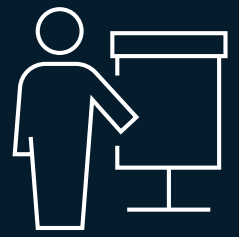
McKinsey & Company

Best Practices in Private Sector Sustainable Procurement

Discussion with Policy and Practice Subcommittee, GSA Federal Advisory Committee

June 22nd, 2023

Today's presenters



Yvonne Huemer
Associate Partner
Zurich
Yvonne_Huemer@mckinsey.com

Joy Chen
Partner
New York
Joy_Chen@mckinsey.com

Reference material for today's discussion

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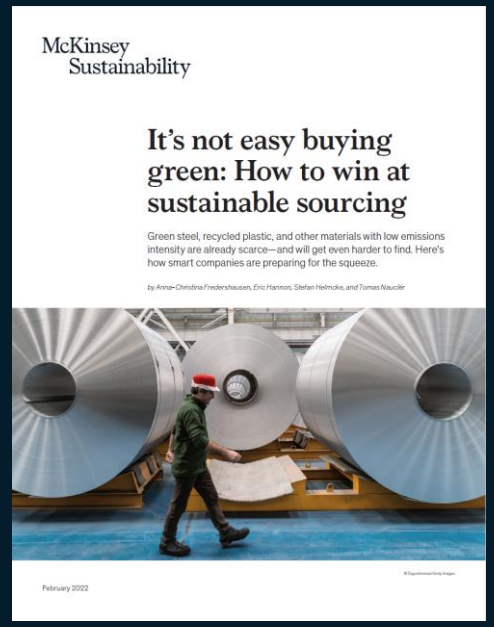

https://www.mckinsey.com/capabilities/sustainability/how-we-help-clients/sustainable-materials-hub

Agenda for today

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What we're seeing in private sector sustainable procurement

2

An approach for advancing sustainable procurement

3

Deep dive:

Decarbonizing procurement for electric vehicles

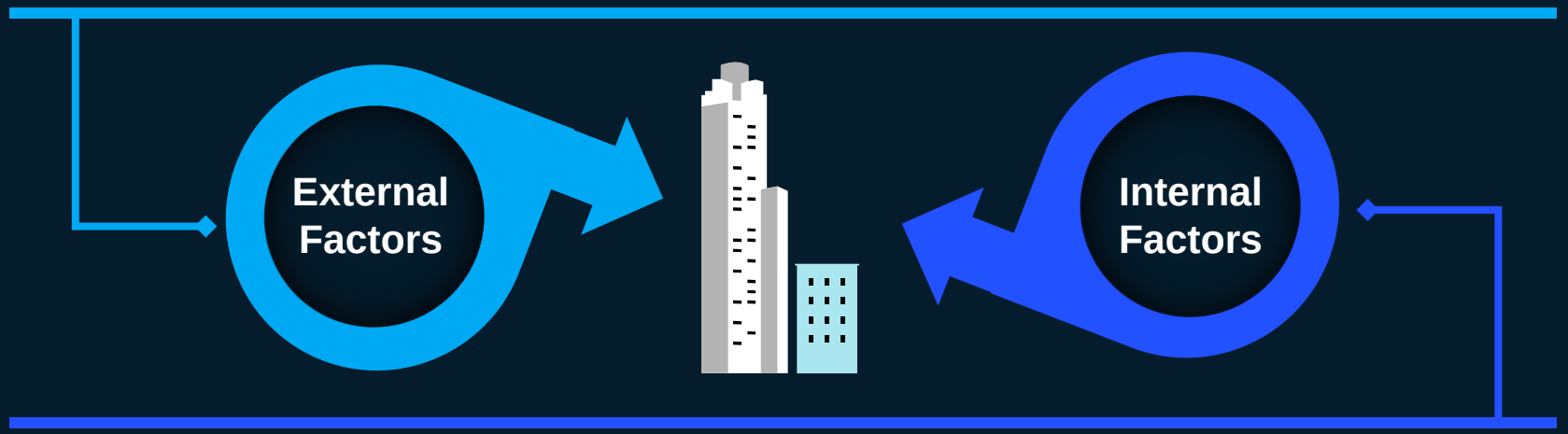
4

Deep dive: Materials with low emissions intensity

Companies are being pushed to go further, faster

Several factors pressure companies to pursue sustainable practices

Companies that fail to address pressures risk having to deal with their disruptive effects



External Drivers for Action

Companies are facing growing pressure from consumers, who are looking for leaders to take real actions on sustainability

And amid past (and present) crises, two thirds of consumers globally said their future buying decisions will be impacted by how a brand responds[1]

Additionally, governments are continuing to introduce new regulation that encourages or requires companies to set and reach new environmental targets.

1. A Three-Phase Approach for Advancing Sustainability Through Procurement, Celine Bonnemaison, LinkedIn

Internal Drivers for Action

Companies are also facing pressure from within

Employees are increasingly seeking to work for companies with purpose, and meeting that desire can deliver significant business impact; We observe that employee engagement increases by 2.3 times when they experience purpose at work[1]

Investors are also increasingly prioritizing ESG; According to a study from Morgan Stanley, over 80% of investors now have a sustainable investing strategy[1]

1. A Three-Phase Approach for Advancing Sustainability Through Procurement, Celine Bonnemaison, LinkedIn

Companies increasingly are adopting and prioritizing sustainable procurement practices

Markets will reward ESG efforts

of millennials **will pay more** for environmentally friendly products[2]

70+

Countries now have **plastics legislation**

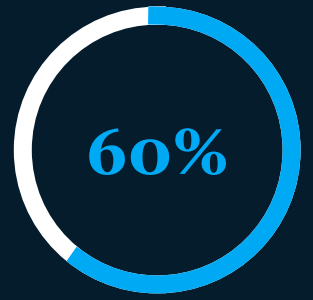
Acting sooner will have impacts later

More growth ⊕ **Reduced costs**

for companies that prioritize ESG efforts

Prioritizing procurement will have the biggest impact across the organization

of greenhouse-gas emissions are “Scope 3”- indirect emissions that occur across the value chain[1]



of a company’s ESG footprint is in its supply chain

Activating a dual mission

1. Examples of these include embedded emissions in purchased goods and services, employee travel and commuting, and the use and end-of-life treatment of sold products
2. Only 61% of Baby Boomers responded with a willingness to pay more for ESG Goods

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Best Practices: Three phase approach to advancing sustainability through procurement

How good could we be?

1

Determine your baseline and how far to go

Understand and quantify the organization's current ESG footprint, then identify the most significant risk areas and improvement opportunities

Comprehensive understanding of overall business context and sustainability goals

How do we get there?

2

Establish the core and drive value creation initiatives

Define ESG metrics and policies that will be integrated into the organization's supplier selection, procurement, and supply-management processes

Determination of how sustainability ambitions will be embedded within processes

Let's make it happen!

3

Shift the organization

Scale up and roll out successful initiatives, integrating sustainable purchasing practices

Practices which account for innovation and an evolving regulatory landscape

Phase 1

How good could we be?

Determine the baseline

- Understand overall business sustainability context, strategy and goals
- Perform benchmark on sustainability performance v. peers and leaders
- Assess the upstream environmental, social, and governance (ESG) footprint

Determine how far to go

- Define vision on where to lead, to match, and to follow; distill value-creation themes
- Assess value at stake
- Set concrete sustainability ambition for procurement: Where, when and how far?

Phase 2

How do we get there?

Establish the core

- Set up all internal and external policies and guidelines to meet regulatory, customer, and public demands (both current and future)
- Implement principles and initiatives for conscious consumption (e.g. rightsizing of specs and volumes to reduce footprints)

Drive value-creation initiatives

- Pilot priority initiatives that enable differentiation beyond foundational requirements, e.g.:
  - Zero-carbon supply base
  - Circularity and waste reduction in supply chain
  - Zero tolerance on human-rights violations at suppliers

Phase 3

How good could we be?

Shift the organization

- Continuously sharpen policies and guidelines in line with market expectations
- Structurally embed conscious-consumption principles into all category strategies
- Strengthen core value-creation themes
- Deploy at scale
  - — External: embed in category management and supplier management, -development, and –collaboration programs
  - — Internal: formalize in cross-functional product- and corporate-development projects
- Track external and internal sustainability performance, communication on impact with stakeholders

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Deep dive: Electric vehicle market

Market Forces

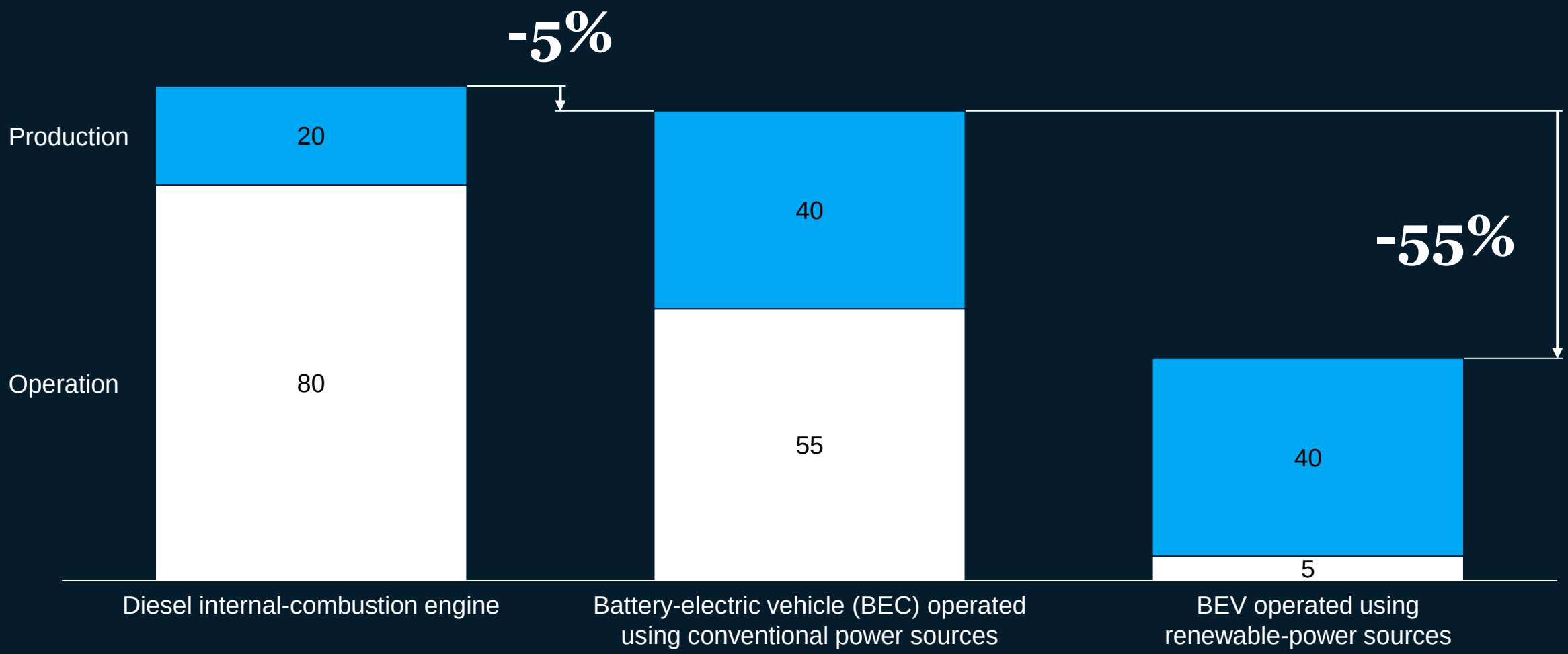
- Increased regulation within energy markets
- Growing consumer demand for low-emission vehicles
- Competitive cost pressures (e.g., demand for low-carbon materials across industries)
- High manufacturing costs for EVs, including R&D and capex investments
- Increasingly ambitious decarbonization targets among car companies (e.g., beyond scope 1 and 2 emissions, stretch targets across the value chain)

Outcomes

- Phasing out of internal combustion engine (ICE) vehicles
- Squeezed profit margins for original equipment manufacturers (OEMs)
- Imperative to act quickly in order to comply with regulation, meet demand and targets, and get ahead of the competition for supply

As products become more sustainable, production usually accounts for more of their emissions

Shift in life-cycle CO^2 emissions, index (100 = diesel internal-combustion-engine emissions)



Source: Stephan Fuchs, "Method for parameter – based weight estimation of new vehicle concepts", (doctoral dissertation, Technical University of Munich, April 20, 2014); McKinsey analysis

Our approach: Pursuing the dual mission of cost and carbon savings

Combine industry-standard design-to-value (DTV) methodology with a sustainability lens to enable automotive industry firms to uncover decarbonization opportunities across the manufacturing value chain.

Create transparency on the CO2 baseline

Includes CO_2 emissions along the primary material production processes as well as the component production processes, such as process consumables and production machinery

Identify and evaluate CO2 levers

Includes alternative energy sources, circularity to decrease waste, design shifts to reduce the amount of raw material required or material used and energy efficiency

Define the implementation strategy

Evaluate and prioritize identified levers by cost and CO_2 emission impacts to determine whether components should be redesigned through technical changes or OEMs can look to collaborate with suppliers on changes to processes or materials

Implement alternative technical design or negotiate different material sources

R&D and supplier collaboration are key enablers of both implementation strategies; technical changes would include detailed value chain and material input analysis, as well as feasibility evaluation, and testing with R&D

Activating a dual mission

1. **The time to act is now.** Several opportunities for cost-efficient decarbonization will be available only during a short window: the supply of materials needed for minimizing emissions faces increasing demand but not yet on the level forecasted. This will not be the case for much longer. Future carbon taxes might further increase the pressure to act.

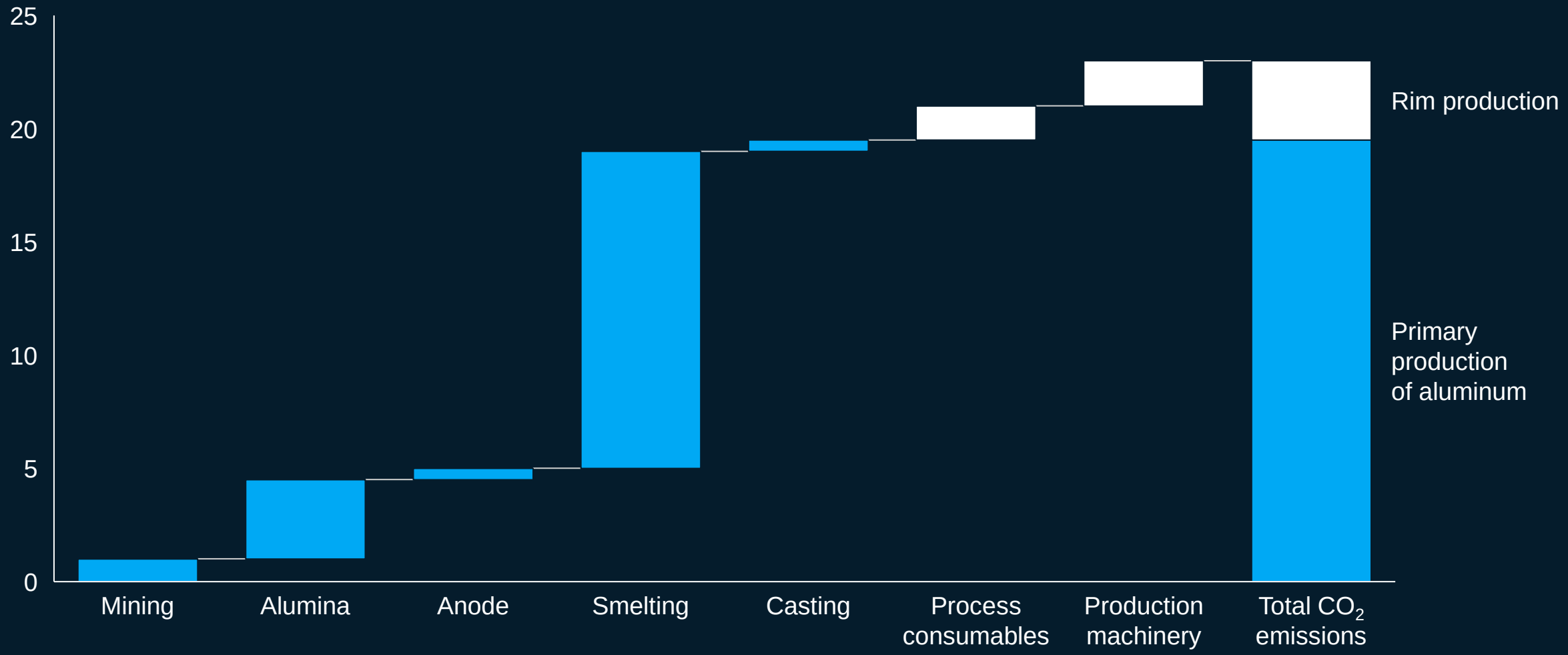
2. **It is possible to reduce cost and CO2 at the same time.** Acting now means there is an opportunity to capture cost and carbon opportunities together.

3. **Significant reductions can be achieved in short time frames.** For example, a global automaker used this dual-mission approach to identify up to 5 percent cost and 20 percent carbon reduction opportunities for an in-production EV, with an implementation time of less than two years. For next-generation vehicles, the opportunity to decarbonize products and achieve cost efficiency has proven even larger based on a greater degree of freedom in design and supplier choices.

4. **A broad set of capabilities is needed.** Capabilities need to be built broadly in the organization to successfully execute the dual-mission program. This includes supply chain transparency—for example, analyzing the carbon footprint of different suppliers, understanding the levers, including implementation effort and time versus carbon reduction potential, design-for-sustainability thinking, and the upskilling of the procurement team on how to work with suppliers.

The bulk of rim product emissions are from the primary production of aluminum

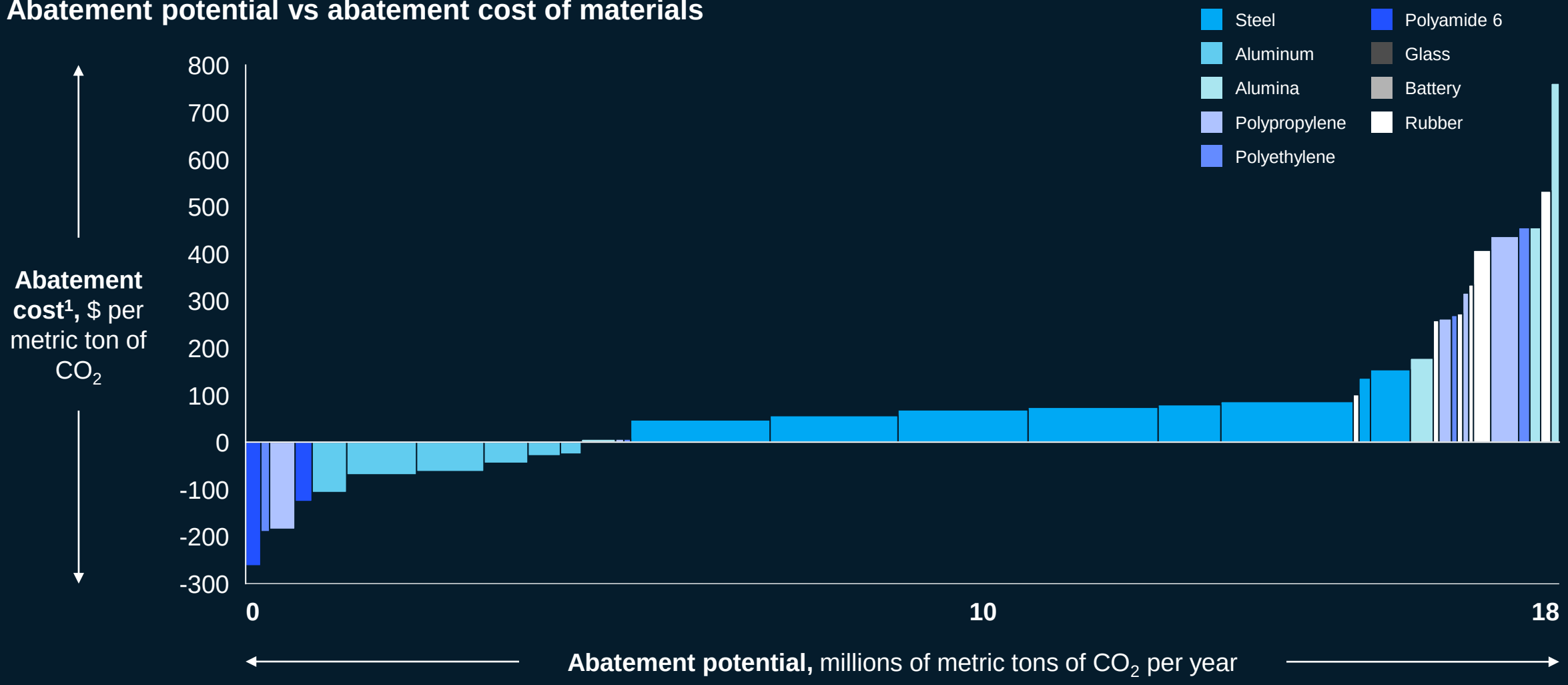
CO_2 emissions for a rim supplier, kilogram (kg) of CO_2 per kg of aluminum



Source: McKinsey Cleansheet Solution

While some decarbonization levers are costly, others reduce both cost and emissions

Abatement potential vs abatement cost of materials



1. Internal-combustion-engine vehicle, all carbon reduction levers, 2030 estimate

Source: McKinsey analysis

One tool that private sector clients can utilize is the “resource cleansheet”

By integrating cost and carbon implications, resource cleansheets aid in comparing carbon-abatement strategies

3 strategies for carbon abatement of medication packaging

			Reduce box weight by 10%		Increase tablet density per package		Relocate production	
		Original	New	Change	New	Change	New	Change
Cost impact, € per 100 pieces	**Overhead**	0.32	0.32	0.00	0.32	0.00	0.18	-0.14
	Production	1.38	1.38	0.00	1.40	0.03	1.11	-0.27
	Material	1.38	1.31	-0.07	1.27	-0.11	1.37	-0.01
	Total	3.08	3.00	-0.07	2.99	-0.09	2.66	-0.42
	Net change			**-2.4%**		**-2.8%**		**-13.6%**
$C0_2$ impact, kilograms of CO_2 per 100 pieces	**Overhead**	0.01	0.00	-0.01	0.01	0.00	0.01	0.00
	Production	1.48	1.47	-0.01	1.51	0.03	1.75	0.27
	Electricity	0.02	0.02	0.00	0.02	0.00	0.04	0.02
	Material	2.61	2.50	-0.11	2.38	-0.22	2.61	0.00
	Total	4.11	4.00	-0.12	3.92	-0.19	4.41	0.29
	Net change			**-2.8%**		**-4.7%**		**7.1%**

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Deep dive: Supply of green materials

Market Forces

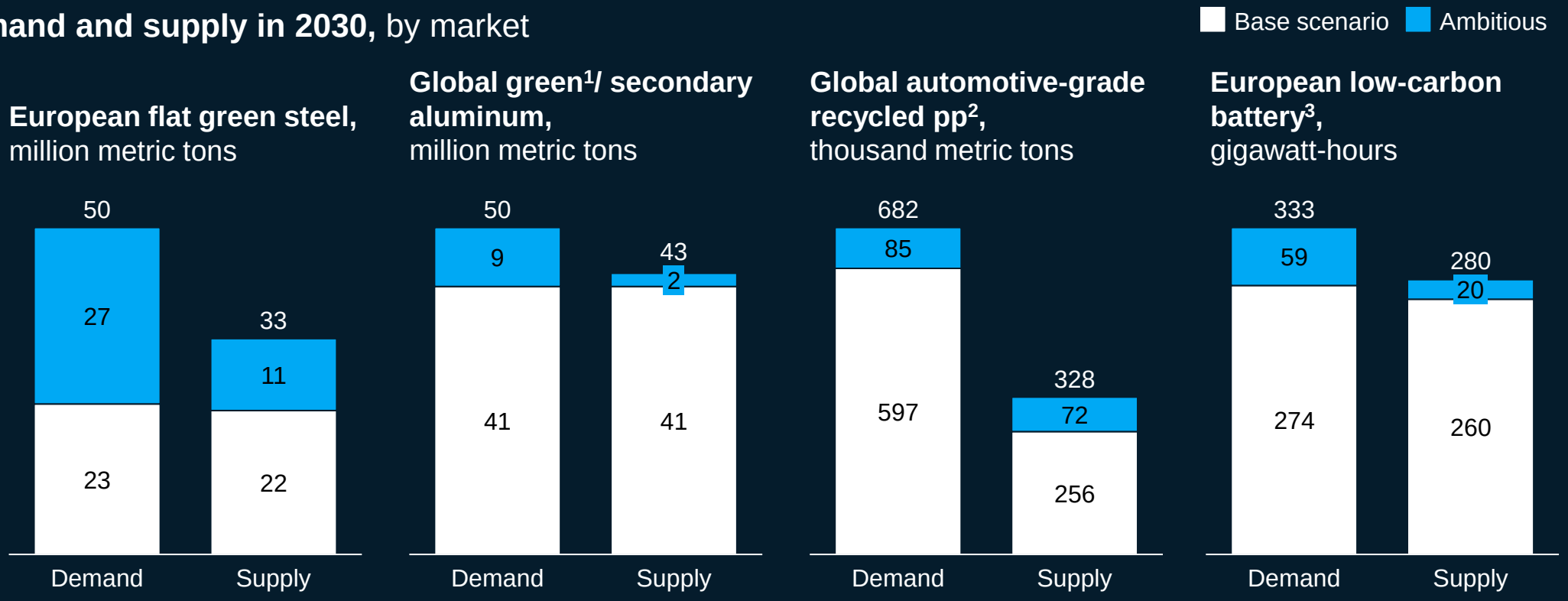
- Increasingly ambitious climate commitments are resulting in targets to source lower emission materials, such as green steel, recycled aluminum, and recycled plastic
- Production capacity for many low emission materials is projected to fall short of demand
- High customer demand for low-emissions offerings

Outcomes

- Companies that are unable to access green materials may risk paying steep premiums and/or falling short of their target requirements
- Companies that are able to access green materials may have the opportunity to widen their margins and capture large shares of growing markets

Demand for certain green materials could exceed supply in large markets

Projected demand and supply in 2030, by market



Outlook for markets			
	Demand could grow more quickly than the industry can decarbonize its asset base or build low-emissions production capacity	Demand and supply could be nearly balanced, with most of the supply coming from secondary aluminum	In the near term, suppliers electrify processes; in the longer term, they will use electric crackers or bio feedstocks	Demand exceeds supply by 5-19%, depending on the scenario

1. Current market premium for green aluminum (<4 metric tons of CO2 per ton of aluminum) expected to disappear as a result of high remaining embodied emissions
2. Polypropylene
3. "Low carbon batteries" defined as <42 kilograms of CO2 equivalent per kilowatt-hours

Source: HIS Markit; Recycling Partnership; McKinsey analysis

Optimizing sourcing for sustainability

1. **Develop market insights to manage uncertainties** (e.g., frequently updated supply, demand, and pricing models)

2. **Take a long-term approach to sourcing decisions**
   - Decarbonize suppliers' energy use
   - Adjust the materials mix
   - Partner with suppliers

3. **Build new capabilities beyond supply chain management**
   - Step 1: Develop baseline insights on emissions, supply, demand, and pricing for every material input
   - Step 2: Chart a sourcing strategy to cut emissions over multiple time frames
   - Step 3: Implement low-emissions sourcing plans at speed

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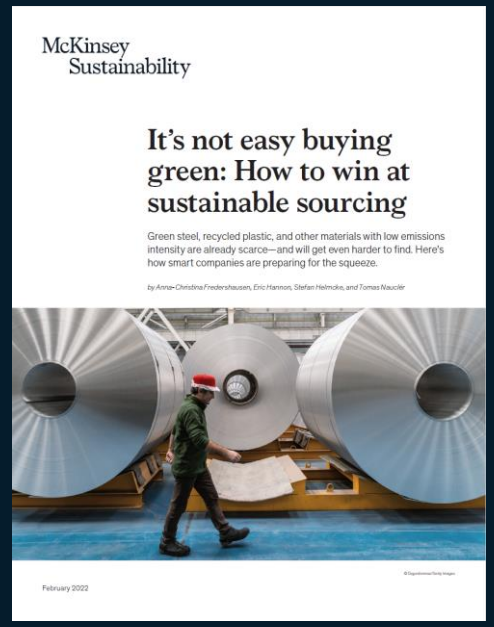

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