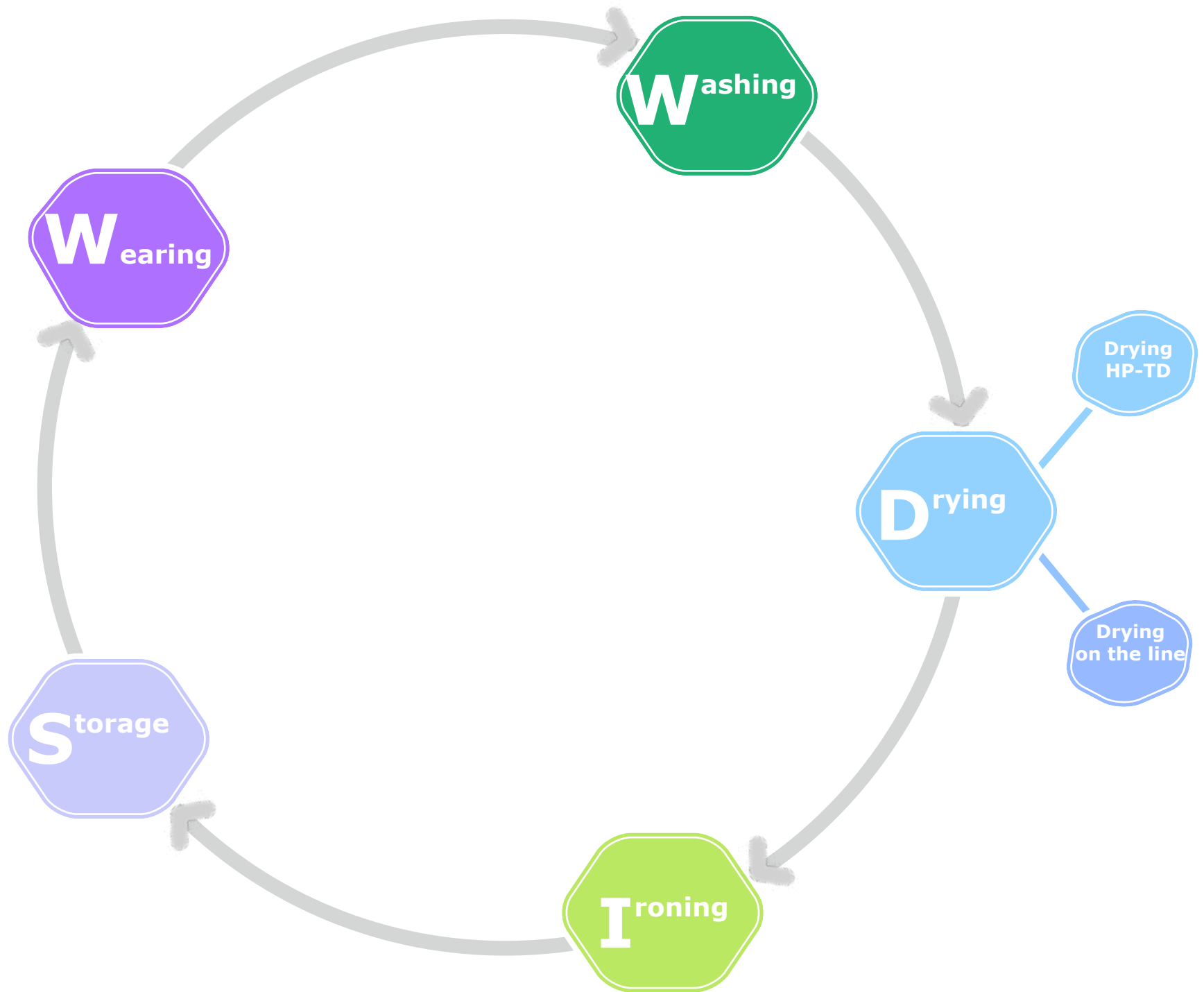




Qualitative mass flow analysis of microplastics release

This flowchart made by APPLiA focuses on a qualitative assessment done on the *user* phase of the textile. The phases of *production* and *disposal* were not considered, as APPLiA does not have the correct expertise to assess these two technical processes.

Nevertheless, it shall be acknowledged that when the textile enters into the user phase, it is already carrying a large amount of microparticles, including microplastics.



Contact with non-textile microplastics

Decomposition (e.g. UV, mechanical action)

Textile from storage

Textile to washing



Loss to ambient

Ground/ Floor Indoor

Ground/ Floor Outdoor

Vacuum

Wet cleaning

Surface Water

Landfill / Incineration

WWTP

WWTP

River, Sea

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Contact with non-textile microplastics

Decomposition (e.g. UV, mechanical action)

Microplastics attached to WM from previous cycles

Textile from wearing

Textile to drying



Attachment of particles to WM parts

Release of particles to effluent

Microparticles filter

Mechanical cleaning

Landfill or incineration

Loss to ambient

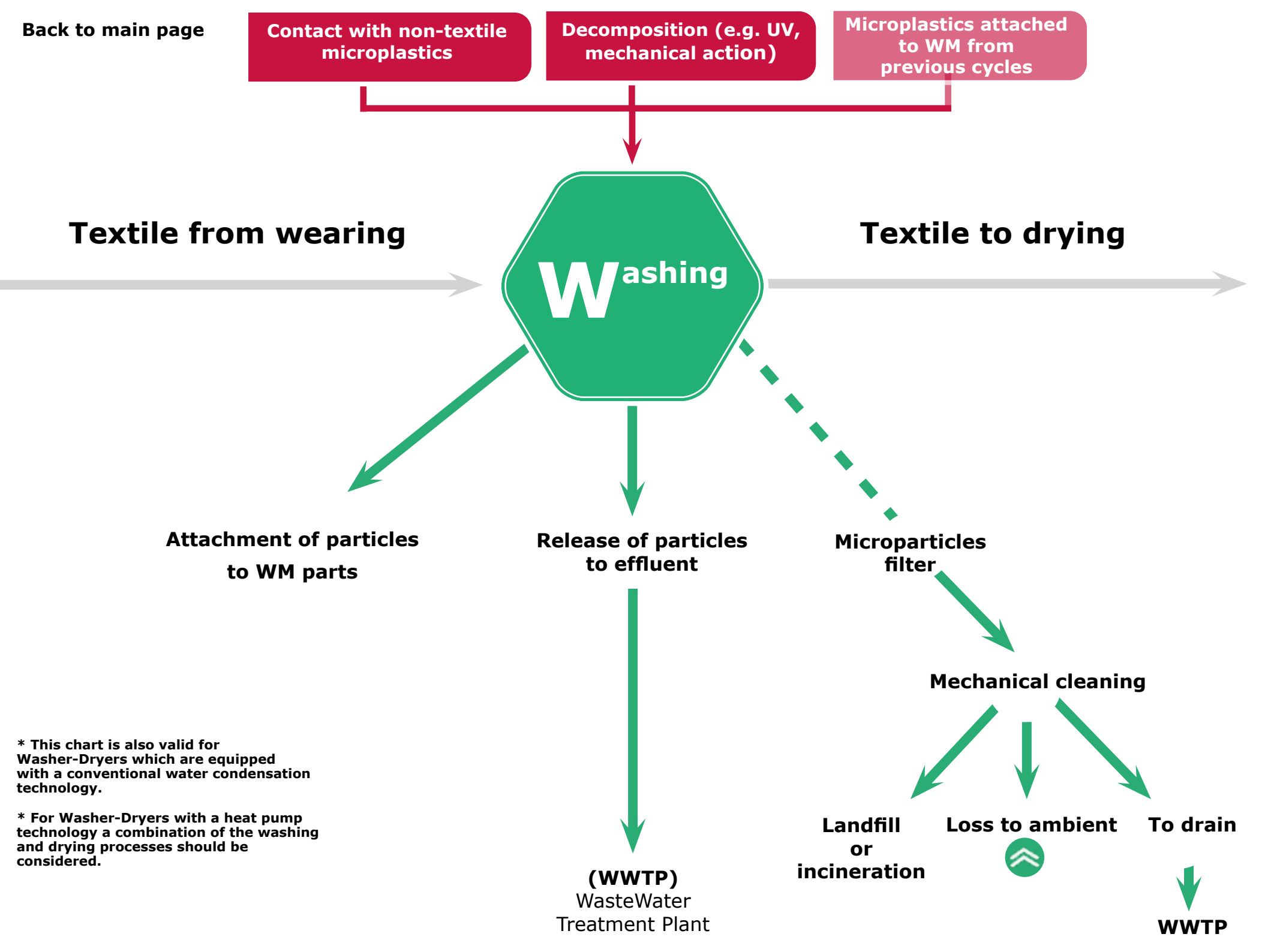
To drain

(WWTP)
WasteWater
Treatment Plant

WWTP

* This chart is also valid for Washer-Dryers which are equipped with a conventional water condensation technology.

* For Washer-Dryers with a heat pump technology a combination of the washing and drying processes should be considered.



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Contact with non-textile microplastics

Decomposition (e.g. UV, mechanical action)

Release of particles from TD parts

Textile from washing

Textile to ironing



Release to process air

Leakage to housing

Bypass of filters

Loss to ambient

Release of particles to TD parts

Collection on heat exchanger

Capture in lint filter(s)

Mechanical cleaning

To drain (e.g. toilette)

Mechanical cleaning

Automatic cleaning with water

Manual cleaning with water

Vacuuming

Cleaning of the heat exchanger with water

WWTP

Landfill or incineration

Loss to ambient

WWTP

Transfer to condensate water

* For Washer-Dryers with a heat pump technology a combination of the washing and drying processes should be considered.

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Contact with non-textile microplastics

Decomposition (e.g. UV, mechanical action)

Release of particles from TD parts

Back to drying HP-TD

Textile from washing

Textile to ironing



Collection in tray

Mechanical cleaning

Vacuuming

Manual Cleaning with water

Landfill or incineration

Loss to ambient



To drain (e.g. toilette)

Landfill / Incineration

WWTP

WWTP

* For Washer-Dryers with a heat pump technology a combination of the washing and drying processes should be considered.

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Contact with non-textile microplastics

Decomposition (e.g. UV, mechanical action)

Release of particles from TD parts

Back to drying HP-TD

Textile from washing



Textile to ironing

Cleaning of the heat exchanger with water exchanger with water

Condensate tank

Empty into sink or toilet

WWTP

Tank filter

Mechanical cleaning

Landfill or incineration

Loss to ambient



To drain (e.g. toilette)

WWTP

Vacuuming

Landfill / Incineration

Manual Cleaning with water

WWTP

* For Washer-Dryers with a heat pump technology a combination of the washing and drying processes should be considered.

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Back to drying HP-TD

Contact with non-textile microplastics

Decomposition (e.g. UV, mechanical action)

Release of particles from TD parts

Textile from washing

Textile to ironing



Condensate tank

**Empty to
sink or toilet**

WWTP

*** For Washer-Dryers with a heat pump technology a combination of the washing and drying processes should be considered.**

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Contact with non-textile microplastics

Decomposition (e.g. UV, mechanical action)

Back to drying HP-TD

Textile from washing



Textile to ironing

Loss to ambient

Ground/ Floor Indoor

Ground/ Floor Outdoor

Vacuum

Wet cleaning

Surface Water

Landfill / Incineration

WWTP

WWTP

River, Sea

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Contact with non-textile microplastics

Decomposition (e.g. UV, mechanical action)



Textile from drying



Textile to storage



Loss to ambient

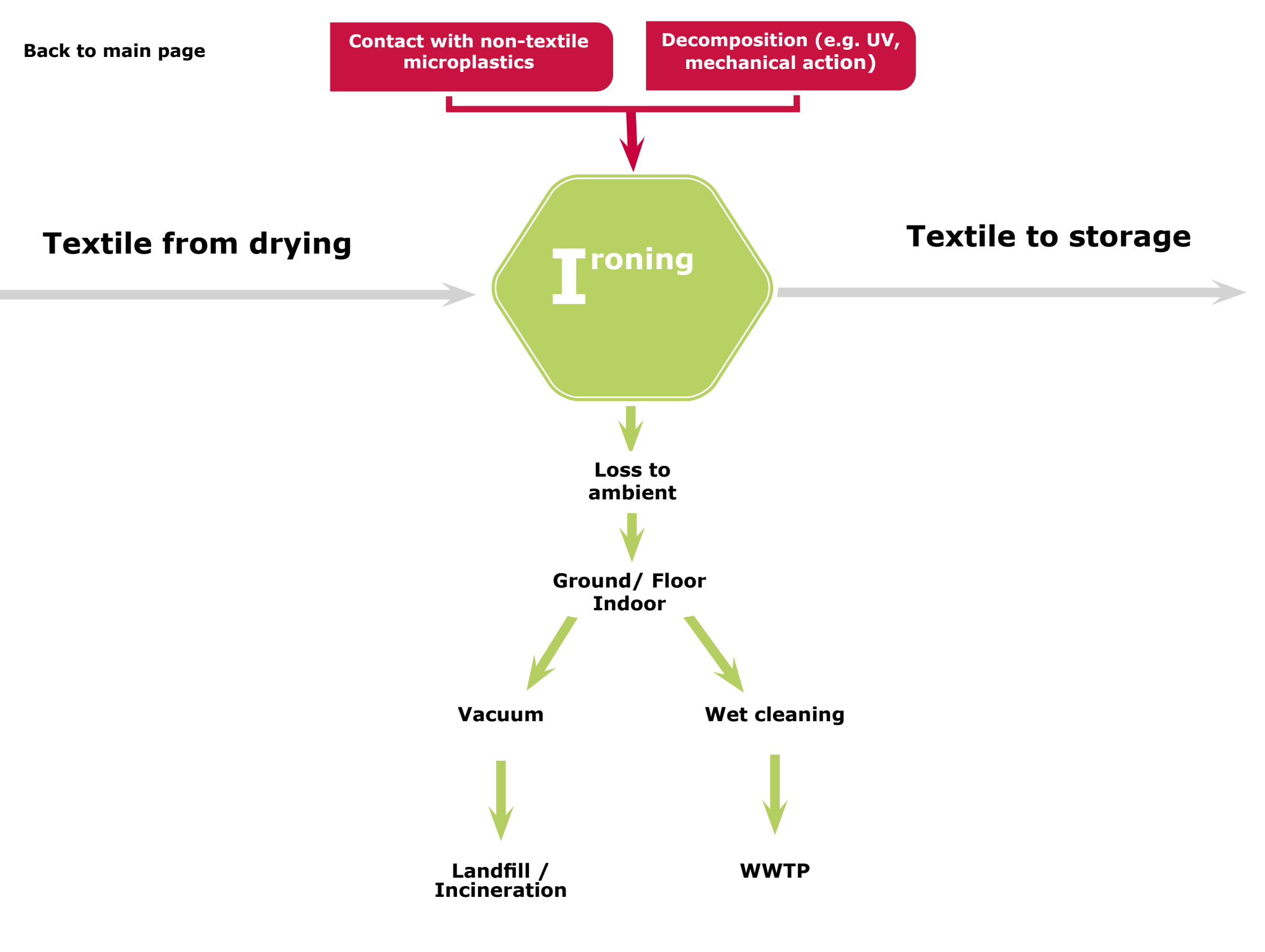
Ground/ Floor
Indoor

Vacuum

Wet cleaning

Landfill /
Incineration

WWTP



Contact with non-textile microplastics

Decomposition (e.g. UV, mechanical action)

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Textile from ironing

Textile to wearing



Loss to ambient

Ground/ Floor Indoor

Vacuum

Wet cleaning

Landfill / Incineration

WWTP