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
PRODUCTS WITH PURPOSE:
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**
LIVING PRODUCT CHALLENGE™ 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.
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.
THREE PATHWAYS TO LIVING PRODUCT CERTIFICATION:

While the ultimate goal is for products to achieve all 20 Imperatives for Living Product Full Certification, steps along the path to regenerative production should be rewarded. Therefore, we also recognize and certify products on an Imperative or Petal basis provided that the Core Imperatives are achieved. The Petals are structured to encourage a continuum of improvement, from measuring and disclosing your baseline to reducing your impact and carrying out positive actions to finally becoming truly regenerative. The achievement of any Petal is something to celebrate; it represents a significant accomplishment in one or more critical impact area.

LIVING PRODUCT IMPERATIVE CERTIFICATION

Imperative Certification requires that, at minimum, the seven Core Imperatives are attained, representing a significant and holistic achievement that companies can build on to achieve higher levels of certification.

LIVING PRODUCT PETAL CERTIFICATION

In addition to meeting the seven Core Imperatives, Petal Certification requires the achievement of at least three of the seven Petals, one of which must be the Water, Energy, or Materials Petal.

LIVING PRODUCT FULL CERTIFICATION

Full Certification requires the achievement of all 20 Imperatives, signaling that the product has become truly regenerative across all impact areas and can be counted among the most sustainable in the world.

### PATHWAY TO LIVING PRODUCTS: THREE RECOGNITION STAGES

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

### 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 on-site

net positive life cycle
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 +
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

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

Armstrong World Industries
SCTUM Ceiling and Wall Panels - Natural

Manufacturing Location:
Newark, OH, USA

Imperative Certified
14/20

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

Carbon Impact
- Manufacturing/Design
- Manufacturing/Electricity
- Material
- Energy Transport
- Other
- Total CO2 Eq: 2.48 kg CO2 Eq

Water Impact
- Manufacturing/Design
- Manufacturing/Electricity
- Material
- Energy Transport
- Other
- Total H2O: 1,894 kg

Energy Impact
- Manufacturing/Electricity
- Material
- Energy Transport
- Other
- Total Energy: 1.94 kJ Eq

Waste Impact
- Landfill
- Other
- Total Waste

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

Verified By: WAP Sustainability

INTERNATIONAL LIVING FUTURE INSTITUTE
living-future.org/pic
### Program Comparisons

<table>
<thead>
<tr>
<th>Category</th>
<th>LIVING PRODUCT CHALLENGE</th>
<th>Declare</th>
<th>hpd</th>
<th>EPD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Cycle Assessment Verified</td>
<td>●</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Net Positive Water Requirement</td>
<td>●</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Net Positive Energy Requirement</td>
<td>●</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Net Positive Carbon Requirement</td>
<td>●</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Ingredient Screening</td>
<td></td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Public Ingredient Disclosure</td>
<td>●</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Chamber Testing Requirement</td>
<td>●</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Third Party Verification</td>
<td></td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Tiered Certification</td>
<td></td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Social Equity Requirements</td>
<td></td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

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

*Credit: George Bandy, Mohawk Group*
WHO RECOGNIZES LPC?

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

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)

EPA EcoLabel Program
And approved for federal purchasing projects

WELL Building Standard
Feat X01: Fundamental Material Precaution
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

Industrial Louvers
Custom Aluminum Sunshades with Fluoropolymer Pure Kynar Finish

Manufacturing Location:

Performance: 30 Years
End-of-Life Options: Recyclable
Functional Unit: 1st of 50 Louvers

Life Cycle Impact:

+ 1,143 kg CO₂ Eq Net Positive
+ 1,674 g CH₄ Net Positive
+ 1,284 kg O₂ Eq Net Positive

92% Resource Use
95% Managed Waste

 Declare

A Just Organization
Verified By: WEF Sustainability

INTERNATIONAL LIVING FUTURE INSTITUTE
HEALTH + HAPPINESS
MATERIALS
MATERIALS
Mohawk Group: The Sunweave Collection
Living Product Challenge SM 2.0
Smart Ocean
EQUITY
Tarkett + Earth Enable: Collaboration into Handprints
LP50: THE POWER OF MANY
THE LP 50 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.**
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-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