

# INTERNAL CARBON PRICING FOR FUTURE-PROOF SUPPLY CHAINS

CARBON PRICING UNLOCKED  
PAPER LAUNCH WEBINAR

22 JANUARY 2020

CARBON PRICING  
**UNLOCKED**  
.....  
CARBON PRICING FOR SUSTAINABLE GROWTH

generation\_\_\_\_  
foundation

NAVIGANT  
A Guidehouse Company

Webinar in collaboration with

 **CDP**  
DISCLOSURE INSIGHT ACTION

# WEBINAR AGENDA

## Ian Trim

Director  
Navigant, A Guidehouse  
Company



3'

Welcome



## Grace Eddy

Director  
The Generation Foundation



5'

Carbon Pricing  
Unlocked



## Nicolette Bartlett

Global Director,  
Climate Change  
CDP



10'

Internal carbon  
pricing and supply  
chains



## Long Lam

Managing Consultant  
Navigant, A Guidehouse  
Company



13'

ICP for future-  
proof supply  
chains  
Paper highlights



## Daði Sverrisson

Project Manager for  
Internal Carbon Pricing  
Landsvirkjun



15'

Landsvirkjun's  
Internal Carbon Price  
Path to Carbon  
Neutrality in 2025



Use the chat box to  
type your question



14'

Moderated  
Q&A



**Grace Eddy**

Director

**generation**\_\_\_\_  
**foundation**

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## 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:

**CLIMATE**

**FAIRNESS**

**CARBON PRICING**

**INVESTOR CLIMATE  
ACTION**

**GENDER INCLUSION  
& EMPOWERMENT**

**ACTION ON  
ECONOMIC  
INEQUALITY**

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## 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.
- Companies and governments can play a key role in the transition to a low-carbon economy by **demanding products with a lower carbon footprint from suppliers**.
- **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 to create Carbon Pricing Unlocked.

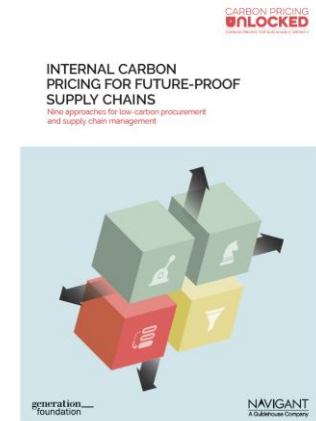
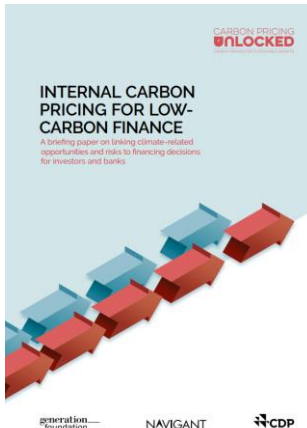
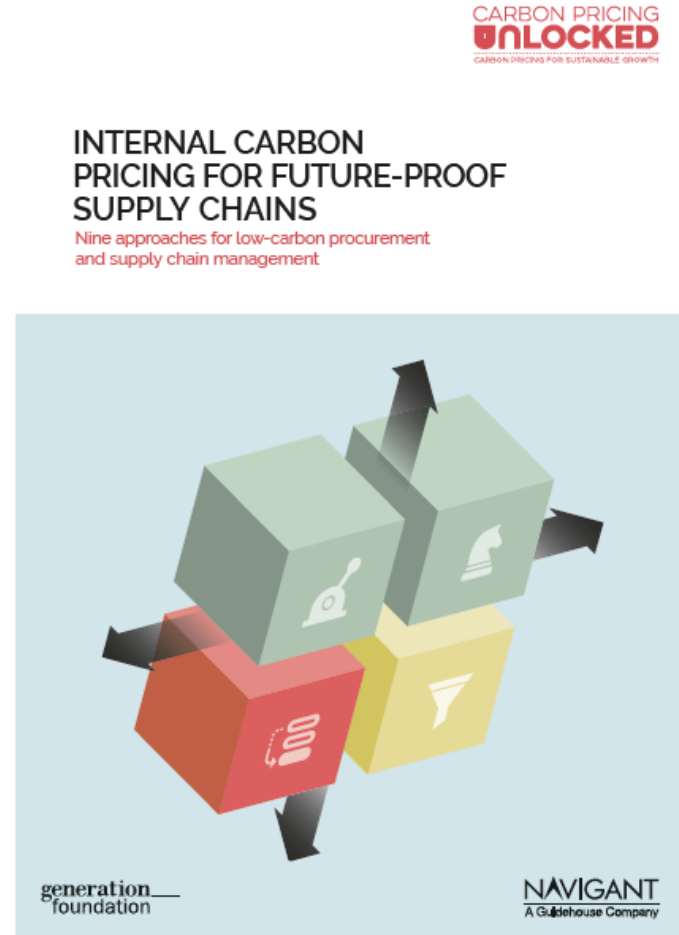
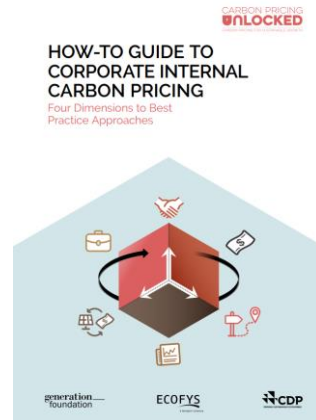
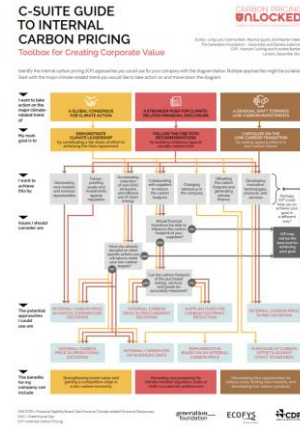
CARBON PRICING  
**UNLOCKED**  
CARBON PRICING FOR SUSTAINABLE GROWTH

### INTERNAL CARBON PRICING FOR FUTURE-PROOF SUPPLY CHAINS

Nine approaches for low-carbon procurement  
and supply chain management



## Other papers in the Carbon Pricing Unlocked series:





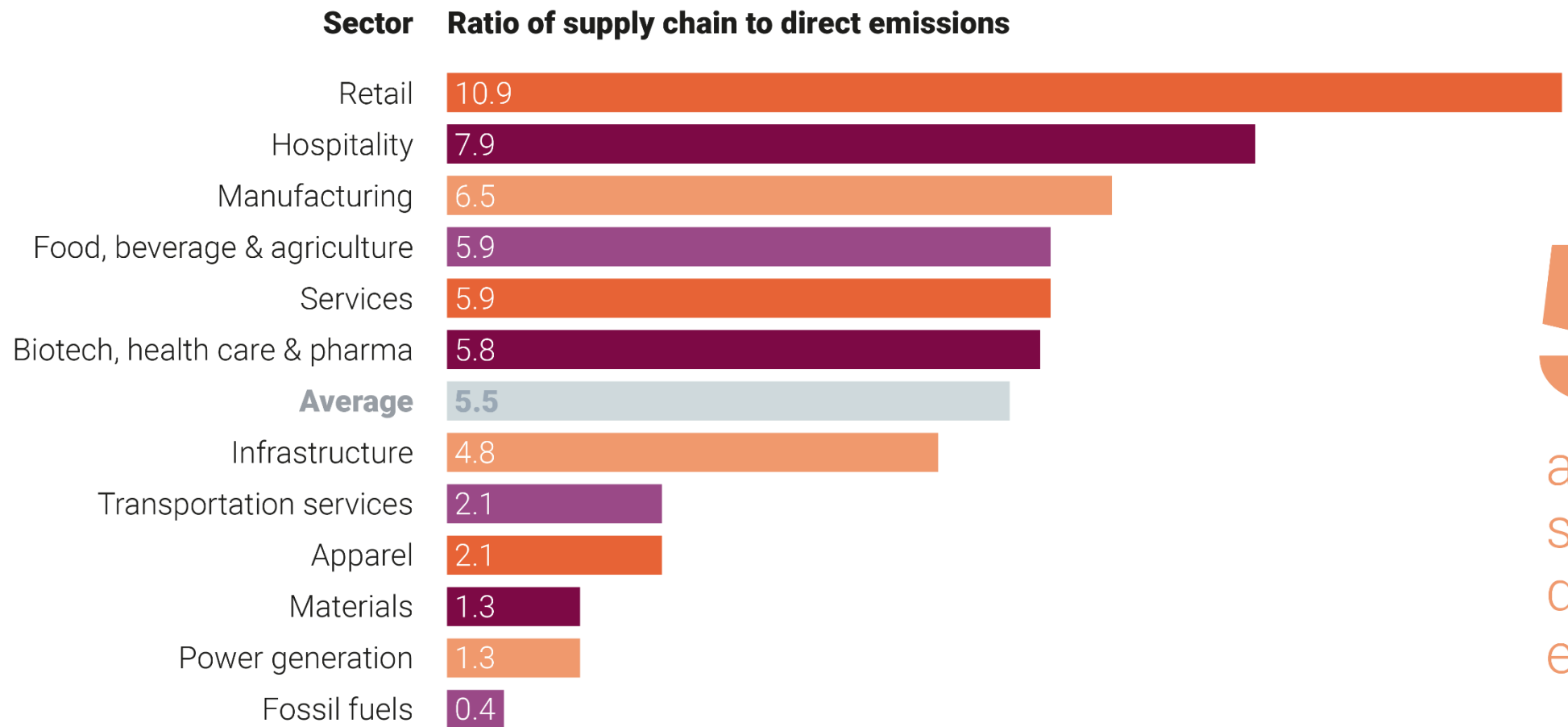
**Nicolette Bartlett**

Global Director, Climate Change



## INTERNAL CARBON PRICING AND SUPPLY CHAINS

# Supply chain emissions reduction is a key opportunity



5.5:1

average ratio of  
supply chain to  
direct carbon  
emissions

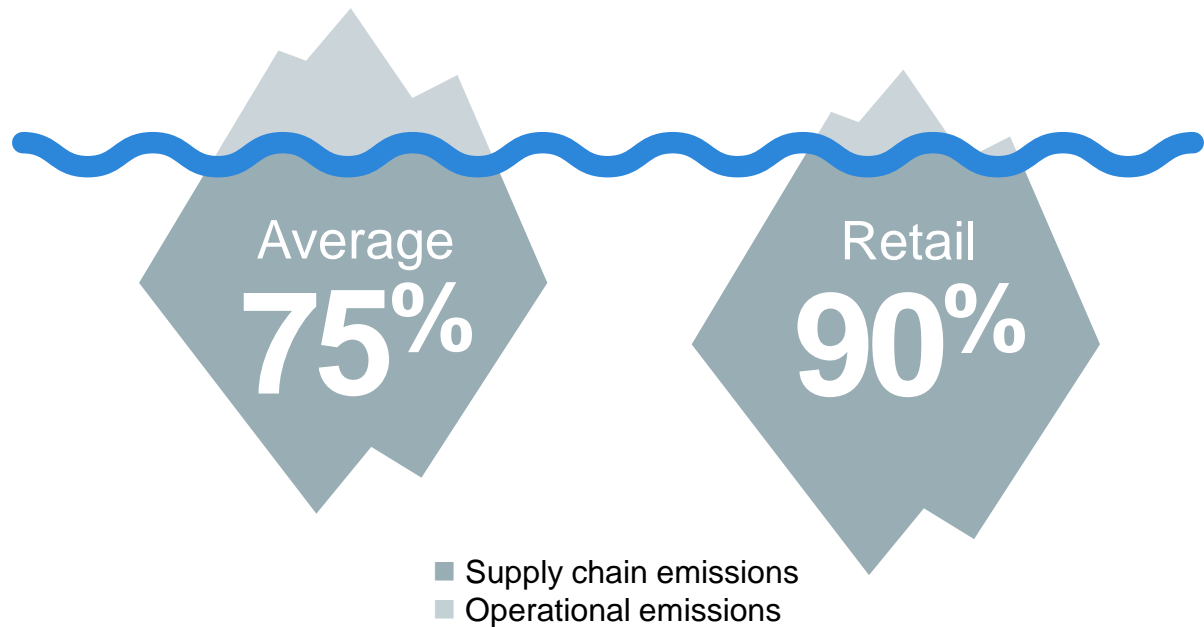


# THE BUSINESS CASE FOR SUPPLIER ENGAGEMENT



Why it's important to your business

- Supply chain emissions are typically **five and a half** times higher than a company's direct emissions, and up to 90% in certain sectors.



- In 2019 suppliers reported combined annual Scope 1 and 2 emissions of **7,976 MtCO<sub>2</sub>e**, an amount greater than the annual greenhouse gas emissions of the United States and Canada combined
- A total of **US\$20.2 billion** has been reported in monetary savings in 2019. This highlights the increasingly strong business case for companies to take action on climate change.
- However only **29%** of suppliers reported absolute decreases in emissions

# The cascade... driving action throughout the value chain

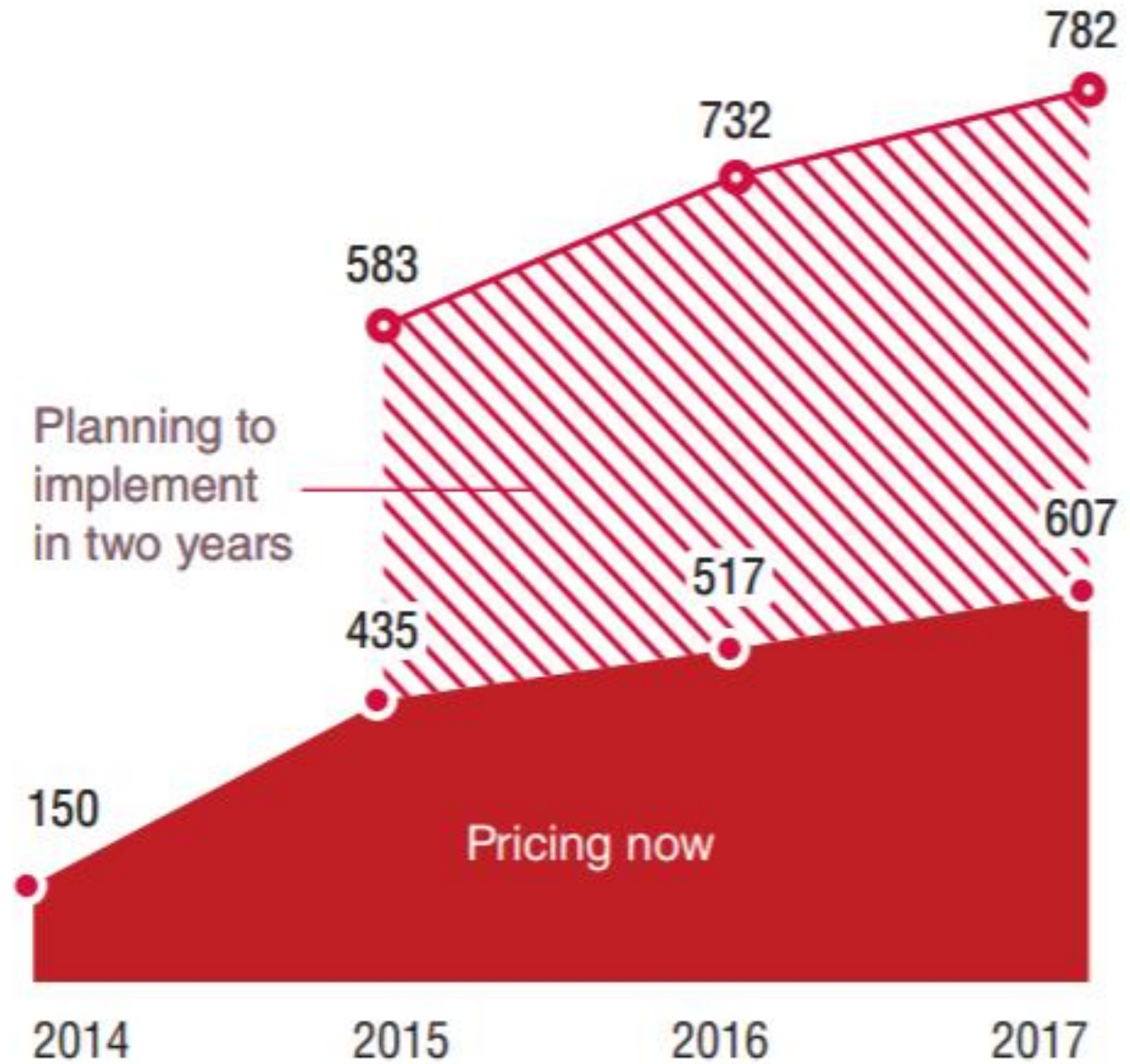
DISCLOSURE



An internal carbon price is “**an internally developed estimated cost of carbon emissions**,” which “can be used as a planning tool to help identify revenue opportunities and risks, as an incentive to drive energy efficiencies to reduce costs, and to guide capital investment decisions.”

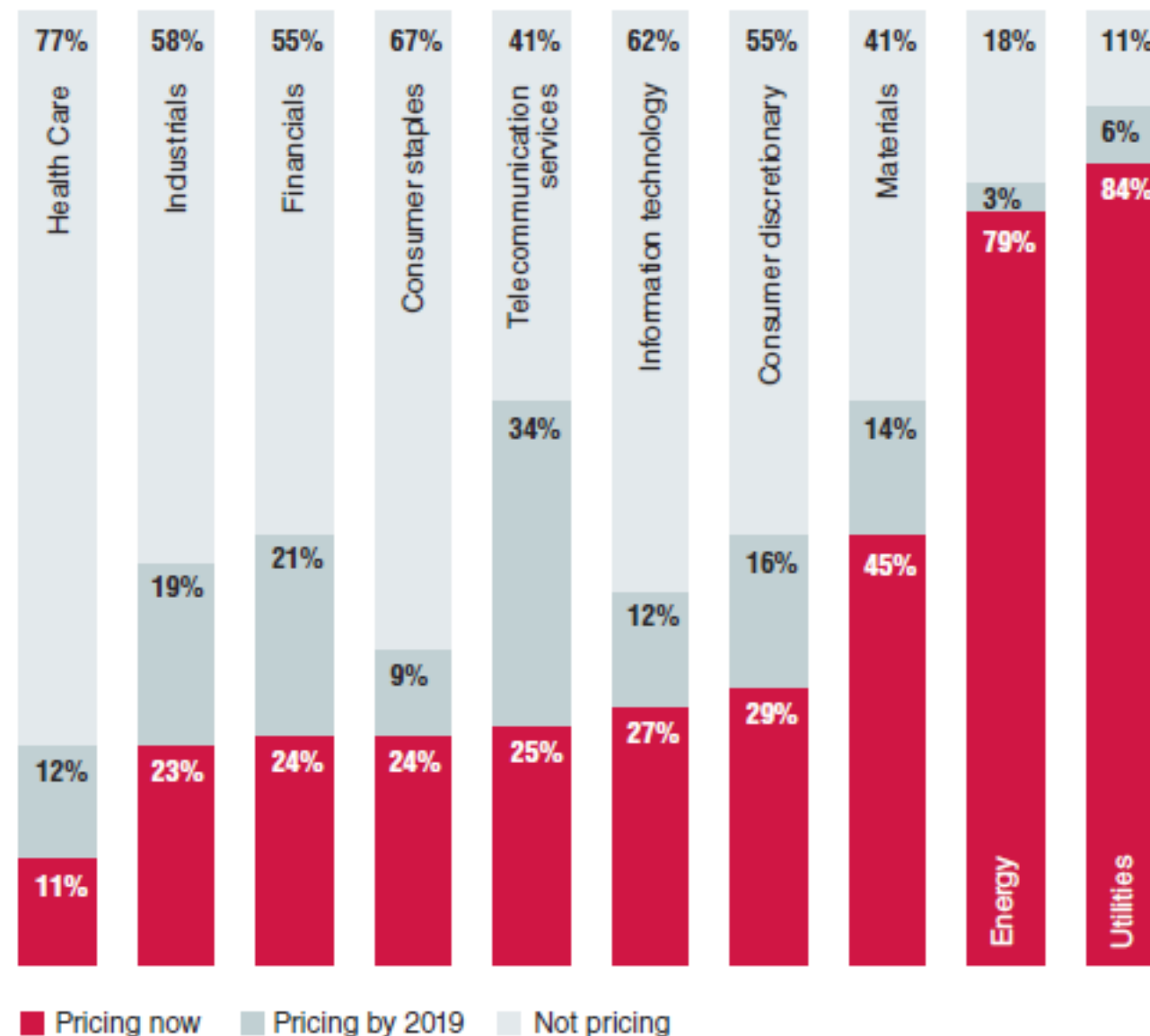
– The Task Force on Climate-related Financial Disclosures

Internal Carbon Price



## Sector Breakdown

Sector breakdown, by market-cap



This sample only includes investor-requested companies where financial information is publicly available.  
Average annual market-cap figures from 2016 were used.



# Corporate Response to Policy



World Bank and Ecotys, *Carbon Pricing Watch 2017*, May 2017.

Note: Implemented policies re-categorized as existing, and scheduled policies and policies under consideration re-categorized as emerging.

The government of Brazil is currently considering carbon pricing policy proposals.



Why?

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Assess and manage risk

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Identify opportunities

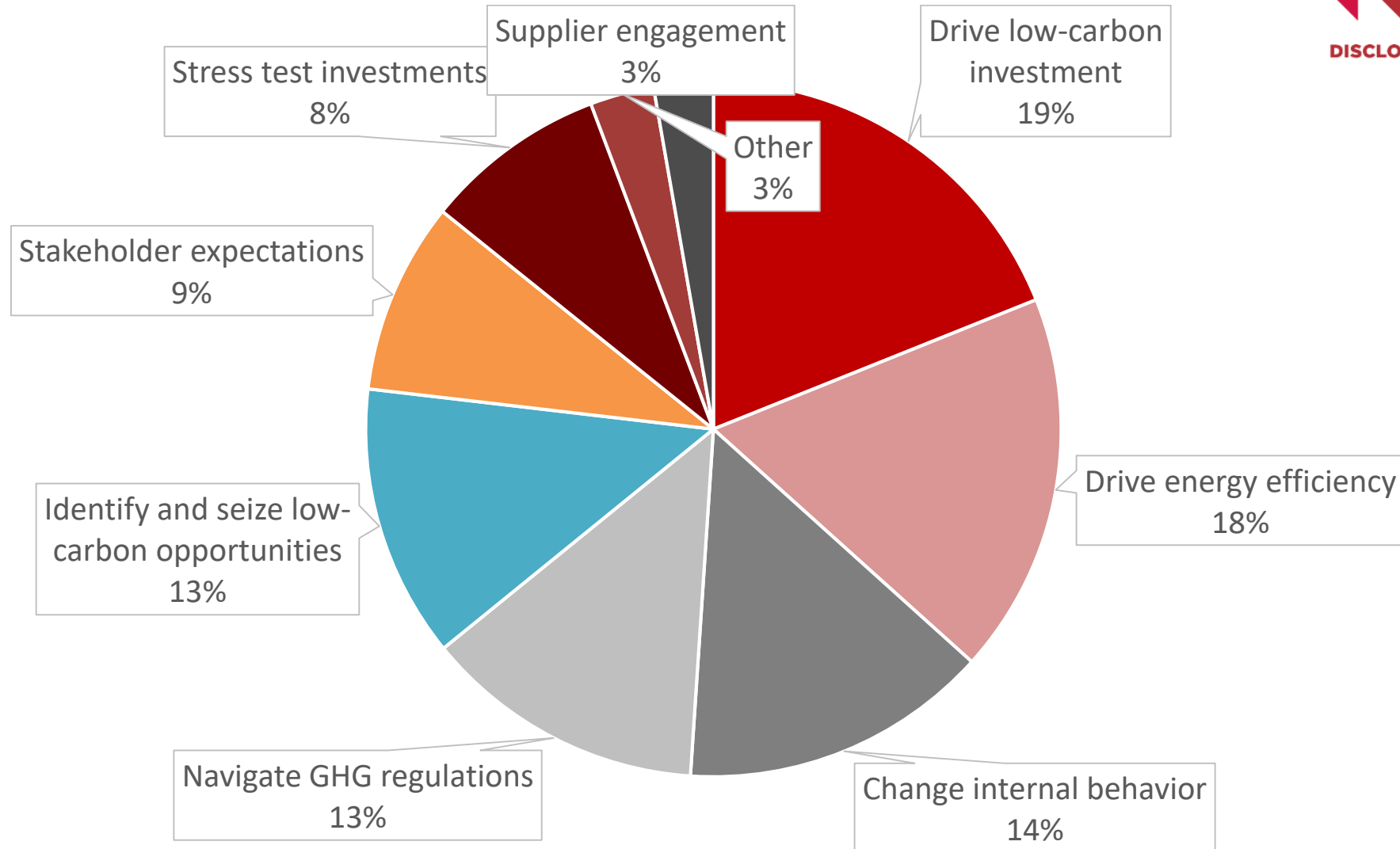
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Transition tool

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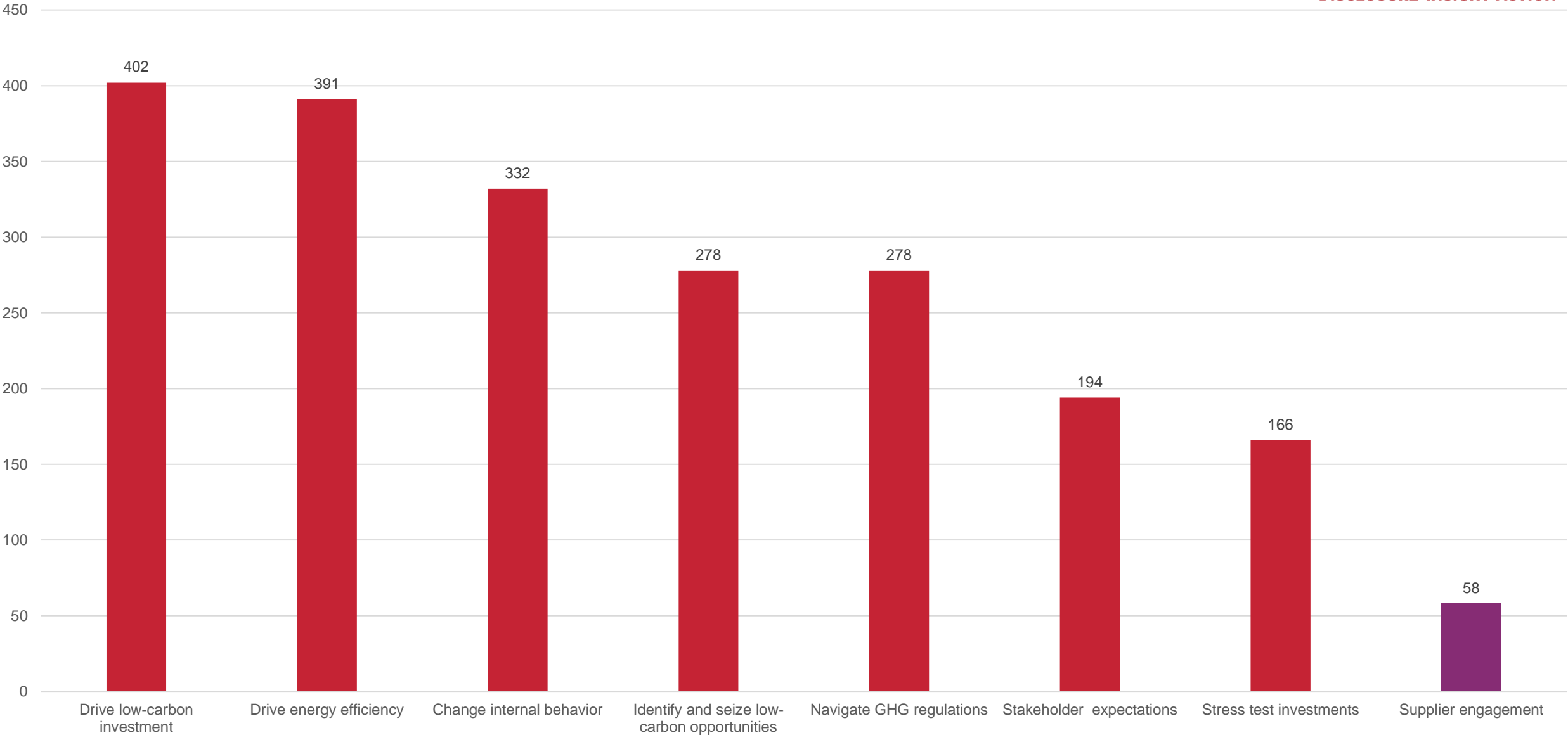


# What are companies disclosing?

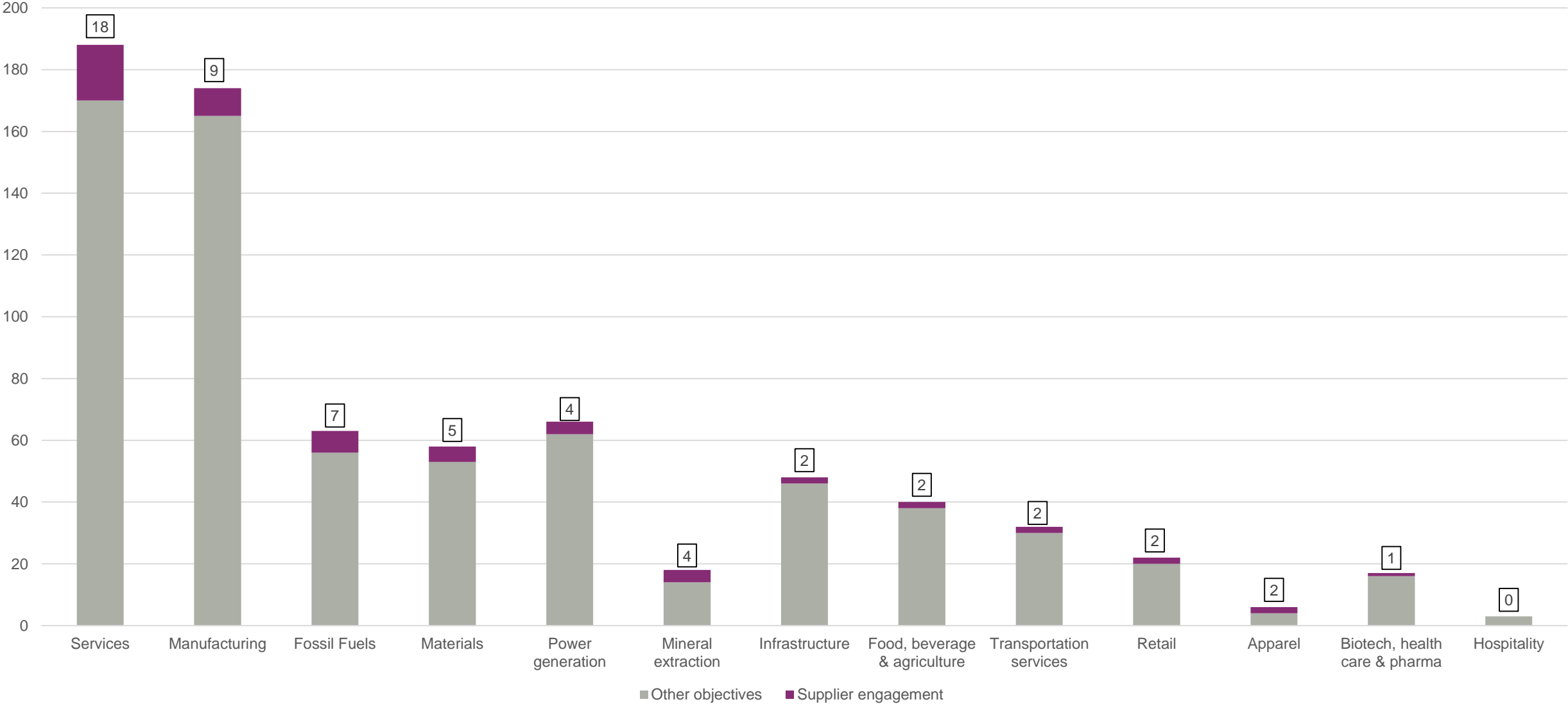




# Objectives for using an internal carbon price



# Companies identifying supplier engagement as an internal carbon price objective



# Who is doing it? And how?

Akzo Nobel



*The shadow carbon price is also used to encourage AkzoNobel's suppliers to improve their carbon performance. The company buys €9 billion worth of raw materials and €1 billion of electricity each year. "We tell our key suppliers that we not only assess them on price, but we add the virtual carbon price, and we want to see their plans to reduce their carbon content year over year."*

*"At first, many of them thought we were crazy. But now, they realize that unless they deliver, we will turn to someone else. And, in a few cases, that has happened," Veneman adds.*

*The company's senior management plays an important role in persuading both suppliers and internal stakeholders that carbon reductions are a high priority, Veneman says. "You need a very strong commitment from the executive committee, because this isn't a natural way of thinking."*

*"It's a battle, but once people see that it contributes to a better business, it gets its own traction."*

<https://www.cdp.net/en/research/global-reports/tracking-climate-progress-2017/business-in-action>

# Any why?

Mercury NZ Limited



*“Carbon pricing leads to better evaluation of financial risks and opportunities across the organisation and serves to educate and inform our stakeholders, supply chain in particular”. CDP 2019 Disclosure*



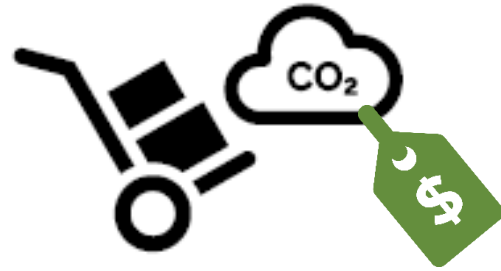
**Long Lam**

Managing Consultant

**NAVIGANT**  
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**INTERNAL CARBON  
PRICING FOR FUTURE-  
PROOF SUPPLY  
CHAINS  
PAPER HIGHLIGHTS**

# BENEFITS OF ICP IN PROCUREMENT AND SUPPLY CHAIN MANAGEMENT



Assigning a monetary value to the carbon footprint of purchases



Incorporating climate impacts into financial decisions



Providing risk insight on carbon cost exposure in line with the FSB-TCFD recommendations



Providing an additional metric to assess suppliers



Making procurement and supply chain management a higher priority



Strengthening brand value with climate leadership



Discovering new opportunities for low-carbon innovation

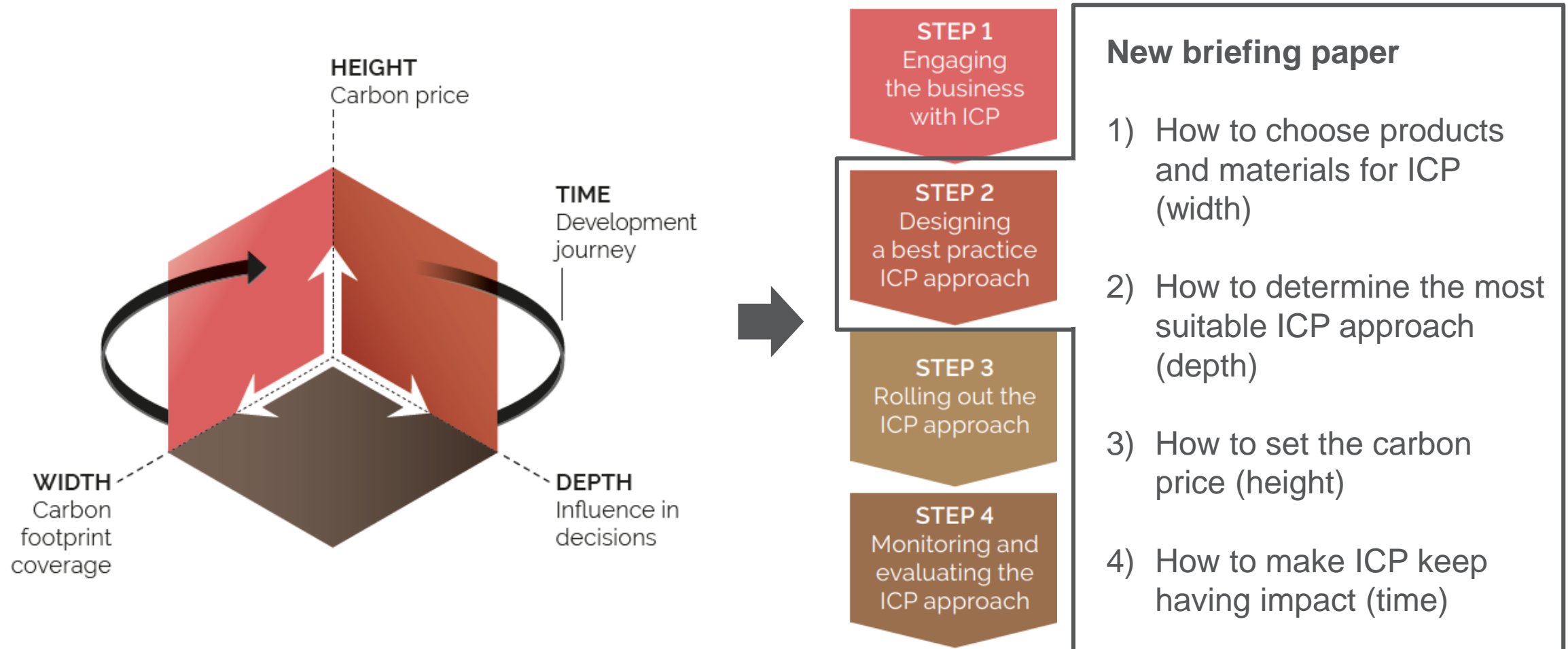


Providing a more accurate estimate of the organisation's carbon footprint



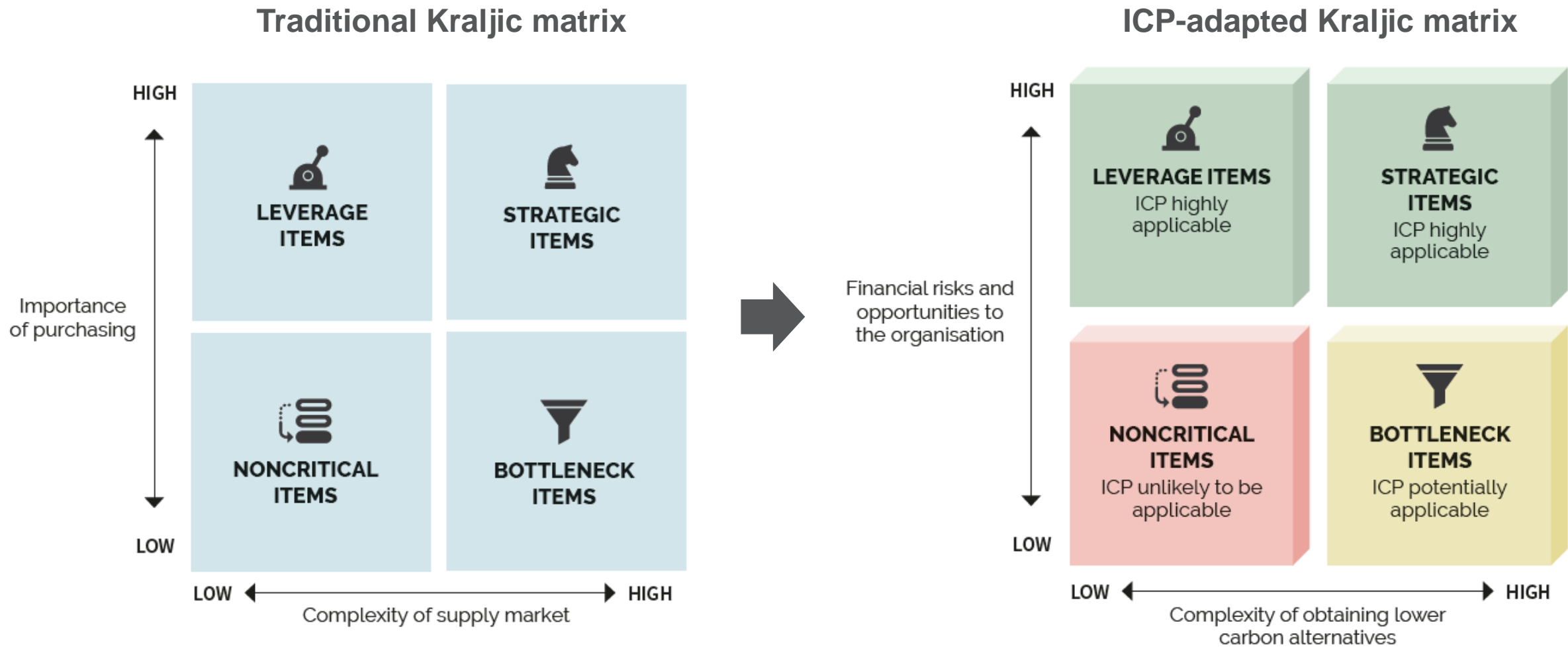
Enabling knowledge transfer throughout the supply chain

# 4D FRAMEWORK FOR ICP IN PROCUREMENT AND SUPPLY CHAIN MANAGEMENT



Source: Navigant, The Generation Foundation and CDP, *How-To Guide to Corporate Internal Carbon Pricing*, December 2017.

# 1 CHOOSING PRODUCTS AND MATERIALS FOR ICP – WIDTH



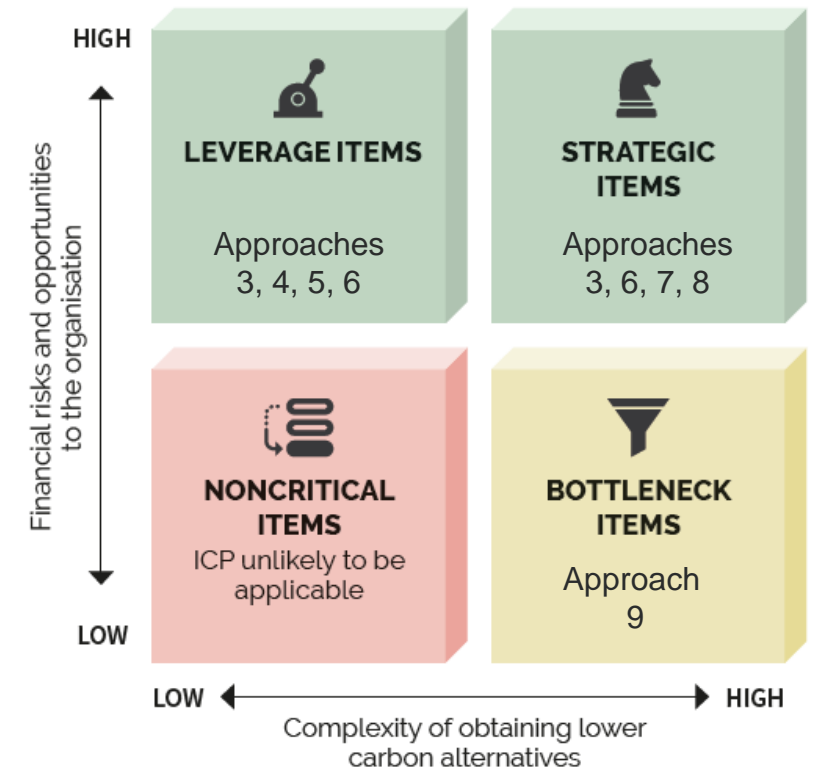


## 2 DETERMINING HOW ICP SHOULD INFLUENCE DECISIONS – DEPTH

Influence	Approach
Internal procurement and management processes	1 Risk assessment of price increases from suppliers
	2 Internal fee to incentivise low-carbon procurement
External suppliers	3 Requirement to calculate carbon cost in offering
	4 Additional assessment method in scoring
	5 Additional price element in financial assessment
	6 Requirement for suppliers to use ICP in their company
	7 Method to set financial support for low-carbon suppliers
	8 Emissions trading system among suppliers
	9 Premium payment for low-carbon products



### Kraljic matrix for external suppliers



### 3 SETTING THE CARBON PRICE – HEIGHT

#### ICP objectives



Incorporating climate change impacts into financial decisions



Strengthening brand value with climate leadership



Providing risk insight on carbon cost exposure in line with the FSB-TCFD recommendations



Discovering new opportunities for low-carbon innovation



Providing an additional metric to assess suppliers

#### Price setting approaches



Price reflecting impact of climate change



Price influencing purchasing decisions or supplier behavior for a lower carbon footprint



Price reflecting climate-related financial risks due to policy and market developments

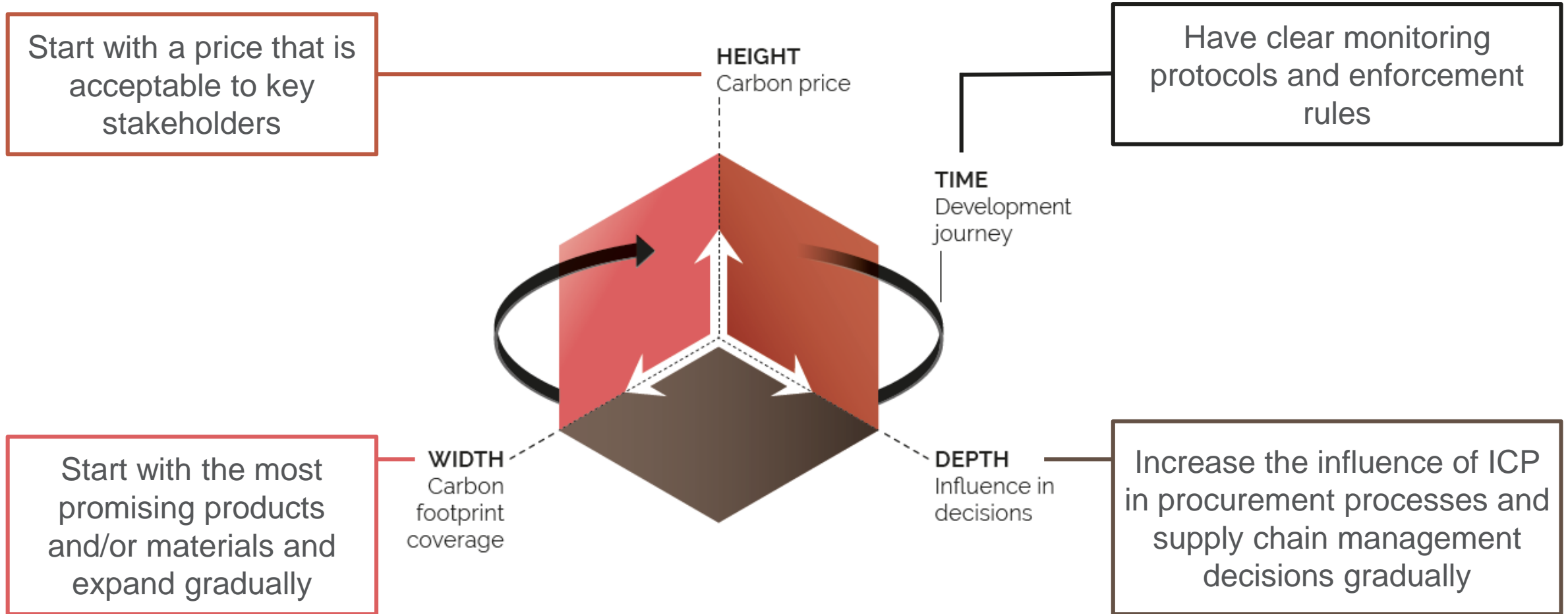


Price incentivizing capitalizing on climate-related financial opportunities



Price having a material impact in the assessment of suppliers

## 4 IMPROVING THE ICP PROGRAMME TO KEEP HAVING IMPACT – TIME





**Daði Sverrisson**

Project Manager for  
Internal Carbon Pricing



**Landsvirkjun**

National Power Company of Iceland

## LANDSVIRKJUN'S INTERNAL CARBON PRICE

PATH TO CARBON  
NEUTRALITY IN 2025



# Internal Carbon Price

## Path to Carbon Neutrality in 2025

Daði Sverrisson: Project Manager for Carbon Pricing  
22 January 2020



# Overview

1. Introduction of Landsvirkjun
2. Target of carbon neutrality
3. ICP implementation
4. ICP for supply chain and procurement



# National Power Company of Iceland



Over **50 years** experience providing power intensive users with renewable energy.

# Landsvirkjun's power system is 100% renewable

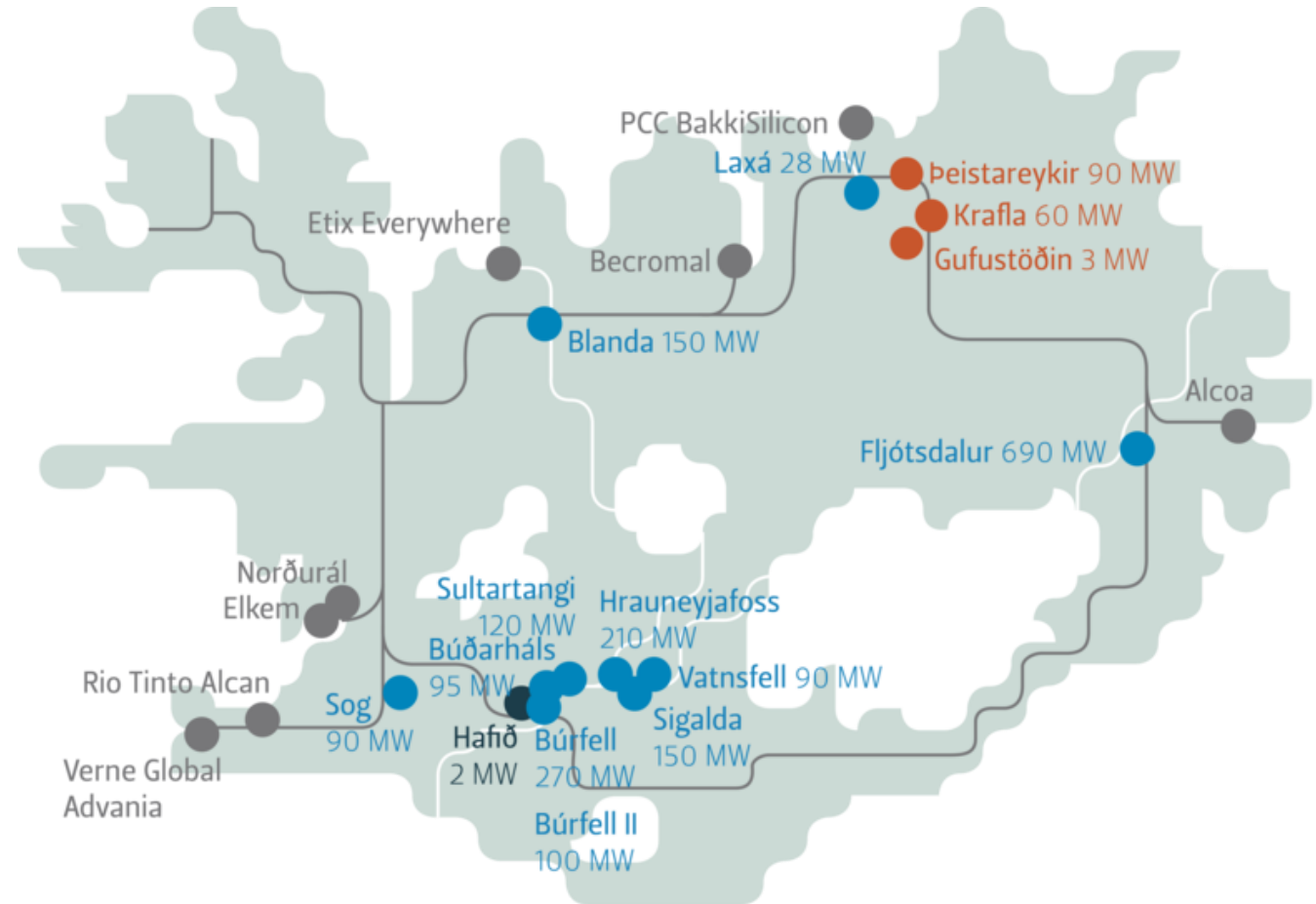
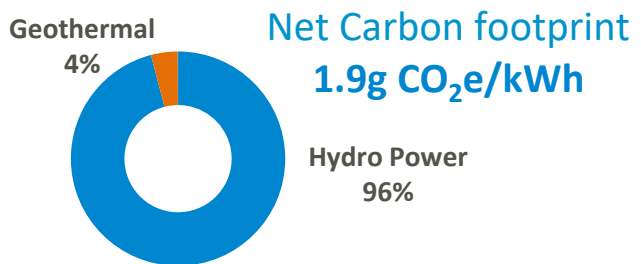
## Power stations

Installed Capacity: 2,145 MW

Power sales 2018: 14.8 TWh

- Hydropower stations: 15
- Geothermal stations: 3
- Wind turbines: 2
- Power Intensive Clients 9

## Generation



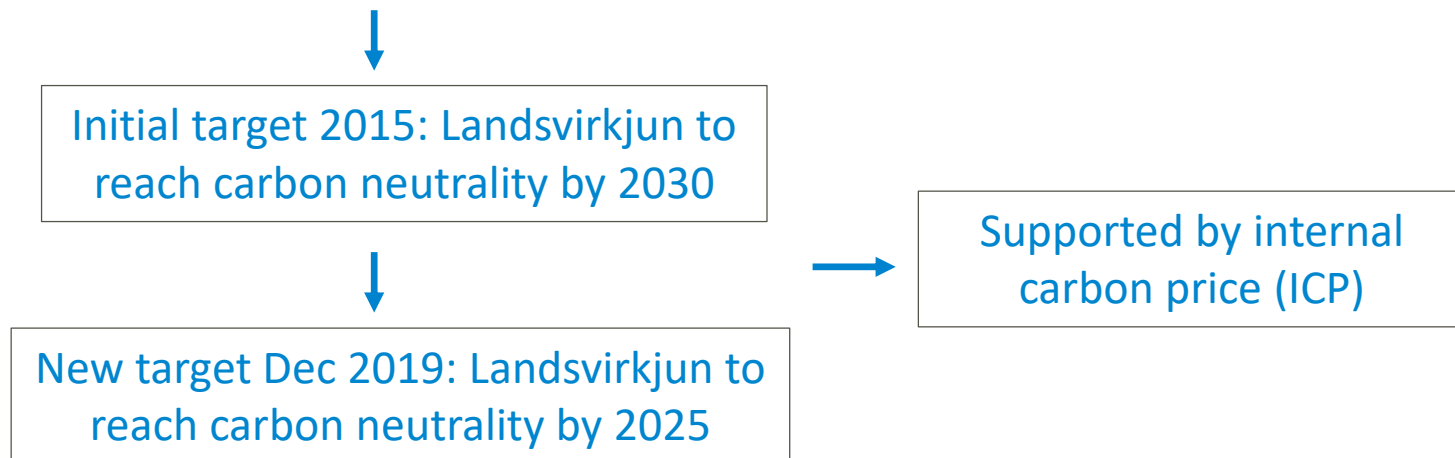


# UN Global Climate Action Portal (NAZCA)

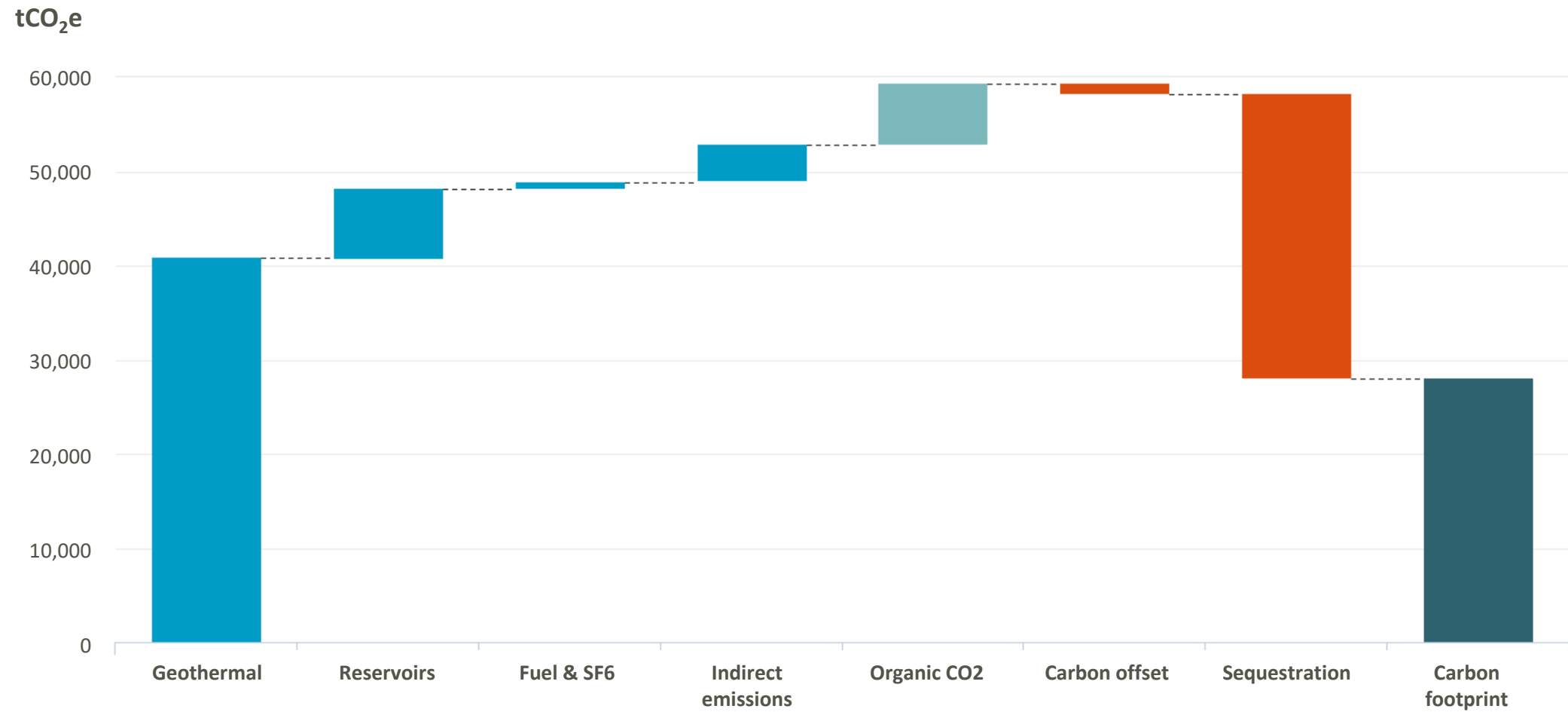
- › Landsvirkjun has officially declared climate action in NAZCA



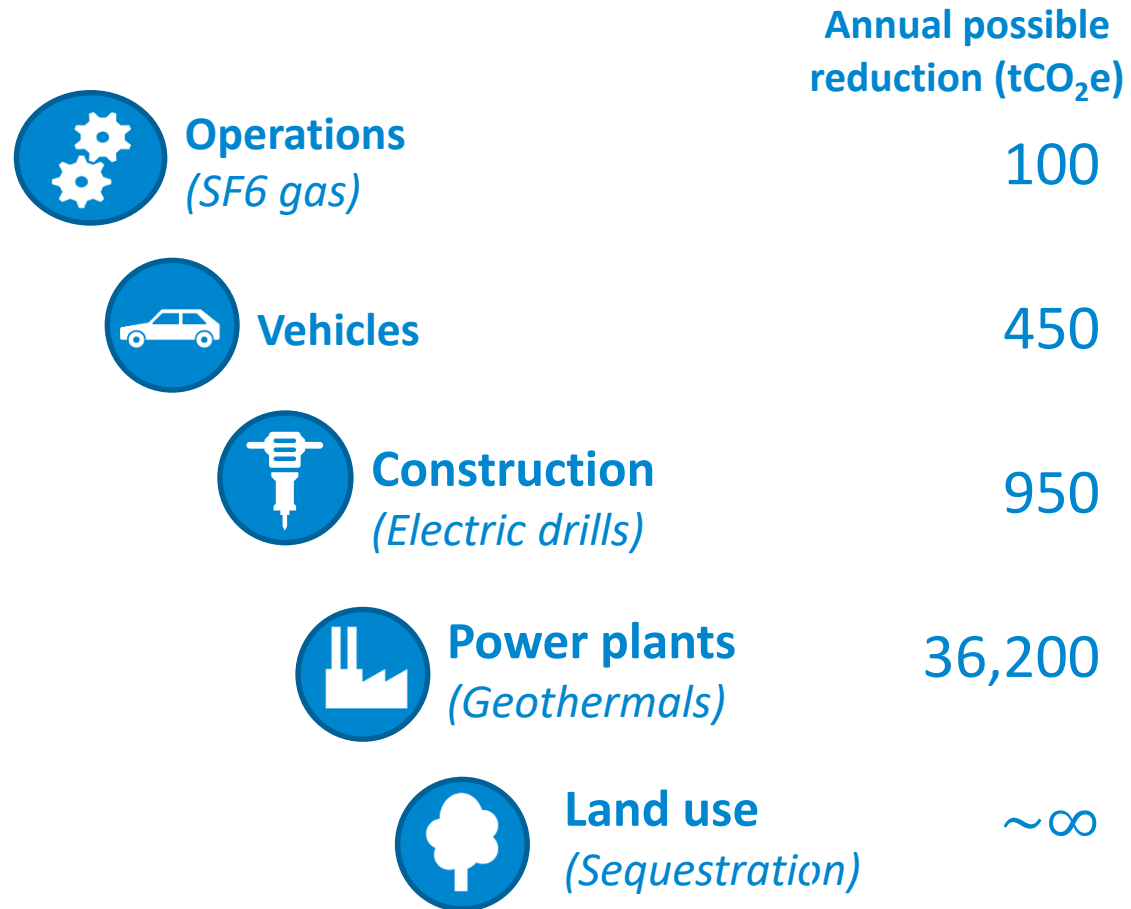
## Global Climate Action



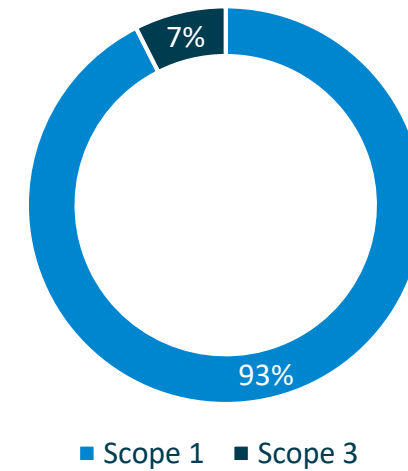
# Landsvirkjun 2018 Carbon Footprint



# 35 abatement options within 5 categories



## Emissions & Scope



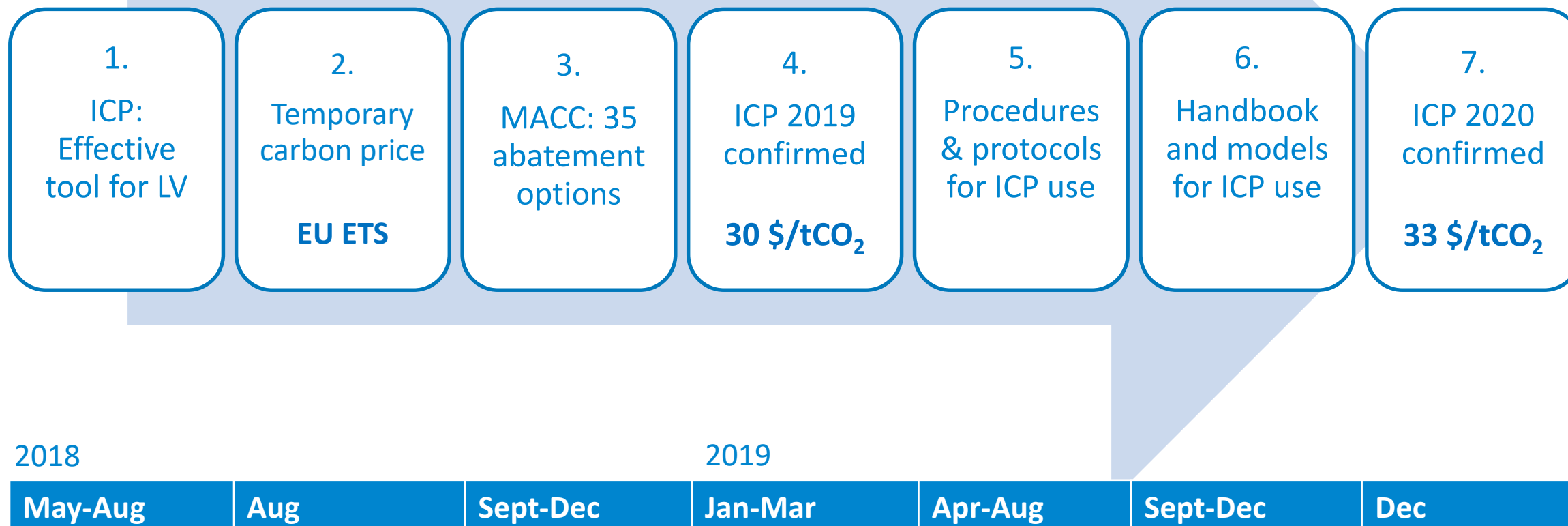
## Emission reduction targets by 2030

<b>Scope 1 total emissions</b>	<b>50%</b>
Scope 1 Geothermal	60%
Scope 1 Fossil fuels	99%
Scope 3 Air travel	30%
Scope 3 Commuting	60%

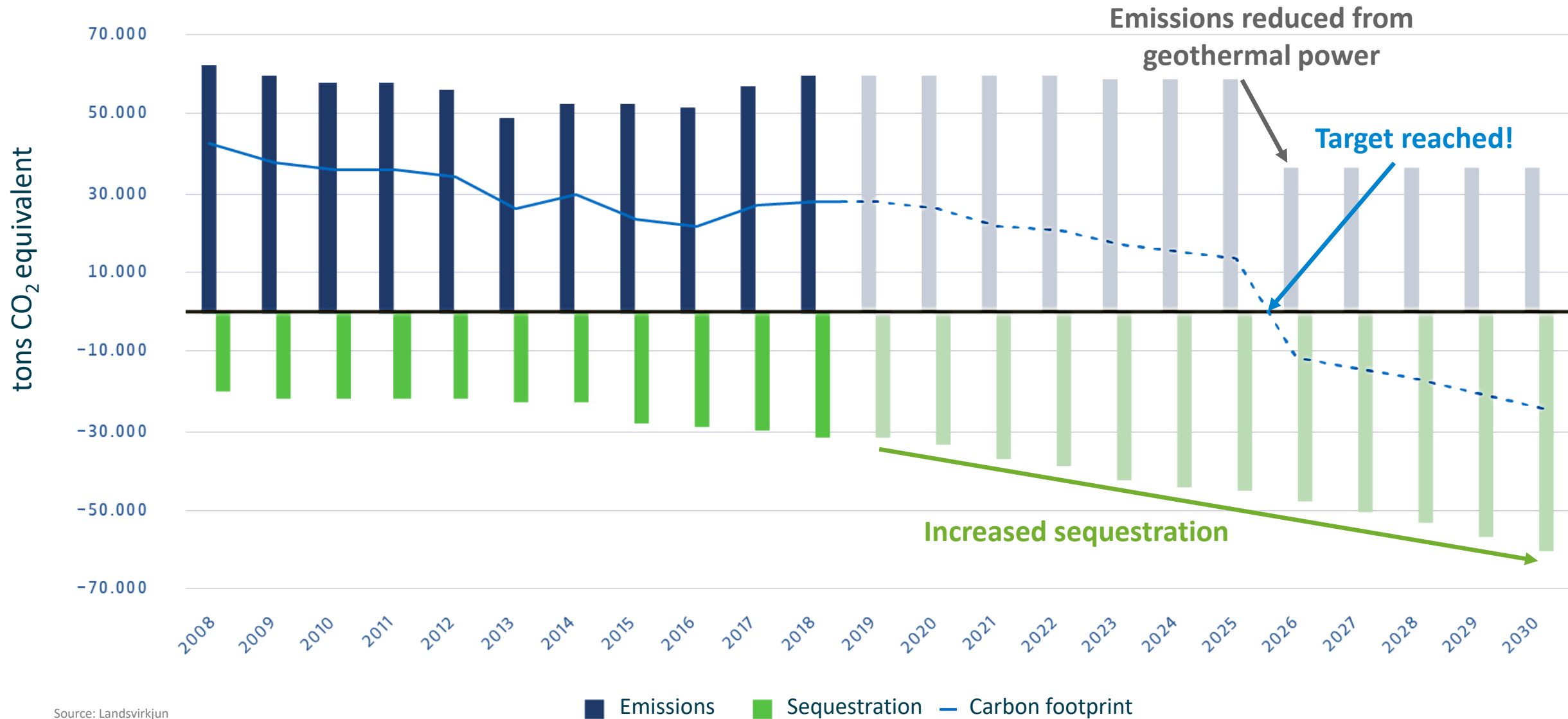
# Internal Carbon Price (ICP) in Landsvirkjun

## Major Milestones approved by management

Landsvirkjun ICP focused on supporting low carbon investments in geothermal power, including carbon capture and storage.



# Path to Carbon Neutrality by end of 2025

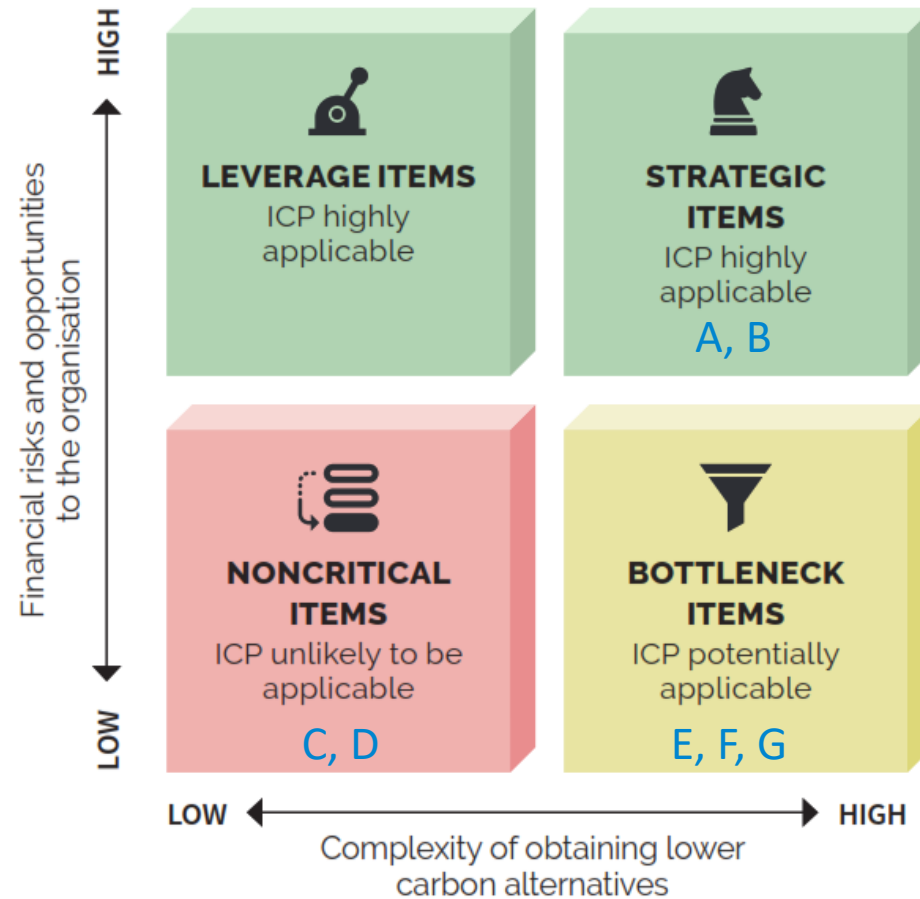


# Reducing Scope 3 Emissions

- › Landsvirkjun is committed to reducing Scope 3 emissions
- › Largest source of Scope 3 emissions is the construction of power plants
- › ICP can help prioritize to a lower carbon footprint
- › Necessary to engage value chain and contractors:
  - › Increase climate awareness
  - › Introduce use of ICP in procurement
  - › Engage them in lowering our carbon footprint



# Approaches for external suppliers



- A. Design & Construction of Power Plants
- B. Power Plant Maintenance
- C. Fertilizers
- D. Vehicle fuel
- E. Choice of Cement
- F. Fuel for reserve power & blackstart
- G. Fuel use by contractors & suppliers



**Focus on Strategic Items and Bottleneck Items!**



# Approaches for ICP in procurement

## Approach 3 – Strategic Items



- › Adding requirement that suppliers need to use ICP to calculate carbon cost for bids.
- › Will likely focus on gradual adjustment:
  - › Stage 1: Calculated to show effect of ICP, not used to choose lowest bid.
  - › Stage 2: Partially used to select lowest bid.
  - › Stage 3: Fully used to select lowest bid.
- › Need standardized LCA data from officially recognized sources

## Approach 9 – Bottleneck Items



- › Can become more relevant once carbon neutrality is achieved in 2025.
- › Focus would shift to maintaining carbon neutrality beyond 2025.
- › Calculating ICP could involve a trade-off:
  - › Ensure sufficient sequestration buffers to absorb Scope 3 emissions during power plant construction
  - › Finding a premium for lower carbon materials and products for power plant construction



# Engaging suppliers in low carbon initiatives

- Preliminary market consultation (PMC) can be effective
  - Get to know low carbon products and services without actual procurement
  - Introduce rating criteria for selecting bids and discuss using ICP in procurement
- The EU Utilities Directive 2014/25 provides legal framework





Thank you!



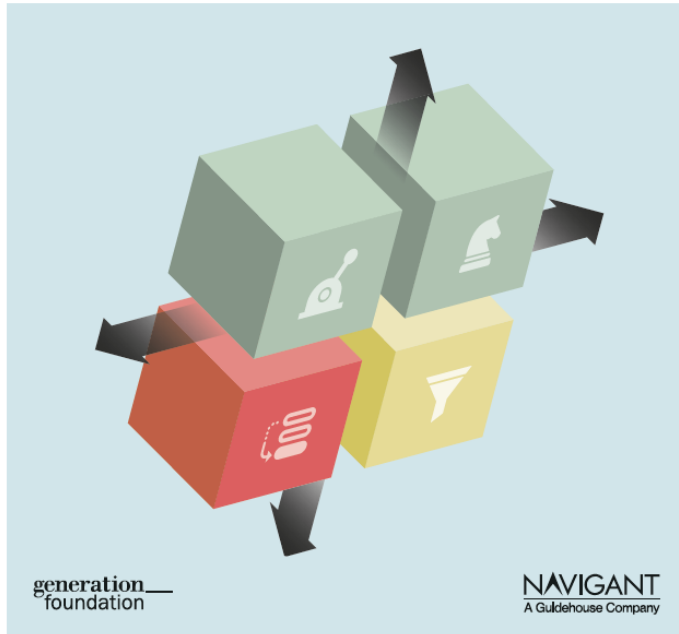
Landsvirkjun  
National Power Company of Iceland

# Q&A – USE THE CHAT BOX TO TYPE YOUR QUESTIONS



## INTERNAL CARBON PRICING FOR FUTURE-PROOF SUPPLY CHAINS

Nine approaches for low-carbon procurement and supply chain management



## FUTURE-PROOF SUPPLY CHAINS USING INTERNAL CARBON PRICING

Briefing note for procurement and supply chain professionals

London, January 2020



Long Lam, Ian Trim and Boris Legelshov  
Navigant  
The Generation Foundation  
Grace Eddy and Alison Paton

As companies' supply chains become longer and more complex, they will be increasingly susceptible to global and local risks. Climate-related risks have dominated the World Economic Forum's Global Risk Perception Survey for the past years,<sup>i</sup> and are starting to disrupt business operations and supply chains in a range of different industry sectors. Some organisations are acting on these risks by greening their operations and reducing their greenhouse gas (GHG) emissions. However, many still struggle to get their suppliers to do the same despite carbon emissions in supply chains accounting for 5 times the direct emissions of a company.<sup>ii</sup>

Procurement and supply chain management therefore has a crucial role in future-proofing organisations in the low-carbon transition. However, efforts to tackle emissions are often constrained by short-term key performance indicators as cost reduction remains the top priority for procurement leaders.<sup>iii</sup> Internal carbon pricing (ICP) can overcome this barrier by integrating climate-related risks and opportunities in financial decision making.

### SOURCING COST INCREASE

Governments are ramping up climate policy, making it more expensive to emit carbon that could translate to higher sourcing costs.

The Coca-Cola Company, a global beverage company, is increasing the amount of recycled materials in its plastic bottles in part due to the risk of higher packaging costs from GRC regulation, although weak recycling infrastructure and poor recycling data quality are barriers.<sup>iv</sup>

### SUPPLY CHAIN DISRUPTION

Unprepared suppliers will have to bear the increasing cost of climate change, which could lead to them having to scale down production or even face bankruptcy.

The food service retailer McDonald's and its suppliers are working with farmers to lower their carbon footprint through optimising resources and thereby improving their economic viability, and are improving their insight in farming systems to identify further reduction opportunities.<sup>v</sup>

### REPUTATION LOSS

Consumers and investors are putting pressure on companies to source their materials in a more sustainable manner or lose their custom.

Unilever, a global consumer goods company, wants to source all its agricultural material sustainably to meet consumer preferences, but is behind on target due to its lack of scale with certain crops to achieve change and insufficient insights in its supply chain.<sup>vi</sup>

### FOREGONE REVENUE

Sales of sustainable products have shown to grow 5 times faster than conventional products,<sup>vii</sup> but a shortage of sustainable material can hinder this growth.

The car manufacturer Audi has partnered with the aluminium producer Hydro to have sustainable aluminium in their cars and is training more suppliers to reduce their CO<sub>2</sub> emissions, so they can offer CO<sub>2</sub>-neutral mobility to its customers.<sup>viii</sup>

### TACKLING SUPPLY CHAIN ISSUES WITH INTERNAL CARBON PRICING

#### What is Internal Carbon Pricing (ICP)?

ICP helps organisations manage their risks and better plan for the future by attaching a notional "carbon cost" to investment and procurement decisions. This cost is calculated by multiplying the volume of GHG emissions in tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e) with a price per unit emitted that the organisation chooses (e.g. US\$/tCO<sub>2</sub>e). The resulting monetary value can then be included in decisions as a financial metric.

#### Why do companies generally use ICP?

- Determine exposure to future costs arising from climate regulations and form strategies to mitigate these costs
- Build resilience against climate-related financial risks in line with the recommendations from the Financial Stability Board's Task Force for Climate-related Financial Disclosures (FSB-TCFD)
- Demonstrate climate leadership and implement emission reductions targets (e.g. Science Based Targets) to contribute a fair share to achieving the Paris Agreement
- Discover market opportunities and develop new products to capitalise on the low-carbon transition

#### Who is using ICP?

So far, about 1,300 companies, including more than 100 Fortune Global 500 companies with collective annual revenues of about US\$7 trillion, disclosed that they use ICP or plan to do so within two years.

Source: CDP Carbon Pricing Commitment 2022.

i World Economic Forum, *The Global Risks Report 2020*, January 2019.

ii CDP Global Supply Chain Assessment, February 2019.

iii 70% of respondents of Deloitte, *The Deloitte Global Chief Procurement Officer Survey*, 2018, October 2019.

iv The Coca-Cola Company, *2018 Business & Sustainability Report*, 2018.

v McDonald's, *Climate Action*, 2018.

vi Unilever, *Sustainability Strategy*, 2019.

vii NYU Stern Center for Sustainable Business and IRI, *CBR Sustainable Market Share Index*, March 2019.

viii Audi, *Audi and Hydro joint commitment to sustainable aluminium*, July 2019.



1

## Download the full paper and four-page summary at

<https://www.navigantresearch.com/-/media/project/navigant-research/marketing-images/carbon-pricing-unlocked-2020-icp-supply-chains.pdf>

<https://www.navigantresearch.com/-/media/project/navigant-research/marketing-images/carbon-pricing-unlocked-2020-icp-supply-chains-sum.pdf>

Or contact us at

CPU@navigant.com

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<sup>1</sup> On October 11, 2019, Guidehouse LLP completed its previously announced acquisition of Navigant Consulting Inc. In the months ahead, we will be working to integrate the Guidehouse and Navigant businesses. In furtherance of that effort, we recently renamed Navigant Consulting Inc. as Guidehouse Inc.