sustainable future for Singapore. Regreen's Total Waste System lies at the foundation of their plans subject to them qualifying in their recently floated Tender.

### Tackling Problems with Waste-to-Energy:

To put Singapore's problem in perspective, the country currently boasts a population of approximately 5.1 million people which inhabit just 277.6 square miles (about 3 ½ times the size of Washington, D.C.) of land. **These 5.1 million people produce more than 8,000 tons per day of municipal solid waste (MSW) per day!** A high population density combined with space constraints has

been a major issue for the country since the late 1970's. During this time, Singapore first decided to adopt incineration as an alternative method of solid waste disposal. **Incineration not only reduces waste volume by 90% but produces energy from waste that would otherwise take up space at a landfill.** Over the past four decades, Singapore has built four waste-to energy plants fitted with advanced pollution control equipment that account for almost **3% of the country's electricity needs.** These plants work in conjunction with the country's robust recycling system to divert massive amounts of waste from the Semakau landfill.



However, the waste-to-energy technologies deployed to date won't be enough to address the increasing quantities of MSW being produced by Singapore's population. **The cycle times of each incineration facility are not fast enough to keep up with the amounts of waste coming in each day.** A more efficient waste disposal system that produces minimal residual waste is needed in order for Singapore to reach 70% diversion in the next 15 years. This is why the Singapore National Environmental Agency (NEA) is currently **planning a fifth waste-to-energy plant and a new waste processing facility that will handle all types of waste.**



Source: Singapore National Environmental Agency

### A Ground-breaking Pilot Project:

In September 2015, IC Green Solutions Pte Ltd, Singapore and [International Coil Limited-India](#) presented Regreen’s revolutionary solution for converting MSW into fuel pellets to Power, to the NEA. The presentation drew keen interest from the agency’s representatives. With the need to fulfil the target set for efficient waste management of Singapore, NEA floated a global tender for a pilot project involving 300 tons per day (TPD) of MSW. Efficiency and size are important decision factors for the NEA since its large-scale waste management operation is currently being designed to fit on just 1 hectare (107,639 square feet) of land. **IC Green Solutions Pte Ltd., Singapore, International Coil Ltd. India and Regreen** have decided to participate in the Tender with **Regreen’s breakthrough technology in Total Waste Management which, if awarded by NEA will ensure fastest speed for processing waste and in the smallest possible footprint.**

Beyond speed and size, what will make the Regreen’s Total Waste System an ideal solution for Singapore. **By using Regreen’s technology, Singapore will be able to save money, boost energy efficiency and recover maximum resources from its waste.**

This pilot project has the potential to revolutionize Singapore’s integrated waste management program and be scaled up in the future. With Singapore’s volume of MSW projected to increase and its incineration plant contracts set to expire over time, the country will look forward to shift all of its waste recycling to a more efficient technology. **Following successful implementation of the pilot project, NEA may plan to deploy more such systems to fulfil its goal.**

### Global Potential:

Singapore is recognized as a global leader in sustainability, particularly when it comes to resource and energy management. Many countries—especially in Southeast Asia—are struggling to manage rising populations and increasing volumes of waste. In India for instance, the city of Delhi alone produces more tons of trash per day (9,200) than the whole country of Singapore and is home to a 70 acre landfill popularly referred to as the “trash mountain”. Municipalities and nations alike are looking to Singapore for ideas on how to tackle trash. Singapore’s pilot project involving Regreen technology will serve as a valuable case study for a new waste-to-energy methodology that can be replicated to solve waste management problems around the world.

[researched by Alyssa Gutner-Davis, Marketing Associate]

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### About Regreen:

Regreen manufactures various machines to convert waste (food, organic, medical, and dirty municipal waste) into dry odorless and germ-free products. This can be further pelletized for fuel, or used for animal feed, compost or fertilizer. These patented and patent-pending machines are available for purchase or lease. The manufacturer is willing to place machines and share the tipping fees and revenue from pellets etc. Please contact [robin@regreenus.com](mailto:robin@regreenus.com) for details.

### About International Coil Limited:

Based in Gurgaon, India, ICL develops and manages projects throughout Asia, North America and Europe through their strategic partner IC Green Solutions Pte Ltd. Singapore. The company specializes in creating power-generation projects on a design-build/EPC basis. The company has expertise in Waste Heat Recovery and Gas Turbine Inlet Air Cooling (TIAC) projects with capabilities to design and build power plant systems

globally. ICL is uniquely positioned within the power-generation industry and is one of the few firms offering clients a full spectrum of services, comprising power generation, heating and cooling design, engineering and construction. Please contact [paramjeet@icl-tech.com](mailto:paramjeet@icl-tech.com) for details.

### About IC Green Solutions Pte Ltd.:

Based in Singapore, IC Green Solutions manages projects in the global market along with their strategic partner, International Coil Ltd. India and a few other notable technology partners. They offer power-generation projects on a design-build/EPC basis. They represent ICL and their expertise in Waste Heat Recovery and Gas Turbine Inlet Air Cooling projects with capabilities to design and build power plant systems globally and is uniquely positioned as it is one of the few firms offering clients a full spectrum of services, comprising power generation, heating and cooling design, engineering and construction. Please contact [ashimd@icgreensolutions.com](mailto:ashimd@icgreensolutions.com) for details.