ISWA TECHNICAL POLICY NO. 8

WASTE-TO-ENERGY AS PART OF INTEGRATED WASTE MANAGEMENT

Policy

ISWA supports the waste-to-energy as an element of integrated waste management. In conjunction with waste incineration, the utilization of waste-to-energy technologies and systems are the preferred applications. The use of waste-to-energy should be consistent with national, regional and local government integrated waste management plans.

Permitting of waste-to-energy facilities should be consistent with the established and long term capacity needs and the waste management plans. The full costs for the siting, design, construction, and operation should be included in the costs assigned to a waste-to-energy facility, including bottom ash management and the safe handling of flue gas cleaning residues, within an integrated waste management system. The use of waste-to-energy facilities should be consistent with best economic, environmental, and public health practices and with Best Available Technology References (BREF). The use of waste-to-energy facilities should be based on the assurances that during siting, design, construction, and operation, a waste-to-energy facility will comply with all required international, national, regional and local directives, laws, rules, regulations, and permits.

Position

The following are considered to be best practice in the siting, design, and operation of waste-to-energy as part of integrated waste management:

1. The selection of sites for waste-to-energy plants, and the design, construction and operating practices used at these plants, should:
   - be consistent with local land use conditions,
   - as early as possible include the local neighbours in the information about the site-selection and with continuous information to them in order to get their acceptance and co-operation,
   - protect archaeological, historical, and other culturally sensitive areas,
   - be close to the energy market, i.e. the electric grid, and if possible provide cities, villages, and industries in the neighbourhood with heat, district heating and/or district cooling,
   - provide for best practices in design, construction, and operation, and
• minimise impacts on air and water quality, or otherwise adversely impact public health, safety and welfare,

• encourage recycling and source reduction efforts in an integrated waste plan

2. Waste-to-energy plants shall be designed by professional engineers and other licensed professionals, with demonstrated knowledge in waste-to-energy facility design, to prescribe to the following principles:

• allow efficient and safe operations,

• provide for controlled access to the plant,

• provide means for the measurement by weight of incoming waste and of bottom ash and flue gas cleaning residues from the incineration process,

• provide means for the visual screening of incoming waste,

• provide for the efficient control of emissions to air and water in compliance with directives, laws and regulations,

• provide for the recycling of metals and gravel from the bottom ash

• provide for the safe final handling of the flue gas cleaning residues, in landfills or in permitted recovery sites.

3. Operation of waste-to-energy facilities shall prescribe to the following principles:

• operation under the management of a professional, skilful, competent and well-educated manager and staff in order to steer and to optimize the incineration process, with energy recovery, and to minimise the emissions and with a maximum recycling of the bottom ash and with a final safe handling of the flue gas cleaning residues,

• optimise the recovery of heat and/or electricity as far as possible

• provide for controlled access and use by only authorized users,

• measure of all incoming waste by weight,

• conduct random inspections of incoming loads of waste designed to detect and prevent incineration of waste not suitable for incineration,

• accept only wastes included in the permit, permit conditions, or permit amendments,

• provision for training of on-site personnel.
- waste handling and waste incineration should meet with national and local workplace standards for safety, health protection, and worker exposures.