1. Starting point

- 1992 Council decision for establishing a PPP (AVG)
  Main task: Realization of recycling facilities according to the SMW action plan
  - Realization of a composting plant until 1995
  - Realization of a commercial and a demolition waste sorting plant until 1995
  - Realization of a Waste to Energy incineration plant until 1998
- Realization of good recycling facilities in conjunction to the public tender and within the time limits, specified
- Selection and training of employees for effective running of recycling plants

2. Institutional setting

- National waste act from August 27, 1986
  - First-time implementation of a MSW recycling obligation
- 1988 Cologne City Council approved waste management plan
  - Main objectives of WMP:
    - Waste avoidance
    - Waste recycling
    - Development of future-oriented routes of waste disposal
  - 1991 Introduction of separate collection of bio-waste
  - 1992 AVG was established as a PPP-company after public tender
  - 1995 Start of operation of the composting plant

3. Approach

- Analysis of the current situation
  - Bio waste generation (current state, 10 years forecast)
  - Determination of compost quality objectives
  - Search for best practice examples
- Procurement of the composting plant
  - Preparation of the tender
  - Designation and monitoring
  - Employee selection and training in other composting plants

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4. Outputs

Type of waste	2001	2006	2011	2016
Biowaste [Tonnes]	5,525	12,489	31,265	39,409
Greenwaste [Tonnes]	10,046	8,489	8,882	6,822
Population in Cologne	1,019,328	1,024,346	1,036,117	1,069,192
Organic waste/inhabitant [kg]	15,3	20,5	38,7	43,2

- **Municipality SWM facilities**
  - Composting plant about 109,000 t/y capacity
  - Commercial and demolition waste sorting plants
  - Incineration plant about 710,000 t/y capacity

- **Technical key figures of the composting plant**
  - *Input (2015):*

    101,000 (Municipality 46,000) t/y
  - *Output (2015):*
    - High quality controlled compost: 51,000 t/y
    - Energetic utilization (timbers): 16,000 t/y
    - Impurities for incineration: 1,000 t/y

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5. Lessons

- Know how of the private partner (PPP) has been successful
- Organic waste recycling is established and proved right
- Despite technical progress, the separate collection of organic waste is still state of practice
- Organic waste recycling needs marketing channels to enter the agricultural sector and requires very good compost quality
- Establishment of an independent national centre for certification
- Quality requirements still rise on, over the decades
- Adaptation to technical progress by planning a new fermentation plant

6. Transfer

- Waste recycling requires political will, regulations and execution
- Securing of financing of recycling systems is necessary
- SWM-Plan should be the first step in recycling activities
- Successful international best practice examples are available
- Explaining to the public about the necessity of environment protection
- Big changes start small and utilize experiences through the process
- Present your success