Waste Management in the Circular Economy

Alessandro Bettin
(HITACHI)
Population Increased and urbanization. Concentrated demand of resources, huge production of Waste

Sea level increase. Changing in the precipitation regimes. Water Scarcity due to Longer Drought Periods

High summer peak due to tourism

Pollution of surface water and groundwater, salt intrusion into the aquifer, marine litter
EU Policy for Urban Waste Management

Waste Framework Directive

- To **reduce** the amount of waste generated
- To **maximise recycling** and **re-use**
- To **limit incineration** to non-recyclable materials
- To **phase out landfilling** to non-recyclable and non-recoverable waste

**TARGET:** 60% Recycle by 2030
Protection of Coastline from Marine Litter

Source: cleancoasts.org

EU Water Framework Directive
Waste to Energy – Pyrogassification

Organic Waste as Main Fuel. Energy from biomass is used at the highest efficiency.

Thermochemical Process that transform Biomass into Fuel Gas.

24 Kg/h of Biomass

Combined Heat and Power systems
Water Treatment and Reuse - Case Study Burj Califa STP Dubai

Capacity: 3000 m³/d MBR
2000 m³/d RO

Reuse of Treated Water for fountain, cooling and landscaping.
Hitachi IoT Analytics Platform

- Ingest
- Process
- Blend
- Data Prep
- Machine Learning
- Action

Data Lake
- Data Base
- Pentaho Data Integration
- Machine Learning

- Video or Voice Data
- Image Data
- Scada Data
- Geo-Location Data
- Meteo Data
- Asset Management
- GIS
- ERP

© Hitachi 2016. Tutti i diritti sono riservati.