

# Synthesis and storyline for an issue paper

*Checking your work*

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## This Clip: Checking your storyline

1. What makes for a good storyline?
2. How do you check your own work?
3. Some pitfalls and common mistakes



Storyline recycling

Part 1: Introduction ( approx. 1 - 1.5 pages / 800 - 900 words)

1) Introduction

- a) Issues: waste management
  - i) Waste management is important issue. Improper management can damage public health and/or environmental health. Also, it can contribute to climate change mitigation, for instance as green/bio-fuel source (J&M, 2010)
- b) Problem owner and problem: Ministry and national policy objectives recycling
  - i) In the Netherlands, the Ministry of Environment and Infrastructure is responsible for national waste management policy
  - ii) National waste management policy 2009 - 2021 ("Landelijk Afvalbeheer Plan 2) has been developed
  - iii) Priority order: "Lansink's Ladder" (see Wikipedia, 2012)
  - iv) Official policy objective: 83% of waste recycled by 2015 (J&M, 2010)
- c) Means: Current policy measures (Milieu, 2011; Wied, 2011; Hoogers, 2012):
  - i) stimulating innovation and knowledge building, "pioniersacties" involving municipalities, waste companies and producers
  - ii) reduce red-tape (administrative burdens) for international waste transportation
  - iii) stimulating separated waste collection (e.g. public awareness campaigns)
- Competitiveness:
  - i) Currently high, due to low prices in the market and high taxes
  - ii) May vary with financial support for waste companies and producers
  - iii) More waste than other countries, but not necessarily a desirable solution
- a) Problem statement: How to increase amount of recycled waste without raising financial burden for Ministry of Infrastructure and Environment and robust on increased reliance on foreign waste?
  - i) Outline of issues/paper structure

Part 2: Problem Analysis (approx. 6-8 pages / 3.500 words)

- 2) Competitiveness of recycling within waste management system
  - a) Over-capacity in waste incineration plants is barrier for recycling objectives
    - i) Three policy measures considered. All ("pioniersacties", reducing administrative barriers, stimulating separate waste collection systems) will in principle have positive effects on key objectives of the Ministry (more waste recycled, lower costs, limited dependence on foreign waste - see Rijksoverheid 2012 and Annex with Goal Tree). (based on Annex with causal relations diagram and system diagram)
    - ii) However, effects of these measures are likely to be undone by the effect of the existing over-capacity in waste incineration plants in the Netherlands. This keeps costs of waste incineration low, meaning that recycling cannot compete with waste incineration as a destiny for waste. (based on Annex with causal relations diagram and system diagram, backed mainly by Perrée, 2011; Ertu, 2011). In fact, incineration plants "run" full.
  - b) Instruments to increasing the competitiveness of recycling: Reduce the overcapacity in waste incineration plants, or increase the supply of waste to feed the incineration plants.
    - i) Instruments that the Ministry could use: introduce a tax on waste incineration (to affect current low price of waste incineration), introduce tax on burning waste, introducing a subsidy for recycling, force incineration plants to close (legal measures), introduce (stricter) laws and regulations on waste recycling, and loosen the existing import cap for foreign waste (Perrée, 2011; J&M, 2010).

- c) Most promising measures on short term are increase in import cap, allowing more imports of waste, and reducing the administrative burden associated with imports. This increases dependency on foreign waste, but as a short measure that may be acceptable. Note that effect is likely to be positive, but not sure if it will be sufficient to realize the 83% target.
- 5) Finally: consider reflection on current policy objectives
  - a) Current policy target based on waste management "ladder", which prioritizes recycling over waste incineration. Current 83% target is motivated also by European regulation, but the idea is to stimulate recycling, as proper "use" of waste. Strict 83% target may be unnecessary limiting. In current target and prioritization still applicable when waste incineration provides a "green" form of energy supply?
  - b) Conclusions (recap) and Knowledge gaps
    - a) Recycling targets difficult to realize. Requires measures to address overcapacity in waste incineration plants, which are only feasible on longer term.
    - b) Furthermore, decision on these longer-term strategies requires that several knowledge gaps are being addressed. Among others:
      - i) What are the alternative "green" energy sources in the coming 20 - 50 years?
      - ii) What is the dependency of municipalities on waste incineration plants due to cramped city heating infrastructure?
      - iii) What is the time needed for waste incineration plants to recover past investments?
      - iv) How much capacity can waste incineration plants recover from past investments?
      - v) How much capacity can waste incineration plants recover from past investments?
- 7) Research proposal
  - a) Research question: What are the critical factors in facilitating a transition towards (nearly) complete recycling in the Netherlands?
    - b) Method: System Dynamics
      - i) Elaborate the model around the observed feedback loops, to get a better understanding of system behavior, and factors that are influential in facilitating a change towards positive developments
      - ii) Method proposed in system dynamics, useful to understand system behavior and influence of factors and relations on longer-term developments. System to be studied includes important feedback loops and has clearly recognizable "stocks-and-flows" in waste materials.
      - iii) Key factors include those involved in the feedback loops that drive system behavior (see system diagram/causal relations diagram).
      - iv) Data available from? Check possible sources://
    - c) Planning: indication of planning, staying within time limit of 2 months.
    - d) (Alternative) Cost-effectiveness analysis could be proposed, tackling question of what plants to prioritize/ schedule for closure in future. Taking into account several factors for existing plants (size, past investments, linkage to heating industry, sustainability types of waste, ...)
  - 4) On short term (2015) temporary measures should be taken
    - a) Introducing tax will increase support and effect is limited as waste will simply travel to Germany, which also has low prices.
    - b) Subsidies introduce financial burden, so subsidies need to be considerable in order to be effective (see Perrée, 2011; Hoogers, 2012).

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# What makes for a good storyline?



## A *good* storyline is...

- Clear
- Logical
- Specific
- Complete
- Interesting
  
- *Based on your analysis and backed-up by authoritative source materials*

## Checking your storyline

1. What makes for a good storyline?
2. How do you check your own work?
3. Some pitfalls and common mistakes



*A Tale from the Decameron* (1916) by John William Waterhouse

1. Client's problem?
2. Main finding(s)?
3. Knowledge gaps?
4. Further research?



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## Sequence of analyses

“So what?”

# Jumps in reasoning



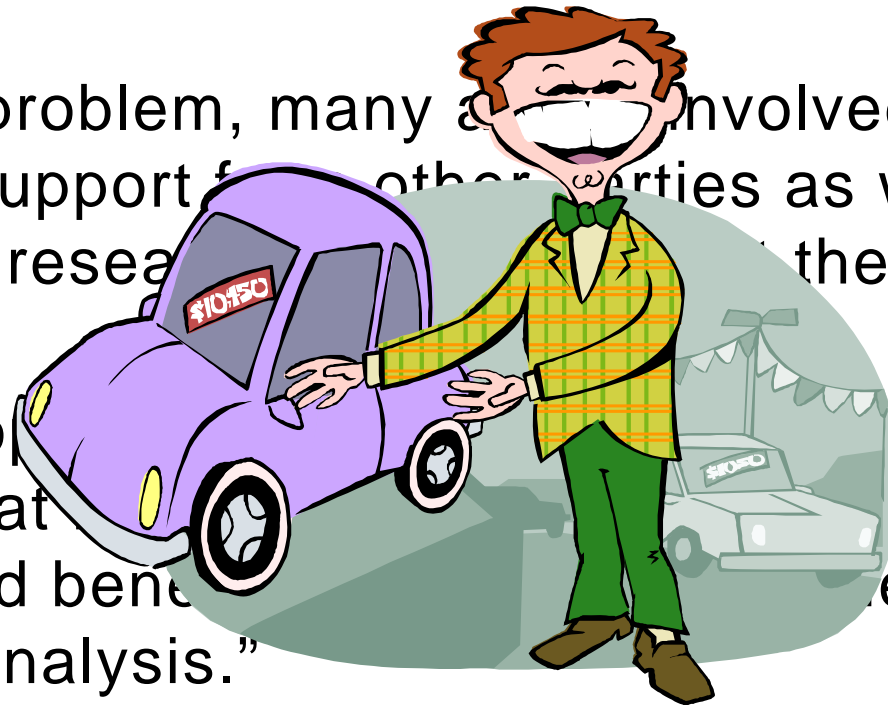
Devoid of facts and figures



## Logical reasoning but too shallow

“Complex problem, many stakeholders involved, important to secure support from other parties as well. This requires research on what they want / prefer / value”

“Different options, not yet clear what costs and benefits requires that benefit analysis.”





## Common pitfalls

- Sequence of different analyses
- Jumps in reasoning
- Devoid of facts and figures
- Logic is there, but contents too shallow
- Detailed table of contents
- Extended problem introduction
- Problem analysis incomplete
- Nothing 'new', no contribution
- ...

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Thank you for your attention!