



Products with Purpose: The Living Product Challenge

June 20, 2019

GCC GREEN CHEMISTRY &
COMMERCE COUNCIL

What is the GC3?

The Green Chemistry & Commerce Council (GC3) is a multi-stakeholder collaborative that drives the commercial adoption of green chemistry by catalyzing and guiding action across all industries, sectors and supply chains.



Our Vision and Mission

Vision: A world where green chemistry is standard practice throughout the value chain

Mission: To drive the commercial adoption of green chemistry by catalyzing and guiding action across all industries, sectors and supply chains



More than 140 Members Across Sectors and the Value Chain



Ground Rules

- Due to the number of participants in the webinar, all lines will be muted
- If you have a question or comment, please type it in the “Questions” box located in the control panel
- Questions will be answered at the end of the presentation

Today's Lineup



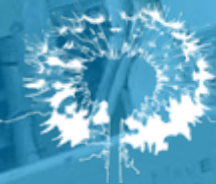
Alexandra Muller,
Manager, Living Products
International Living Future Institute

28

PRODUCTS WITH PURPOSE:

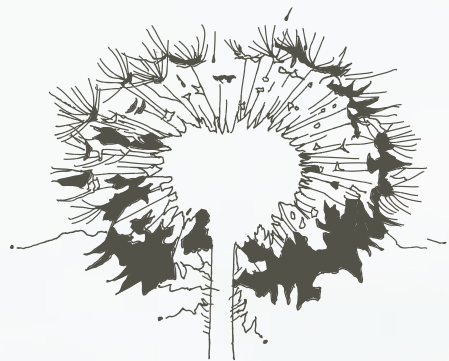


**LIVING
PRODUCT
CHALLENGE™**



**INTERNATIONAL
LIVING FUTURE
INSTITUTE™**





INTERNATIONAL **LIVING FUTURE** INSTITUTESM



**LIVING
BUILDING
CHALLENGE™**



**LIVING
COMMUNITY
CHALLENGE™**



**LIVING
PRODUCT
CHALLENGE™**



Reveal. Just. Declare.





Instead of a world that is merely a less bad version of the one we currently have—we ask a simple and profound question—

WHAT DOES GOOD LOOK LIKE?

SCALING DECLARE + LPC:

ILFI'S nested ecosystem drives a Living Future of **living products** in **living buildings** in **living communities**

Declare.



LIVING
PRODUCT
CHALLENGE™



LIVING
BUILDING
CHALLENGE™



LIVING
COMMUNITY
CHALLENGE™

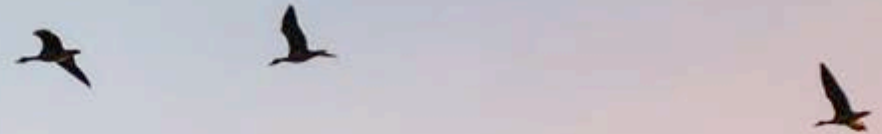


LIVING PRODUCT CHALLENGESM 2.0

A Visionary Path to a
Regenerative Future

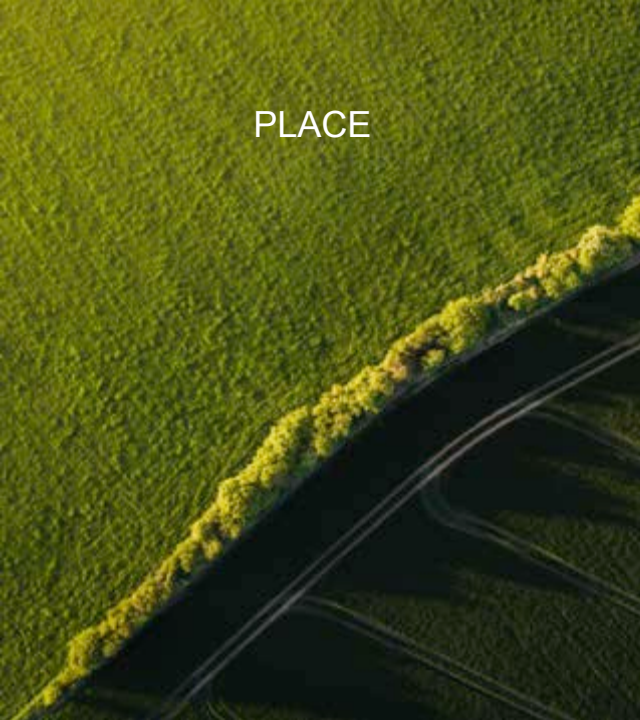
The Living Product Challenge is a holistic, third party-verified product standard that goes beyond harm reduction to measuring, maximizing and celebrating the good that companies can cause in the world.

Founded in transparency, LPC requires that manufacturers engage with LCA, demonstrate safer ingredient selection and responsible social impacts at all levels of certification.





PLACE



WATER



ENERGY



HEALTH +
HAPPINESS



MATERIALS



EQUITY















BEAUTY






LIVING PRODUCT CHALLENGE™













The world's most advanced & transparent third-party verified product standard.

This holistic framework empowers manufacturers to go beyond simply reducing their social and environmental footprint to maximizing the positive impacts of their products and processes.

PETAL	IMPERATIVE
PLACE	01. RESPONSIBLE PLACE 
	02. HABITAT EXCHANGE
	03. LIVING ECONOMY SOURCING
WATER	04. WATER FOOTPRINT 
	05. NET POSITIVE WATER 
ENERGY	06. ENERGY FOOTPRINT 
	07. NET POSITIVE ENERGY 
HEALTH + HAPPINESS	08. RED LIST 
	09. TRANSPARENT MATERIAL HEALTH
	10. HUMAN THRIVING
MATERIALS	11. RESPONSIBLE INDUSTRY 
	12. REGENERATIVE MATERIALS
	13. NET POSITIVE WASTE 
	14. NET POSITIVE CARBON 
EQUITY	15. ETHICAL SUPPLY CHAIN 
	16. EQUITABLE INVESTMENT
	17. JUST ORGANIZATIONS
	18. SOCIAL CO-BENEFITS
BEAUTY	19. INSPIRATION + EDUCATION 
	20. BEAUTY + SPIRIT 



-  HANDPRINTING IMPERATIVE
-  CORE IMPERATIVE
-  REQUIRED FOR PETAL CERTIFICATION

PETAL	IMPERATIVE	
PLACE	01. RESPONSIBLE PLACE	
	02. HABITAT EXCHANGE	
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PATHWAY TO LIVING PRODUCTS: THREE RECOGNITION STAGES

IMPERATIVE CERTIFICATION

Achieving the 7 core Imperatives (dark blue cells)

PETAL CERTIFICATION

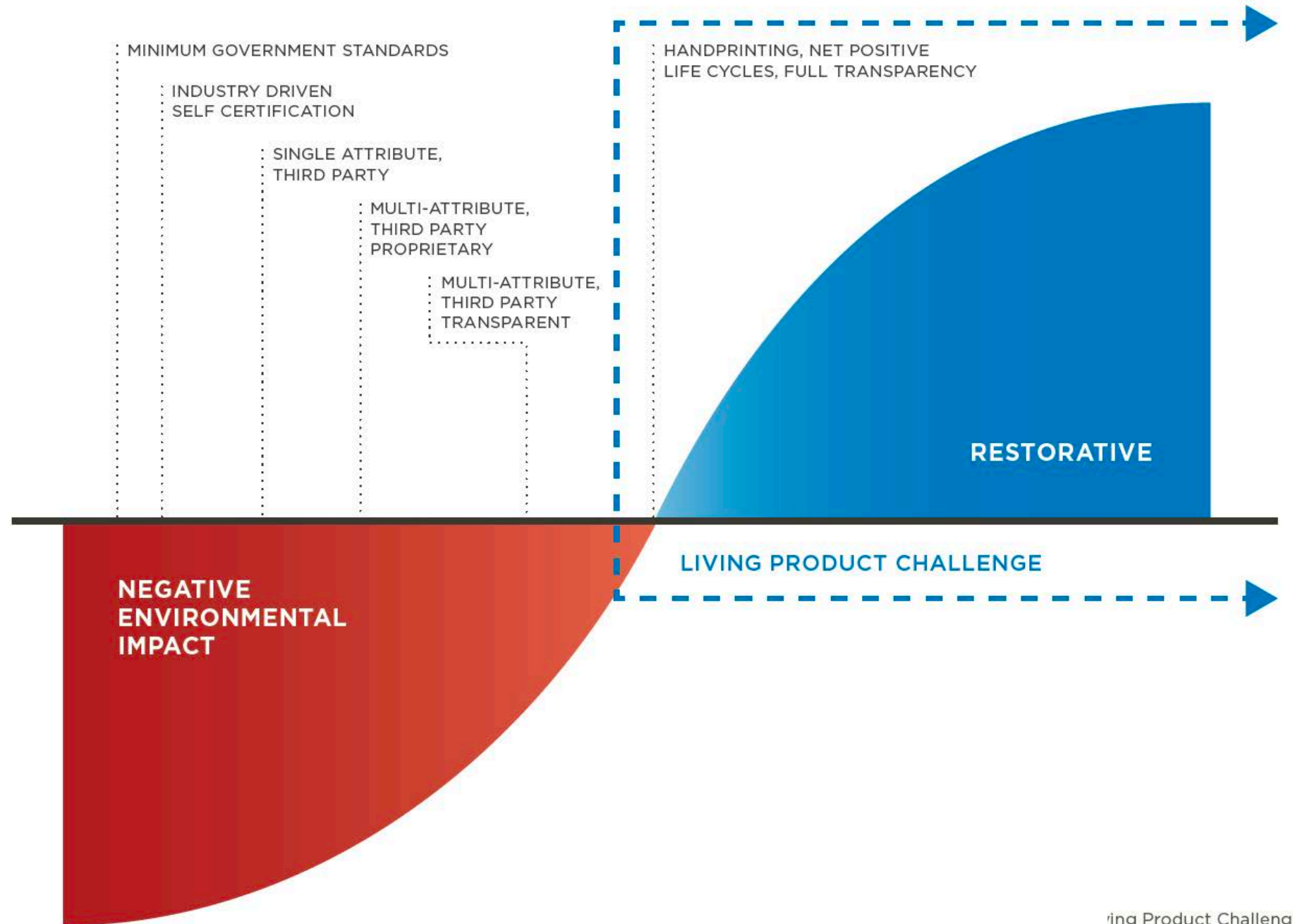
Achieving 3 Petals, one of which must be Water, Energy, or Materials (light blue cells), plus the 7 core Imperatives

FULL CERTIFICATION

Achieving all 20 Imperatives.

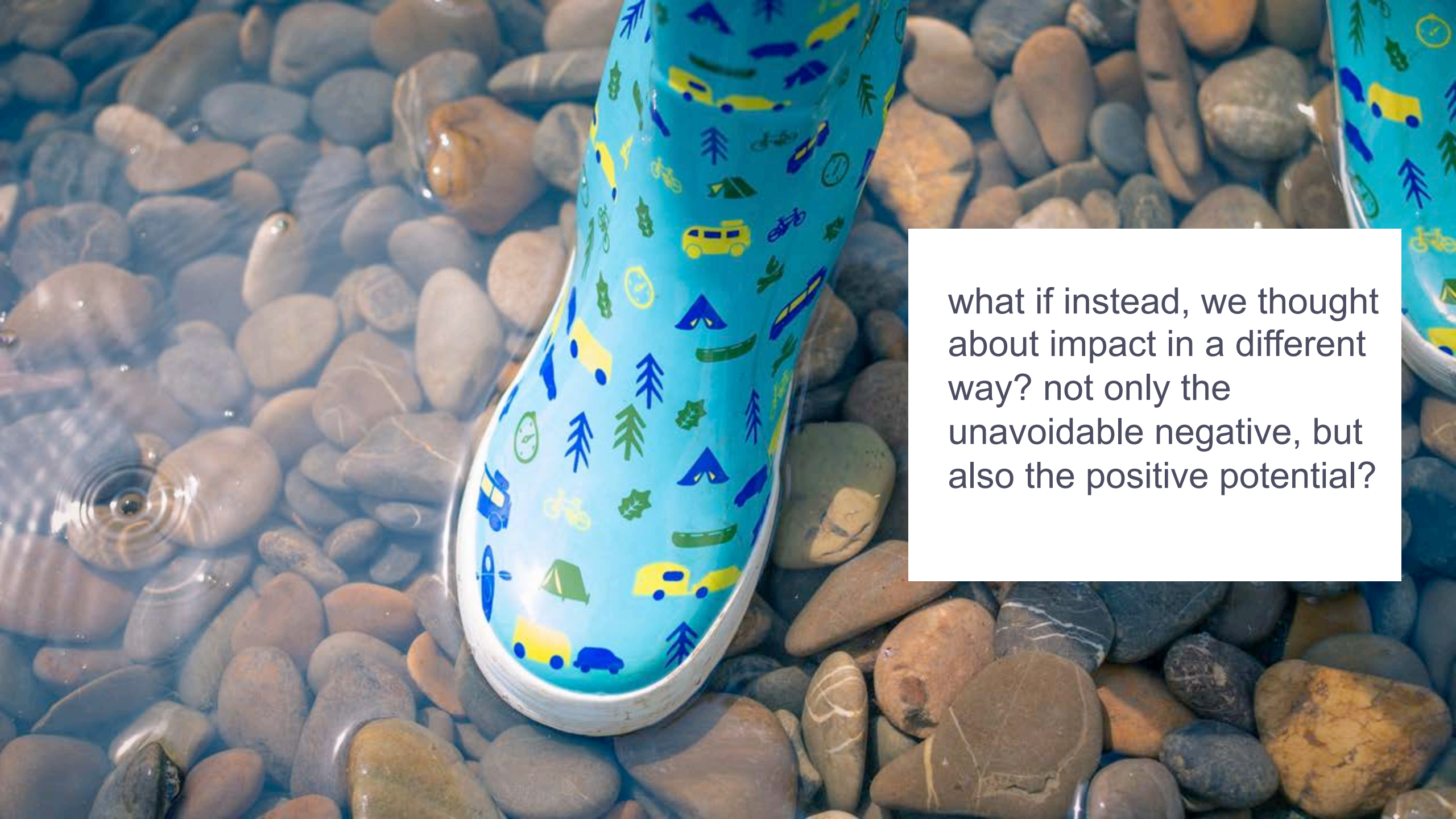
how do you stand out in a
sea of certifications?

how could
you create
measurably
positive
products?

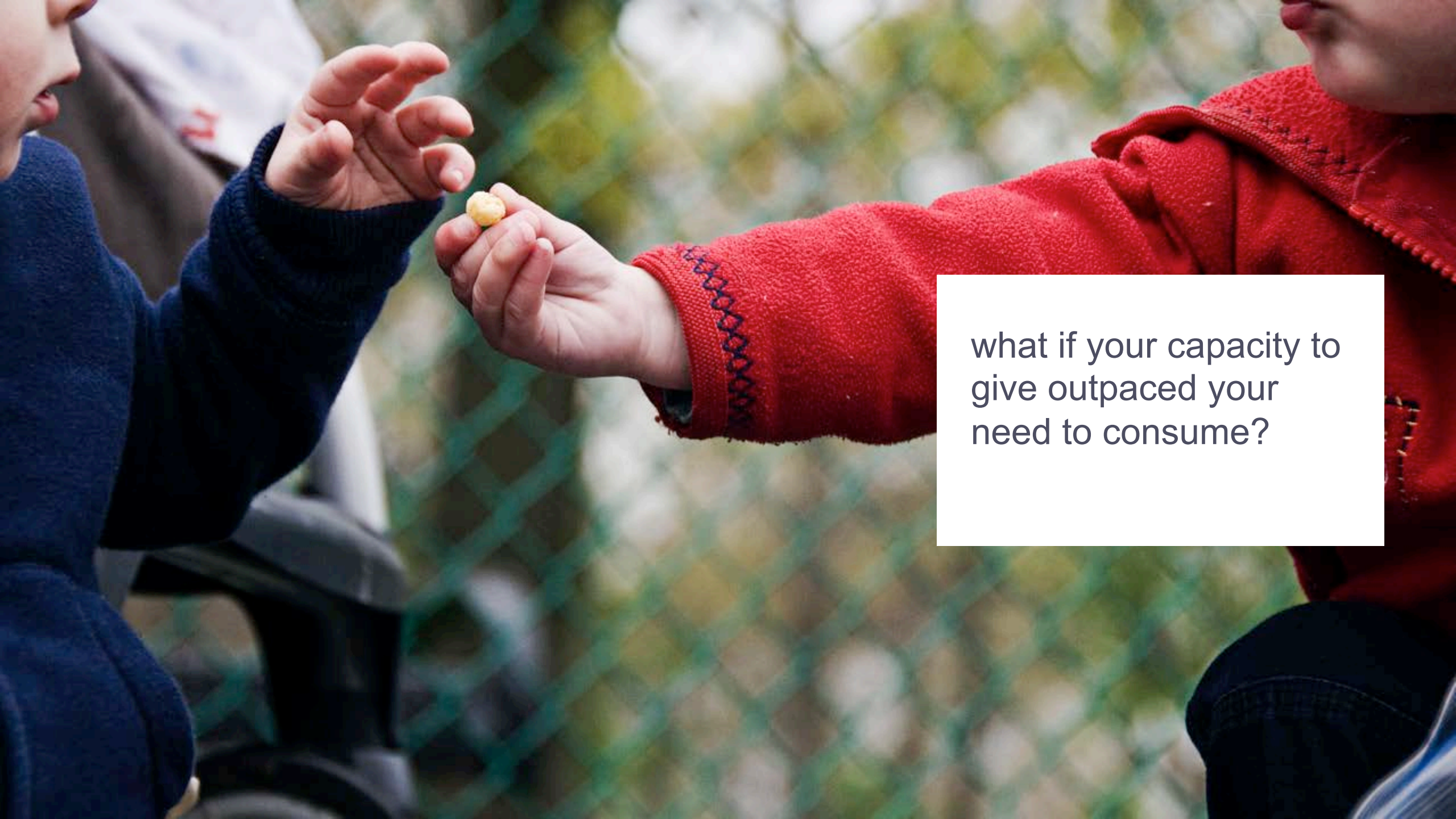




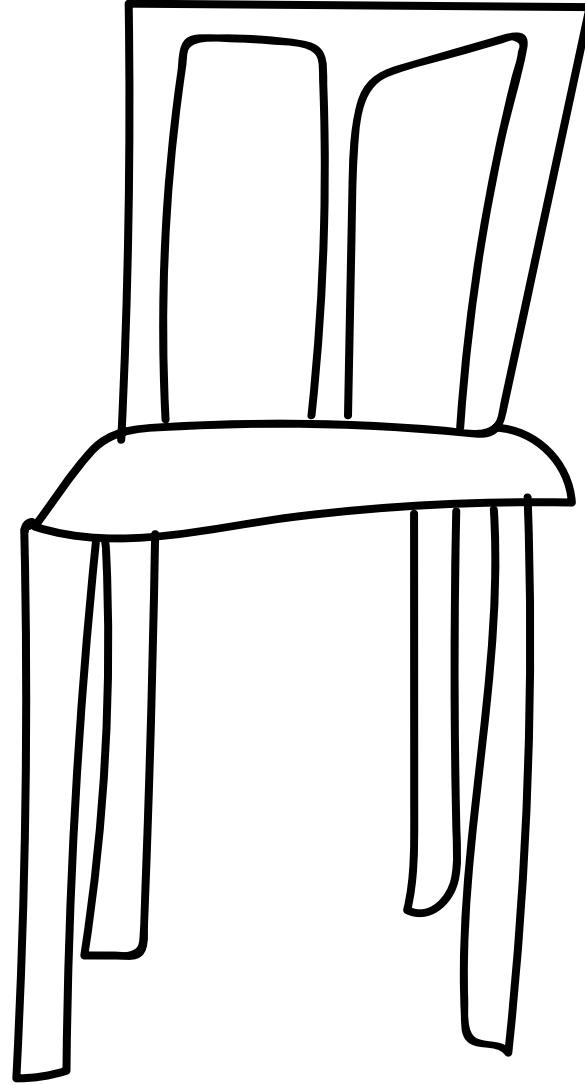
sustainability can be demoralizing. if your footprint feels unavoidable, how can you be a part of the solution?



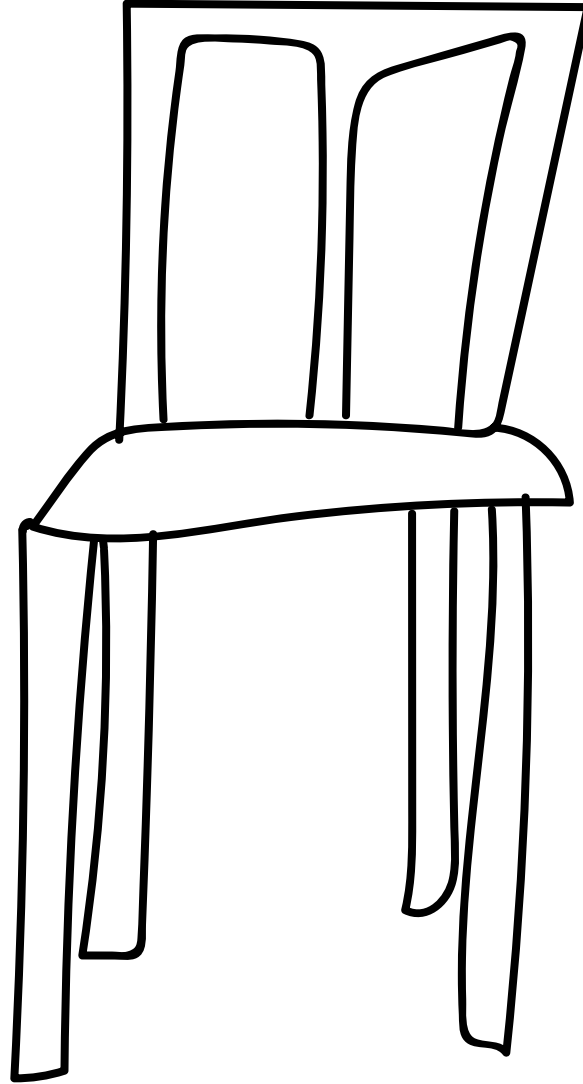
what if instead, we thought about impact in a different way? not only the unavoidable negative, but also the positive potential?



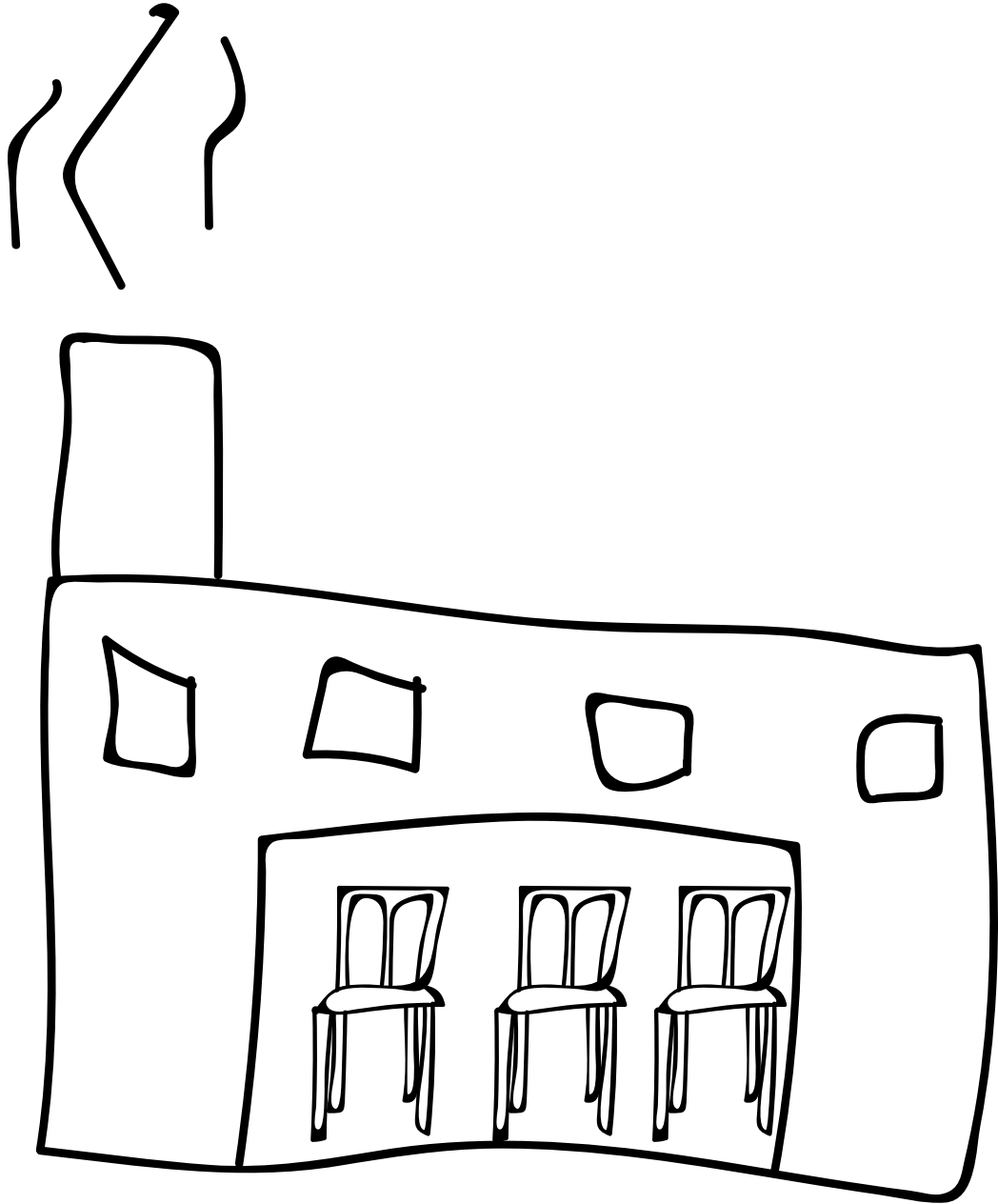
what if your capacity to give outpaced your need to consume?



this is a chair.



what does it take to
make this chair net
positive?



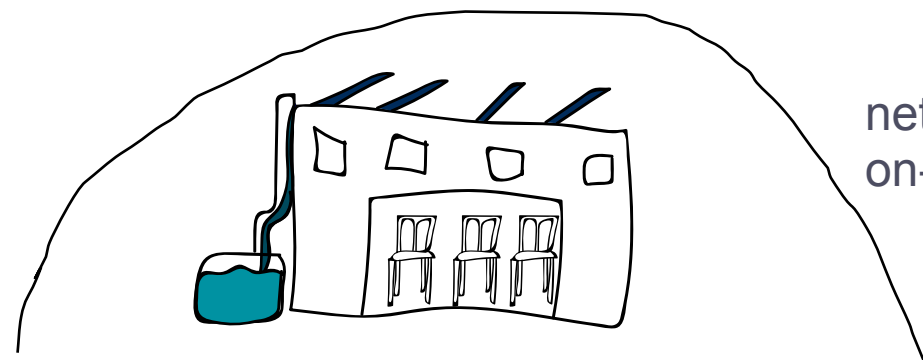
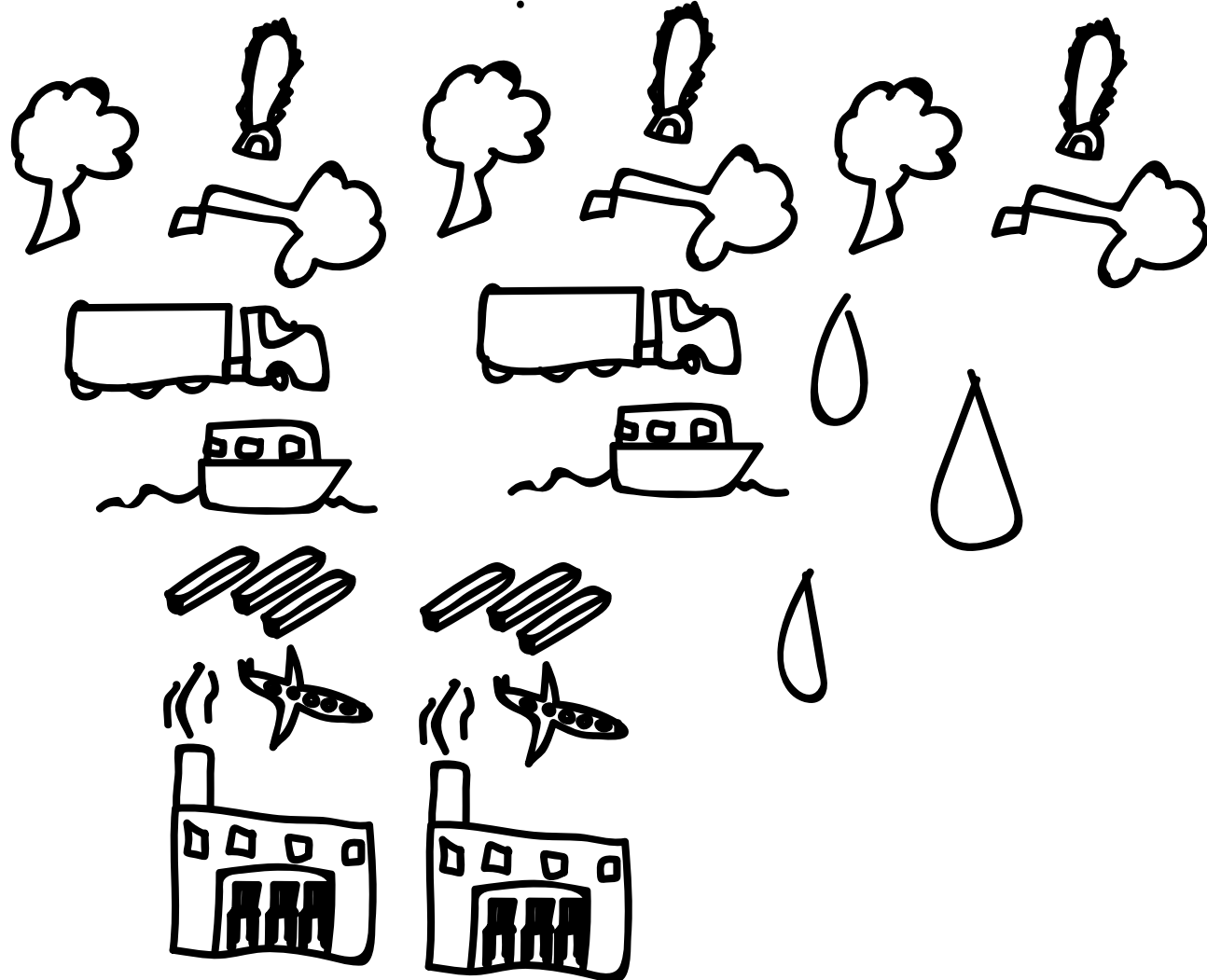
If you're a
manufacturer of chairs
you probably think first
think about your factory



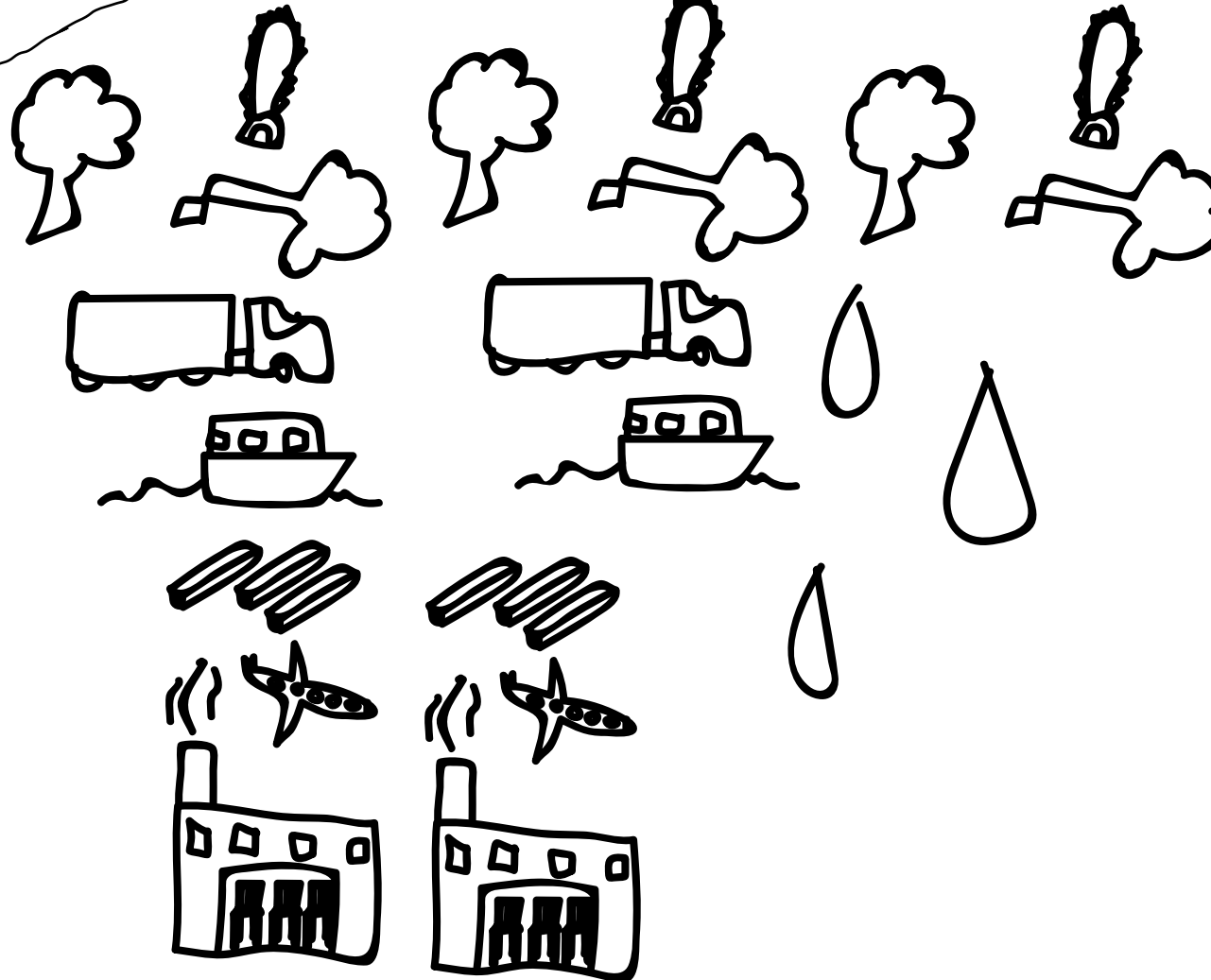
ta daaa



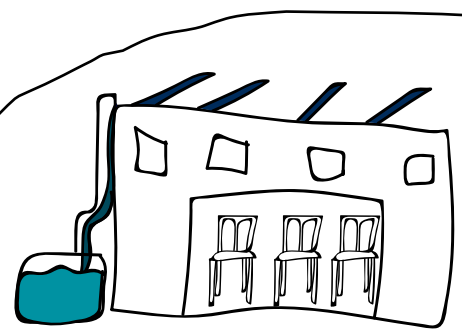
but wait,
there's more



net positive
on-site

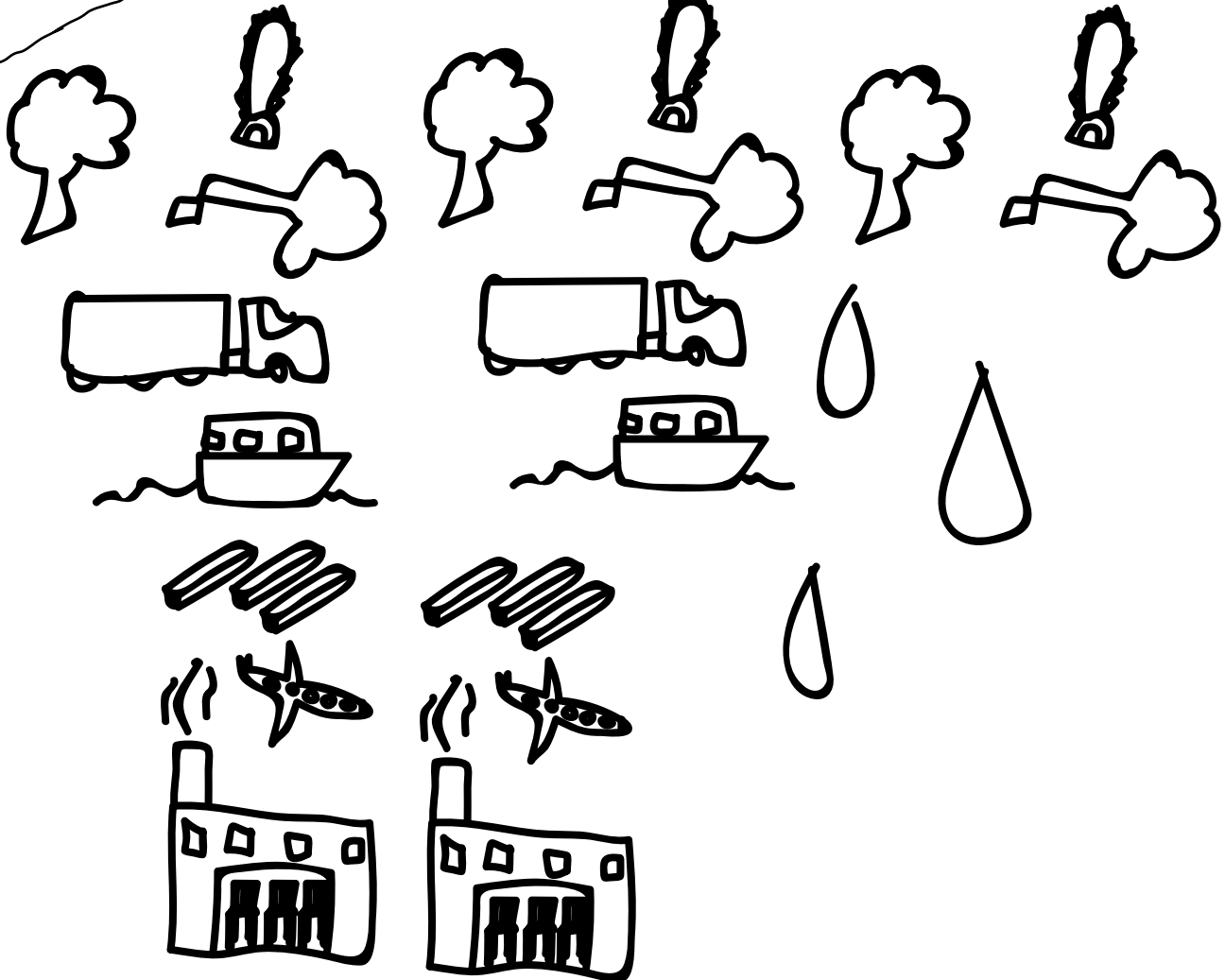


net positive
life cycle

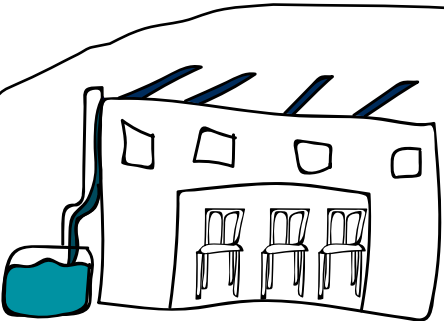


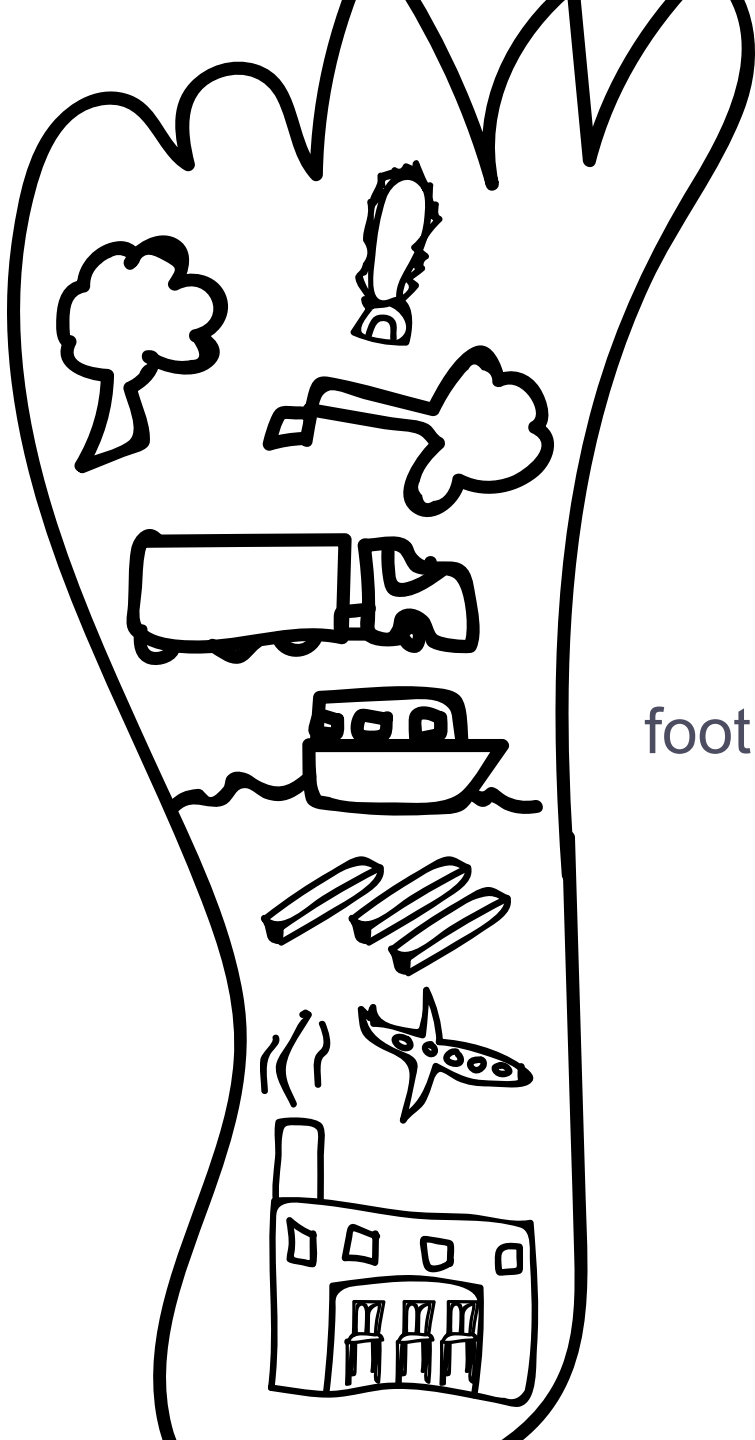
net positive
on-site

what about
the life cycle?

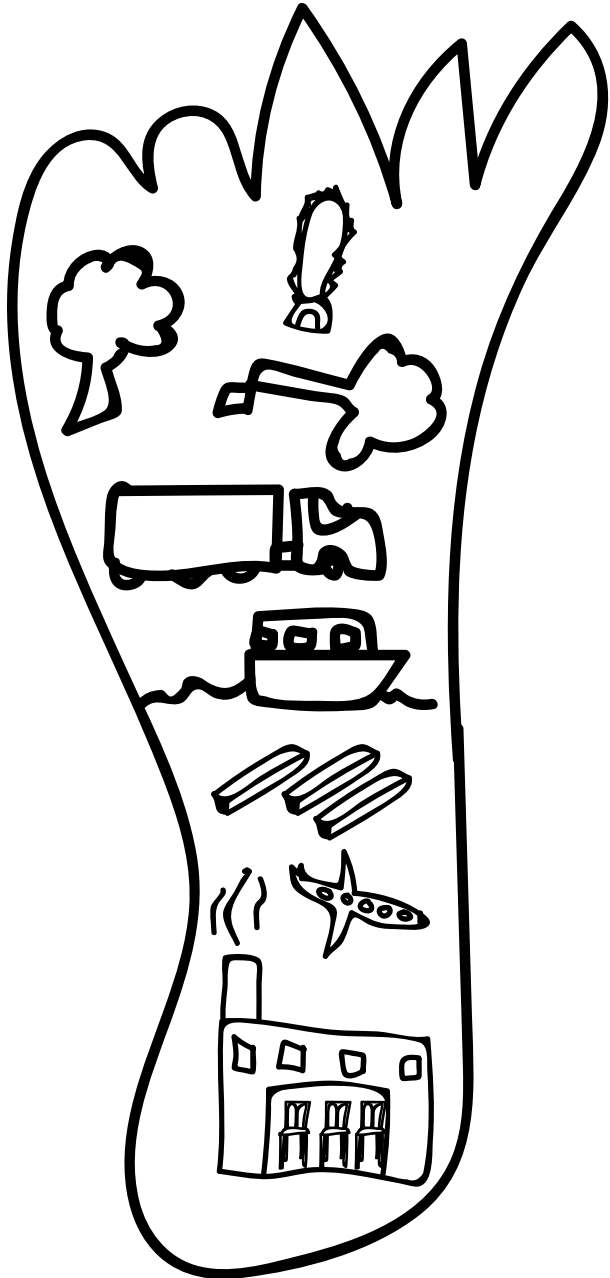


net positive
on-site

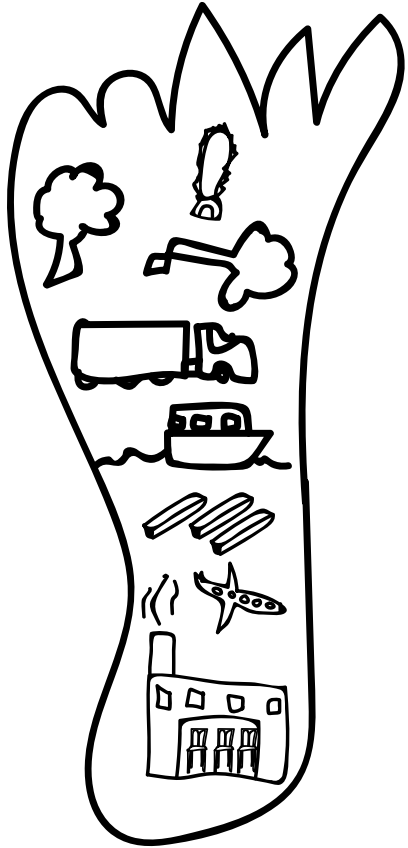




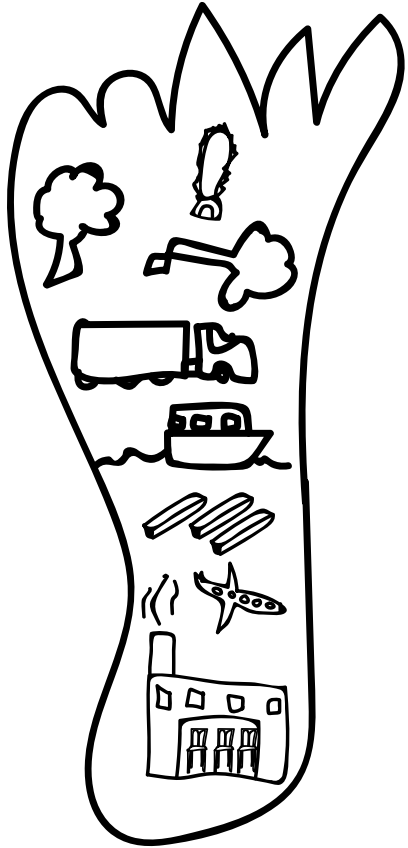
footprint = your mess.



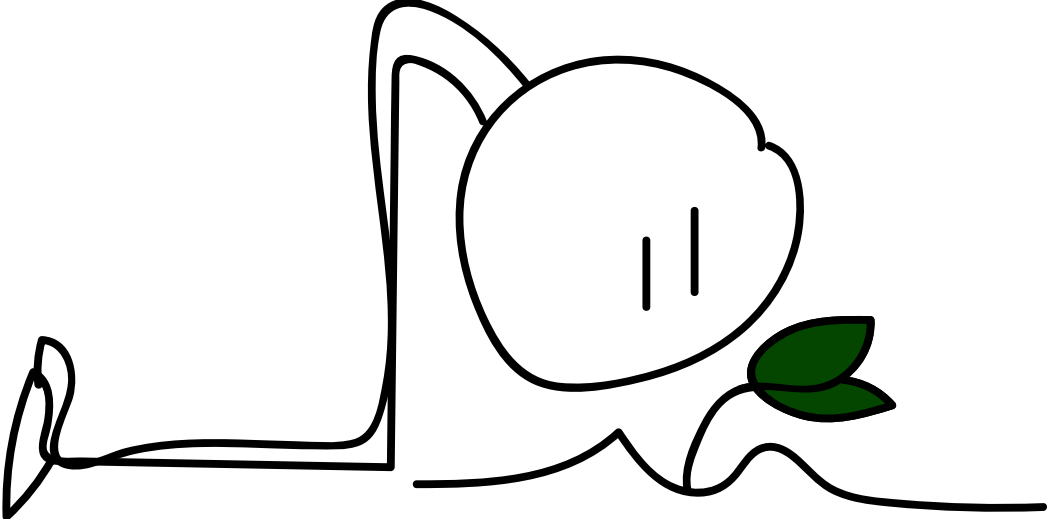
work to shrink
your mess

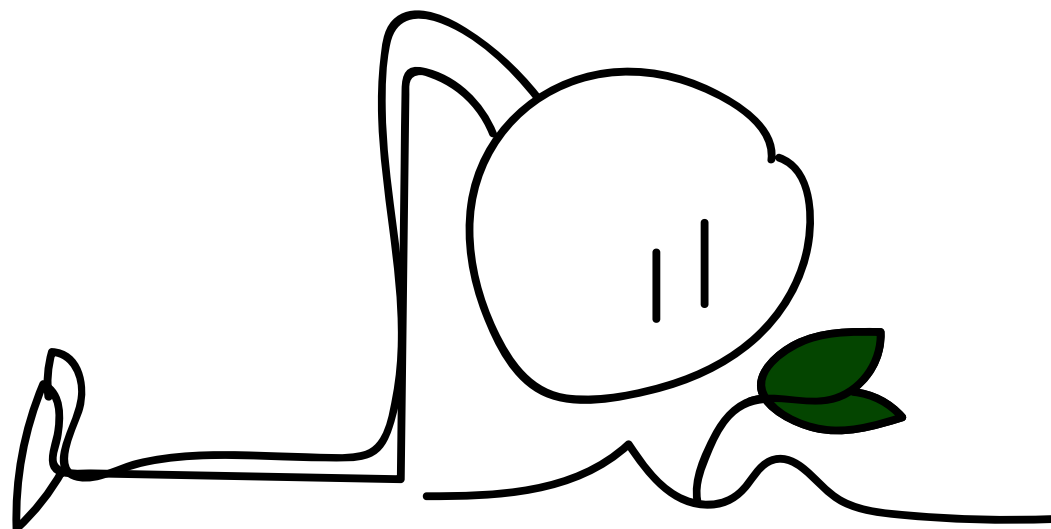


**no matter how hard
you try, you can never
have a footprint of zero.**

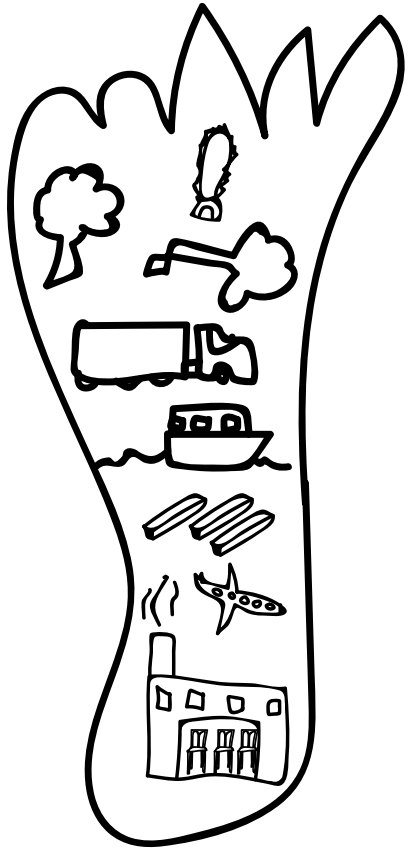


and...the more you shrink, the less return you get on each investment.



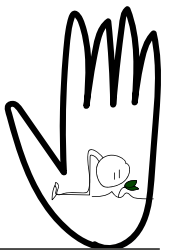
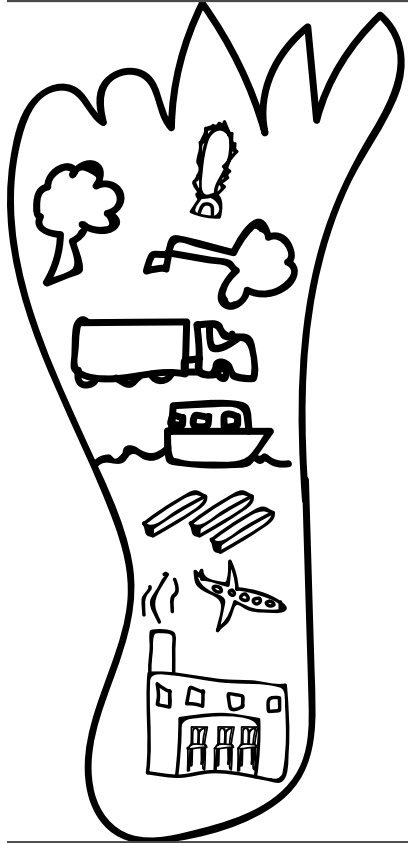


how much good are you doing?
can you quantify it?

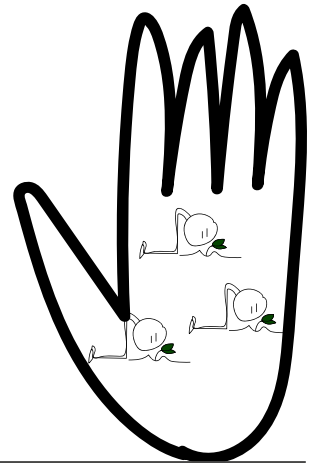
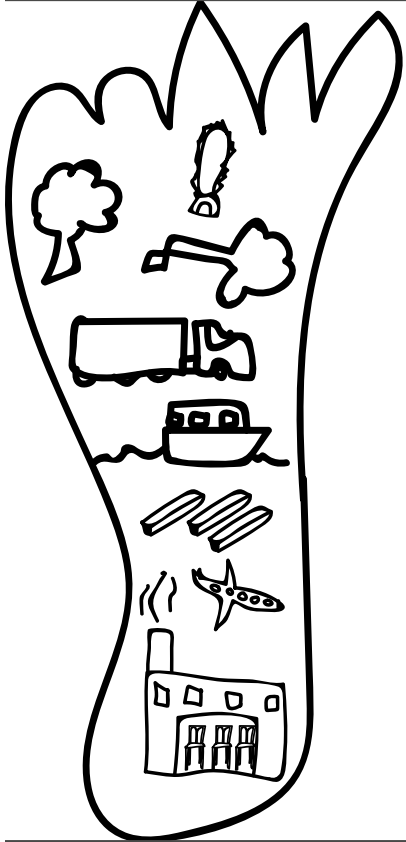


are we done yet?

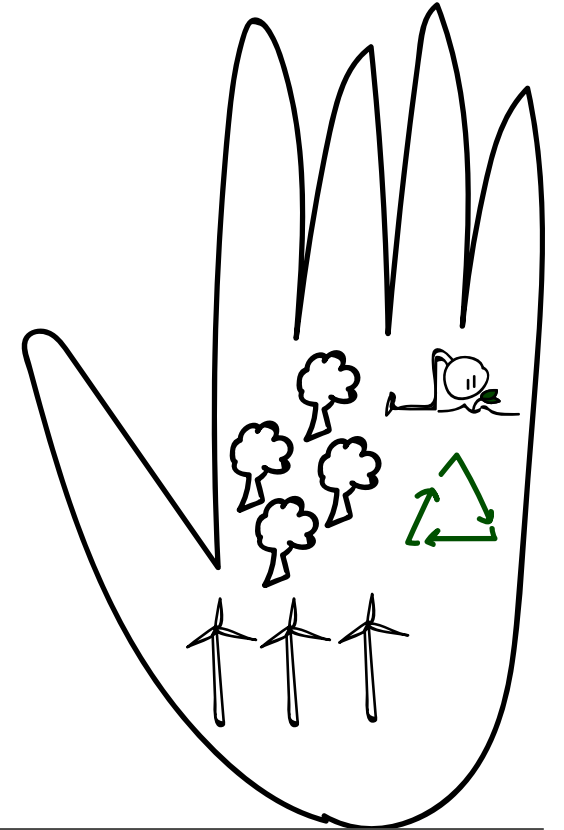
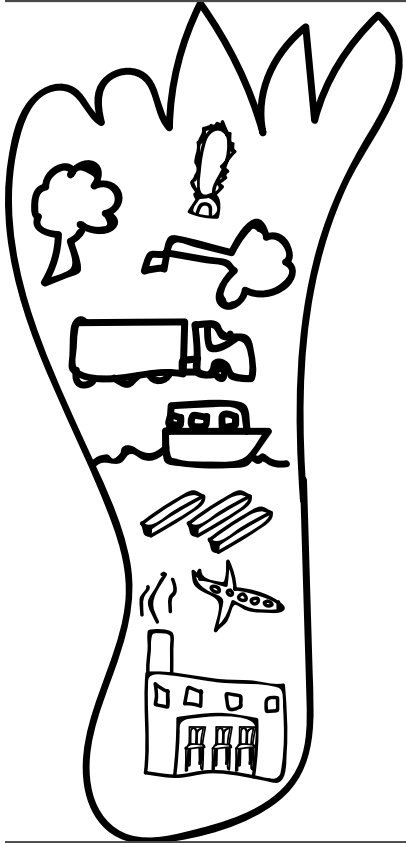
+ net positive +



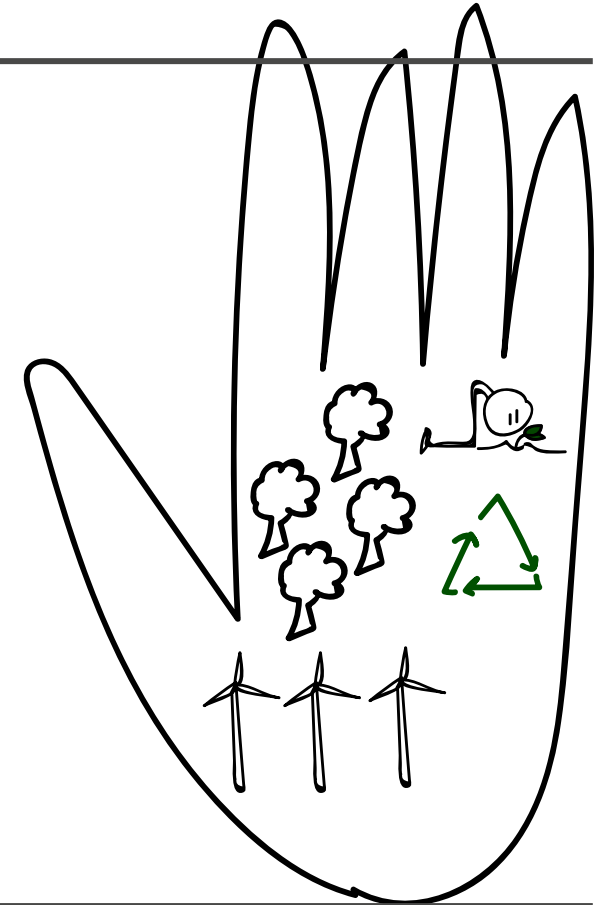
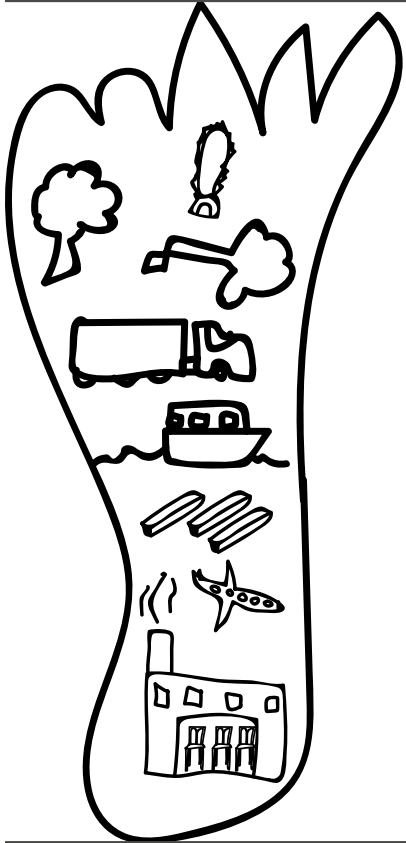
+ net positive +



+ net positive +



+ net positive +



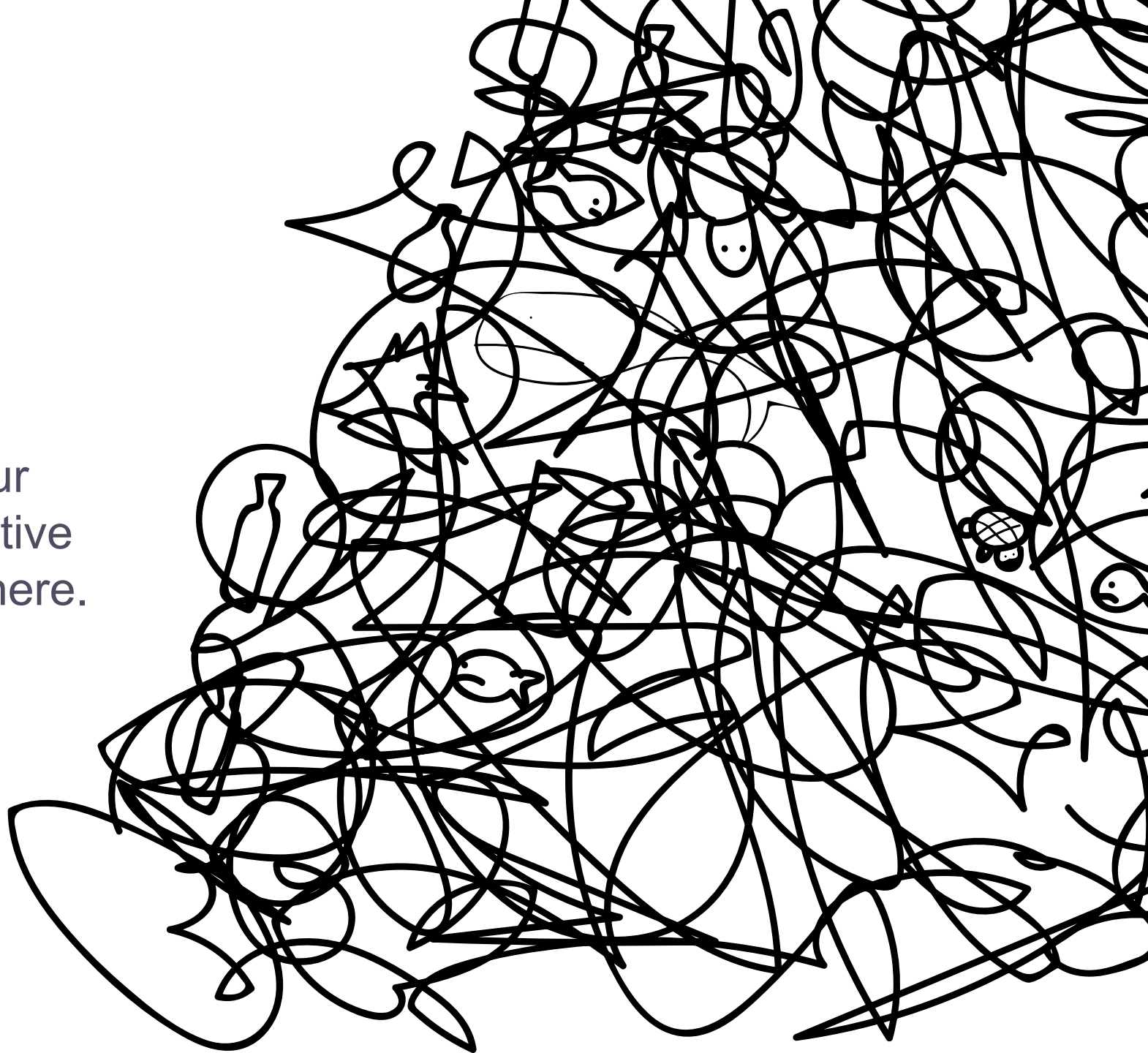
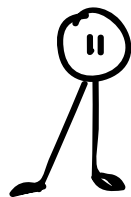
Using the same framework, metric
and tools as Footprints,
**Handprints embrace our agency
to create positive change
anywhere,** relative to business as
usual.

in LPC we measure our footprint because we all have a responsibility now to know and shrink our impacts across all impact areas



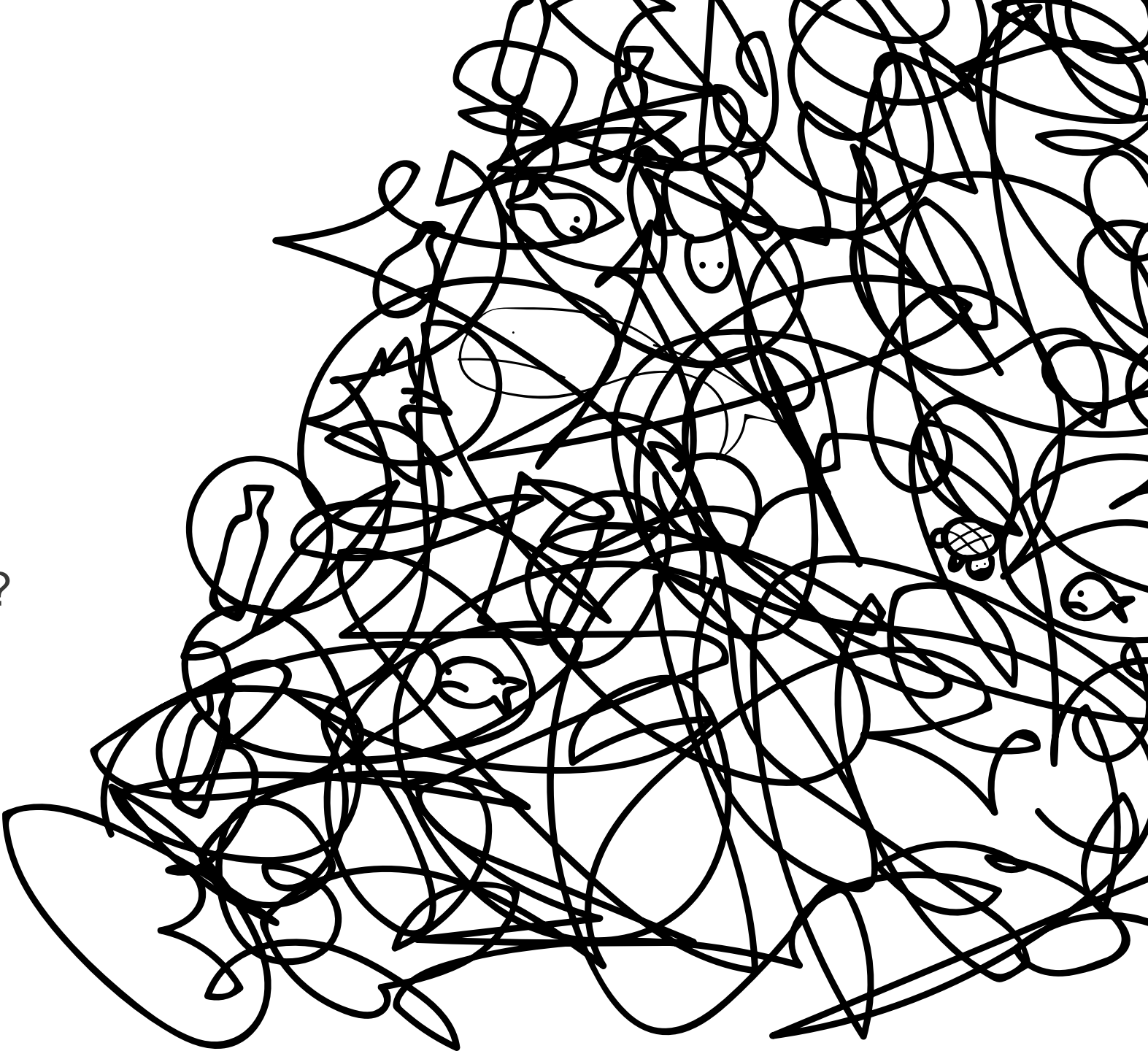
we also have a collective responsibility to look beyond our own Footprints and create positive change anywhere and everywhere.

“all done!”



beyond that, in a time of such need, **why would we restrict our ability for change** to only cleaning up our own Footprint?

“just kidding....”



HANDPRINTS IN ACTION:

Donate energy-efficient lightbulbs to employees or consumers. Track installation and measure impact.

Donate water-efficient fixtures to HBCUs to decrease usage, educate students about sustainability, create cost savings and incentivize investment in further sustainability actions

Educate farmers that produce necessary bio-based ingredients for your products about water-efficiency practices

Plant trees. Save a forest. Create habitat. Educate. Inspire.



isn't it time to make products that make the world a better place?



BASIC REQUIREMENTS FOR ACHIEVING LIVING PRODUCT CERTIFICATION

LIVING PRODUCT CHALLENGE - CORE IMPERATIVES

01. RESPONSIBLE PLACE

04. WATER FOOTPRINT

06. ENERGY FOOTPRINT

08. RED LIST

10. RESPONSIBLE INDUSTRY

15. ETHICAL SUPPLY CHAIN

19. INSPIRATION + EDUCATION

ISO 14040/44 LCA

Lifecycle assessment (LCA) demonstrating the product's cradle-to-grave impacts, performed in accordance with a relevant PCR (if one exists) and ISO 14040/44

DECLARE 3PV

Third-party verified Declare label with a Red List Free or LBC Compliant declaration status

FSC 100%

All wood-based materials or timber (including packaging) certified to FSC 100% labeling standards or from salvaged sources

HUMAN RIGHTS DUE DILIGENCE

Perform human rights due diligence for top 10 priority suppliers, based on spending, through the Social Hotspots Database risk portal, and Identify the critical social risks

EDUCATION MATERIALS

Provide to the public education materials on the product's LPC certification and an annual Open Day of the facility

ADVANCED REQUIREMENTS FOR ACHIEVING LIVING PRODUCT CERTIFICATION

PROTECT HUMAN + ENVIRONMENTAL HEALTH

Identify and fully assess all intentionally-added chemical substances with ILFI-approved third-party GreenScreen assessor; share publicly results of analysis that demonstrate there is no risk of exposure to CMRs or PBTs.

CREATE HANDPRINTS > FOOTPRINTS

Create water, energy, and carbon Handprints that are greater than the respective Footprints.

GENERATE ZERO WASTE

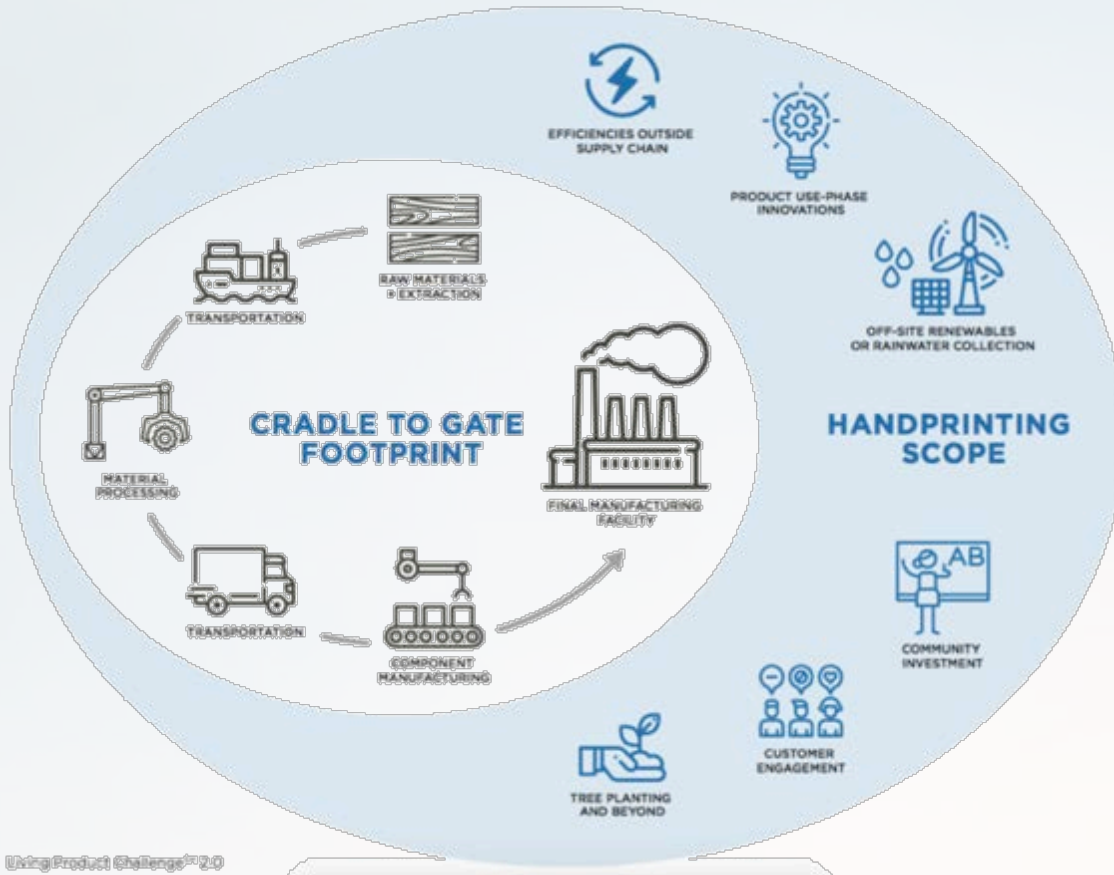
Eliminate waste production by implementing ways to use waste in a closed loop cycle.

PROMOTE SOCIAL JUSTICE

Obtain a JUST label that discloses organization policies and performance around equity, diversity, and inclusion.

PROVIDE SOCIAL CO-BENEFITS

Work within your ecosystem of suppliers, workers, customers and key stakeholders to harness social co-benefits from your environmental Handprint strategies.



Living Product Challenge 1.1

Armstrong World Industries

TECTUM® Ceiling and Wall Panels - Natural

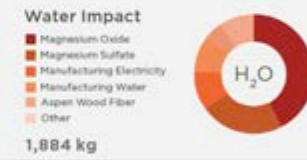


2/2	Place
0/1	Water
0/1	Energy
1/2	Health
5/7	Materials
3/4	Equity
3/3	Beauty

Imperative Certified
14/20

Imperatives Achieved
Petals Met: Place, Beauty

Life Expectancy:
50 Years
End of Life Options:
Salvageable/Reusable in its Entirety
Functional Unit:
1 sq. meter



Declare.




Ingredients: Wood Fiber: Aspen Wood Fiber; Binder: Magnesium Oxide, Sodium Silicate, Magnesium Sulfate, Calcium Carbonate, Silica, Aluminum Oxide, Calcium Oxide, Iron Oxide, Magnesium Carbonate, Urea.

- Red List Free
- LBC Compliant
- Declared

Verified By: WAP Sustainability

ARM-LP001
EXP. 09/11/2021

INTERNATIONAL LIVING FUTURE INSTITUTE™ living-future.org/lpc

Program Comparisons	 LIVING PRODUCT CHALLENGE	 CERTIFIED product to product PRODUCTS PROGRAM	Declare.	 hpd	EPD
Life Cycle Assessment Verified	●	●	○	○	●
Net Positive Water Requirement	●	○	○	○	○
Net Positive Energy Requirement	●	1	○	○	○
Net Positive Carbon Requirement	●	○	○	○	○
Ingredient Screening	●	●	○	●	○
Public Ingredient Disclosure	●	○	●	●	○
Chamber Testing Requirement	●	2	●	○	○
Third Party Verification	●	●	4	6	●
Tiered Certification	●	●	5	●	○
Social Equity Requirements	●	3	○	○	○

Credit: George Bandy, Mohawk Group

Legend: ● = Yes ○ = No ○ = (1) Platinum, Net Pos. Energy achievable through RECs (2,3) Gold & Platinum (4) RLF & LBC Compliant; Optional for Declared (5,6) Optional

WHO RECOGNIZES LPC?



LBC

Minimum 1 LPC product required for all LBC 4.0 projects. Up to 3 required to achieve Materials Petal



EPA EcoLabel Program

And approved for federal purchasing projects

LEEDv4 and v4.1

v4: Building Product Disclosure and Optimization – Material Ingredients, Option 1 and 2

v4.1 Building Product Disclosure and Optimization – Material Ingredients, Option 1 and 2 (highest points)



WELL Building Standard

Feat X01: Fundamental Material Precaut.

Feat X08: Hazardous Material Reduction

Feat X10: VOC Reduction

Feat X13: Enhanced Material Precaution

Feat X14 Material Transparency

LIVING PRODUCTS HAVE A LABEL,
WE ALSO HAVE A STORY.
ASK ME ABOUT BOTH.

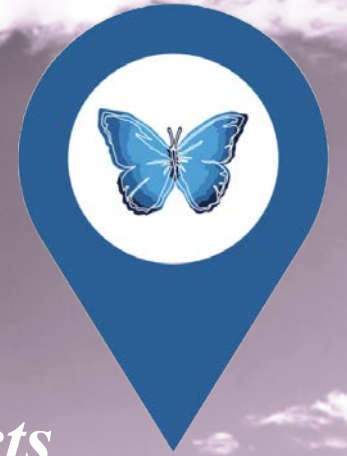


PLACE





*Platform Certification:
Mohawk's Glasgow facility is now making over 300 Living Products*

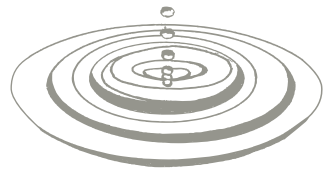


Credit: George Bandy, Mohawk Group

MO HONEY
MO POLLINATORS
AT GLASGOW



WATER



Handprinting Through a SmartFlower Solar Energy Initiative

As part of the certification for Pivot Point and Sunweave, Mohawk Group joined Groundswell and other project partners in south Chicago to establish a SmartFlower solar energy unit at The Renaissance Collaborative. Watch this clip to learn more about the three-year, 10-unit collaboration that will leave a positive handprint on underserved communities and educational institutions with STEM programs across the United States.



Handprinting Through a Water Conservation Strategy

To fulfill one portion of the Living Product Challenge for Lichen, Mohawk Group developed a three-year handprinting strategy with Morehouse College in Atlanta and installed new, low-flow showerheads in its dorms to offset the amount of water used to produce the carpet plank collection. Check out this clip to learn more about the project and the savings in water.



ENERGY



Handprinting at 3Form: Quantifying Good Karma?



Living Product Challenge 1.1

Industrial Louvers

Custom Aluminum Sunshades with Fluoropon Pure Kynar Finish

Manufacturing Location:
Delano, Minnesota, USA

2/2	Place
1/1	Water
0/1	Energy
2/2	Health
7/7	Materials
4/4	Equity
3/3	Beauty

Petal Certified

19/20

Imperatives Achieved

Petals Met: Place, Water, Health & Happiness, Materials, Beauty, Equity

Life Expectancy:
30 Years
End of Life Options:
Recyclable
Functional Unit:
1 lb of Finished Product

Carbon Impact

■ Hazardous
■ Feedstock



+ 1.1 kg CO₂ Eq
Net Positive

Water Impact

■ Hazardous
■ Feedstock



+ 14.7 gal
Net Positive

Energy Impact

■ Hazardous
■ Feedstock



+ 1.28 kg Oil Eq
Net Positive

Waste Impact

■ Diverted
■ Landfill



92% Diversion Rate

Declare.

■ Red List Free
□ LBC Compliant
□ Declared



95% Assessed

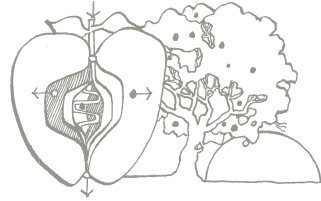
Aluminum Extrusions: 6063 Aluminum; Aluminum
Valpar Fluoropon Pure-Extrusion PVDF Coating
Fluoride (1,3-Difluoroethane Homopolymers)
2,2,4-Trimethyl-1,3-Pentanediol Diisobutyl
Maleimide Resin, Triphosphoric Acid, 4-
Alumina Trihydrate, Iron Hydroxide
Tetraoxide, C.I. Pigment Blue 15, Pigment
Blue 44-Chlorophenyl-2,5-Dihydroxy
Chromium BuO, C.I. Pigment Blue
Chromium Green Black, 3,12-Di-
Chromium Iron Oxide, Chromium
Green, Carbon Black, C.I. Pigment
304 Stainless Steel

A Just[™] Organization
Verified By: WAP Sustainability

INTERNATIONAL LIVING FUTURE INSTITUTE



HEALTH +
HAPPINESS



Living Product Challenge 1.1

Crossville, Inc.
RetroActive 2.0

Manufacturing Location:
Crossville, Tennessee, USA



2/2	Place
1/1	Water
0/1	Energy
1/2	Health
6/7	Materials
1/4	Equity
3/3	Beauty

Petal Certified

14/20

Imperatives Achieved

Petals Met: Place, Water, Beauty

Life Expectancy:
60 Years

End of Life Options:
Salvageable/Reusable in its Entirety

Functional Unit:
1 sq. meter

Carbon Impact

- Thermal Energy from Natural Gas
- Manufacturing Electricity
- Freight
- Waste
- Clay Powder



36.10 kg CO₂ Eq

Water Impact

- Wastewater
- Footprint



+ 2.69gal
Net Positive

Energy Impact

- Thermal Energy from Natural Gas
- Manufacturing Electricity
- Freight
- Diesel for Transport
- Landfilling of Tires



543 MJ Eq

Waste Impact

- Diverted



100% Diversion Rate

Declare.

- Red List Free
- LBC Compliant
- Declared



95% Assessed

Ingredients: Tile: Aluminum, Aluminum Oxide, Magnesium Carbonate, Calcium Magnesium Chromite, Chromium Iron Oxide, Chromium Oxide, Crystalline Silica, Feldspar, Iron Oxide, Magnesium Silicate, Polyacrylate, Glycerol, Synthetic Aromatic Resin, Titanium Dioxide, Zirconium Dioxide

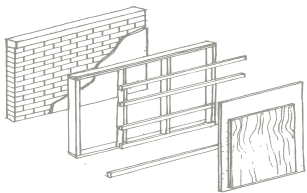
**CERTIFIED
PETAL**

A Just™ Organization

Verified By: WAP Sustainability

INTERNATIONAL LIVING FUTURE INSTITUTE™

MATERIALS







Living Product LABEL

Bureo
Net+Positiva Plastic

Manufacturing Locations:
Santiago, Chile

2/2	Place
1/1	Water
0/1	Energy
1/2	Health
7/7	Materials
4/4	Equity
3/3	Beauty

Life Expectancy: N/A
End of Life Options: Recyclable (100%)
Recycled Content: 100%
Bio-Based Material: 0%
Functional Unit: 1kg

Petal Certified
Petals Met: Place, Water, Equity, Beauty, Materials

18/20

Carbon Impact

+8.6 kg CO₂ Eq
Net Positive

Water Impact

+30 gal
Net Positive

Energy Impact

.21226 kg Oil Eq

Waste Impact

100% Diversion Rate

Declare.
Ingredients: Recycled Fishing Nets: Nylon 6

BUR-LP001

MANUFACTURED RESPONSIBLY FOR LABEL ACCURACY
INTERNATIONAL LIVING FUTURE INSTITUTE™ living-future.com



Smart Ocean



Living Product LABEL

Humanscale
Diffrient® Smart Chair



2/2	Place
1/1	Water
1/1	Energy
2/2	Health
7/7	Materials
4/4	Equity
3/3	Beauty

Life Expectancy:
15 Years
End of Life Options:
Take Back Program;
Salvageable/Reusable;
Recyclable (95%); Landfill (5%)
Recycled Content:
76%
Bio-Based Material:
0%
Functional Unit:
1 chair

Full
Certified



20/20

Carbon Impact

- Back Frame
- Seat Cushion
- Packaging
- Other



34.03 kg CO₂ eq

Water Impact

- Back Frame
- Seat Cushion
- Packaging
- Other



483.8 gal

Energy Impact

- Back Frame
- Seat Cushion
- Packaging
- Other



12.3606 kg oil eq

Waste Impact

- Diverted
- Landfill



93% Diversion Rate

Declare.

- Red List Free
- LBC Compliant
- Declared

Material Health
95% Assessed

Just.

HSC-LP001

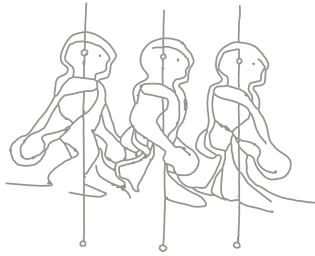
Ingredients: Aluminum (A380 Alloy), Steel, Polypropylene, Polyurethane, Thermoplastic Polyurethane, with 1,3-Dioxolane, Zinc Steel Polymer with Ethene, Bronze with Ethene, Carbon Black 73, Polyethylene Terephthalate Compound, Polyethylene (LDPE), Polyethyleneoxycarbonate, Proprietary

*LBC Temp Exception (1)

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EQUITY

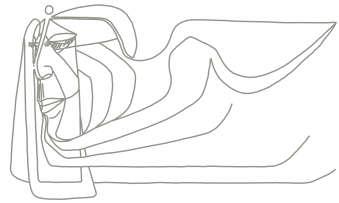




Tarkett + Earth Enable:
Collaboration into
Handprints



BEAUTY





Humanscale


Hands In For A Positive Impact

Even though we do not own the world, we can make a difference.





LP50: THE
POWER OF
MANY



THE LP50 work collaboratively, speaking to the market with a common voice, and effecting industry-wide change to increase specification of transparent, optimized products

Dear Design Community Member,

We, as members of the building product manufacturing community, truly appreciate and applaud the many letters and requests for product transparency that we have received from concerned members of the Architecture and Design Community these past five years. Around 35 signatories from some of the world's biggest and most influential firms encouraged us each to continue on our sustainability journey with product transparency, accelerating a transformation in the manufacturing industry. The industry would not be where it is today without such advocacy and encouragement.

As responsible members of a community, you asked us each to tell you what was in our products and what impacts our products have in terms of human and environmental health and sustainability.

WE RESPONDED, IN A BIG WAY

The manufacturers represented in this letter hold a total of:

580 Material Ingredient Reports (e.g. Declare labels, C2C, MHC, HPDs)

1320 Environmental Impact Reports (e.g. LCAs, EPDs)

13 Certified Living Products

Covering more than 26 product categories and 3430 product lines

We are united in a common goal to ensure that high performing, healthy, sustainable and affordable building materials **are the rule, not the exception.**

This is where your help is crucial.

EACH OF US COMMIT TO

- Continue **building sustainability practices** into manufacturing and material selection.
- Continue to **invest in product transparency** measures and programs.
- **Use common platforms** for product information to make it easier to specify products with preferable environmental attributes.
- **Prioritize suppliers** that support our transparency and environmental impact reduction efforts.
- **Educate** internally at our companies, and externally in our supply chains, about the importance of transparency and sustainable products.
- **Walk the talk** through encouraging the specification of transparent products in our **own buildings, factories, and purchasing programs.**

WE EACH ASK YOU TO

- **Specify products** that are transparently disclosed and have reduced human and environmental health impacts whenever possible.
- **Advocate to customers** for programs like Living Building Challenge, LEED and WELL, that value transparency, material health and reduced environmental impacts, and create market demand.
- **Tell us** which tools and databases you want to use to find our products, and reach out separately to let us know *when and why* you specified our products.
- Continue to **send us letters** as well (they go a long way).
- **Consider all product categories**, including those that go beyond what you can see, touch and feel in a building; they also have significant impact.
- Distribute this letter at your own firms and continue internal education to **ensure that this message reaches the individuals who specify products on a daily basis.**



Mohawk Group



teknion

ASSA ABLOY
The global leader in door opening solutions



mafi.com



patcraft.



shaw contract®



nora®



Steelcase®

EF Contract




KOHLER.



Mannington COMMERCIAL





42 MANUFACTURERS HAVE SIGNED ONTO THE LP50 LETTER it's time to go beyond responding to requests, and proactively help define the conversation, build demand and create feedback mechanisms.



LIVING PRODUCT 50
(LP50)

LIVING-FUTURE.ORG/LP50



Register your product and learn
more about LPC
lpc.support@living-future.org

LIVING PRODUCT EXPO 19

Products with Purpose

SAVE THE DATE

October 8 - 10, 2019 | Nashville, TN

MUSIC CITY CENTER
productexpo.living-future.org/





Thank you for joining us!

For more information about the GC3:
www.greenchemistryandcommerce.org

GC3 GREEN CHEMISTRY &
COMMERCE COUNCIL