

## Turn Organic Waste to Green Fuels with Zero Landfill

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**Abstract :** As waste recycling concept been accepted more and more in modern societies, the organic portion of the municipal waste become a sires issue in today's life. Depend on location and season, the organic waste can bee anywhere between 40-65% of total municipal solid waste. Also composting and anaerobic digestion technologies been applied in this field for years, however both process have difficulties been selected by economical and environmental factors. Beside environmental pollution and risk of virus spread, the compost is not a product been welcomed by people even the waste management has to give up them at no cost. The anaerobic digester has to have 70% of water and keep at 35 degree C or above; base on above conditions, the retention time only can be up to two weeks and remain solid has to be dewater and composting again. The enhancive waste water treatment has to be added after. Because these reasons, the voice of suggesting cancelling recycling program and turning all waste to mass burn incinerations have been raised-A process has already been proved has least energy efficiency and most air pollution problem associated process. A newly developed WXF Bio-energy process employs recently developed and patented pre-designed separation, multi-layer and multi-cavity successive bioreactor landfill technology. It features an improved leachate recycling technology, technologies to maximize the biogas generation rate and a reduced overall turnaround period on the land. A single properly designed and operated site can be used indefinitely. In this process, all collected biogas will be processed to eliminate H<sub>2</sub>S and other hazardous gases. The methane, carbon dioxide and hydrogen will be utilized in a proprietary process to manufacture methanol which can be sold to mitigate operating costs of the landfill. This integration of new processes offers a more advanced alternative to current sanitary landfill, incineration and compost technology. Xu Fei (Philip) Wu Xu Fei Wu is founder and Chief Scientist of W&Y Environmental International Inc. (W & Y), a Canadian environmental and sustainable energy technology company with patented landfill processes and proprietary waste to energy technologies. He has worked in environmental and sustainable energy fields over the last 25 years. Before W&Y, he worked for Conestoga-Rovers & Associates Limited, Microbe Environmental Science and Technology Inc. of Canada and The Ministry of Nuclear Industry and Ministry of Space Flight Industry of China. Xu Fei Wu holds a Master of Engineering Science degree from The University of Western Ontario. I wish present this paper as an oral presentation only Selected Conference Presentations: • "Removal of Phenolic Compounds with Algae" Presented at 25th Canadian Symposium on Water Pollution Research (CAWPRC Conference), Burlington, Ontario Canada. February, 1990 • "Removal of Phenolic Compounds with Algae" Presented at Annual Conference of Pollution Control Association of Ontario, London, Ontario, Canada. April, 1990 • "Removal of Organochlorine Compounds in a Flocculated Algae Photo-Bioreactor" Presented at International Symposium on Low Cost and Energy Saving Wastewater Treatment Technologies (IAWPRC Conference), Kiyoto, Japan, August, 1990 • "Maximizing Production and Utilization of Landfill Gas" 2009 Wuhan International Conference on Environment(CAWPRC Conference, sponsored by US EPA) Wuhan, China. October, 2009. • "WXF Bio-Energy-A Green, Sustainable Waste to Energy Process" Presented at 9Th International Conference Cooperation for Waste Issues, Kharkiv, Ukraine March, 2012 • "A Lannfill Site Can Be Recycled Indefinitely" Presented at 28th International Conference on solid Waste Technology and Management, Philadelphia, Pennsylvania, USA. March, 2013. Hosted by The Journal of Solid Waste Technology and Management.

**Keywords :** green fuel, waste management, bio-energy, sustainable development, methanol

**Conference Title :** ICSRD 2020 : International Conference on Scientific Research and Development

**Conference Location :** Chicago, United States

**Conference Dates :** December 12-13, 2020