

**Partner institution :  
CONCORDIA UNIVERSITY**

**BACKGROUND**

There is a need for improvement in the treatment of sludge and sediments; or other biosolids. Wastewater treatment plants in Canada produce about 860,000 dry tons per year of sewage residuals (TS). Montréal, Québec alone generates approx. 270 t TS/day. In Europe, the UK generates 1,640,000 t dry TS/year where 70% is used for land application, while in Germany, 20% of its almost 2 billion tons per year of dry solids was applied to land in 2010. Landfilling, incineration and land application are three main options for residuals disposal.

As landfilling and incineration each have their own environmental disadvantages, regulators favor agricultural land application of residuals.

**TECHNOLOGY**

BioElectro™ is a breakthrough technology which presents a high potential of practical applications for the advanced biosolids treatment and management. BioElectro™ process uses low direct electric field intensity and generates near sterilized solids. This can be done as a continuous or batch process. The most important stressors in BioElectro™ are temperature and NH<sub>3</sub>.

Sterilization, pasteurization and disinfection of biosolids can be achieved during BioElectro™ process. It allows inactivation and/or destruction of pathogens in the residual and dewatering of the residual, so as to obtain a treated dewatered residual and separated water.

**RESULTS**

Biosolids pasteurisation can be achieved within a half an hour, disinfection within less than an hour and sterilizations within less than two hours. The system was validated on inactivating *Clostridium perfringens* spores in anaerobic digested biosolids.

**APPLICATIONS**

The treated residual can be suitable for an agricultural purpose. Also: green projects; to reduce environmental footprint of solids treatment from municipal or industrial waste.

**PATENT STATUS**

Provisional pending for the USA.

**BUSINESS OPPORTUNITY**

Co-development and/or out-licensing opportunities for this technology. Industrial partners and/or investors sought, Worldwide.

**For Information please contact:**

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