

WIRTEX
Wirtschaftsverband Textil Service e.V.





Life Cycle Assessment Cotton Towel Rolls

Presentation of the Study
Frankfurt am Main, November 22th 2016

Partner

WIRTEX
Wirtschaftsverband Textil Service e.V.

Ordering Party national	Ordering Party international	Life Cycle Assessment	Critical Review Panel (Chair)
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Agenda

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1. Introduction
 1. WIRTEX + Textile Service
 2. Textil Service + Sustainability
 3. Cotton Towel Rolls + Performance
2. Introduction in the Methodology of a Life Cycle Assessment
3. Selected Parameters and Results of the Study
 1. Waste
 2. Energy Consumption
 3. Global Warming Potential
 4. Results Overview
4. Your Questions

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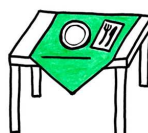
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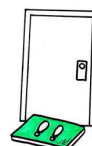
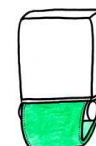
1.1 WIRTEX + Textile Service

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1. WIRTEX represents 11 Textile Service Enterprises
+ 65 Supply Chain Members
2. Market Volume 2015: 3,325 billion EUR (> 50% WIRTEX)
3. The Textile Service
 - Selection, advice, procurement
 - Supply, delivery, use
 - Washing, treatment, repair, replacement
4. Portfolio


 Workwear
PPE

 Bed linen
Table linen

 Health-Care-
Social Instit.

 Mats
Wipers

 Cotton Towel Rolls
Washroom service

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1.2 Textile Service + Sustainability

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1. Circular economy
2. High quality level
3. Long life performance
4. Optimized processes
5. Energy efficiency
6. Secure hygiene and safety level
7. Treatment of residual waters
8. Second life (reuse)



Textile Service – sustainable per se!

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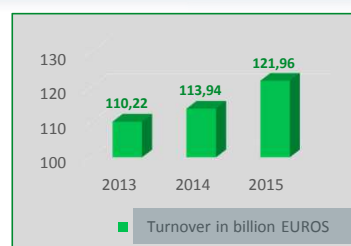
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1.3 Cotton Towel Rolls + Performance

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1. German market development washroom service with strong increase (WIRTEX companies)
2. Hygiene
 - ETSA Study 2014 (paper/cotton vs. air)
 - Higher than minimum requirements EN 1499
 - Germinal reduction 4,41 log (required 3)
 - Germinal reduction air dryer 2,48 – 1,79 log (lower than norm!)
3. Haptics and comfort
 - Who uses paper for hand-drying at home?
4. Environmental advantages
 - 2006: Cotton towel rolls with clear advantages
 - 2016: 07 : 01 for the cotton towel rolls



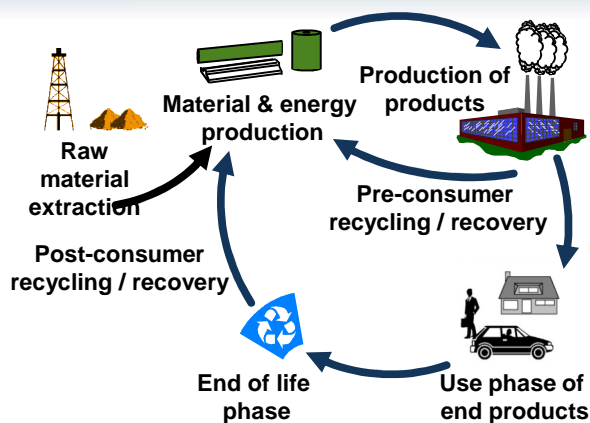
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2. Introduction in the Methodology of a Life Cycle Assessment I



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Graphs kindly provided by thinkstep

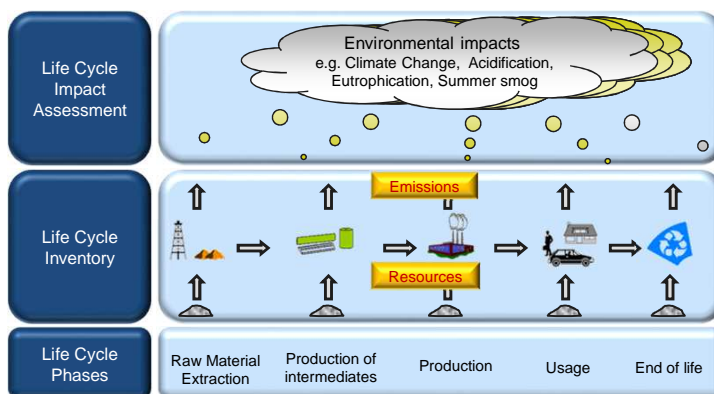
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2. Introduction in the Methodology of a Life Cycle Assessment II



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Graphs kindly provided by thinkstep

3. Selected Parameters and Results of the Study I



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- Comparison cotton towel rolls vs. virgin paper and recycled paper for hand-drying
- Functional unit of the study: 10.000 hand-dryings
- Average usage per hand-drying
 - Cotton towel rolls: 1.1 pulls
 - Folded paper towels (virgin or recycled paper): 3 pieces
- Consumed quantities per functional unit
 - 1.67 kg cotton towel roll (with an average of 93 washing cycles)
 - 93.4 kg recycled paper
 - 67.8 kg virgin paper

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3. Selected Parameters and Results of the Study II



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- Global warming potential
- Acidification potential
- Eutrophication potential
- Photochemical ozone-creation potential (summer-smog)
- Primary energy demand
- Freshwater consumption (without rainwater)
- Waste generation
- Particles to air (dust)



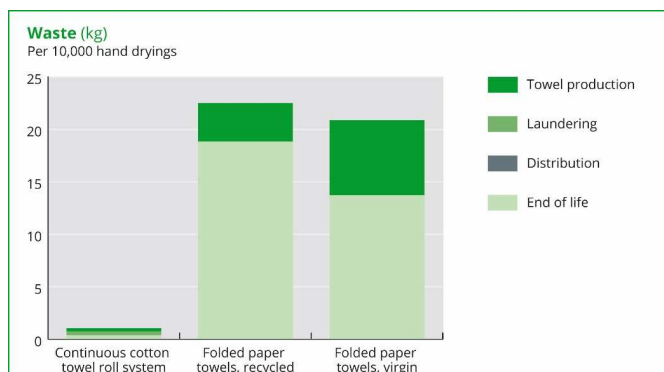
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3.1 Waste



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- Significantly lower amount of used material
→ enormous advantage of cotton towels which are used 90-125 times
- For hygienic reasons, paper cannot be recycled but has to be disposed of

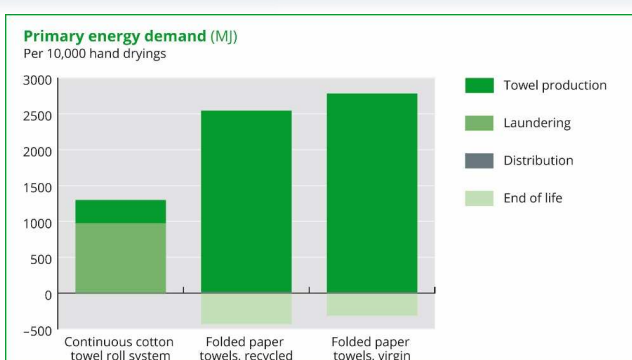
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3.2 Energy Demand



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- The main part of energy consumption with cotton towels is needed for the washing cycles.
- Per kg material, much more energy is needed to produce cotton than paper. But the effect of multiple use of cotton is much more significant for the life cycle.
- Energy-credits granted for paper due to energy generated by waste incineration (shown on negative scale)

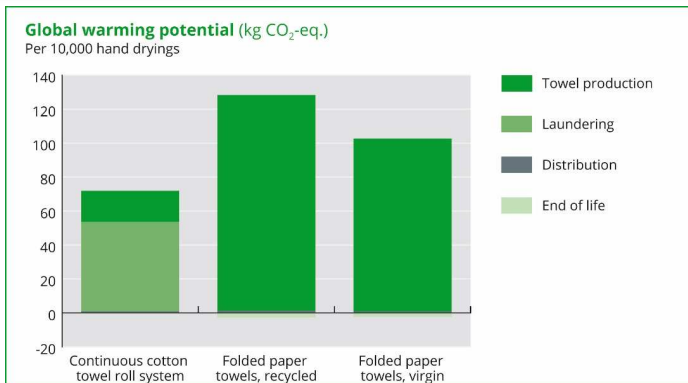
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3.3 Global Warming Potential



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- All emissions relevant for global warming potential are combined to one parameter → CO₂-equivalent
- As a general rule: less energy consumption results in a lower GWP
- Focus on fossile CO₂

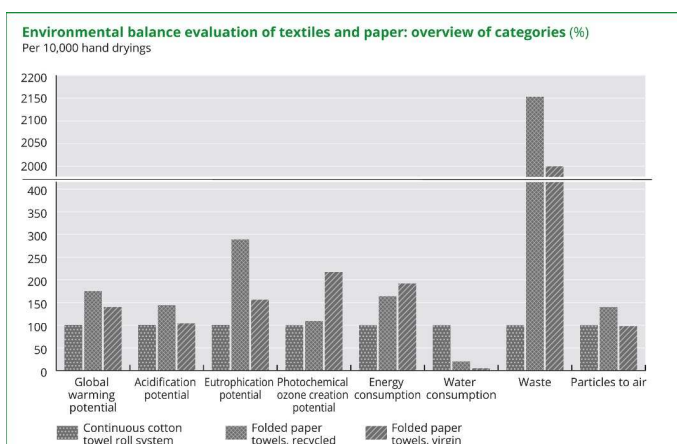
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3.4 Results Overview



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- High water consumption at the production (cultivation, 83%) of cotton and due to washing cycles (17%) => advantage for paper
- In all other reviewed categories, cotton towel rolls beat paper or is equal to it.

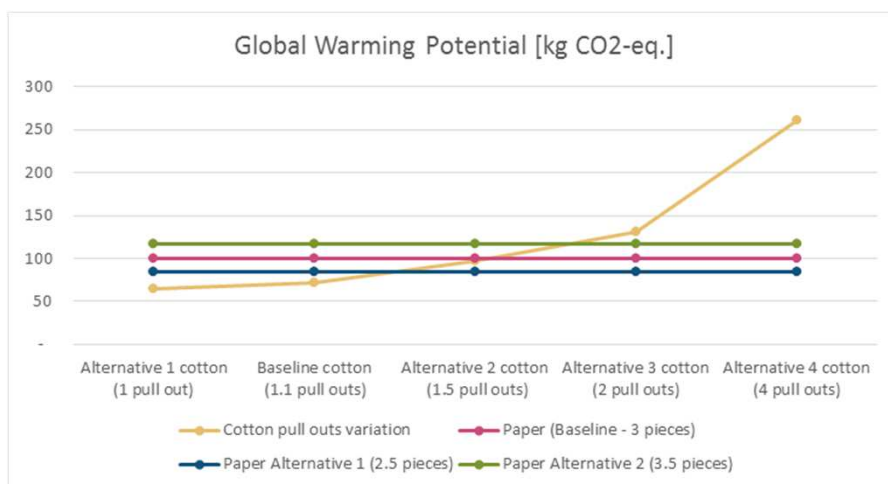
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3.5 Critical Reflection I



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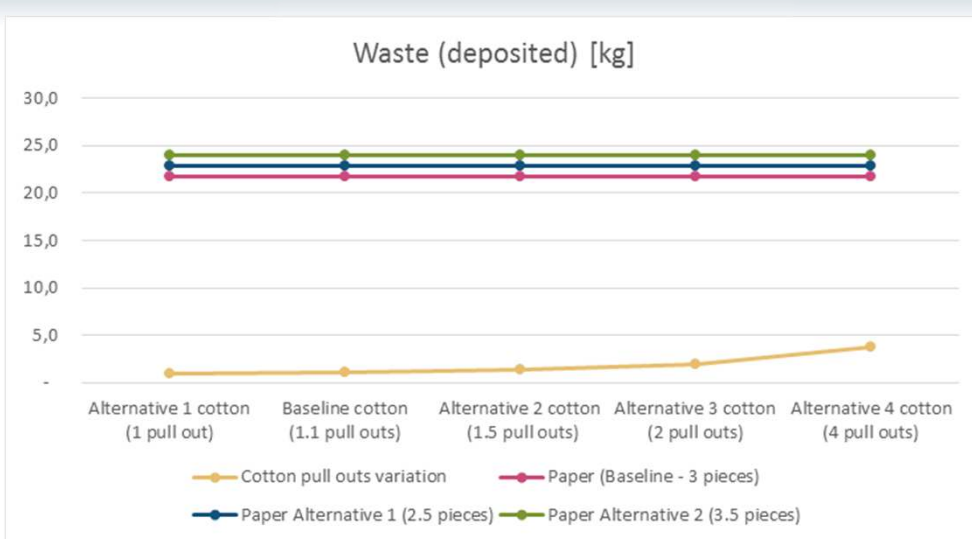
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3.5 Critical Reflection II



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4. Your Questions



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Information in English available for your use:

- Executive Summary of the study (6 pages)
- Customer Leaflet
- Press release

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