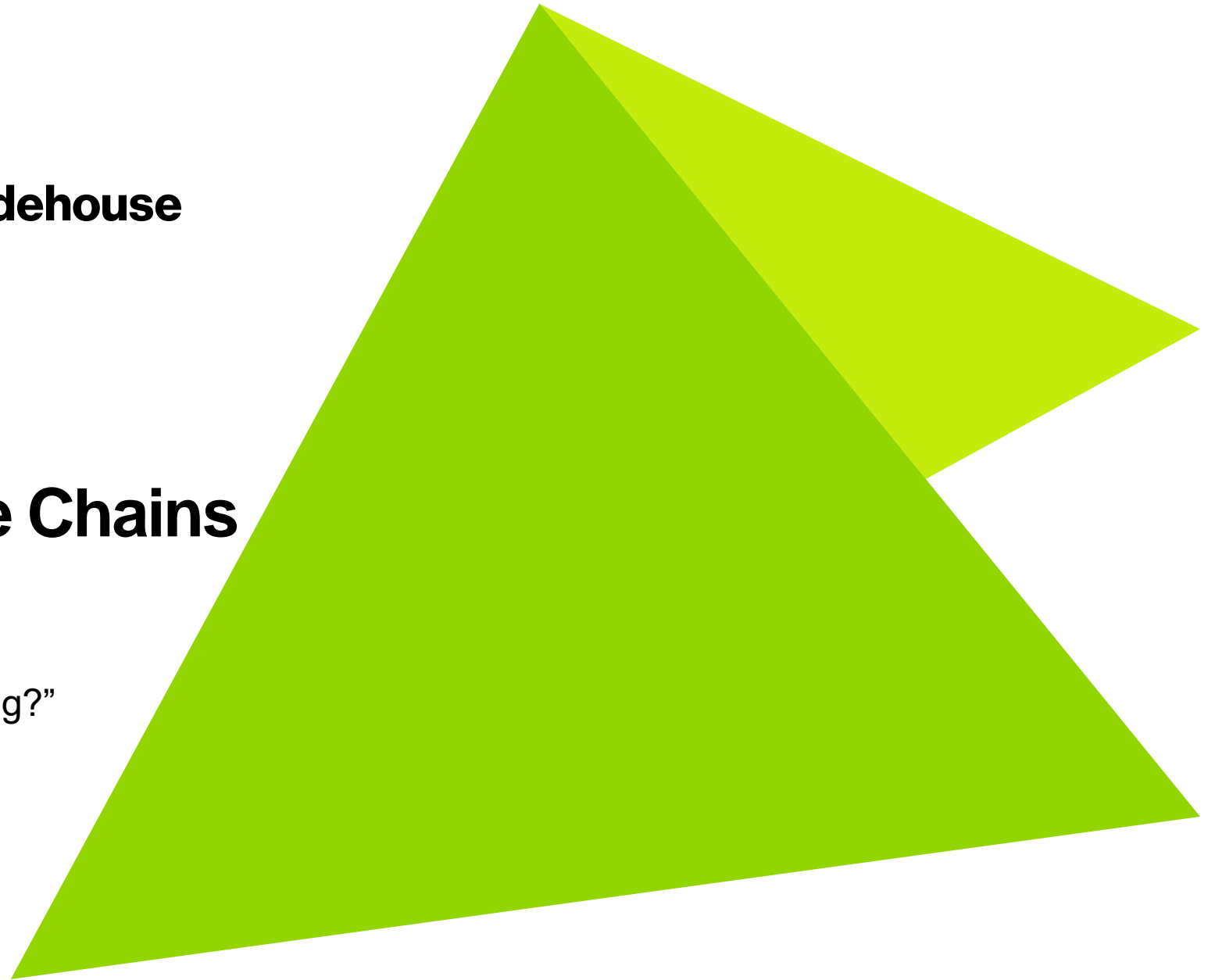


Seizing Low-carbon Opportunities in Value Chains

Part 2 of the Webinar Series
“What is Next for Internal Carbon Pricing?”

7 May 2020



Webinar agenda

Ian Trim
Director
Guidehouse



2'

Welcome



Alison Paton
Associate
The Generation Foundation



5'

Carbon Pricing
Unlocked



Aditi Maheshwari
Senior Operations Officer
IFC / CPLC



12'

Carbon pricing in
the construction
value chain



Long Lam
Managing Consultant
Guidehouse



12'

Internal Carbon
Pricing for Seizing
Low-carbon
Opportunities



Ashley Orgain
Global Director Advocacy
& Sustainability
Seventh Generation



12'

Seventh Generation's
Self-imposed Carbon
Tax



Use the chat box to
type your question



14'

Moderated
Q&A



Alison Paton
Associate

generation—
foundation

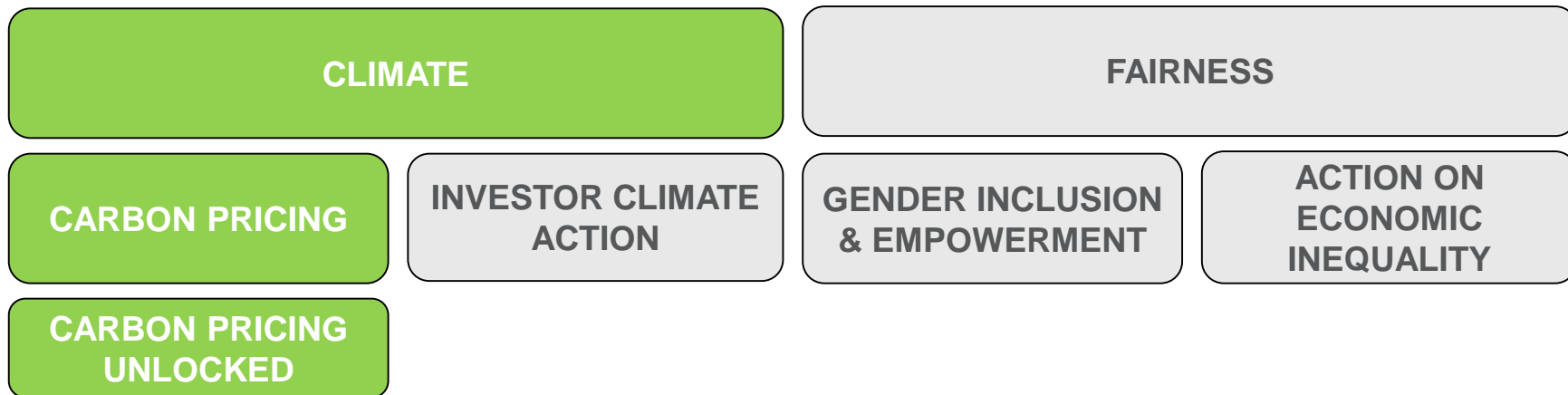
**Carbon Pricing
Unlocked**

About us

The Generation Foundation is the philanthropic initiative established alongside Generation Investment Management in 2004. Our aim is to accelerate the transition to a more sustainable economic system, one that is low-carbon, prosperous, healthy, safe and fair.



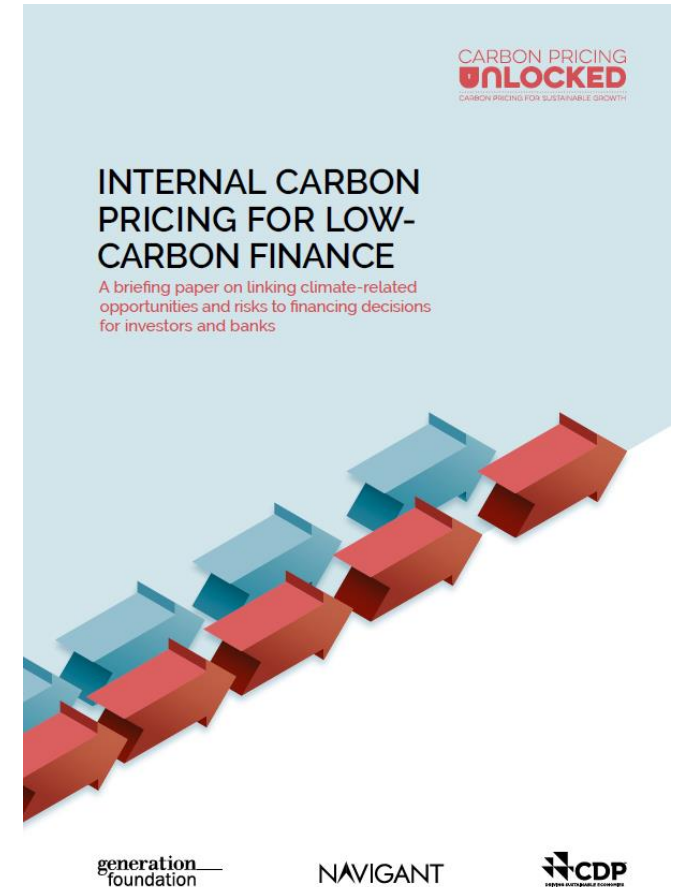
Our priorities:



Carbon Pricing Unlocked

- **Carbon prices are currently set far too low** to meet the goals of the 2015 Paris Agreement – yet carbon pricing has the potential to drive sweeping changes throughout the real economy.
- Carbon Pricing Unlocked is a series of **five actionable research papers**, examining the power of carbon pricing to decarbonise key aspects of the real economy.
- **The next ten years will be crucial** for the transition to a sustainable, low-carbon economy. We are focused on achieving an adequate carbon price in major markets which is why we partnered with Navigant / Guidehouse to create Carbon Pricing Unlocked.

generation
foundation



Other papers in the Carbon Pricing Unlocked series:

generation foundation

CARBON PRICING UNLOCKED
CARBON PRICING FOR SUSTAINABLE GROWTH

IMPACTS OF A GLOBAL CARBON PRICE ON CONSUMPTION AND VALUE CREATION

Implications for carbon pricing design

generation foundation ECOFYS NTNU

CARBON PRICING UNLOCKED
CARBON PRICING FOR SUSTAINABLE GROWTH

C-SUITE GUIDE TO INTERNAL CARBON PRICING

Toolbox for Creating Corporate Value

Identify the internal carbon pricing (ICP) approaches you could use for your company with the diagram below. Multiple approaches might be suitable. Start with the major climate-related trend you would like to take action on and move down the diagram.

generation foundation ECOFYS CDP

CARBON PRICING UNLOCKED
CARBON PRICING FOR SUSTAINABLE GROWTH

HOW-TO GUIDE TO CORPORATE INTERNAL CARBON PRICING

Four Dimensions to Best Practice Approaches

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CARBON PRICING UNLOCKED
CARBON PRICING FOR SUSTAINABLE GROWTH

INTERNAL CARBON PRICING FOR FUTURE-PROOF SUPPLY CHAINS

Nine approaches for low-carbon procurement and supply chain management

CARBON PRICING UNLOCKED
CARBON PRICING FOR SUSTAINABLE GROWTH

RAISING THE ACCEPTABILITY AND EFFECTIVENESS OF CARBON PRICING

The crucial role of carbon revenue recycling

generation foundation NAVIGANT

CARBON PRICING UNLOCKED
CARBON PRICING FOR SUSTAINABLE GROWTH

INTERNAL CARBON PRICING FOR LOW-CARBON FINANCE

A briefing paper on linking climate-related opportunities and risks to financing decisions for investors and banks

generation foundation NAVIGANT CDP

CARBON PRICING UNLOCKED
CARBON PRICING FOR SUSTAINABLE GROWTH

INTERNAL CARBON PRICING FOR FUTURE-PROOF SUPPLY CHAINS

Nine approaches for low-carbon procurement and supply chain management

generation foundation NAVIGANT A Guidehouse Company

generation foundation

NAVIGANT
A Guidehouse Company



Aditi Maheshwari
Senior Operations Officer



Carbon Pricing in the Construction Value Chain

CARBON PRICING IN THE CONSTRUCTION VALUE CHAIN



Creating Markets, Creating Opportunities

Aditi Maheshwari
Climate Business Department

7 May 2019

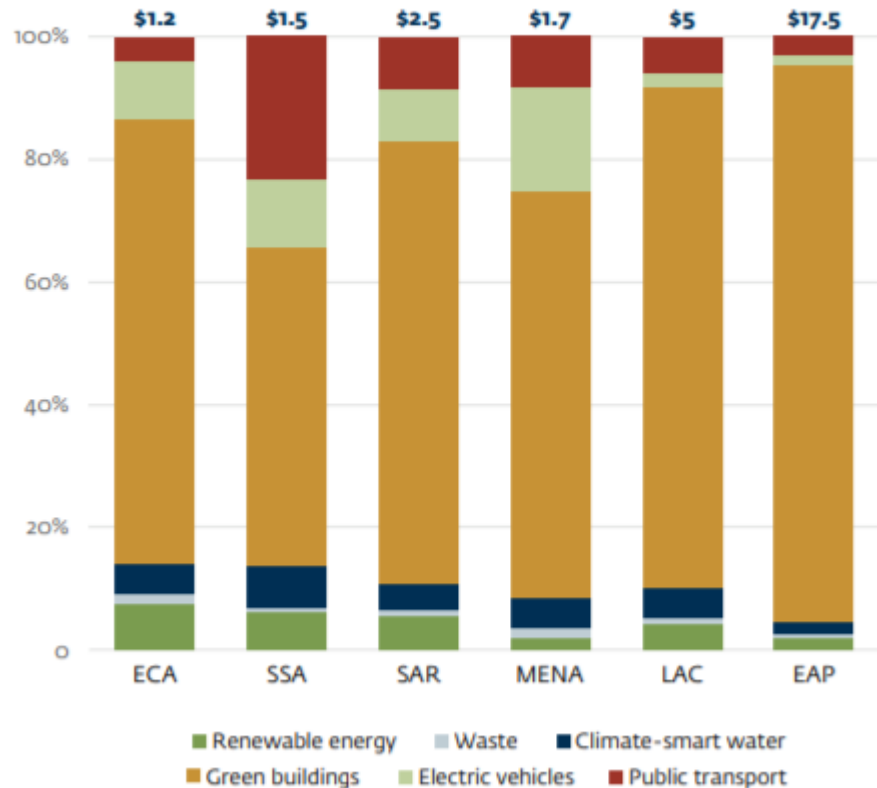
What is the CPLC?

- A high-level, public-private platform launched at COP21 in Paris
- 165+ global and regional **businesses**, 34 **governments** and 85+ **strategic partners**
- **Objective:** work together to accelerate the uptake of well-designed carbon pricing to address climate change efficiently by:
 - Shaping carbon pricing policies to redirect investment towards lower-carbon alternatives
 - Strengthening the implementation of existing carbon pricing policies to better manage investment risks and opportunities
 - Sharing information, expertise, and lessons learned on developing and implementing carbon pricing



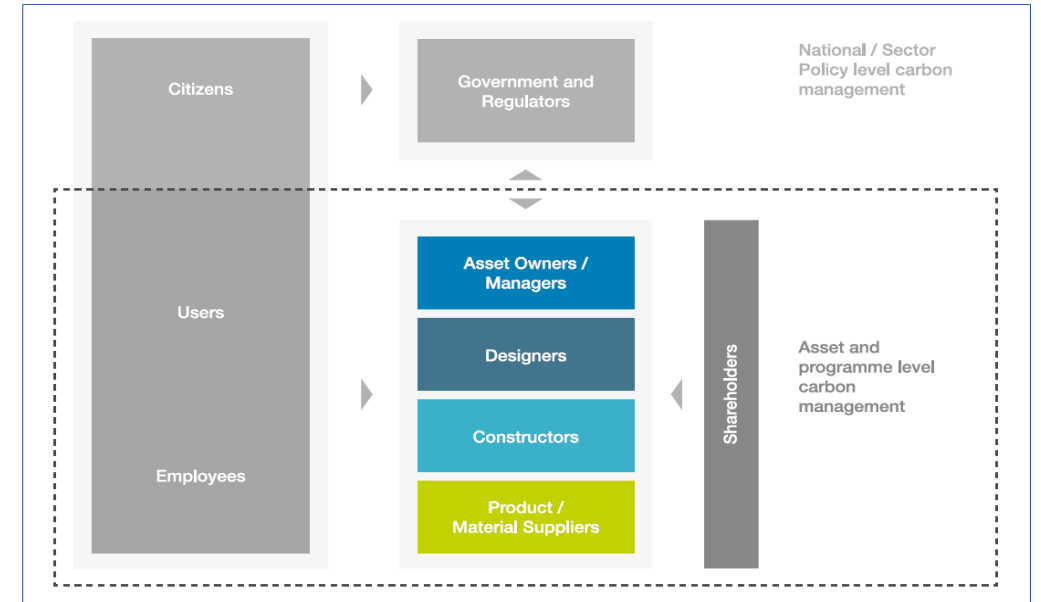
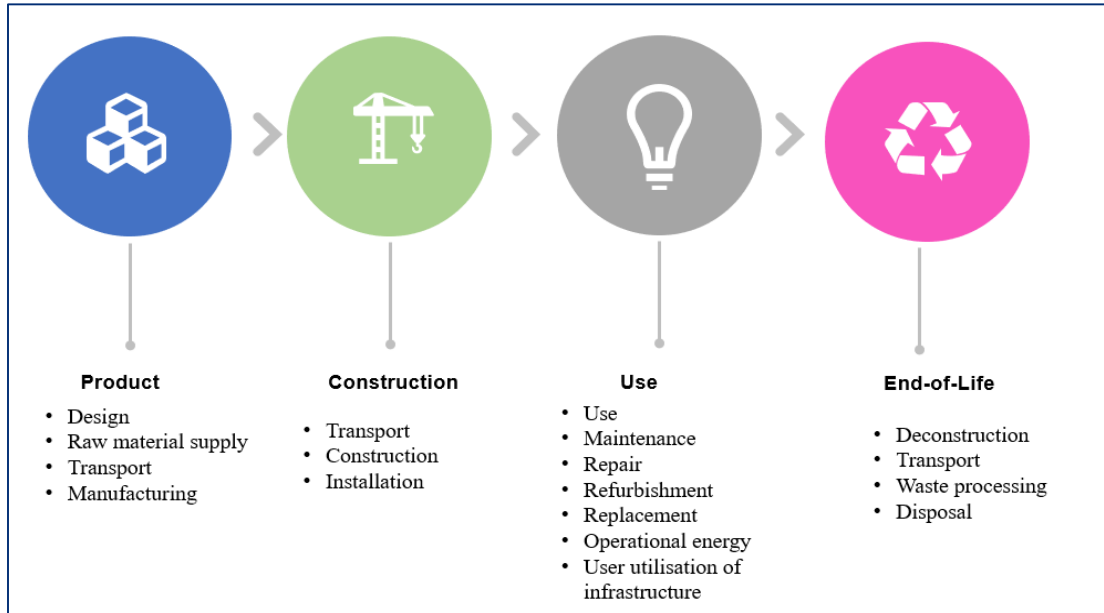
Investment potential of almost \$25 trillion in green buildings in emerging market cities to 2030

\$29.4 Trillion Climate Investment Opportunity in Cities by Region (\$ trillion)



- Expected construction demand creates an **opportunity to green future construction**
- CPLC’s CVC Task Team worked on this agenda through:
 - Report that defined the CVC & interviewed CPLC CVC partners to understand concerns & experiences with carbon pricing
 - Analysis that explored adjusting existing carbon pricing mechanisms to the CVC to develop an integrated carbon pricing approach and reduce industry-wide emissions

Defining the Construction Value Chain



- **No standard industry definition of the construction value chain**
- **Multiple actors responsible for carbon management**
- **Fragmented approach to carbon emissions reductions**

In 2017, almost 1,400 companies used an internal carbon price or planned to within 2 years

- Carbon pricing gives an **economic signal which can be factored into investment decisions** and incentivizes emitters to find lower-carbon alternatives in order to reduce costs.
- We interviewed **12 companies from sectors across the CVC**, including aluminum, cement, glass, steel, infrastructure, construction services, & equipment manufacturing revealing **common concerns & experiences** with carbon pricing
- **Approaches to implementing an internal carbon price include:**
 - Shadow price
 - Implicit price
 - Internal tax, explicit price, or carbon fee



Raw Materials & Manufactured Products



(India)

- \$11/tCO₂ shadow price applied on low-return projects with long payback periods; target: carbon negative by 2040
- Piloted on a 9.2 MW waste-heat-recovery plant



(France)

- 2 parallel carbon prices:
 - €30/tCO₂ applicable to Scope 1, 2 emissions for capital expenditure projects & energy-related investments;
 - €100/tCO₂ applicable to Scope 1, 2, 3 emissions for R&D projects
- Projects structured so that their payback accounts for the carbon price



(Russia)

- \$20/CO₂ applied to new project's financial models to assess carbon risk exposure & influence investment decision-making
- Price levels higher than EU ETS, used to evaluate strategic decisions like expansion, acquisitions, new buildings, divestments

Raw Materials & Manufactured Products



SIEMENS

(Germany)

- Developed a framework and initiated activities towards applying an internal carbon price across operations
- Identified 4 pillars to halve carbon footprint by 2020 & become climate neutral by 2030, including activities that have a price premium as an implicit cost for carbon reduction



CEMEX

(Mexico)

- \$30/tCO₂ in planning exercises for risk management to understand exposure to carbon risk, applied to Scope 1
- Reducing Scope 2 through multiple initiatives such as use of renewable energy; asking suppliers to follow a Sustainability Code for Scope 3



LH

LafargeHolcim
(France/
Switzerland)

- \$31.19/tCO₂ applied to operations in jurisdictions with existing or upcoming carbon tax
- This price generates an internal P/L statement to simulate LH's impact on triple bottom-line: people, profit, planet

Construction Services



(Canada)

- Developing a Carbon Accounting Tool to track new building & retrofit lifecycle emissions from design to operation
- Working with governments, companies, and coalitions to advance carbon pricing & carbon neutrality agendas



(United Kingdom)

- Coauthored world's 1st carbon management standard for infrastructure
- Clients are looking for clarity on how to measure Scope 3 emissions and implement TCFD recommendations for scenario analysis
- Working with FSB on TCFD to create greater transparency for investors, insurers, and other actors on carbon exposure and risk

Project Developers & Construction Equipment



- Carbon neutral in Scope 1 and 2 since 2016, intending to continue reductions as per SBTs
- Carbon pricing since 2008; additional shadow price since 2015 for new & future investments to assess & mitigate climate risk; internal offset price in 2016 to ensure compliance with carbon neutrality objective



- \$23/tCO₂ shadow price since 2017 applied on operation of 3 Paris airports to encourage low-carbon decisions & operational efficiency
- Applicable to projects with energy impact, currently for energy efficiency but discussing application to construction of projects

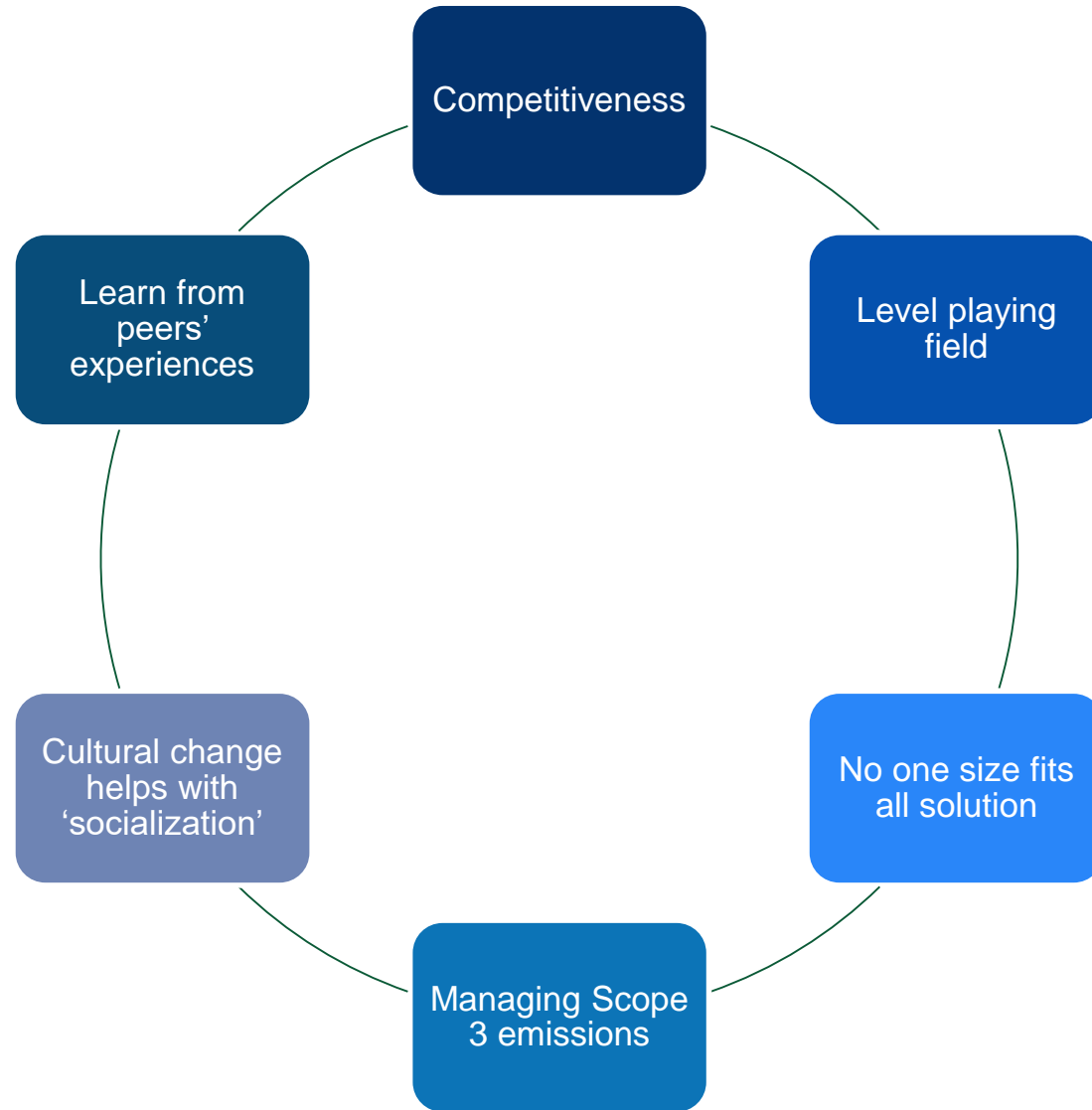


- Hybrid shadow and explicit pricing in automobile activities under consideration for replication in construction activities
- Current price determined as abatement cost for emissions that will have a material impact on decision making

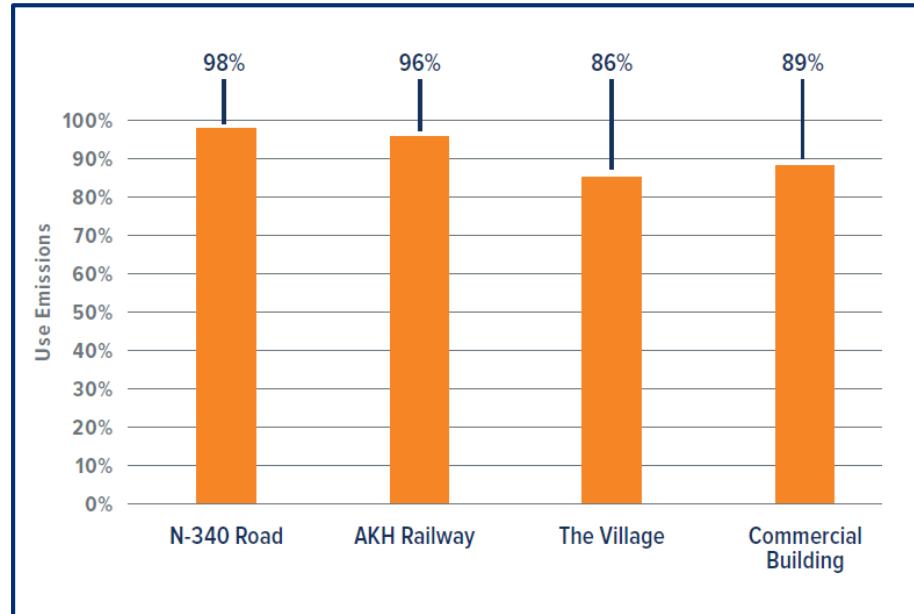


- Tata Steel: \$15/tCO₂ calculated by estimating investment required to meet emissions targets
- Projects evaluated on 2 IRRs, judged on a per-case basis at board level
- Tata Group-wide guidance for carbon pricing with price levels and structure to be reevaluated after 2020

Key Findings & Common Concerns



Target Lifecycle Phases for Carbon Pricing

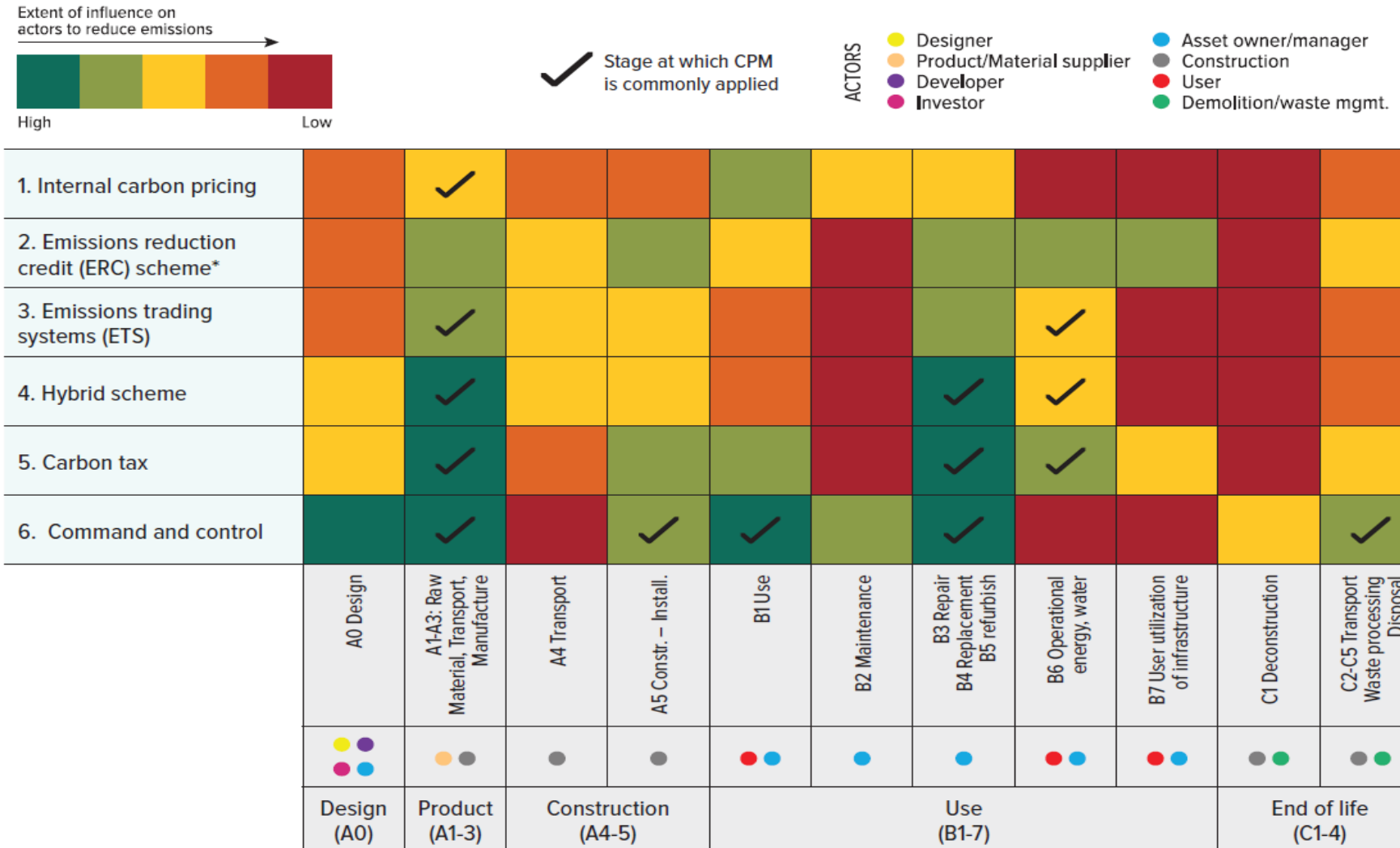


- 2 stages with highest emissions: Use and Raw Materials.

- Existing carbon pricing mechanisms tend to be applied to carbon-intensive production activities including those related to cement & concrete

- To reduce total emissions, carbon pricing should focus on the early stages of project-making.

Where to Apply Carbon Pricing Along the Construction Value Chain



*An ERC scheme often requires the sustainability of the whole project to be evaluated, which is why a CPM is not placed on one particular stage.

Aligning the Construction Value Chain



- Early stage decisions on design and materials can impact emissions at use and decrease total lifecycle emissions.
- Sustainable products and materials already exist, including green cement.
- Increasingly alignment will create demand-side incentives.
- Stakeholder collaboration along the value chain is essential.

THANK YOU

Aditi Maheshwari: amaheshwari@ifc.org

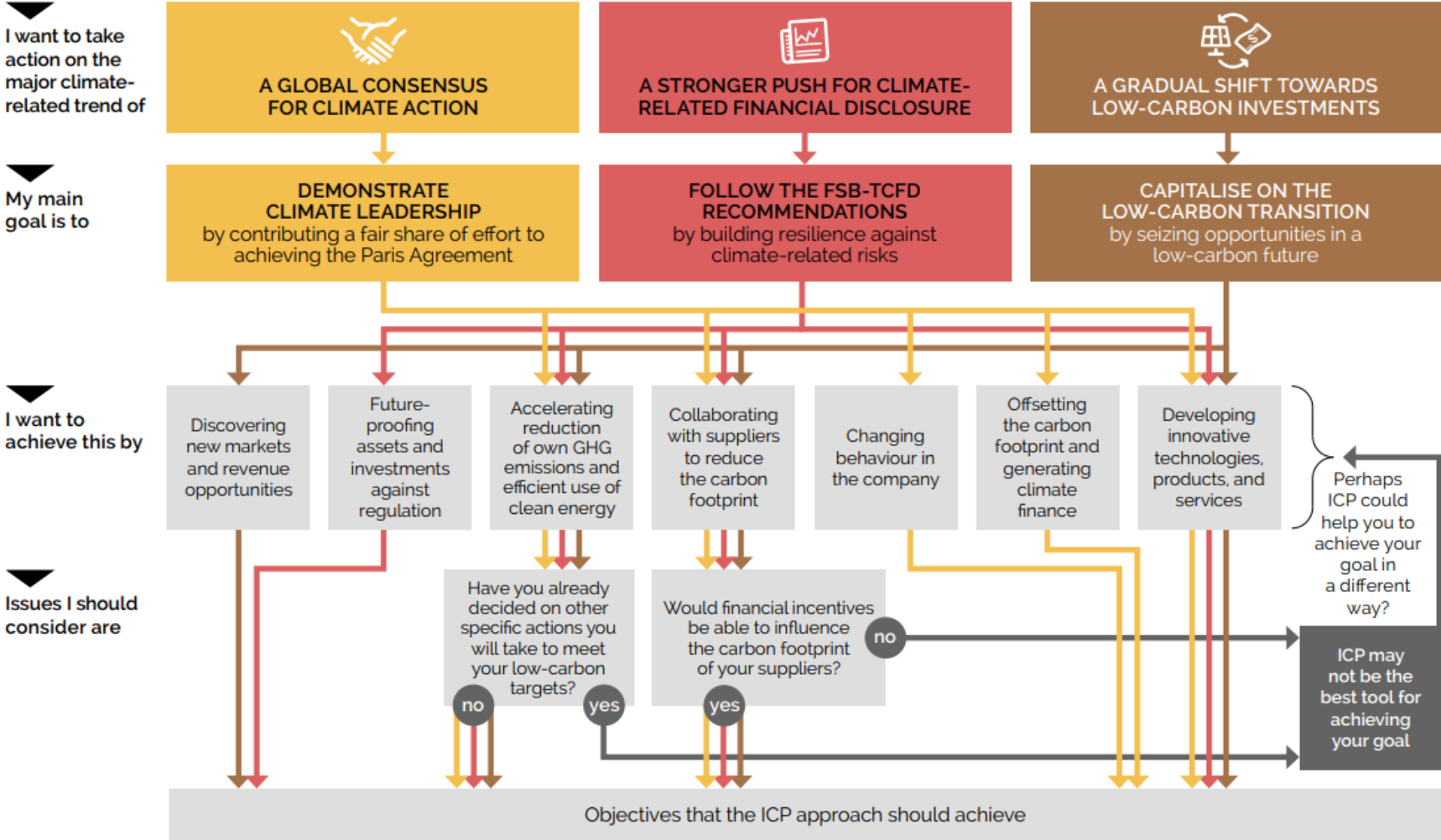


Long Lam
Managing Consultant



Internal Carbon Pricing for Seizing Low-carbon Opportunities

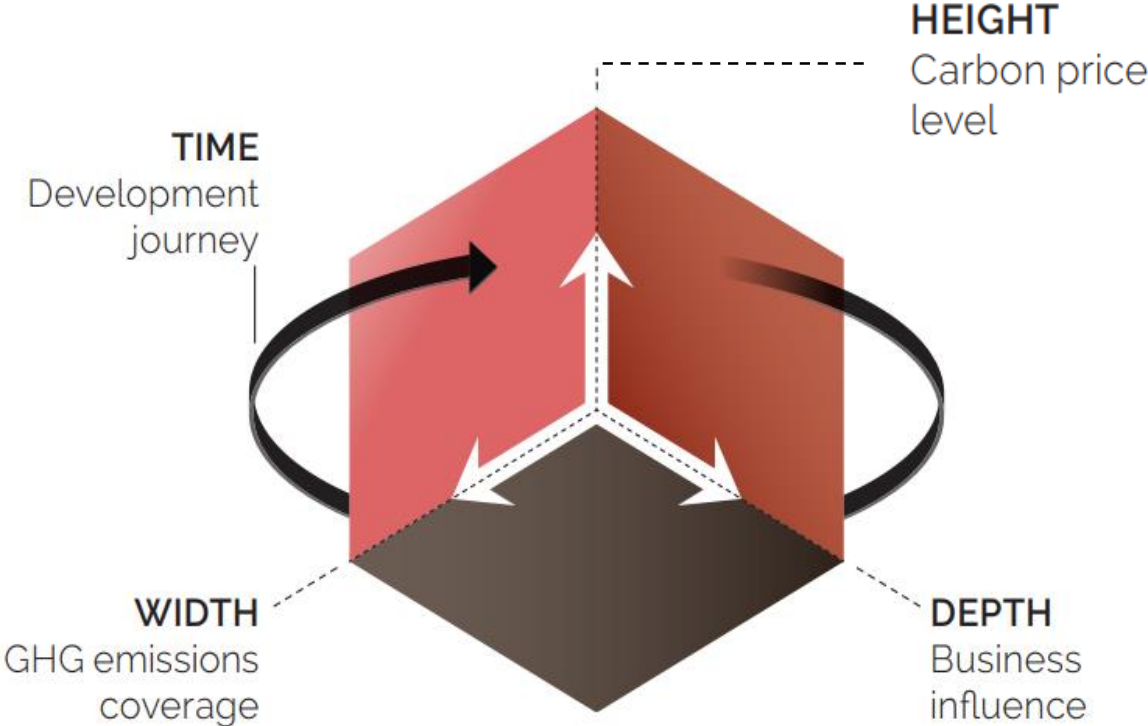
Clear objectives are the foundation for every ICP approach



Source: Guidehouse, The Generation Foundation and CDP. 2017. C-suite Guide to Corporate Internal Carbon Pricing.

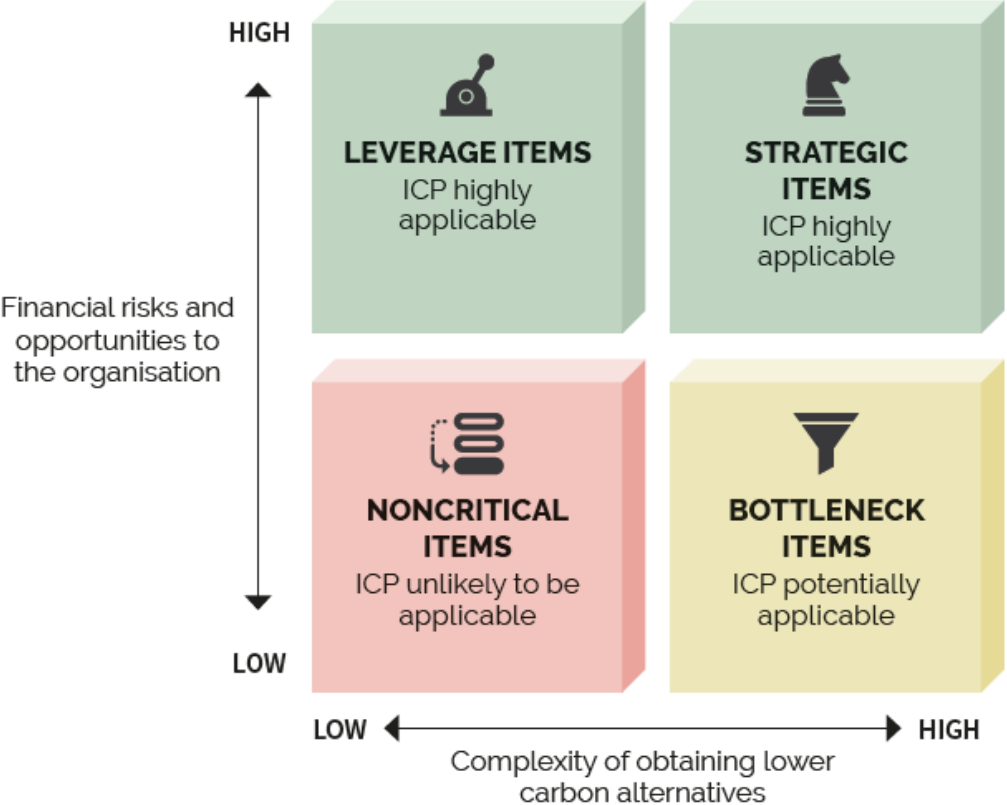
New tools developed under CPU to advance ICP

4D Framework for Best Practice Internal Carbon Pricing



Source: Guidehouse, The Generation Foundation and CDP. 2017. C-suite Guide to Corporate Internal Carbon Pricing.

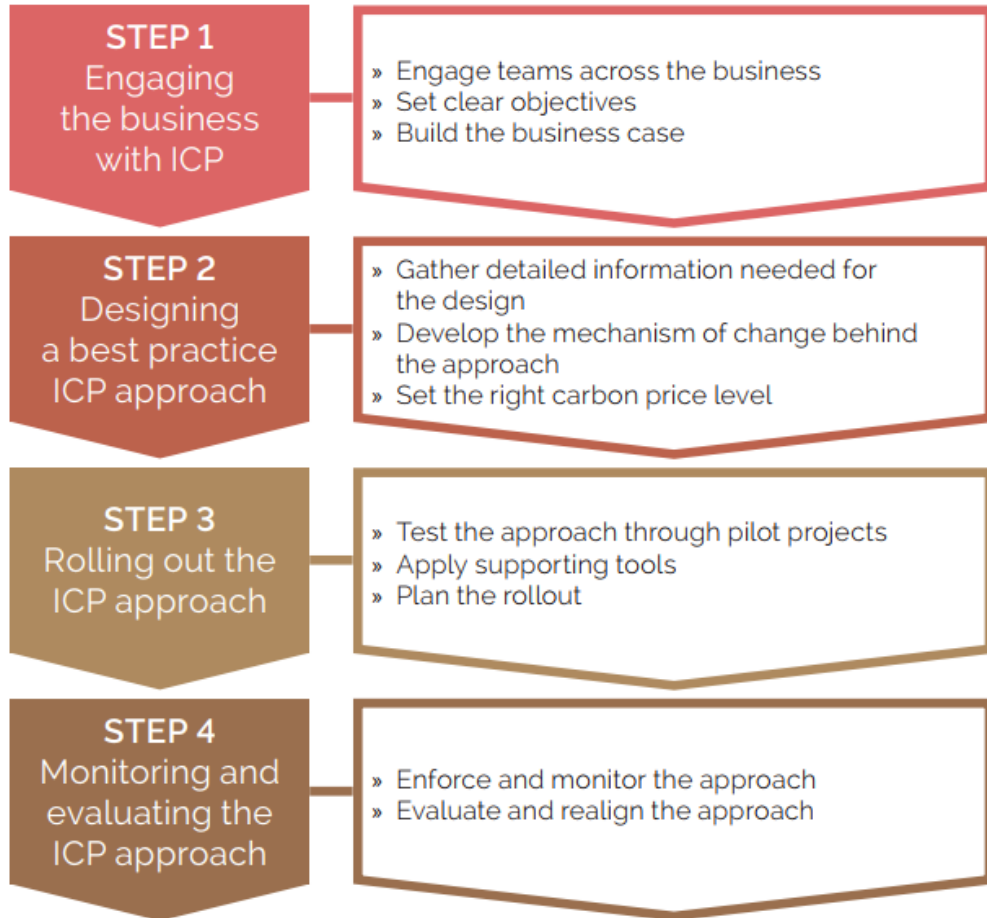
ICP-adapted Kraljic Matrix for Low-carbon Procurement



Source: Guidehouse and The Generation Foundation. 2020. Internal Carbon Pricing for Future-proof Supply Chains.

Common pitfalls and lessons learnt from ICP programmes

Four steps to establishing an ICP programme



Common barriers and pitfalls

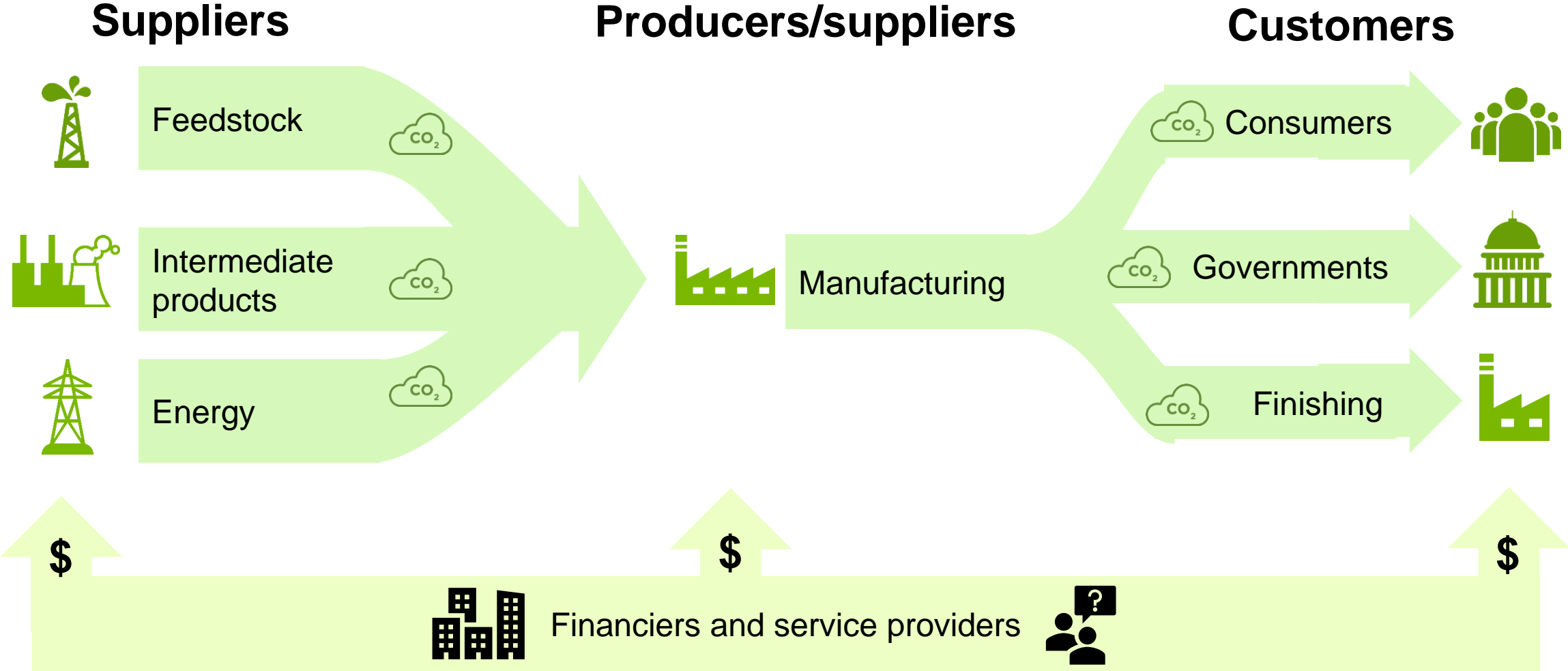
- Unclear objectives
- Not involving decision makers or other departments
- ICP is not made a priority

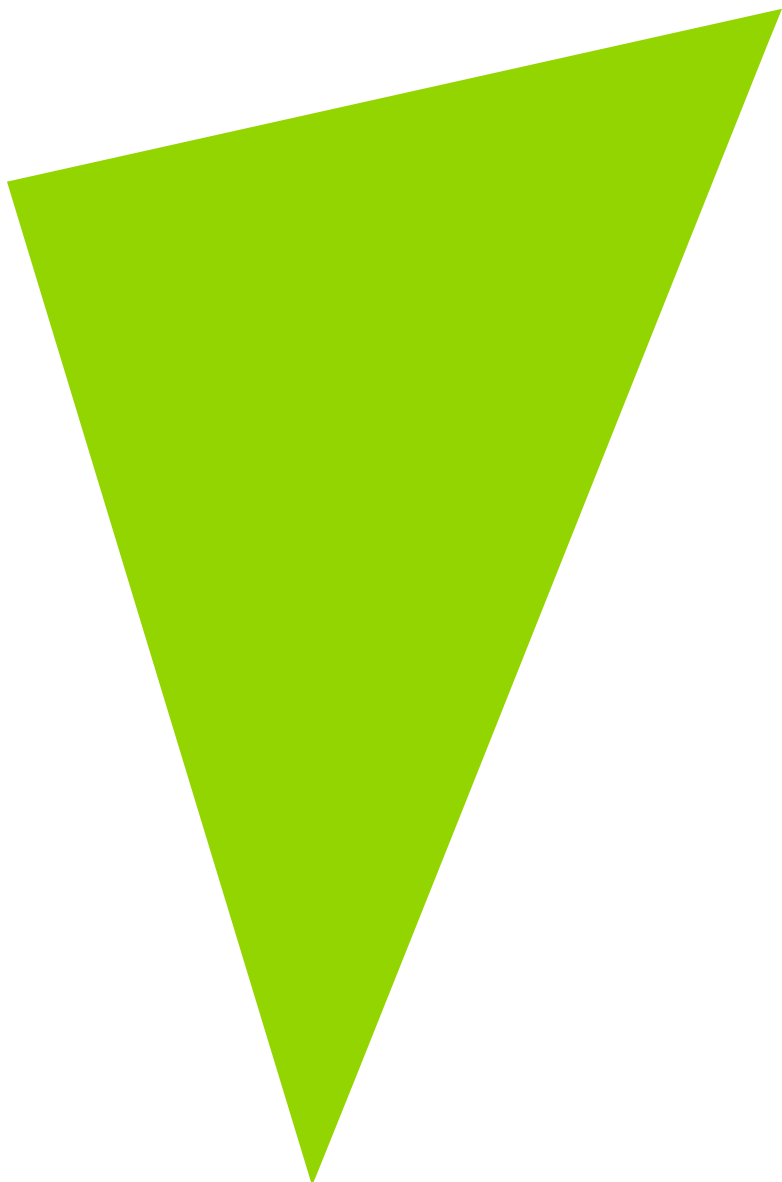
- Strong focus on the carbon price
- Complex design
- Design not tailored to internal capabilities

- Selecting the wrong departments for roll-out
- Drowned in other internal communication
- Lack of guidance and implementation support

- Lack of monitoring
- No channels for feedback
- No plan for updating the ICP programme

Opportunities for ICP throughout the value chain





Ashley Orgain
Global Director Advocacy
& Sustainability



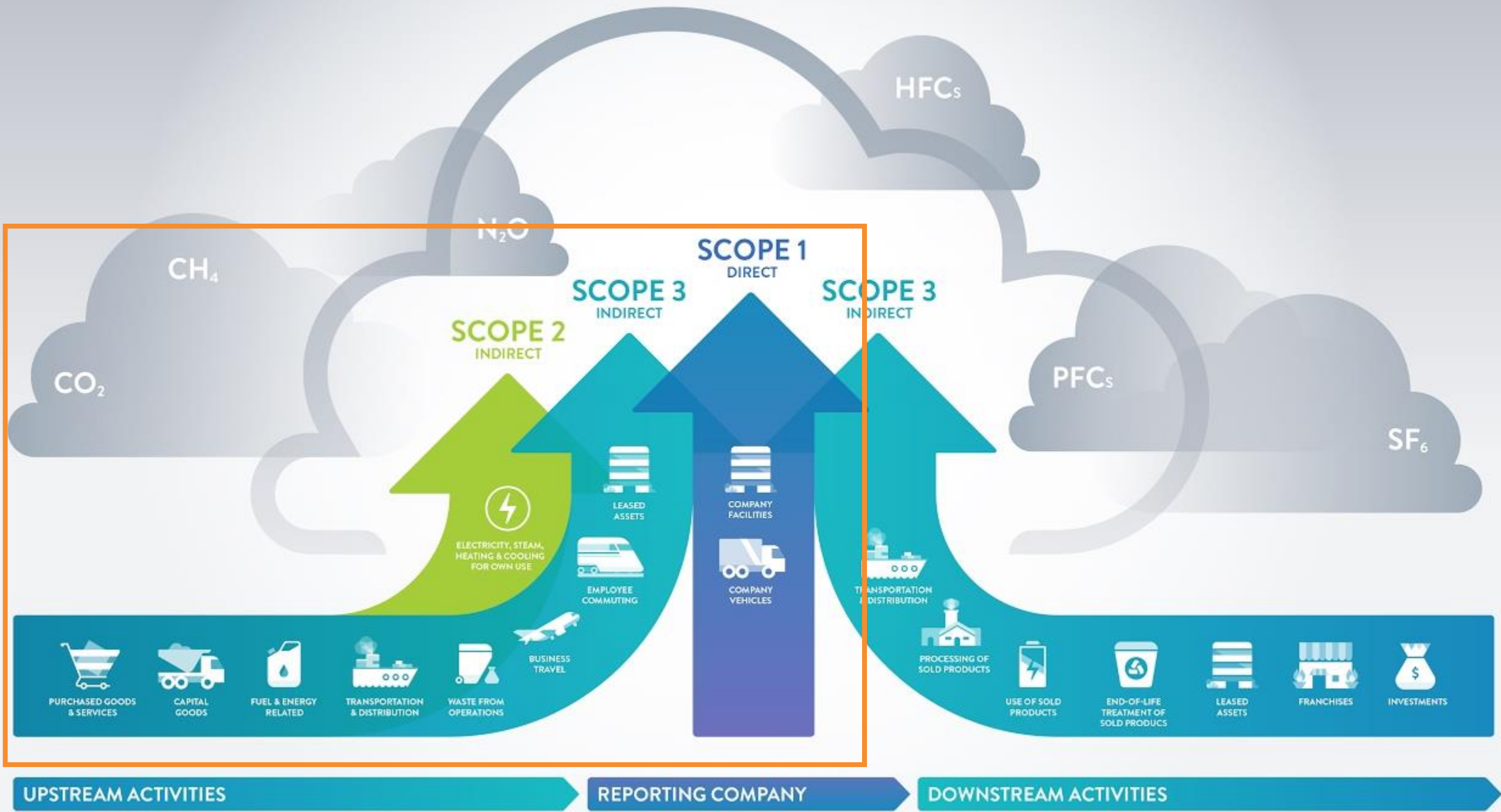
Seventh Generation's Self-imposed Carbon Tax



Nice to Meet You

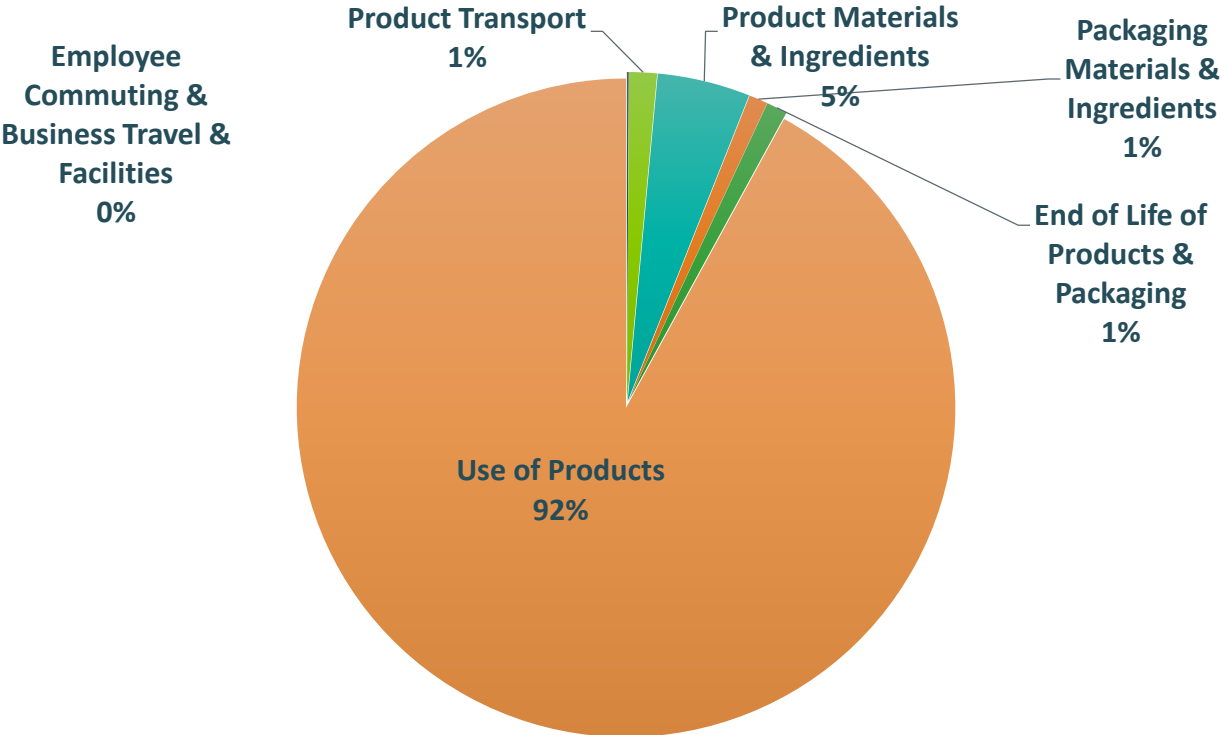


to transform the world into
**A HEALTHY, SUSTAINABLE,
& EQUITABLE PLACE**
for the next seven generations

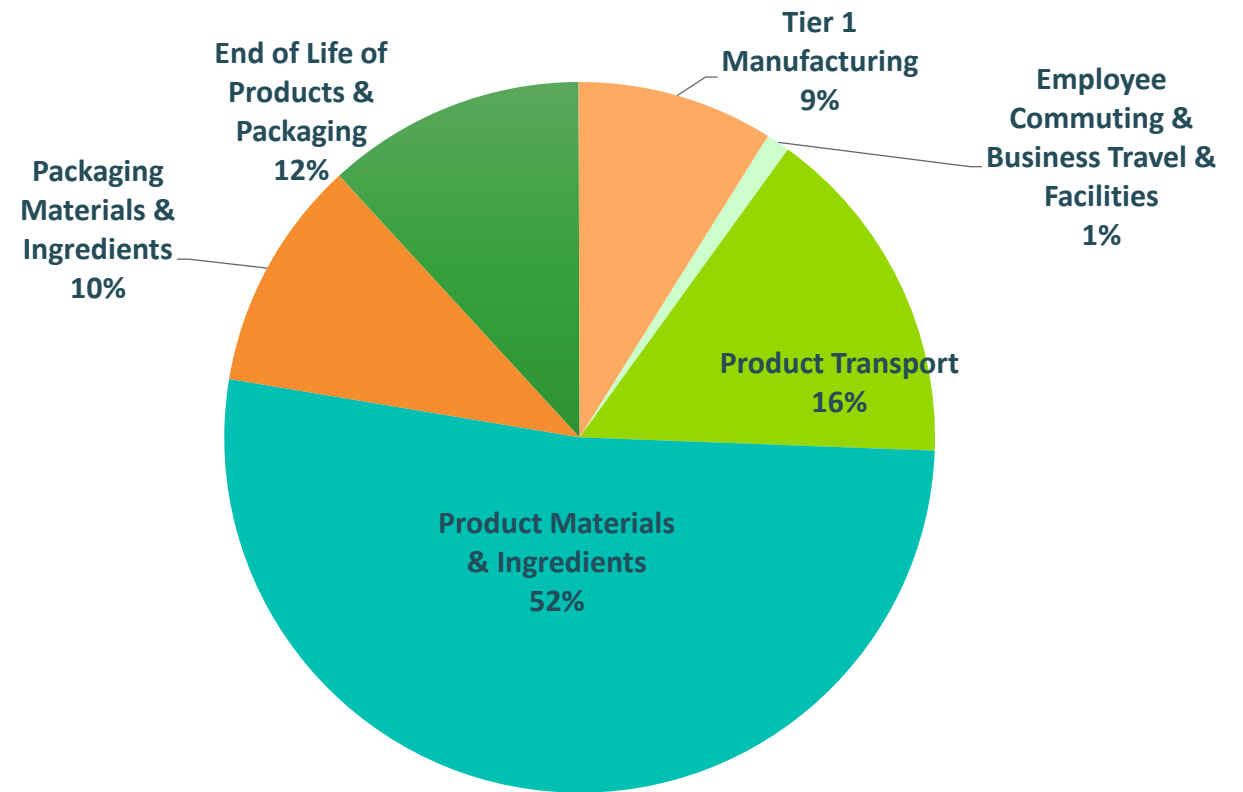


Our Carbon Footprint = 1,200,000 MT/Year

The equivalent annual emissions of Germany



Take out Washing and Drying, Our Carbon Footprint = 104,638 MT/Year





SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

We've established an industry-leading Science Based target that calls for Seventh Generation to reduce absolute GHG emissions from product use 90% from a 2012 base year

And we commit to reduce all other scope 3 emissions 80% by 2030 from a 2012 base year.

Meeting our Audacious Goal

MAKING PRODUCTS

- 1) Execute real projects that reduce/eliminate the GHG from making our products (Palm alternatives, electric transportation)
-

USING PRODUCTS

The only way to address our impact is to expedite transition to 100% clean energy. We will:

- 1) Advocate for systemic policy solutions that transform the energy grid to 100% clean
- 2) Invest to clean up the energy grid so that people are drawing on clean energy, without emissions, for their usage.

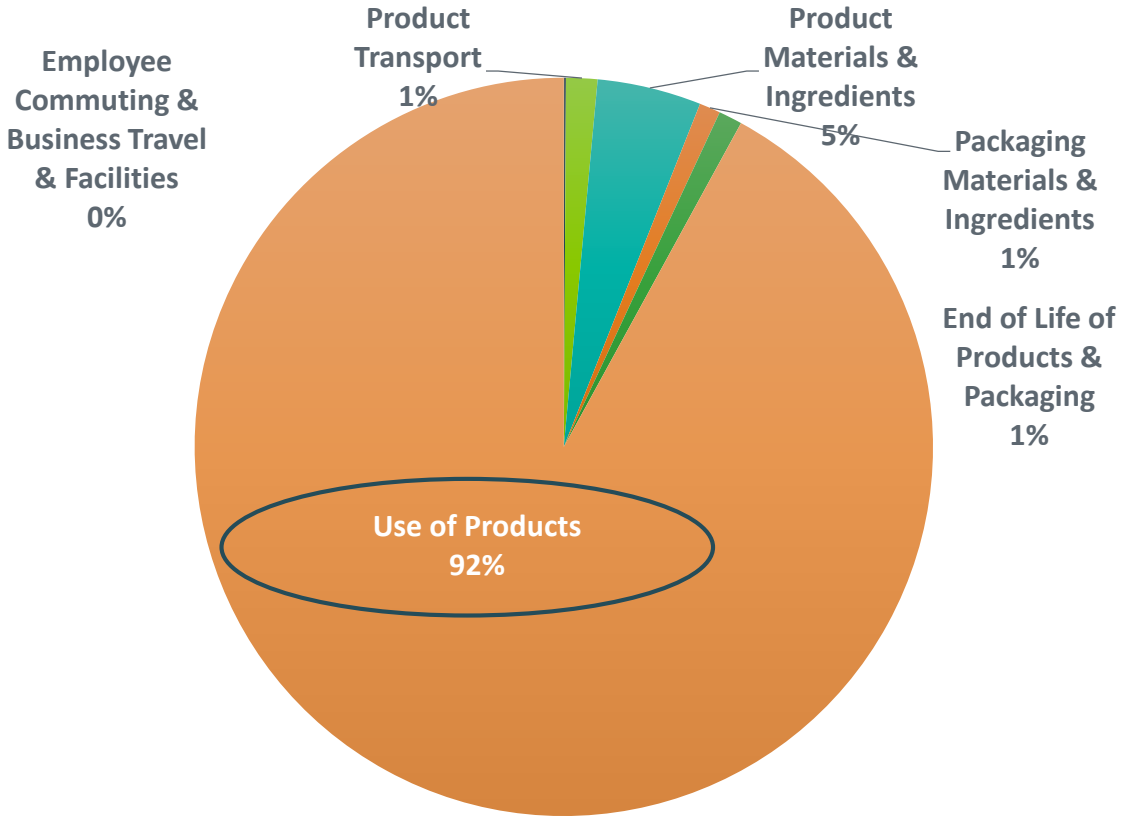


Using Carbon Tax as a Lever

Generated revenue is invested back in the business in order of priority, to maximize GHG reductions.

1. Purchase RECs and renewable natural gas for 60 Lake Street
2. Increase operational efficiencies with Tier 1 Suppliers
3. Drive green energy procurement program with Significant Suppliers
4. Develop significant ingredient improvement projects & impact mitigation projects
5. And, as a last resort, purchase renewable energy credits/certified offsets

There's More to Our Story



Investment Approach

For Scope 3 consumer use, spend is invested in advocacy and Climate Justice Impact Investment Fund to catalyze transition to 100% clean, renewable energy.



**Invest now in solutions that provide a
just and cleaner electricity grid**

In our every deliberation we must consider the impact of our decisions on the next seven generations.

- The Great Law of the Iroquois

We believe strongly that because our name is inspired by The Great Law of the Iroquois Confederacy, we have a duty to live up to our name and more deeply support Native American communities.

Thank you

Ashley Orgain

Global Director Advocacy & Sustainability

Ashley.orgain@seventhgeneration.com

Q&A – use the chat box to type your questions



For all publications under the Carbon Pricing Unlocked partnership, visit <https://guidehouse.com/experience/energy/2018/carbon-pricing-unlocked>

