



**Regenerative Products for Living
Buildings:
Introducing the Living Product
Challenge**

Montreal

15 June 2015

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**Introducing Handprints
Sustainability as Caring
Design for Ripple Effects
Introducing the Living Product
Challenge**

Sustainability



“Meet the needs of the present generation without compromising the ability of future generations to meet their own needs”

- Brundtland Commission, 1987

Sustainability

Meet our needs (and desires) in ways that don't harm the planet or other people.



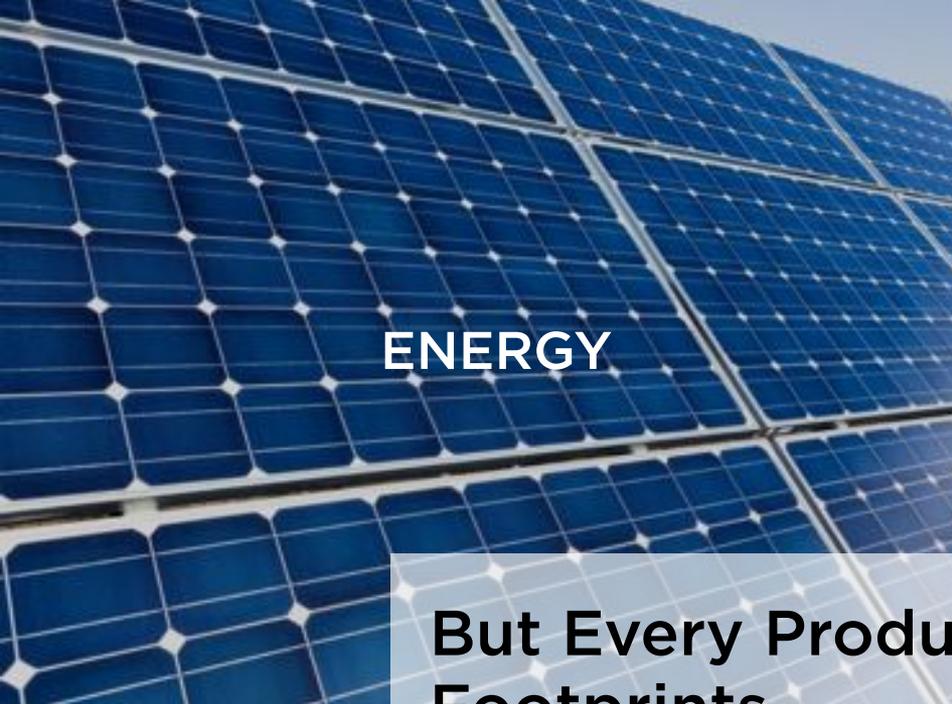


Footprint

The negative impacts of all the processes needed to sustain or produce something.



**Sustainability:
Shrink your
footprint.**

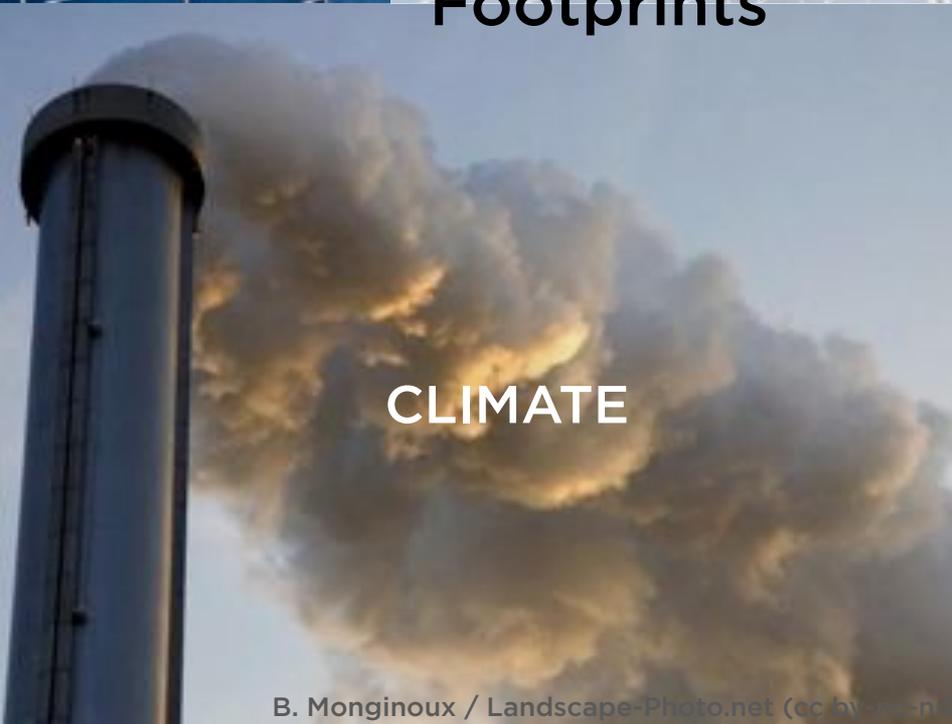


ENERGY



WATER

**But Every Product Has Many
Footprints**



CLIMATE

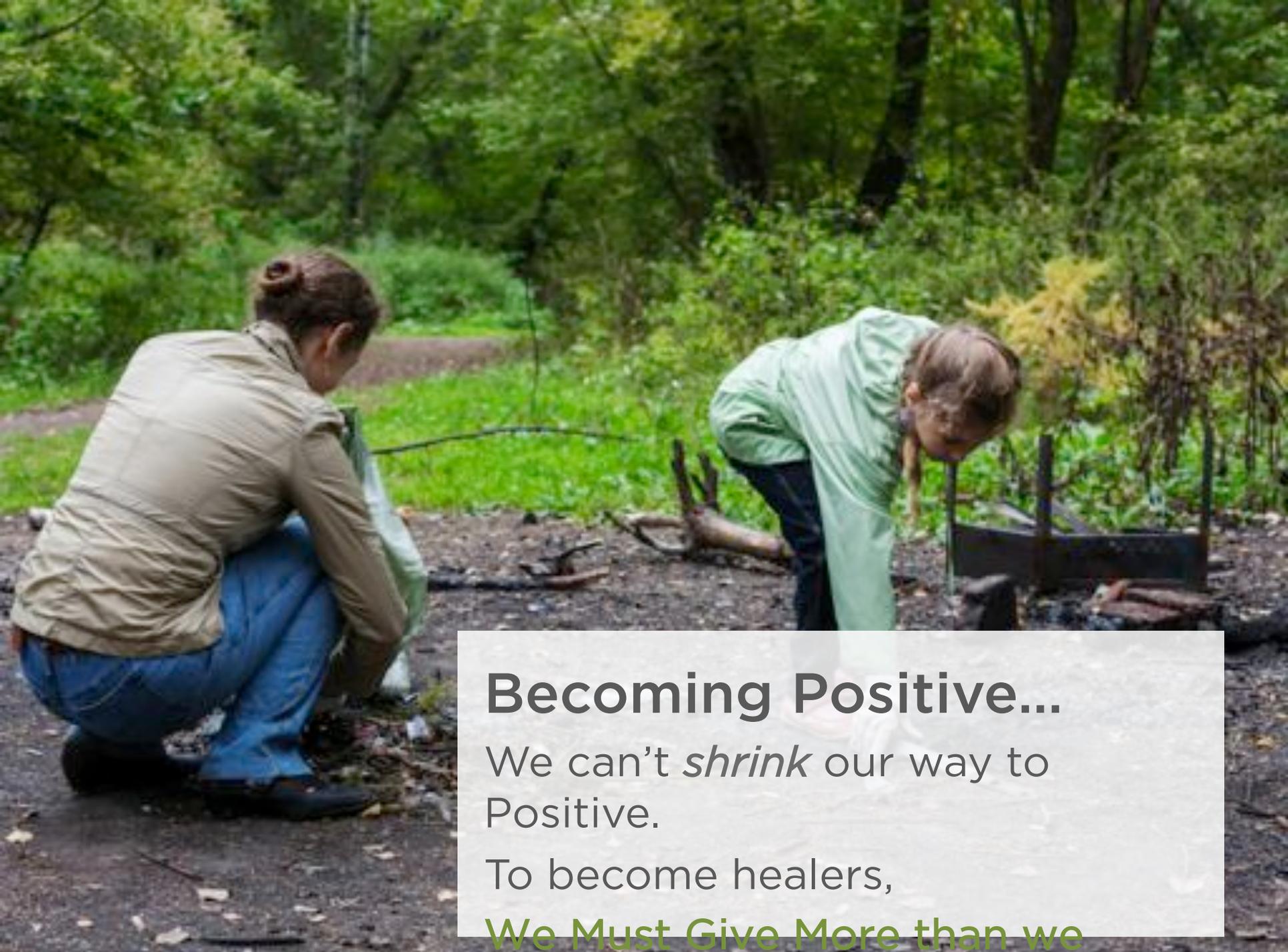


HEALTH



The planet would be better off without me?





Becoming Positive...

We can't *shrink* our way to Positive.

To become healers,

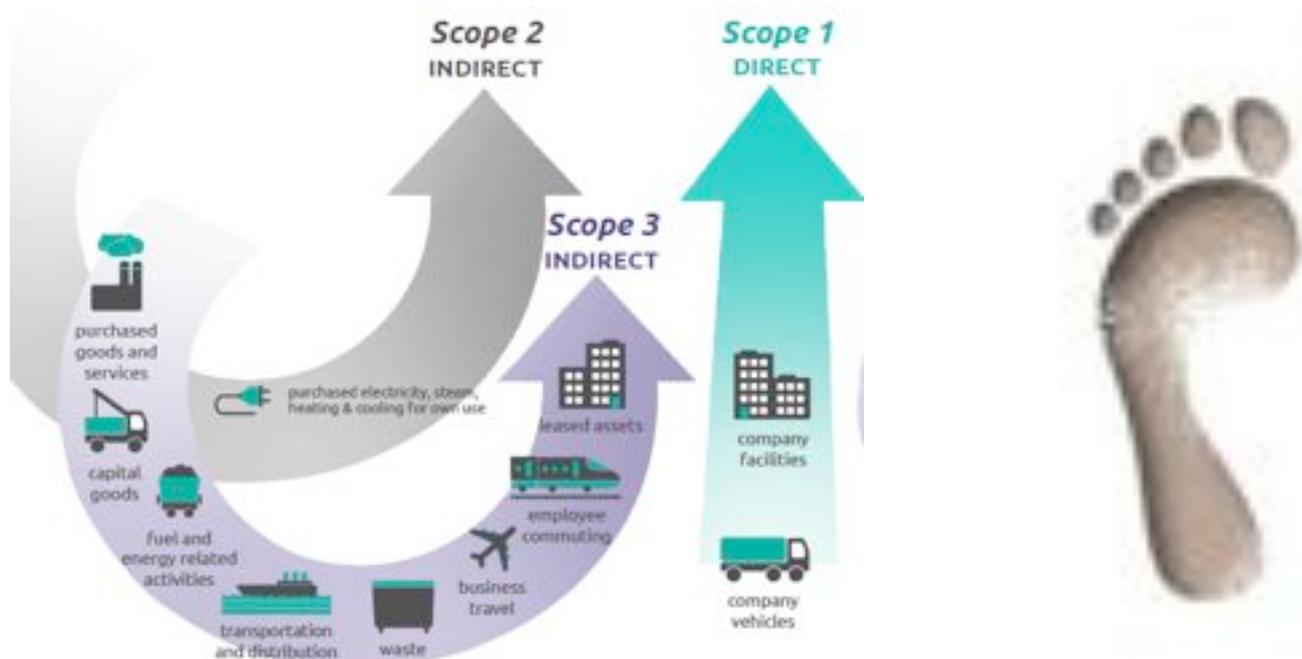
We Must Give More than we

What do you Take?

Person: What is required to sustain you.

Organization: What is required to enable you to offer what you offer to the world.

Product: What is required to offer it to the world.



What do you Give?

**If We Want to be NetPositive,
We've Got To Learn To Give.**



A large, leafy tree stands in a sunlit field. The tree's shadow is cast on the grass. In the background, there are rolling green hills and mountains under a clear blue sky. The sun is shining brightly from the upper left, creating a lens flare effect.

Can we **give** on the very same
impact dimensions that we **take**?

Put resources into the earth?
Take CO₂ out of the atmosphere?

Introducing Handprints

Handprints are positive impacts we cause to happen relative to “business as usual”



Handprints were defined in relation to
Footprints,

so that $\{\text{Handprint} > \text{Footprint}\} \rightarrow$
NetPositive

- Built on LCA using the same metrics as Footprints
- Same Impact Dimensions: Supply Chains and Life Cycles
- Footprinting: Shared Responsibility
- Handprinting: Shared Credit



INTRODUCING HANDPRINTING AND FOOTPRINTING



A **handprint** of a product is the sum total of **positive impacts** we create.

A **footprint** of a product is the sum total of **negative impacts** caused by the process necessary to produce it.

continued >>

With NetPositive, it's *Not* a Not

- Your footprint remains in the limelight.
- And shares it with your handprint.



Handprints are About **Change**

- You create a handprint when you **cause a change** to business as usual (BAU).
- For a business, basic BAU = responding to this year's demand with last year's product.



3 ways to create Handprints



Step 1: Reduce your own footprint:

- * Reformulate/redesign your good or service
- * Switch suppliers, or promote innovation in your supply chain
- * Green your own production operations

Your footprint



We've constrained the good we can do by the harm we're now causing.

Humanity's
Footprint



Step 2: Help anyone/ everyone else reduce their footprint

- * Make your product more efficient for others to use
- * Engage/inform/inspire users to use more wisely
- * Share innovations or research
- * Grow demand for NetPositive goods and services



Step 3: Think outside the foot!

Take generative actions:

- * Plant a tree
- * Protect or restore habitat or other ecosystems
- * Promote healing, health, and human development

SHINE & ILFI have jointly released the Handprint Calculator

Free, Web-based; downloadable available
Upload/enter pieces, explore/see the whole
Interactive, what-if, sensitivity/uncertainty
Compare handprints of multiple innovations

Bring Handprinting to life, for yourself and others

HARVARD SCHOOL
OF PUBLIC HEALTH

Handprint Calculator

The Handprint Calculator will appear below. Model may take a few moments to load; please be patient.

Handprint Calculator

Modeling

Input Data

Innovations	Edit Table	Add Innovation
Impact Categories	Edit Table	Remove Innovation
Inputs	(various units)	Edit Table
Annual Sales (projected)	(product units per year)	Edit Table
Impacts by Data Column	(various units)	Edit Table

Sales year-based results: The impacts of a product across its life cycle (and thus also the handprint-driven changes to these impacts) are assigned to the year of product sale.

Impacts by Sales Year	Calc
Annual Handprint	Calc

Impact year-based results: The impacts of a product during its life cycle (and thus also the handprint-driven changes to these impacts) are assigned to the year during which these impacts occur.

Impacts by Year by Phase	Calc
Annual Handprint	Calc

Welcome to the Handprint Calculator!

Use this tool to help you organize, evaluate, compare and communicate your handprinting opportunities.

Handprints are positive impacts that we cause to happen, relative to business as usual. They are based on life cycle assessment (LCA), just like footprints. And they can be compared with footprints (the unintentional negative impacts caused by producing a product or sustaining a person or organization) in order to guide the achievement of NetPositive sustainability. When your handprint is bigger than your footprint, you give more than you take, and you are NetPositive.

This tool is currently tailored to assessing the handprints caused by innovations which occur somewhere in the life cycle of a product. It allows you to upload LCA results for the product before and after the handprint-creating innovation or action. And it allows you to assess the impacts of multiple innovations, one at a time – and to compare their impacts. You can set the Impact Categories to match the life cycle impact assessment method you use. If you need support in doing an LCA of your product, please contact us.

The results buttons allow you assess the timing of your handprints in one of two ways. Sales-based results assign the (life cycle) impacts of an innovation to the year in which the innovated product was sold. Impact year-based results take the timing of the actual impacts explicitly into account, so that for example the benefits of energy efficiency occurring in the 10th year of a product's life occur 10 years after it was sold.



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HARVARD
T.H. CHAN

SCHOOL OF PUBLIC HEALTH

Center for Health and the
Global Environment



**Introducing Handprints
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Sustainability

A close-up photograph of several hands of different skin tones stacked together, symbolizing unity and sustainability. The hands are arranged in a circular pattern, with fingers pointing outwards. The background is blurred, showing a person in a white shirt and a red tie.

“Meet the needs of the present generation without compromising the ability of future generations to meet their own needs”

- Brundtland Commission, 1987



care

/kɛː/ 

noun

1. The provision of what is necessary for the health, welfare, maintenance, and protection of someone or something.

Sustainability as Care

Caring for ourselves in ways that care for others



Your footprint



Individual as Catalyst

We've come to realize that
Just doing our own bit
Won't cut it.



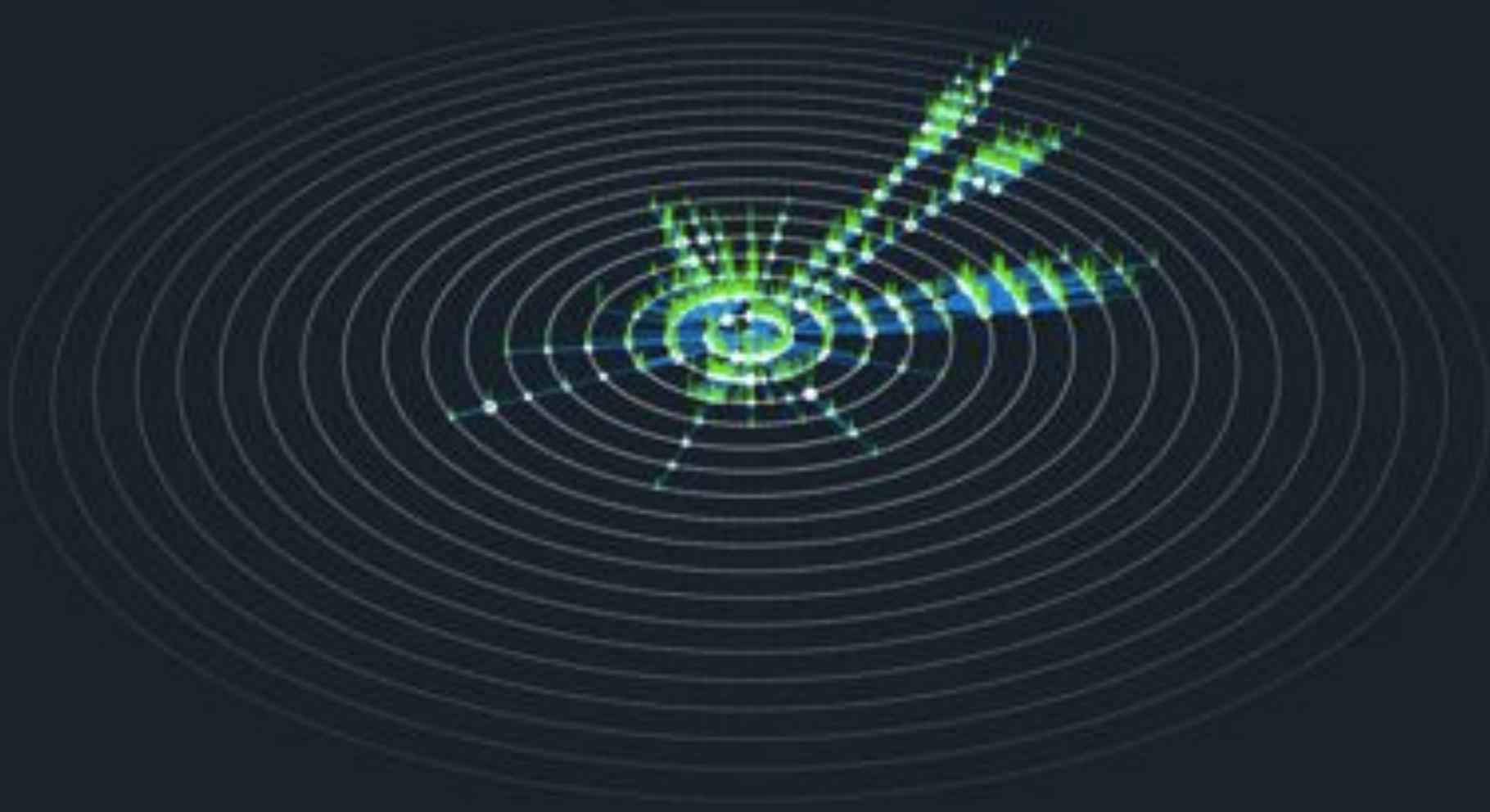
I can check and properly inflate my tires.
This will reduce my carbon footprint by 1%.



Scale by 100 by getting 5 friends to join me with gauges and pumps at a supermarket parking lot one afternoon.



Scale by... 1000? Hand the lucky drivers a card about handprinting, encouraging them to do their own “pump day.”

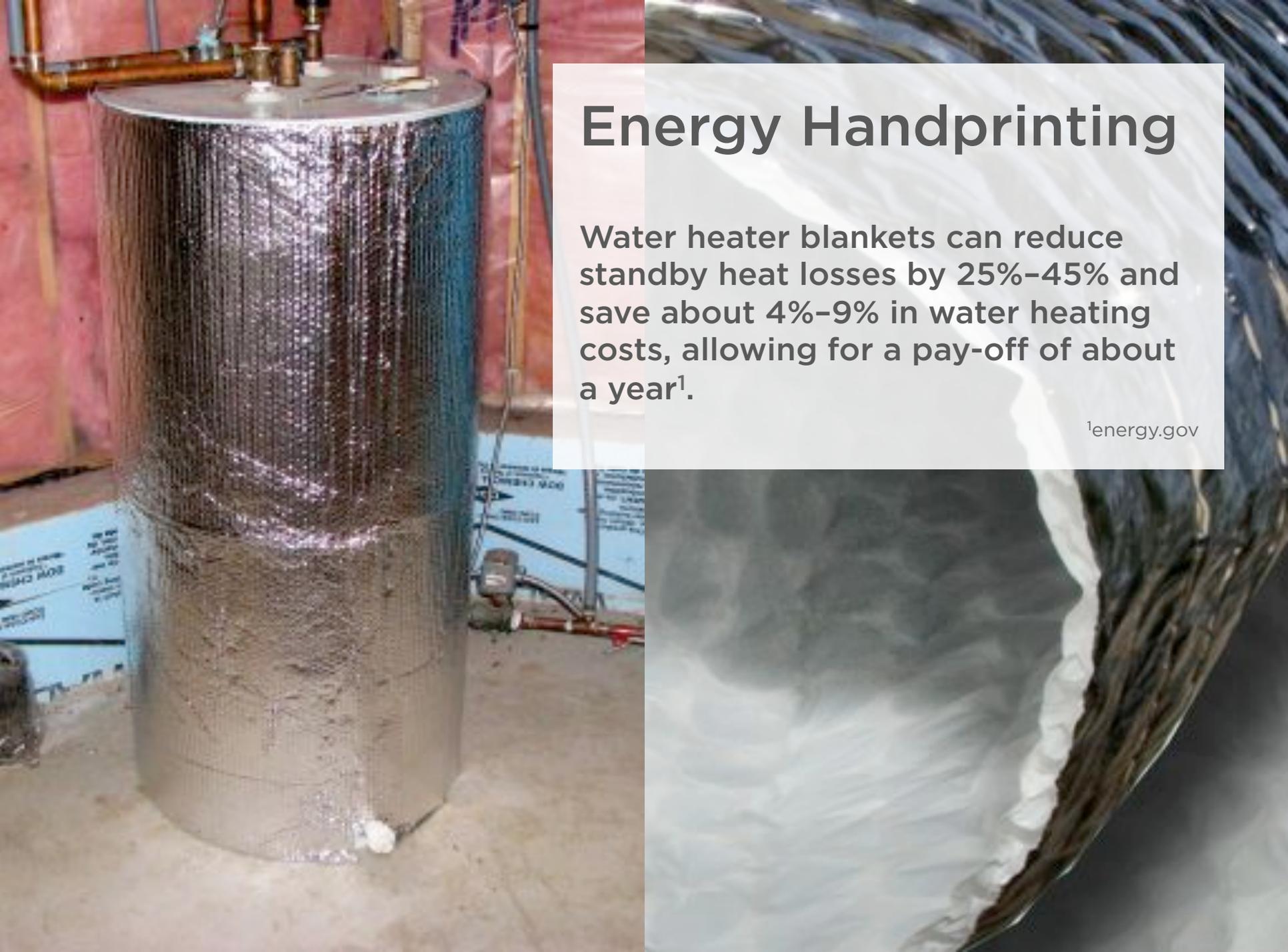


Scale by a mind-boggling amount if Handprinter.org has a crowd-sourced, crowd-assessed database of action ideas, and humanity is striving for NetPositive.

An aerial photograph of a coastline with a white text box overlay. The text box contains the title and a quote. The background shows a rocky shore on the left, a sandy beach, and the ocean with waves. The sky is blue with some clouds.

Design for Ripple Effects

Harness
the abundance you create
to create more
abundance

The image is a composite. On the left, a vertical water heater tank is shown, wrapped in a silver, reflective energy handprinting blanket. The blanket has a textured, woven appearance. On the right, there is a close-up view of the same blanket material, showing its crinkled and reflective surface. A semi-transparent white text box is overlaid on the right side of the image.

Energy Handprinting

Water heater blankets can reduce standby heat losses by 25%-45% and save about 4%-9% in water heating costs, allowing for a pay-off of about a year¹.

¹energy.gov



Use 9 months savings from 1 donated blanket to:

- * Buy and give 2 more blankets
- * Support a school activity



LIVING PRODUCT CHALLENGESM 1.0

A Visionary Path to a
Regenerative Future



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LIVING FUTURE
INSTITUTE™

Living Product LABEL

Lush Collection | Edible Paint Company | Functional Unit: Gallons

Life Expectancy:
000 YEARS

Warranty Period:
000 YEARS

End of Life Options:
RECYCLABLE (00%),
LANDFILL

Recycled Content:
00%

Bio based material:
00%

Take Back Program:
LIST OPTIONS

Material Origins



Embedded Carbon



Embedded Water



Embedded Waste



Embedded Emissions



IMPERATIVES MET

- Peace 2/4
- Water 2/2
- Energy 1/1
- Health 2/3
- Materials 1/4
- Equity 2/3
- Beauty 2/2

15
20

Just. SOCIAL JUSTICE AND EQUITY INDICATORS:

Diversity

- Non-Discrimination
- Gender Diversity
- Ethnic Diversity

Worker Benefit

- Worker Happiness
- Employee Health Care
- Continuing Education

Local Benefit

- Local Control
- Local Sourcing

Equity

- Full Time Employment
- Pay-Scale Equity
- Employee/Union Friendly
- Living Wage
- Gender Pay Equity
- Family Friendly

Stewardship

- Responsible Investing
- Community Volunteering
- Positive Products
- Charitable Giving
- Animal Welfare
- Transparency

Safety

- Occupational Safety
- Hazardous Chemicals

Declare.

INGREDIENTS: **Ingredient One** (Location, ST), **The Second Item** (Location, ST), **NextIngredient** (Location, ST), **Living Building Challenge Red List**, **Different Part of the Product, Another Component, More Stuff**, US EPA Chemical of Concern, **Yet Another Item**, **Non-toxic Element**, **PieceOfTheWhole**, Component of Concealment, **ThirdFromTheEnd**, ECHA REACH Substance of Very High Concern, **Last Ingredient**.

THE LIVING PRODUCT LABEL

XXX-001

EXP. xx/xx/xxxx

INTERNATIONAL LIVING FUTURE INSTITUTE™ www.livingproductchallenge.com

**IMPERATIVE
CERTIFICATION**

7 Imperatives
Including
4 Core
Imperatives

**PETAL
CERTIFICATION**

3 Petals, one of
which must be
Energy, Water or
Materials

+ include
4 Core
Imperatives

**FULL
CERTIFICATION**

All Imperatives
are Mandatory

THE 20 IMPERATIVES OF THE LIVING PRODUCT CHALLENGE

PETAL	IMPERATIVE CERTIFICATION*	IMPERATIVE
PLACE		01. RESPONSIBLE PLACE AND HABITAT IMPACTS
		02. HABITAT EXCHANGE
WATER		03. NET POSITIVE WATER
ENERGY		04. NET POSITIVE ENERGY
HEALTH & HAPPINESS	 CORE IMPERATIVE	05. NET POSITIVE MATERIAL HEALTH
		06. HUMAN THRIVING
MATERIALS	 CORE IMPERATIVE	07. RED LIST
		08. LIVING ECONOMY SOURCING
	 CORE IMPERATIVE	09. RESPONSIBLE INDUSTRY
		10. NET POSITIVE CLIMATE
		11. NET POSITIVE WASTE
		12. PRODUCT FIT TO USE
		13. USEFUL LIFE DISPOSAL
EQUITY		14. EQUITABLE PRODUCT ACCESS
		15. RESPONSIBLE CO-PRODUCTS
		16. EQUITABLE INVESTMENT
		17. JUST ORGANIZATIONS
BEAUTY		18. POSITIVE HANDPRINTING
		19. BEAUTY + SPIRIT
	 CORE IMPERATIVE	20. INSPIRATION + EDUCATION

CORE
IMPERATIVEREQUIRED FOR
PETAL CERTIFICATIONHANDPRINTING
IMPERATIVE

*Petal Certification requires the achievement of at least three of the seven Petals, one of which must be Water, Energy or Materials and the Near Core Imperatives.

PLACE	01. RESPONSIBLE PLACE AND HABITAT IMPACTS
	02. HABITAT EXCHANGE
WATER	03. NET POSITIVE WATER
ENERGY	04. NET POSITIVE ENERGY
HEALTH & HAPPINESS	05. NET POSITIVE MATERIAL HEALTH
	06. HUMAN THRIVING
MATERIALS	07. RED LIST
	08. LIVING ECONOMY SOURCING
	09. RESPONSIBLE INDUSTRY
	10. NET POSITIVE CLIMATE
	11. NET POSITIVE WASTE
	12. PRODUCT FIT TO USE
	13. USEFUL LIFE DISPOSAL

EQUITY

14. EQUITABLE PRODUCT ACCESS

15. RESPONSIBLE CO-PRODUCTS

16. EQUITABLE INVESTMENT

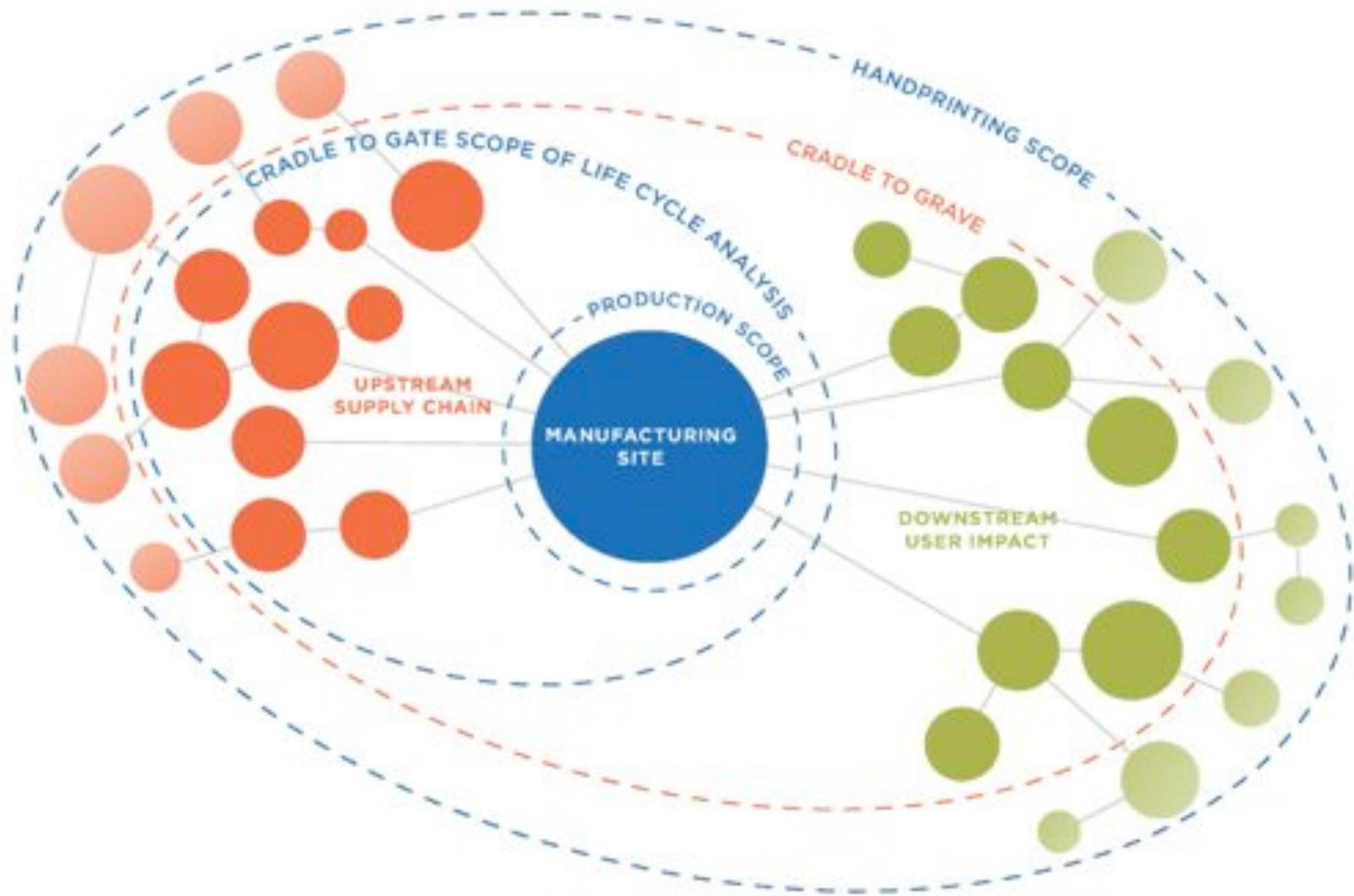
17. JUST ORGANIZATIONS

BEAUTY

18. POSITIVE HANDPRINTING

19. BEAUTY + SPIRIT

20. INSPIRATION + EDUCATION



WATER

NET POSITIVE WATER



03

ENERGY

NET POSITIVE ENERGY



04

MATERIALS

NET POSITIVE CLIMATE



10

BEAUTY

POSITIVE HANDPRINTING



18⁴⁹



HANDPRINTING GUIDE

APRIL 2015

LIVING PRODUCT
CHALLENGESM 1.0

A Visionary Path to a Regenerative Future



INTERNATIONAL
LIVING FUTURE
INSTITUTE

ENERGY

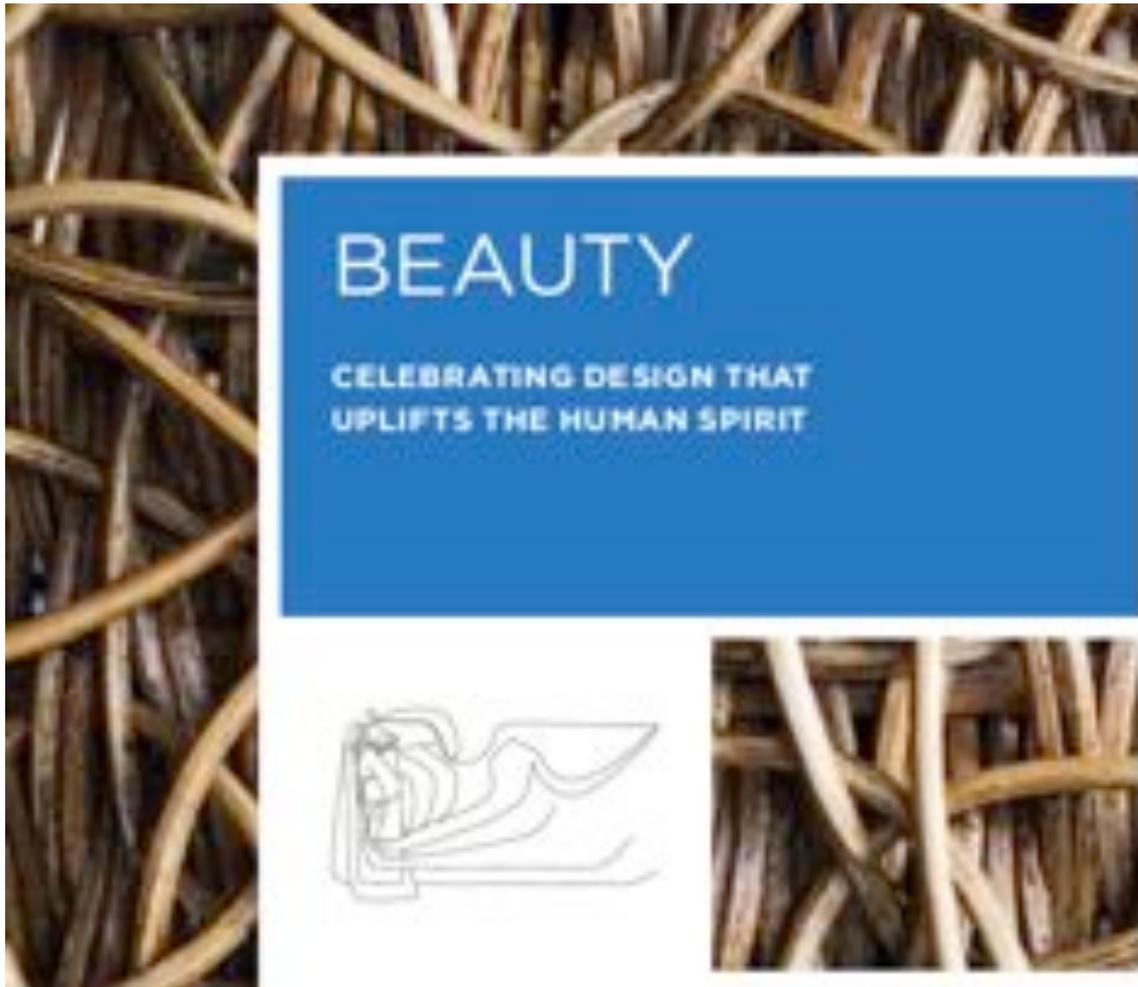
NET POSITIVE ENERGY



04

The manufacturer must develop and publicly share a three-year plan to reduce the product's energy footprint and create an energy handprint greater than the footprint through one or more of the following strategies:

- Innovate to conserve energy or generate renewable energy across the life cycle of the product.
- Innovate within supply chains to conserve energy or generate renewable energy in the supply chain.
- Engage with users to achieve energy conservation through improved use of the product.



There are no current limitations to this Petal other than our imaginations and what we as a society choose to value.

