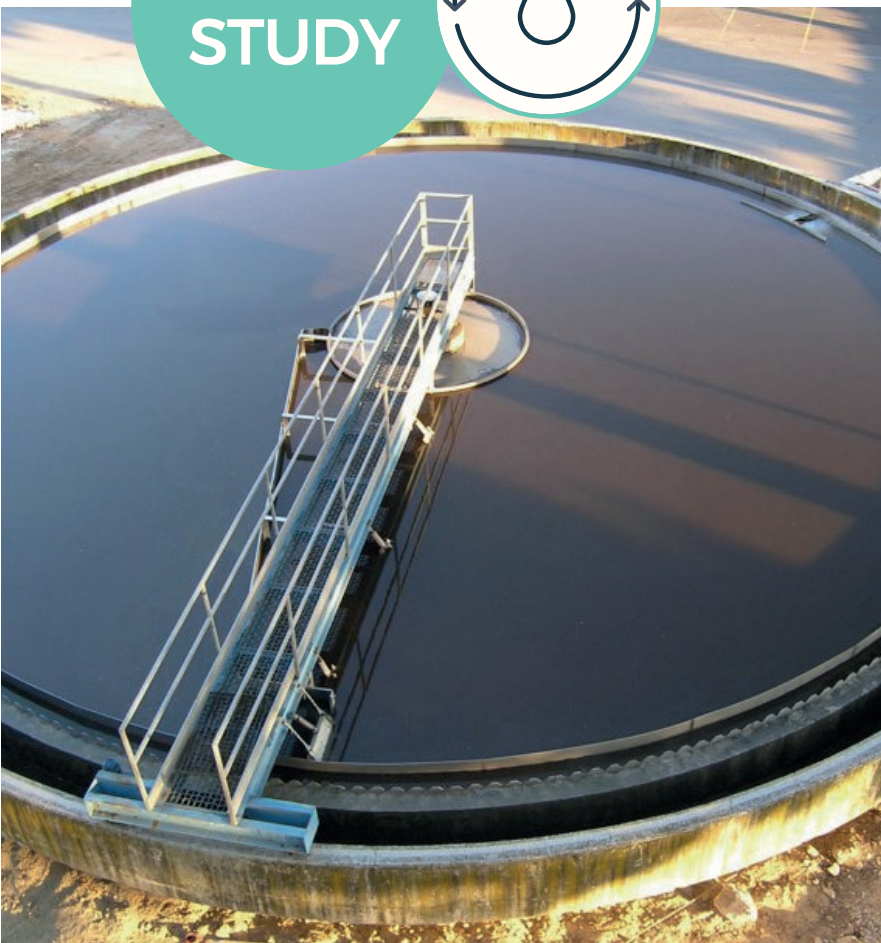


# CASE STUDY



## Case Study for Papermill

### Anaerobic and Aerobic Treatment Solution for Papermill Wastewater

- **Project:** Papermill Wastewater Treatment
- **Location:** Tivoli, Rome, Italy
- **Capacity:** 100 m<sup>3</sup>/h of wastewater (631,000 GPD)
- **Solution:** Anaerobic and Aerobic Treatment
- **Technology Used:** External, Oxidation, and Clarification System

### Background

Cartiere di Tivoli papermill, headquartered in Villa Adriana, Tivoli, Italy, produces jumbo paper for corrugated board and tissue for industrial use. The plant produces over 300 ton/d of paper products. The high-quality products from the plant are then sold to international paper

producers for conversion to final products such as paper towels, napkins, tissues, toilet paper, and paper packaging. The plant's wastewater treatment equipment was outdated and the discharge did not meet permit levels.

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## Solution

Fluence designed a new wastewater treatment system to treat the wastewater and achieve the most stringent permit discharge limits. The treatment plant consists of anaerobic pretreatment through our patented External Forced Circulation (EFC) reactor, and an aerobic polishing stage.

The combination of anaerobic and aerobic Fluence solutions allowed the plant to:

- Meet the most stringent permit discharge limits
- Reduce the carbon load of the inlet wastewater
- Reduce energy consumption
- Reduce excess sludge production
- Produce renewable energy (biogas) cycle
- Reduce overall treatment cost

## Project Data In (Raw Wastewater)

- Wastewater flow rate: 100 m<sup>3</sup>/h (631,578 GPD)
- Chemical Oxygen Demand (COD): 3000 mg/l

## Project Data Out (Raw Wastewater)

- Wastewater flow rate: 100 m<sup>3</sup>/h (631,578 GPD)
- COD < 150 mg/l
- Methane production: 1800 Nmc/d
- Electric energy production: 7000 kWh/d
- Thermal energy production: 8000 kWh/d

## Process Flow

