TEXTILE PROJECT

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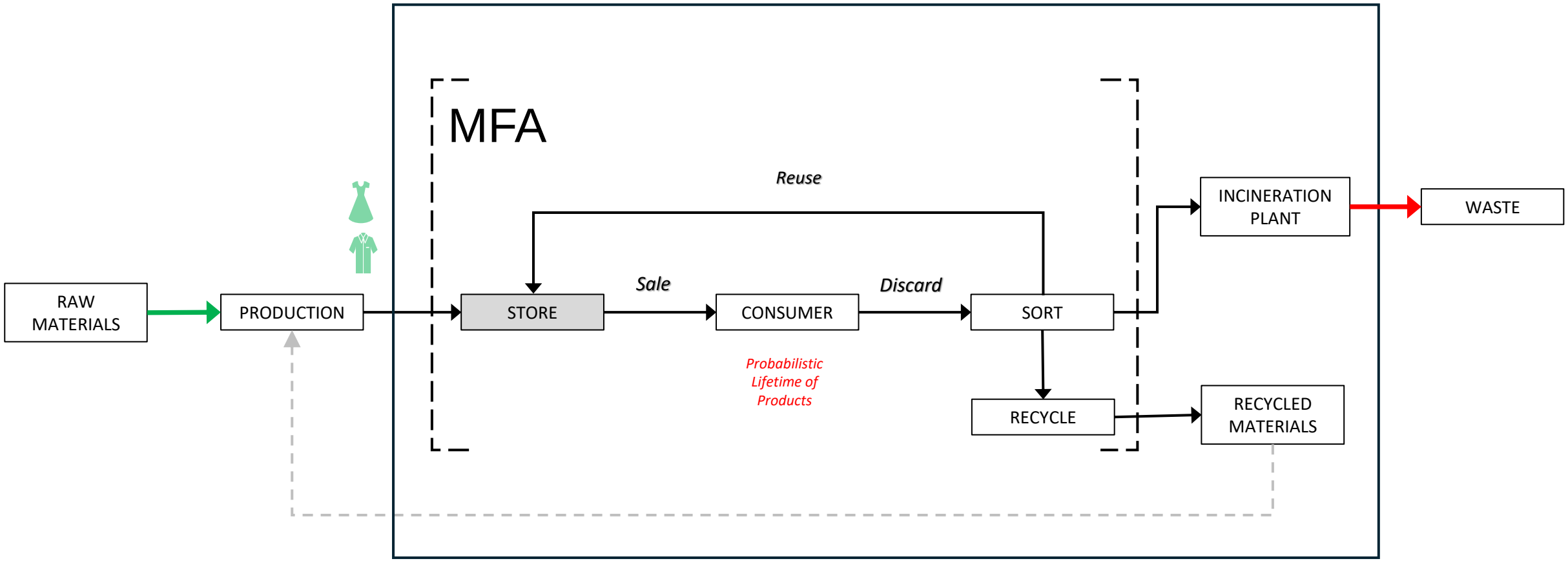
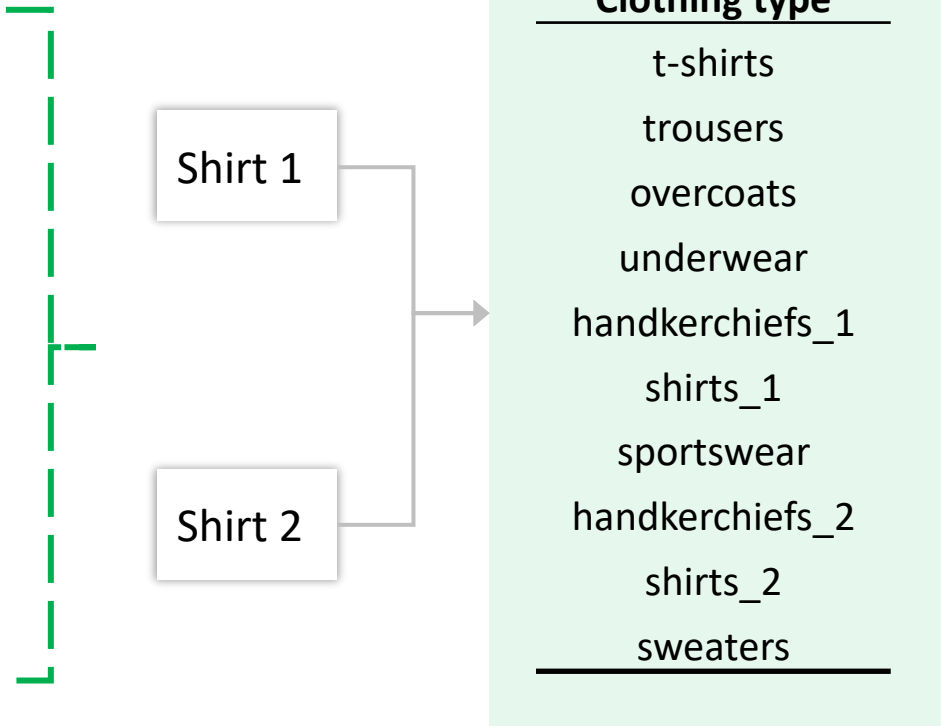
TEXTILE LIFE CYCLE - SIMPLIFIED

LCA

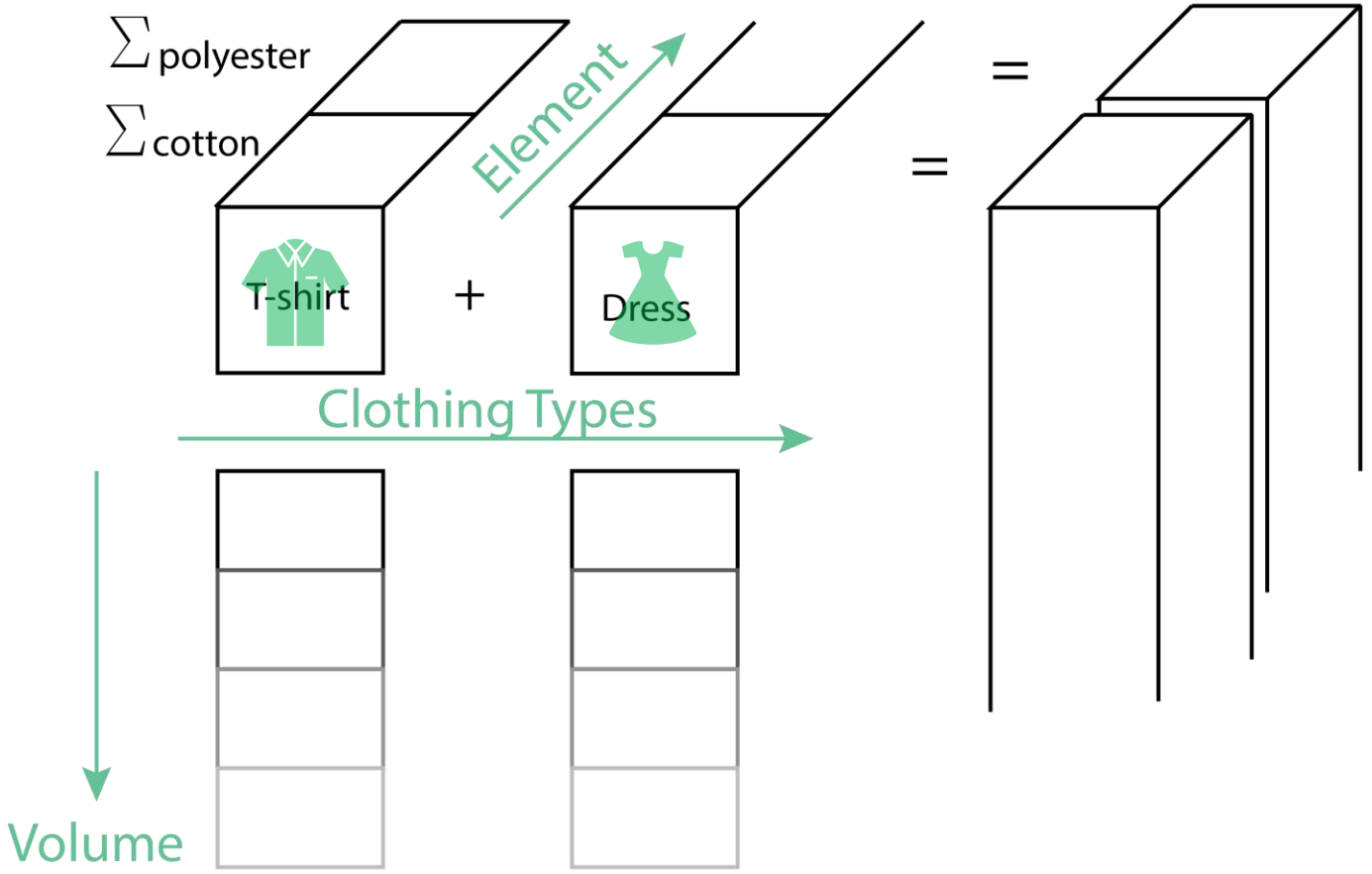


Product Categories & Types

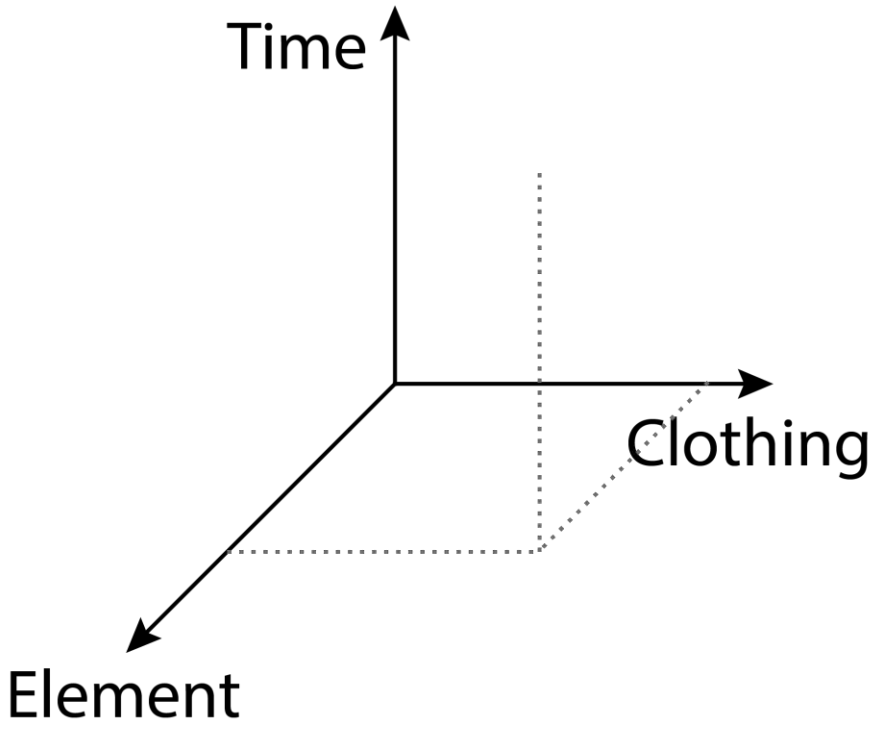
Category	Fibre 1	Fibre 1 % Range	Fibre 2	Fibre 2 % Range	Fibre 3	Fibre 3 % Range
Shirts, Blouses, Tops	Polyester	41-50%	Wool	41-50%	NA	NA
Shirts, Blouses, Tops	Polyester	91-100%	NA	NA	NA	NA
Shirts, Blouses, Tops	Acrylic	81-90%	Polyester	10-20%	Elastane/Spandex	<10%
Shirts, Blouses, Tops	Polyester	61-70%	Viscose	31-40%	NA	NA
Shirts, Blouses, Tops	True Hemp	51-60%	Polyester	21-30%	Cotton	10-20%
Shirts, Blouses, Tops	Wool	41-50%	Cotton	41-50%	Polyamide/nylon	<10%
Shirts, Blouses, Tops	Polyamide/nylon	41-50%	Animal hair (alpaca, llama, camel, kashmir goat, angora goat, angora rabbit)	21-30%	Wool	10-20%



MFA DIMENSIONS

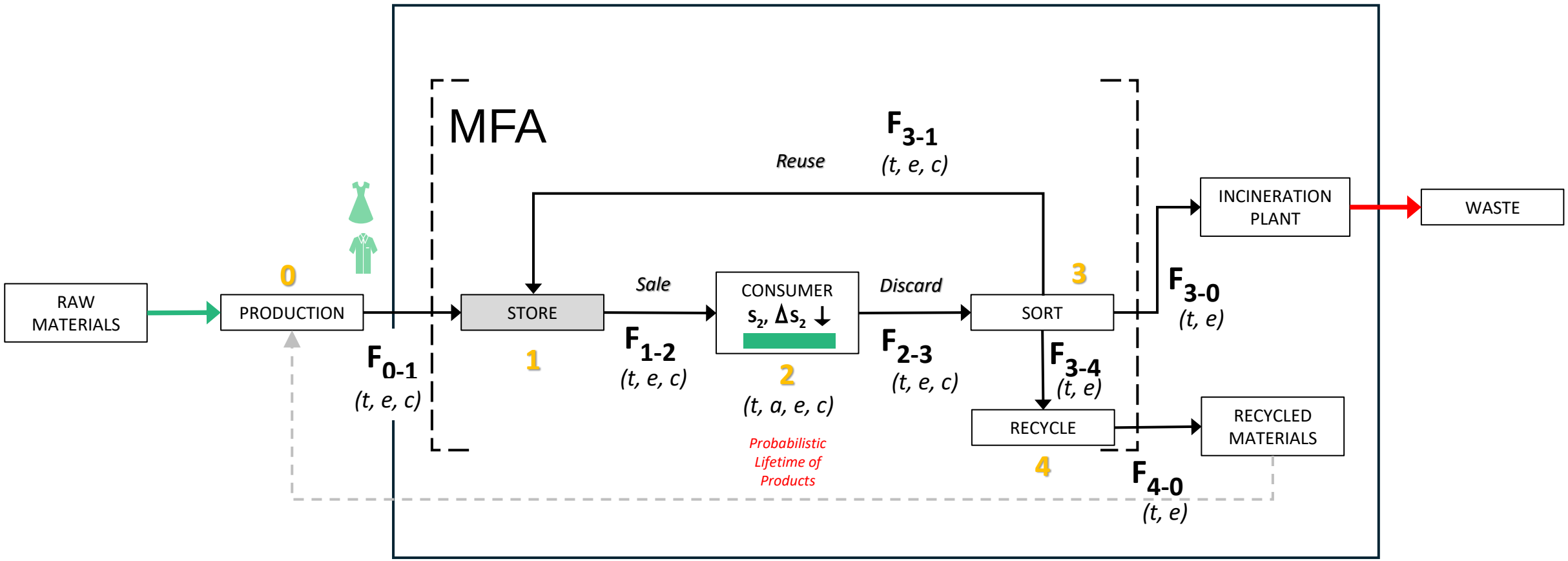


INDICES

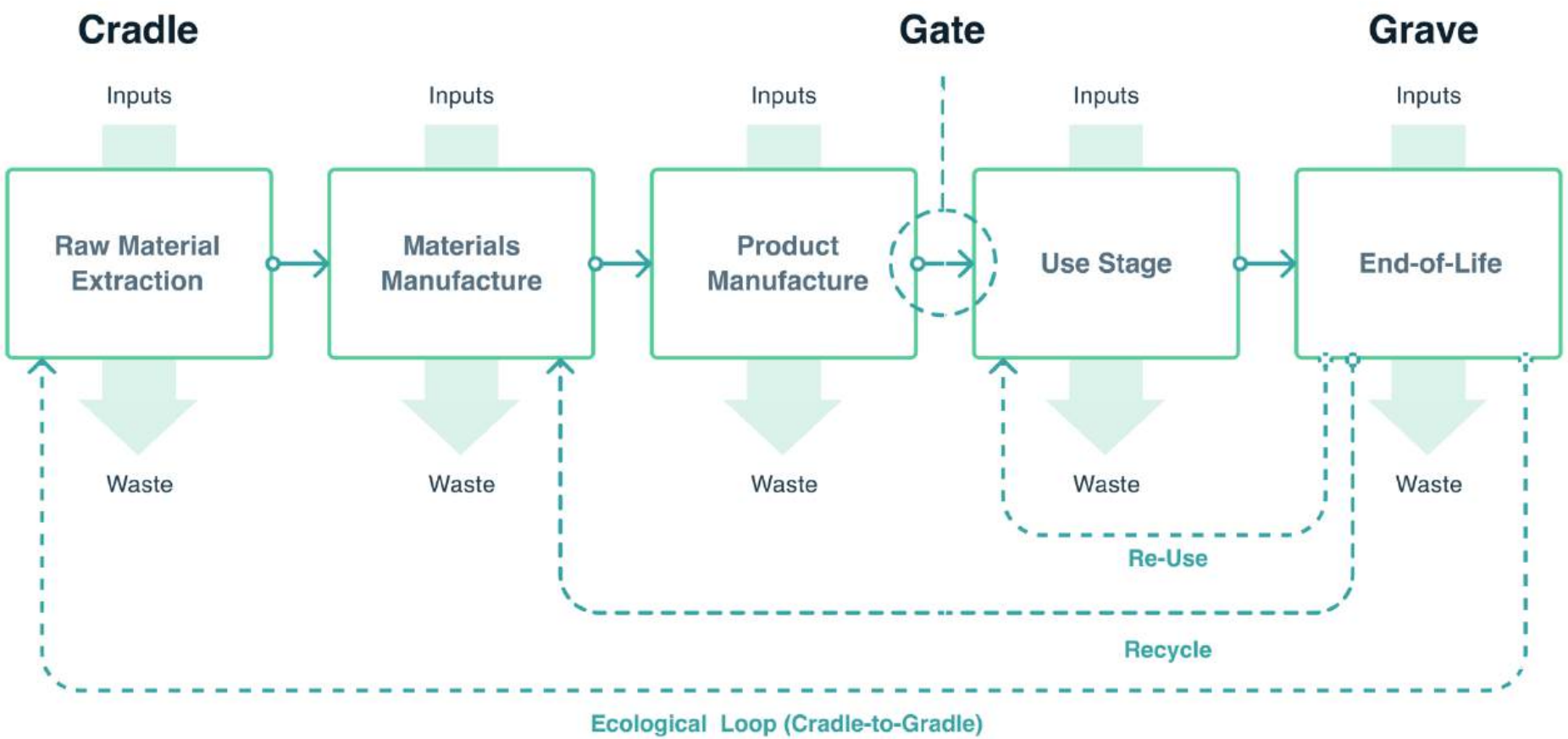


Aspect	Description	Dimension	Index Letter
Time	Model aspect "time"	Time	t
Age_Cohort	Model aspect "age cohort"	Time	a
Element	Model aspect "fiber type"	Element	e
Clothing	Model aspect "clothing type"	Clothing	c

LCA

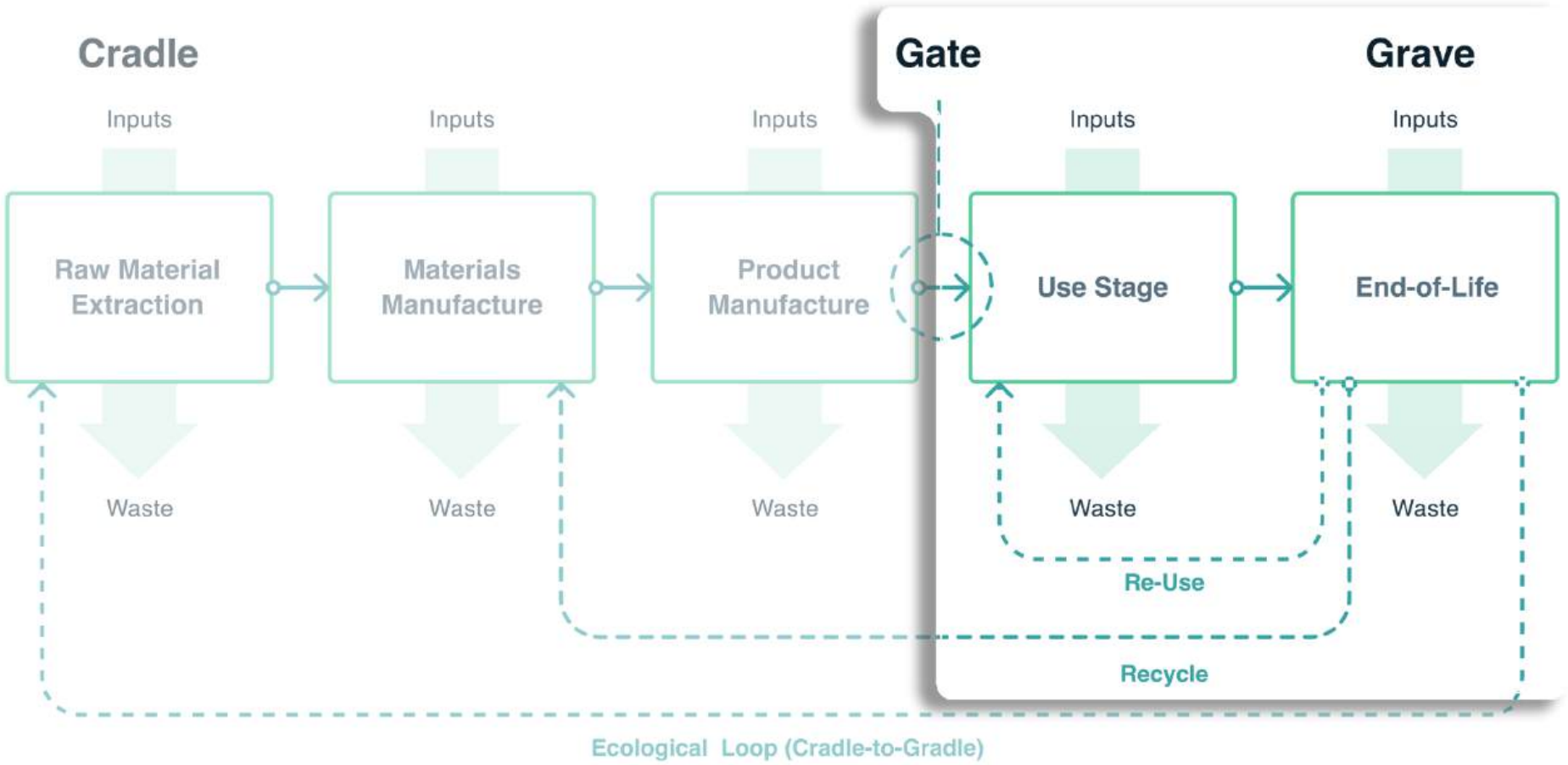

MFA
RAW MATERIALS
PRODUCTION
0
F_{0-1}
(t, e, c)
STORE
1
Sale
F_{1-2}
(t, e, c)
CONSUMER
s_2, $\Delta s_2 \downarrow$
2
(t, a, e, c)
Probabilistic Lifetime of Products
Discard
F_{2-3}
(t, e, c)
SORT
3
Reuse
F_{3-1}
(t, e, c)
F_{3-0}
(t, e)
F_{3-4}
(t, e)
INCINERATION PLANT
WASTE
RECYCLE
4
RECYCLED MATERIALS
F_{4-0}
(t, e)

LCA STAGES



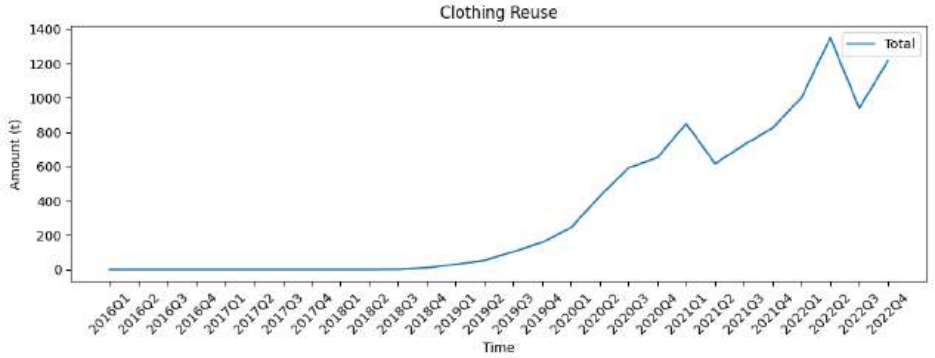
Source: www.paintsforlife.eu/

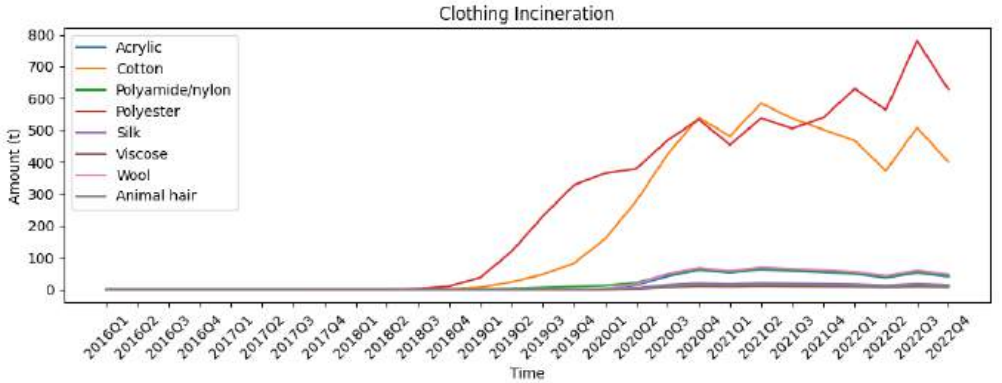
LCA STAGES - SCOPE

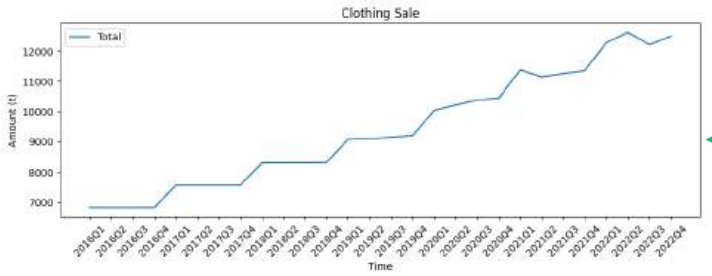


Source: www.paintsforlife.eu/

VISUALIZATION - MFA







MFA

Reuse

Sale

Discard

RAW MATERIALS

PRODUCTION

STORE

CONSUMER
s_2, $\Delta s_2 \downarrow$

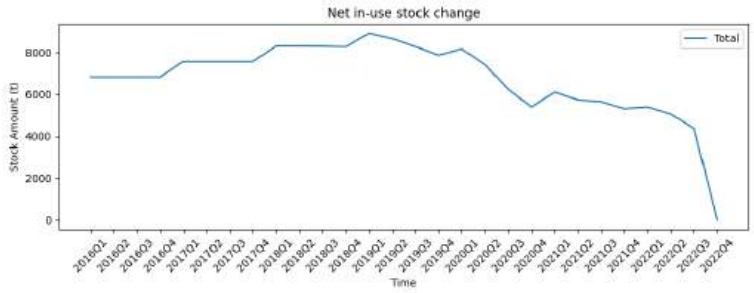
SORT

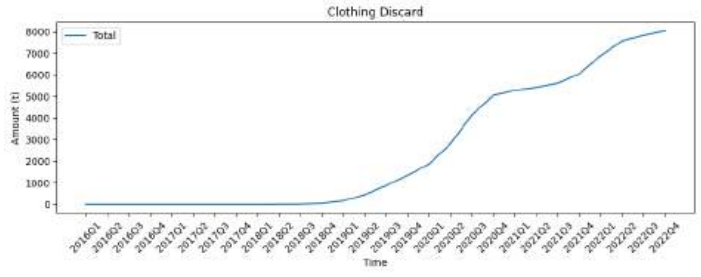
INCINERATION PLANT

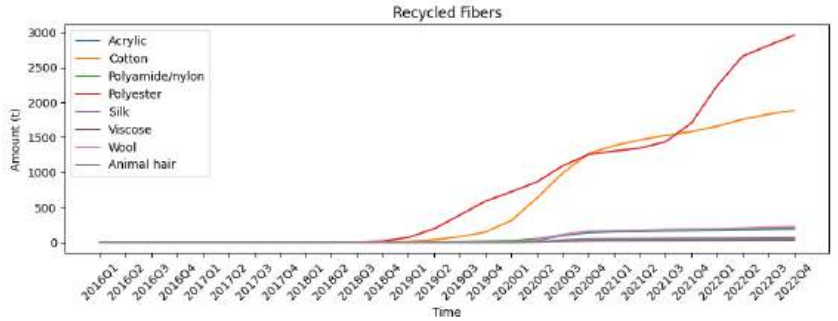
WASTE

RECYCLE

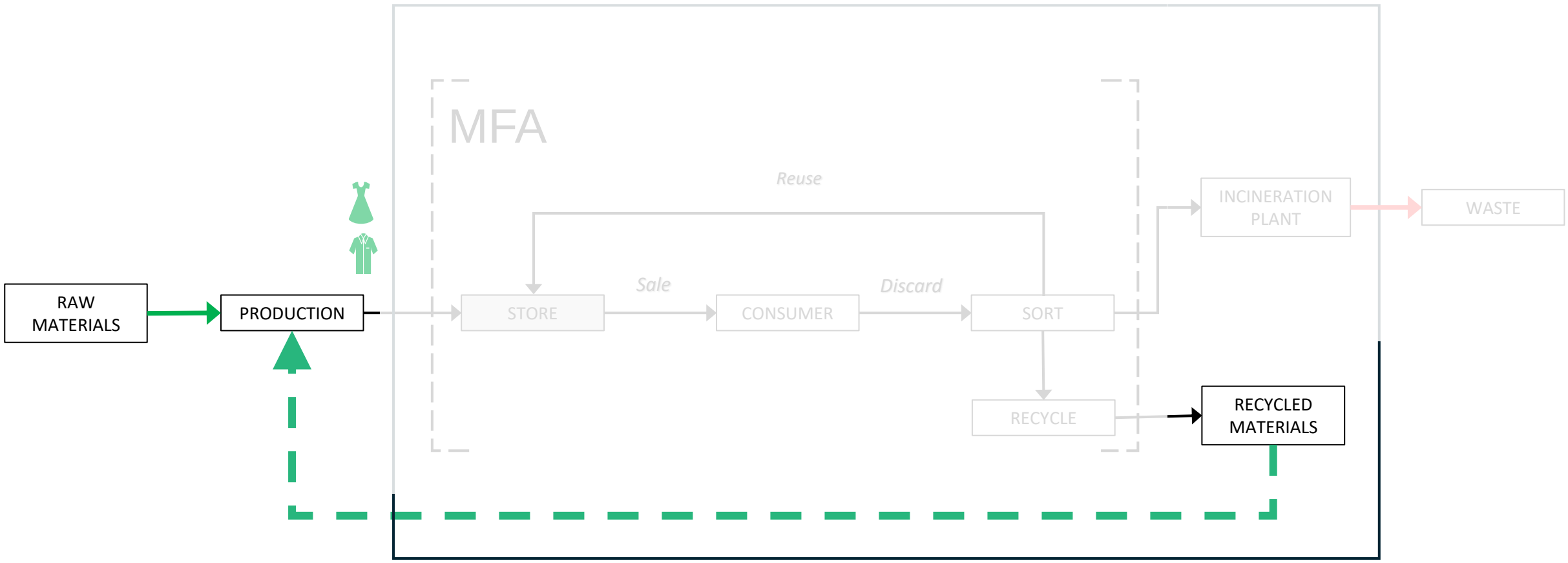
RECYCLED MATERIALS







LCA


MFA
Reuse
RAW MATERIALS
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Sale
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SORT
INCINERATION PLANT
WASTE
RECYCLE
RECYCLED MATERIALS

SCENARIOS

Original Data (Benchmark)

Long Life – Expected Lifetime increase by 50%

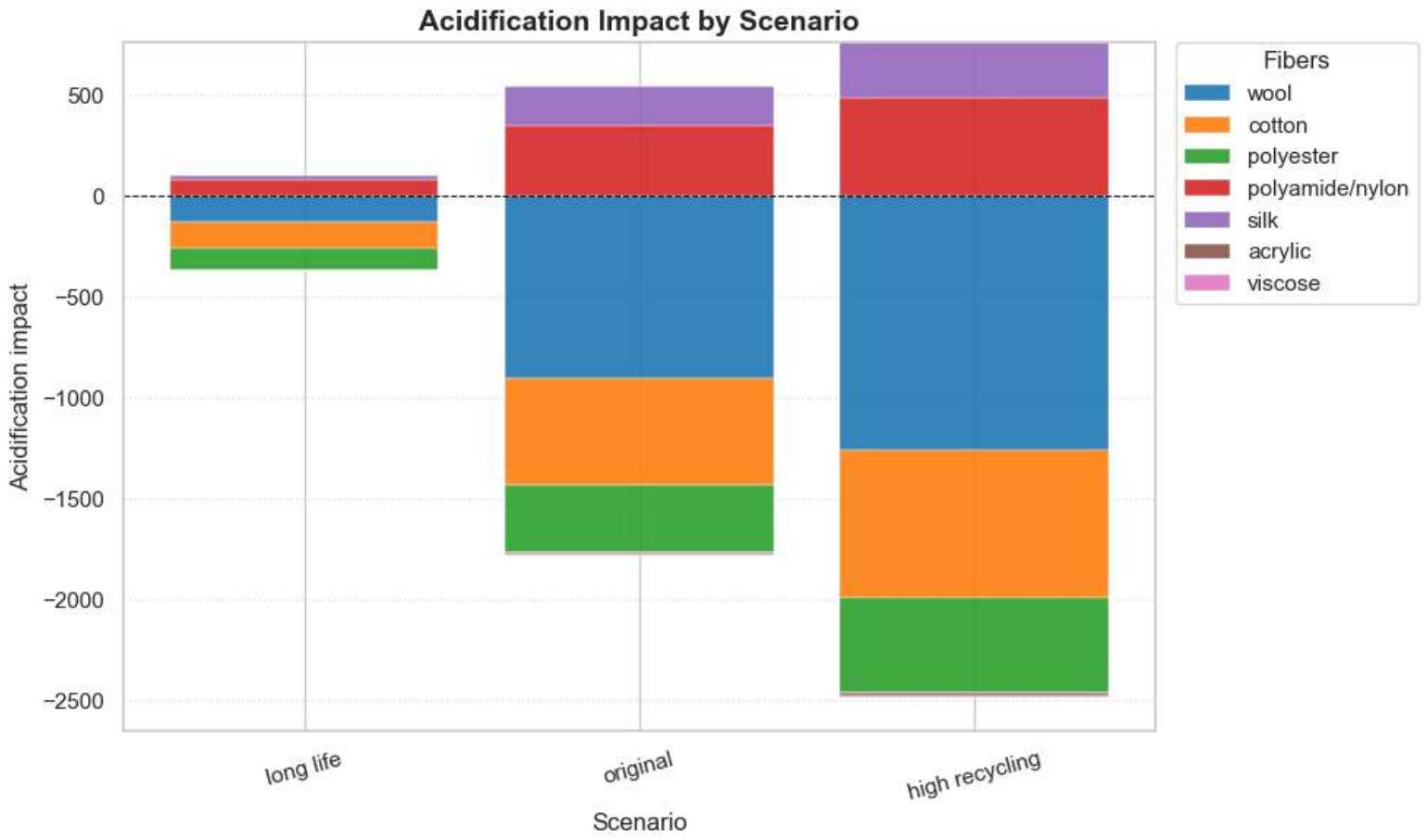
Recycling rate at sorting facility increase by 50%

Acidification

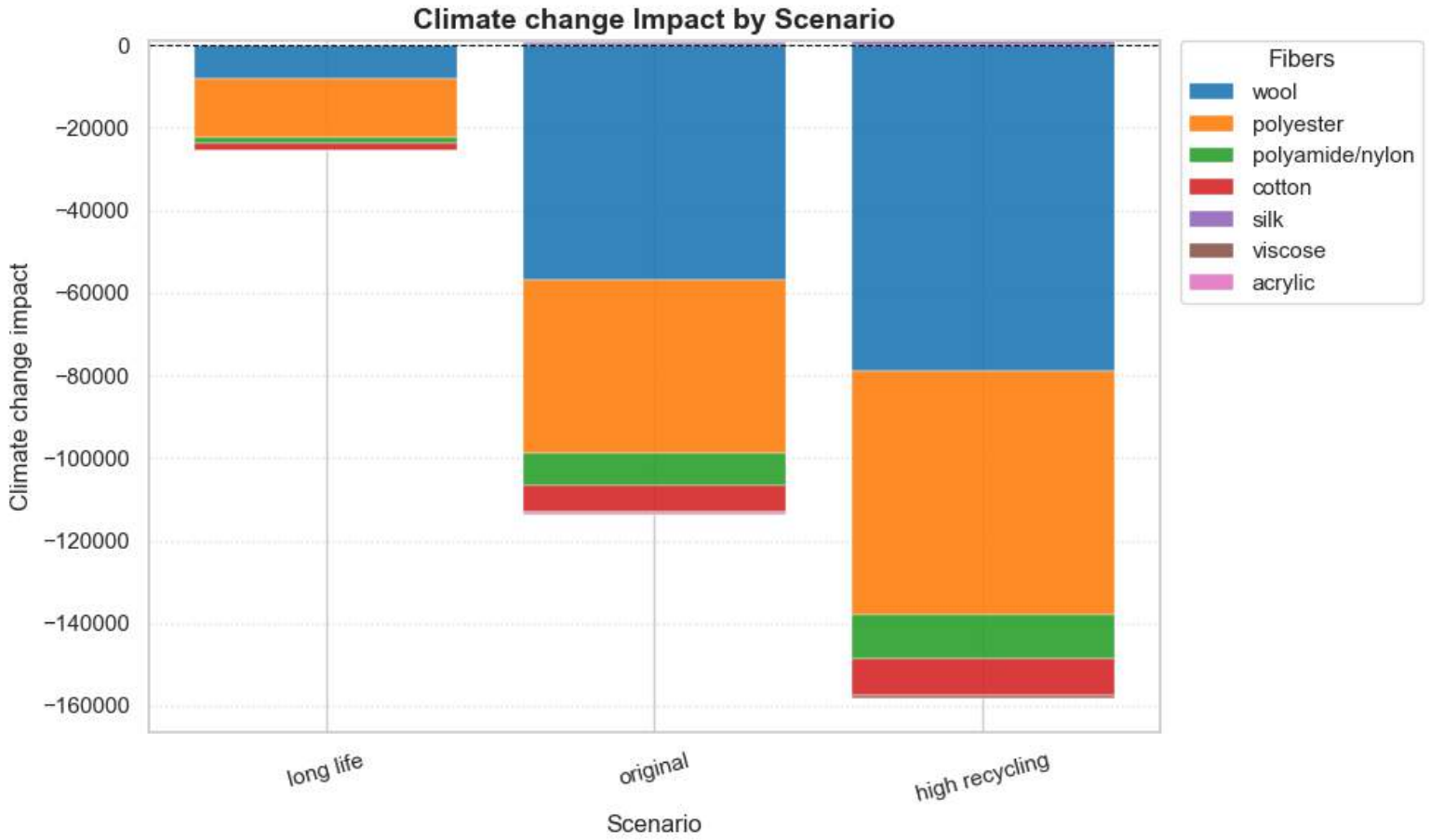
Climate Change

Ecotoxicity

RESULTS – ACIDIFICATION IMPACT



RESULTS – CLIMATE CHANGE IMPACT



RESULTS – ECOTOXICITY IMPACT