

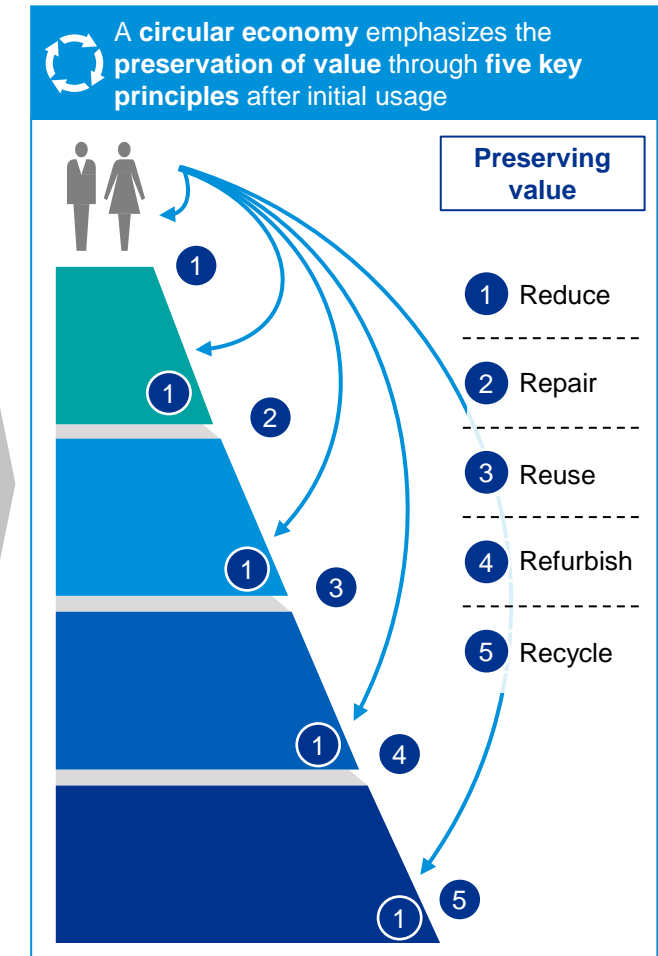
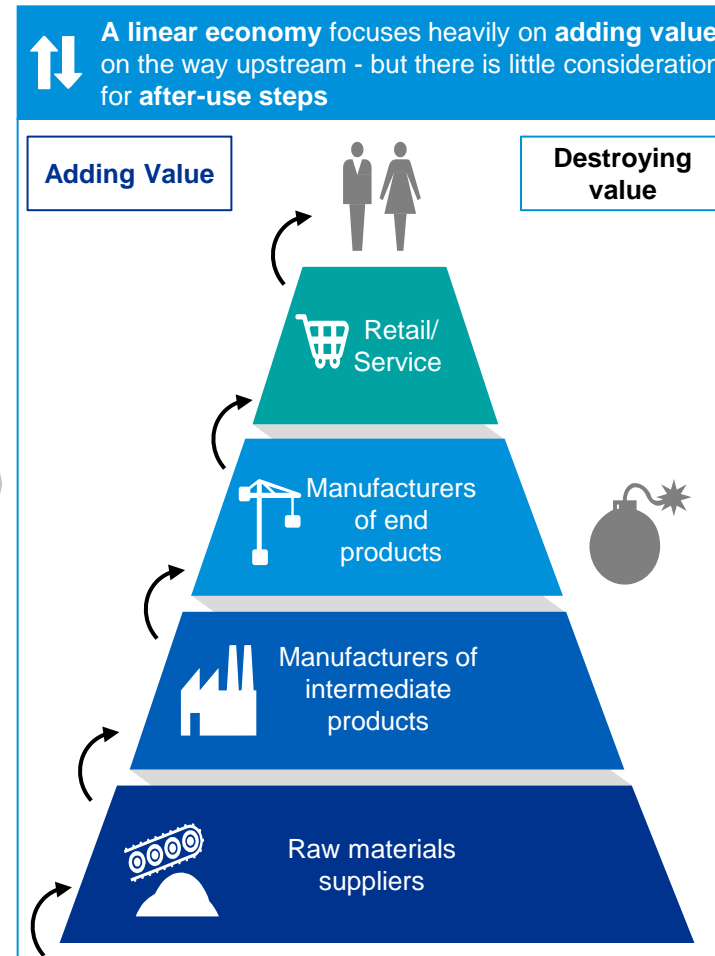
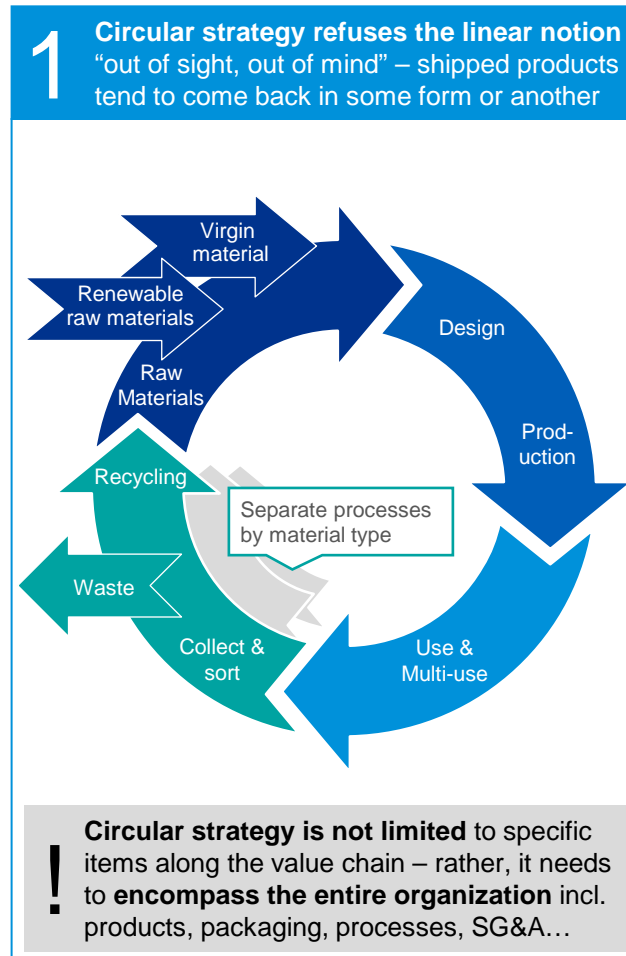


Circular Economy

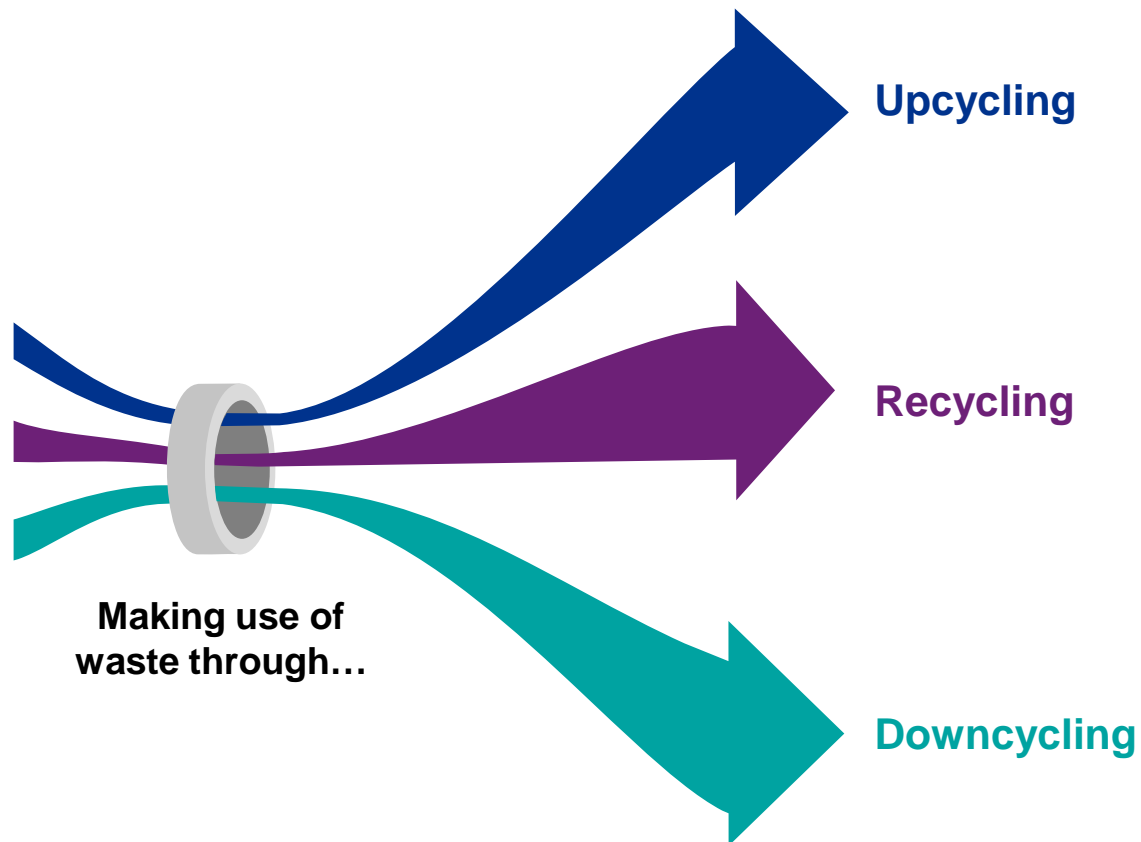


Global Strategy Group | Christian Lumpe, Tom Hesselink, Julian J. Rossig
10.06.2021

A linear economy destroys value - a circular one strives to preserve it



"Re-cycling" is more ambitious than what is typically associated



Examples

- Turning **scrap metal** into kids' **toys**
- Converting **wooden flooring** into a **bookshelf**



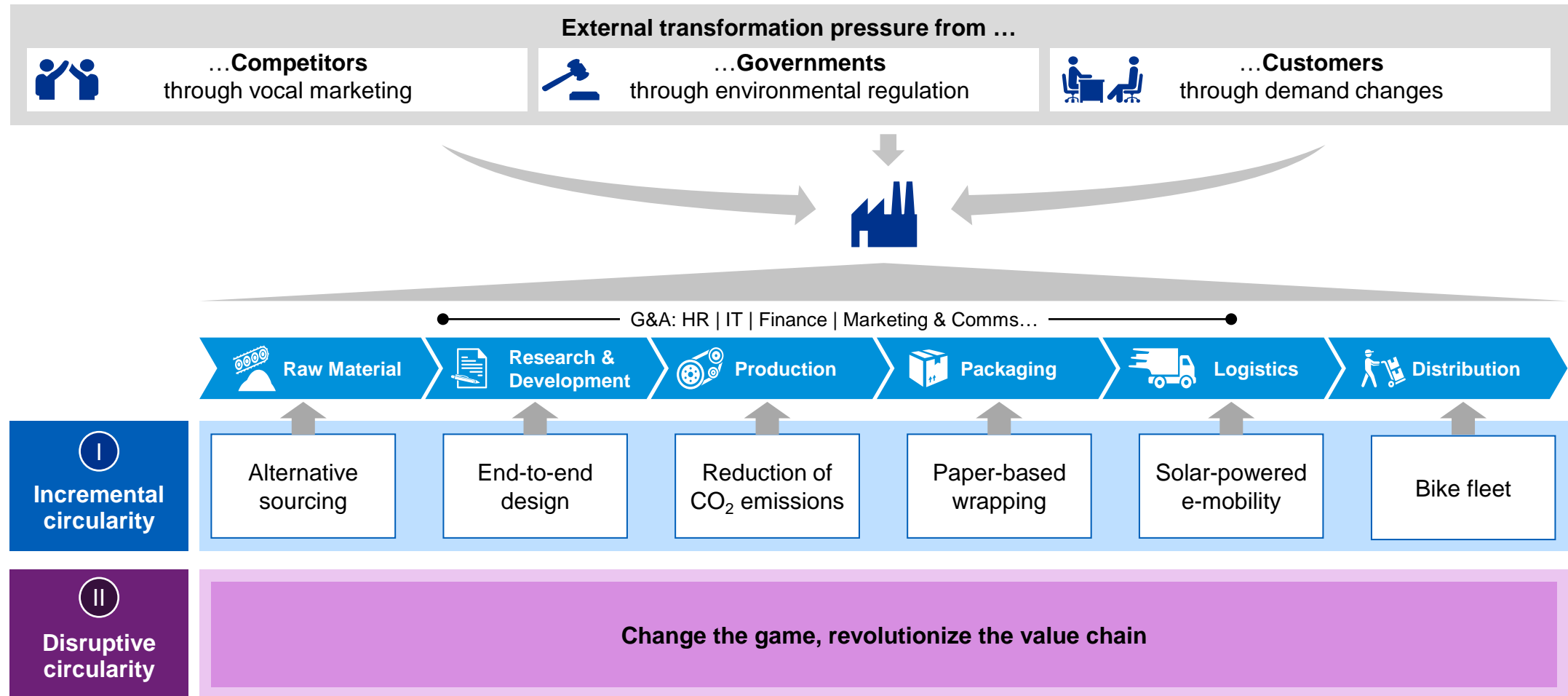
- "Pfandsystem": **PET bottle** to **PET bottle**
- **Textile recycling**, e.g. Stockholm pilot store



- Using **food packaging** for garden **pottery**
- Degrading **plastic bottles** to **road surface** materials



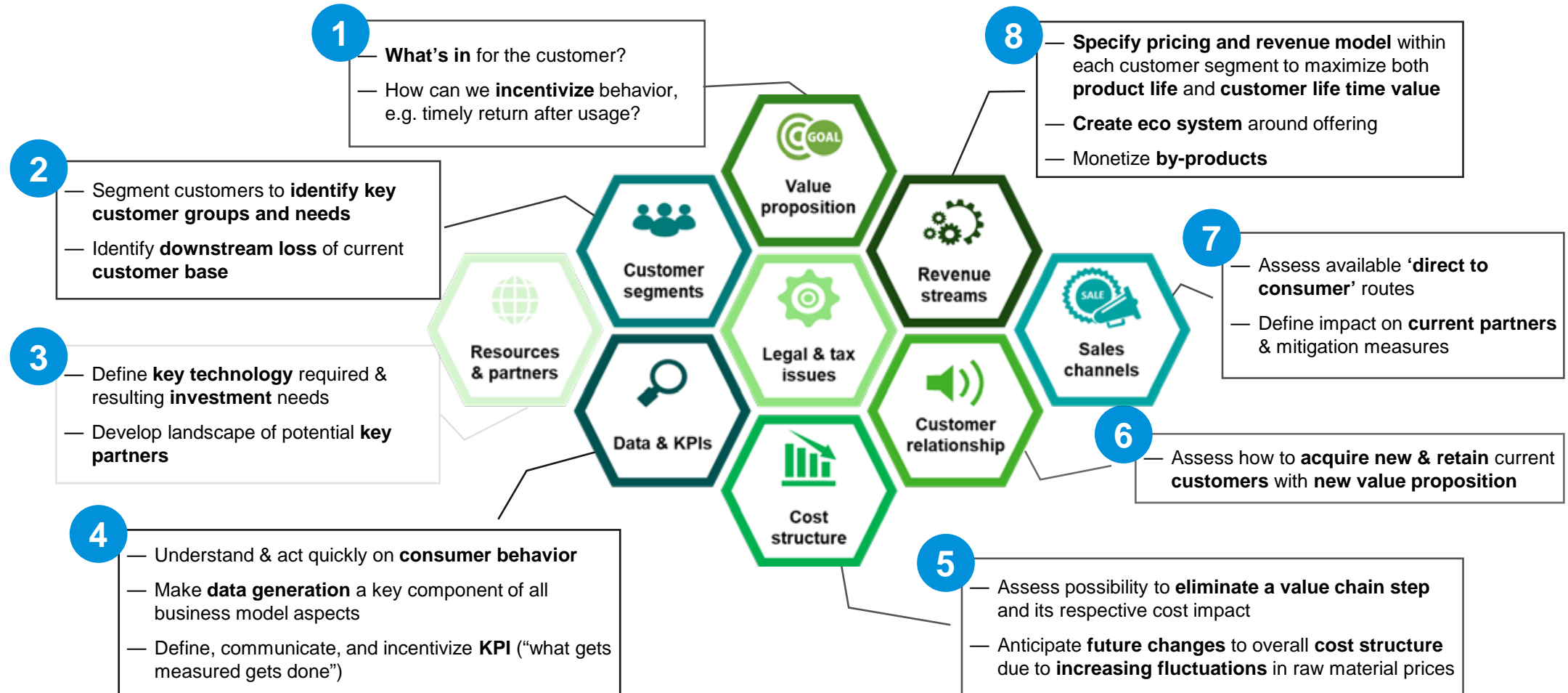
Transformation pressure leaves two fundamental coping mechanisms



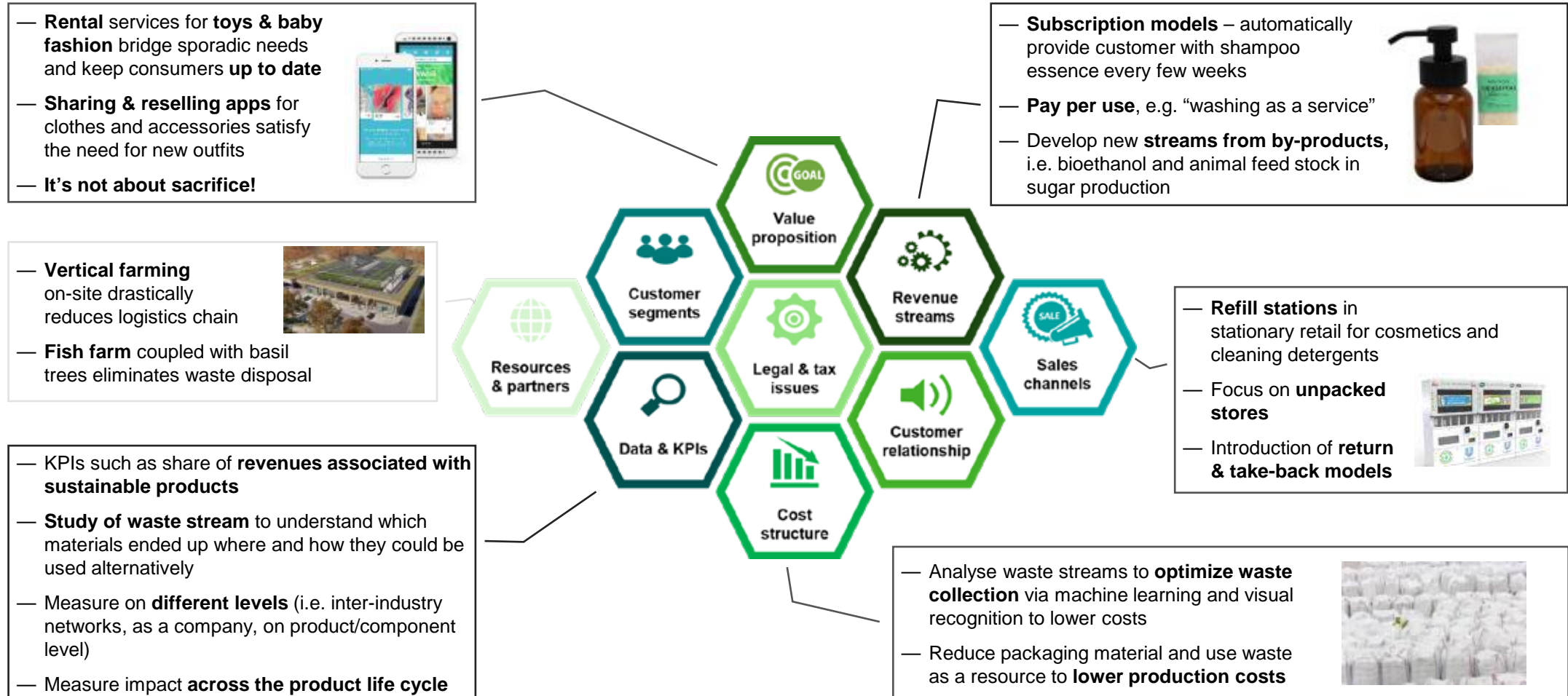


Circular Strategy

A truly circular business model requires more than waste reduction

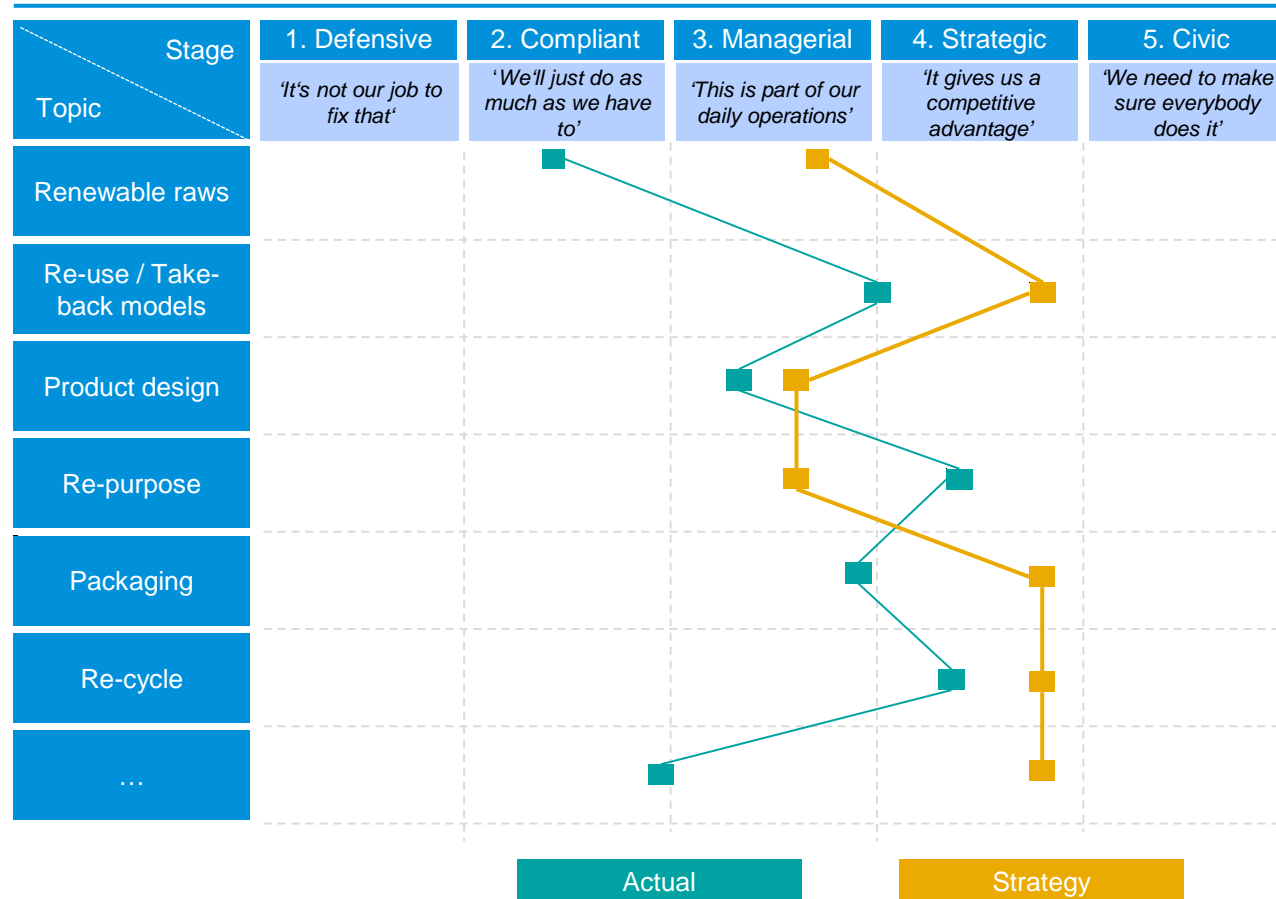


A number of successful consumer goods initiatives guide the path

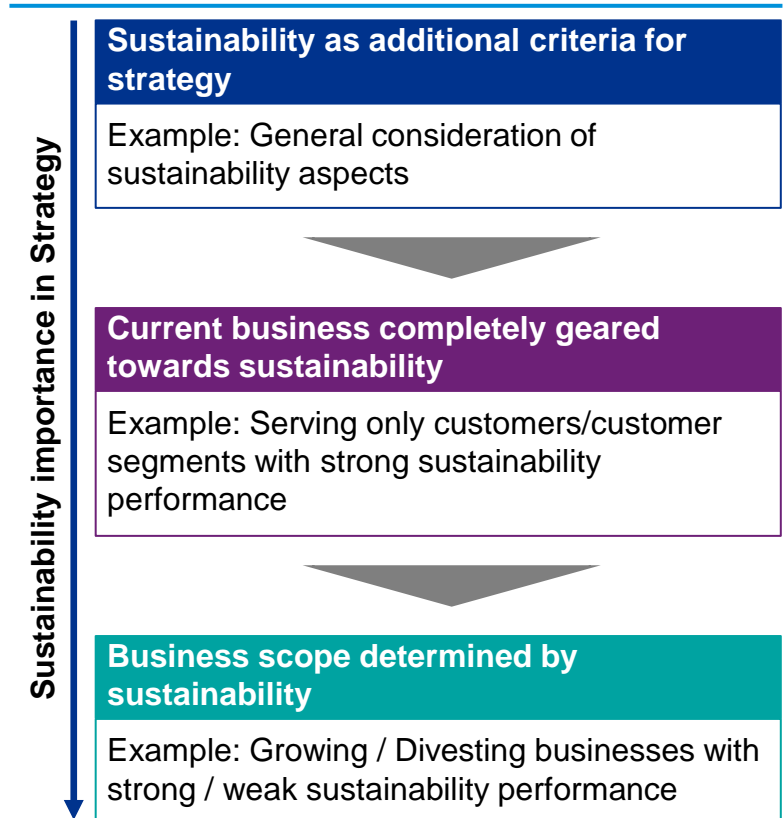


How ambitious are you in setting your targets and how radical are you to implement your ambitions into reality?

Ambition level definition for identified ESG levers



Level of business model change





Plastics Recycling


Introduction to plastics

Plastic is a vital material and the plastic industry is vital in European economy and society, but the mostly linear way of production puts large strains

Key figures of European plastics industry, 2019

| | | |
|---|-----------------------------------|---|
|  Jobs | >1.5 million people | The plastics industry gives direct employment to more than 1.5 million people in Europe |
|  Trade balance | 13 billion euros | The European plastics industry had a positive trade balance of 13.1 billion euros in 2019 |
|  Public finances | Close to 30 billion euros | The European plastics industry contributed to 28.5 billion euros to public finances and welfare in 2019 |
|  Industrial value added | 7th in Europe | The European plastics industry ranks 7th in Europe in industrial value added contribution, at the same level as the pharmaceutical industry and very close to the chemical industry |
|  Multiplier effect | 2.4x in GDP and almost 3x in jobs | The European plastics industry has a multiplier effect of 2.4 in GDP and almost 3 in jobs |

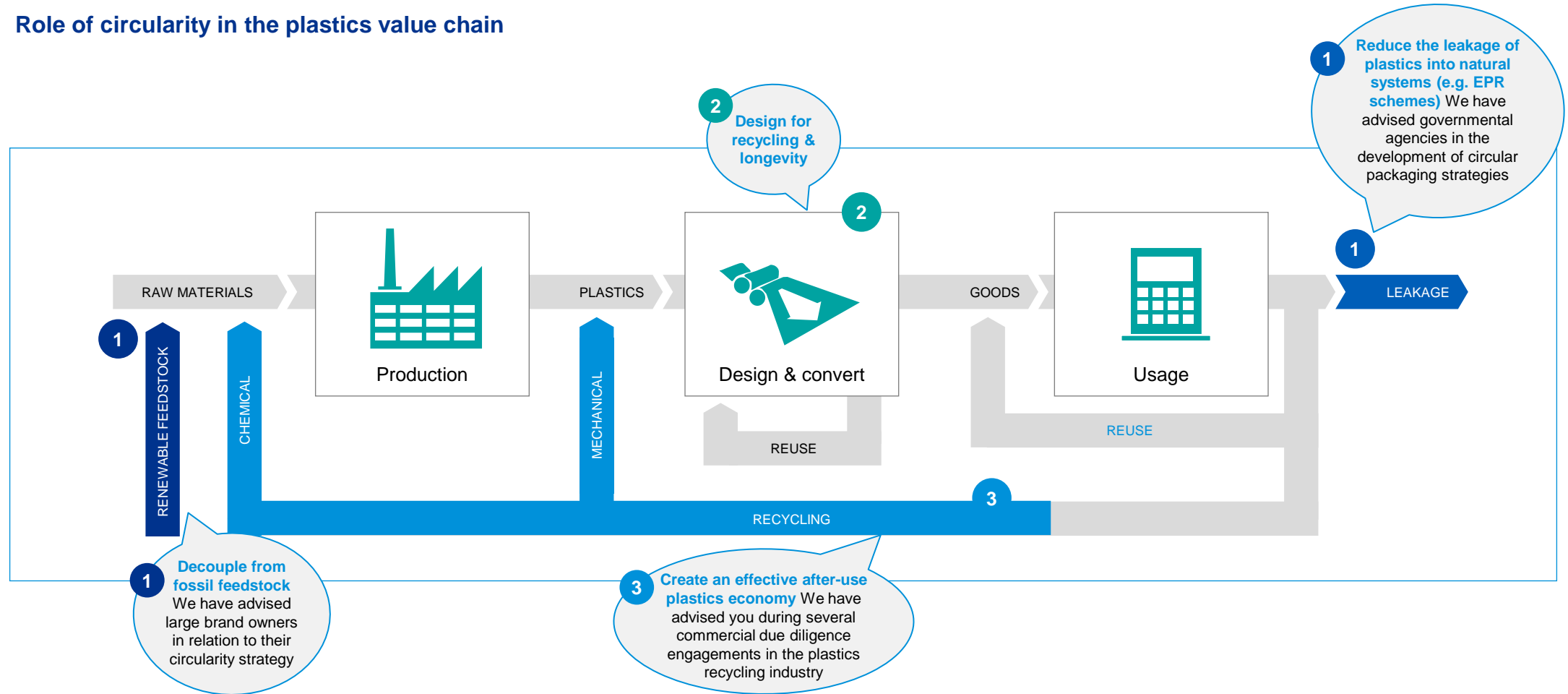
But...

| | | |
|--|-------------------------------|---|
|  Linear production | <25% of plastics are recycled | In the European Union of the collected plastic waste 2/3 is directly incinerated or landfilled. Of the plastics sent to recycling only 60 – 70% is actually recycled, while still primarily <i>downcycled</i> |
|--|-------------------------------|---|

Circularity in plastics

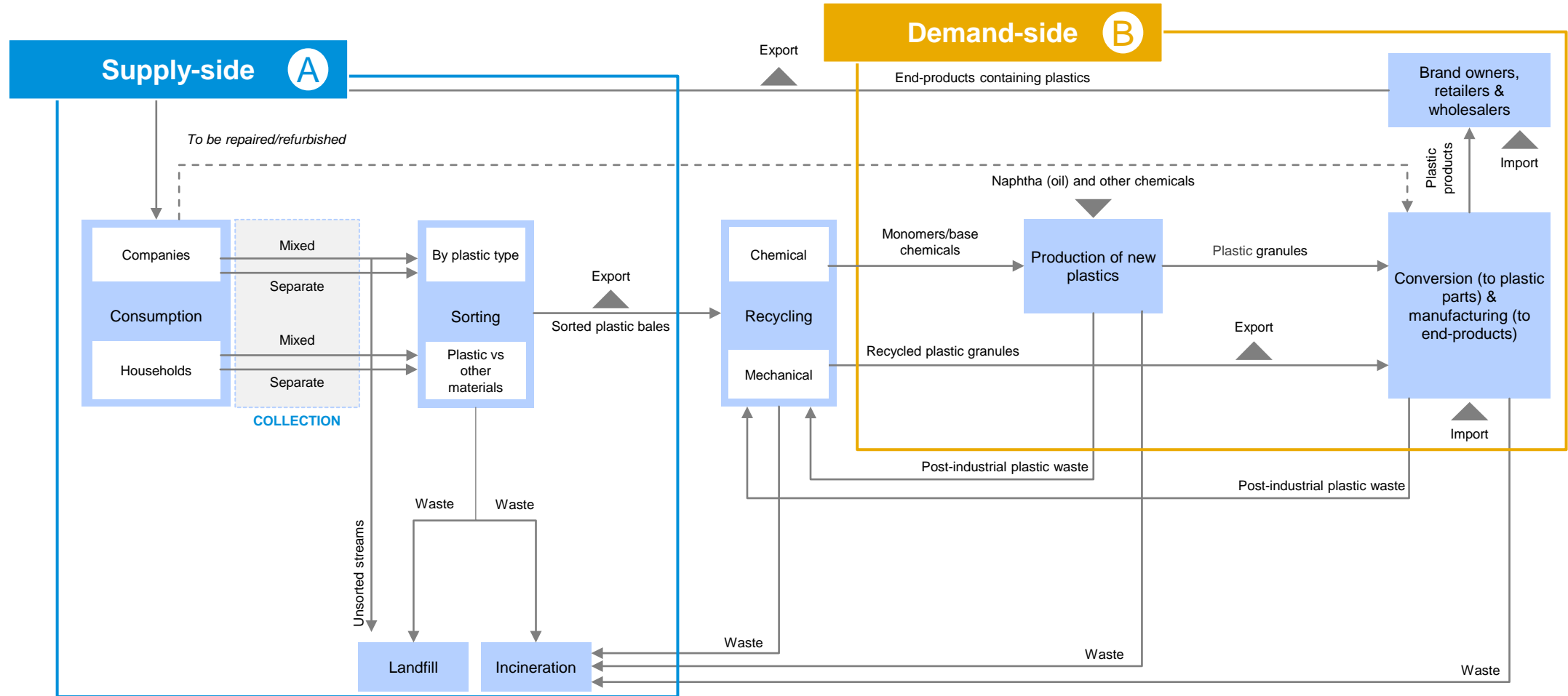
Circularity is the key theme in plastics and recycling is at its core

Role of circularity in the plastics value chain



Circularity in plastics

Plastic recycling is part of a complex waste management network



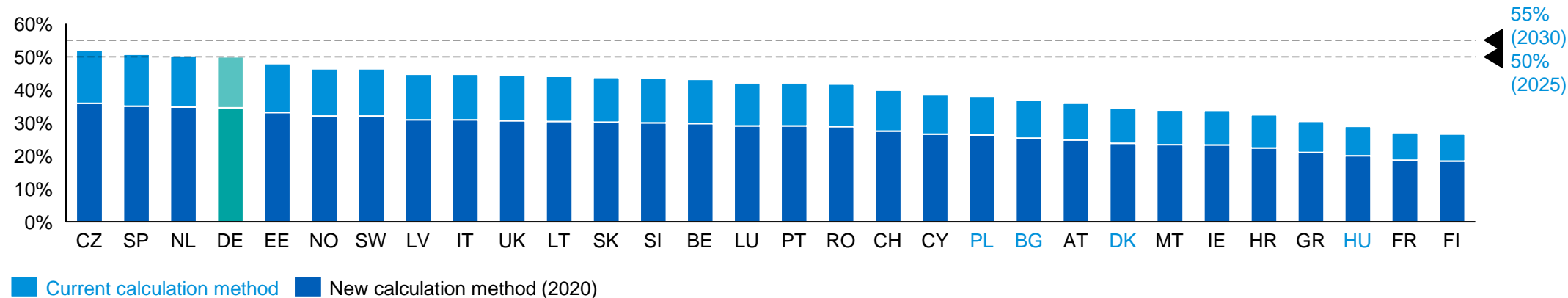
Sources: KPMG expertise and analysis based on interview feedback and secondary sources

Supply side

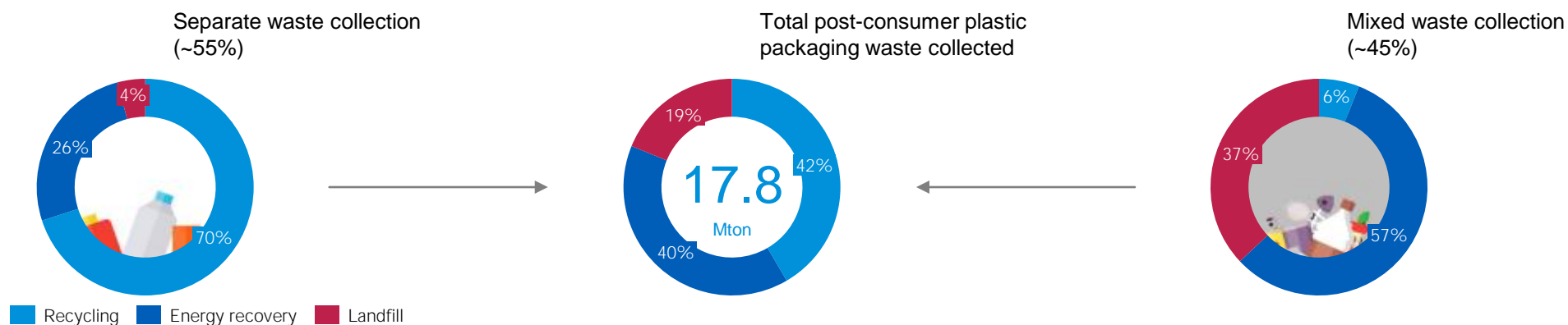
European recycling rates are far behind EU targets, as almost half of all plastics end up in mixed waste which is not recycled

Recycling rate of plastic packaging waste, 2018

EU recycling targets:



Source and treatment of plastic packaging waste, Europe (2018)

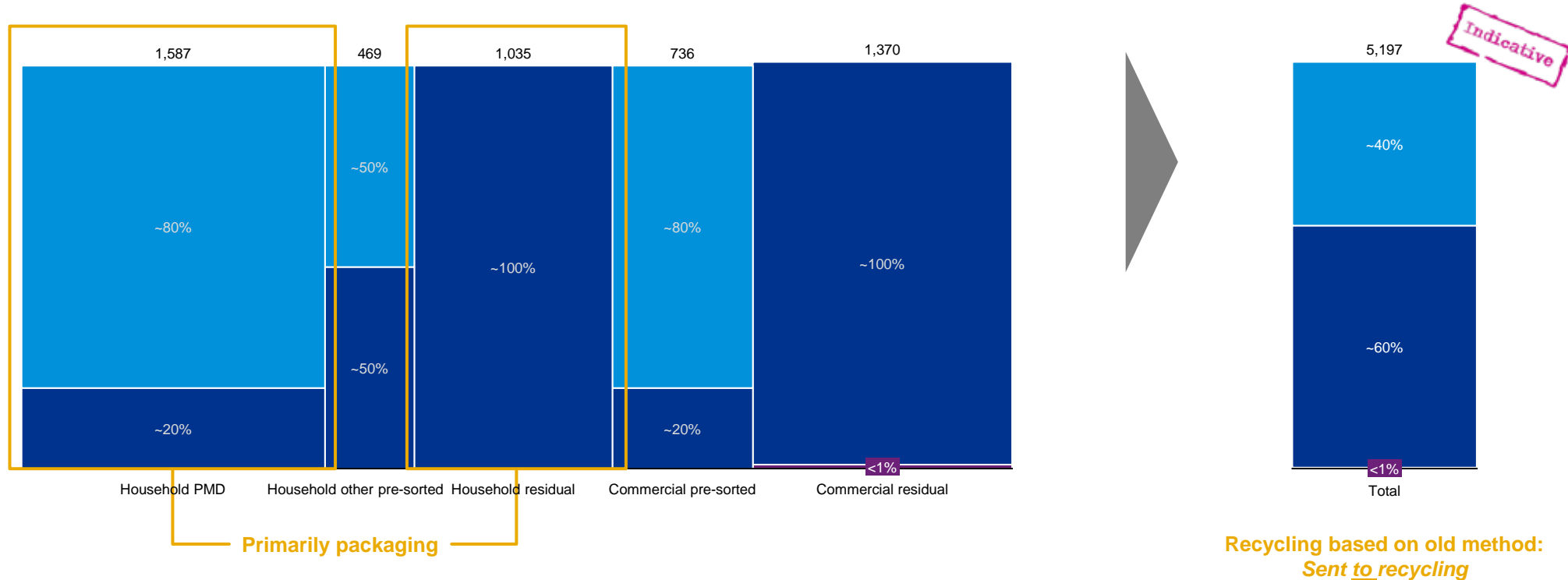


Supply side

Even in Germany, plastics in mixed waste remain very large; not recycling these plastics is a primary reason for the <50% recycling rate

A

Plastic waste by waste stream and treatment(a), Germany, 2018 (kt)



Source: Interview program; KPMG analysis.

Demand for recycled plastics will increase by voluntary pledges of large brand owners, but will primarily be driven by the EU Green Deal

Voluntary pledges

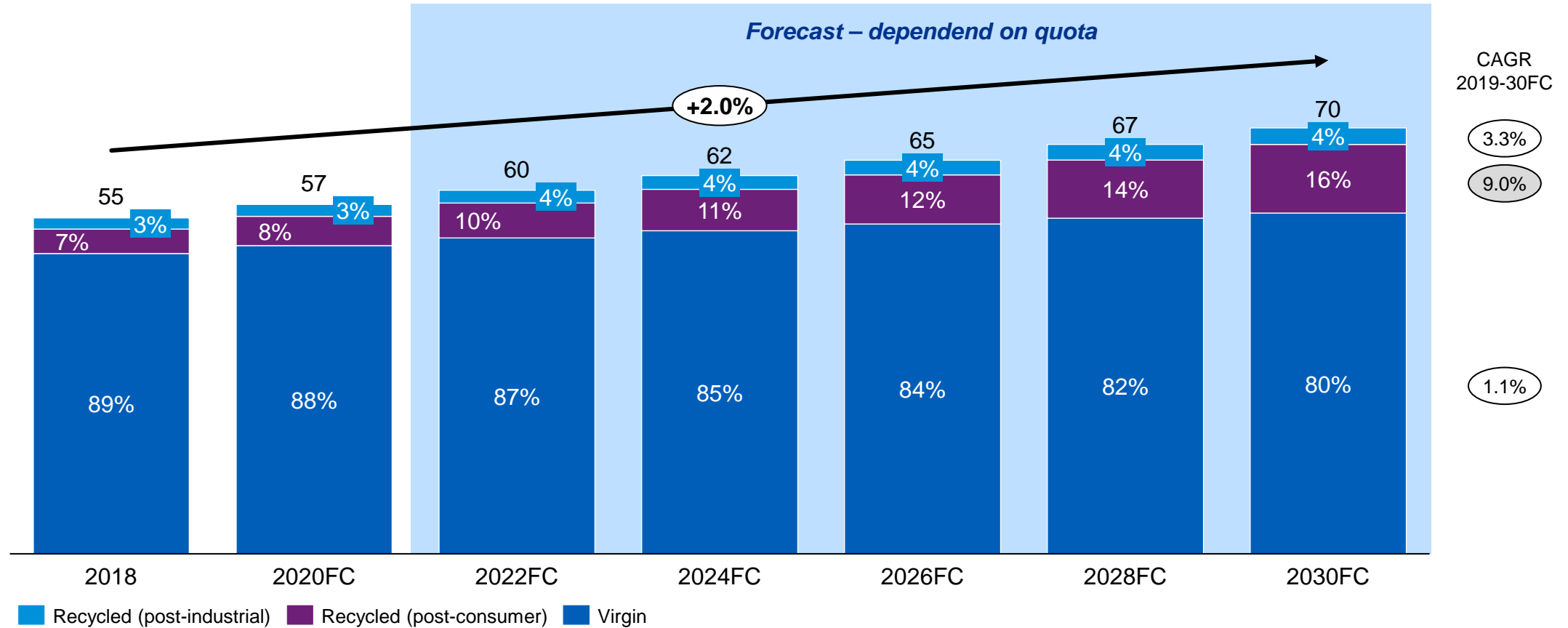
| Company | Pledge |
|---------|--------|
| | |
| | |
| | |
| | |
| | |
| | |
| | |

Demand

Consequently significant demand growth can be expected from plastic recycling

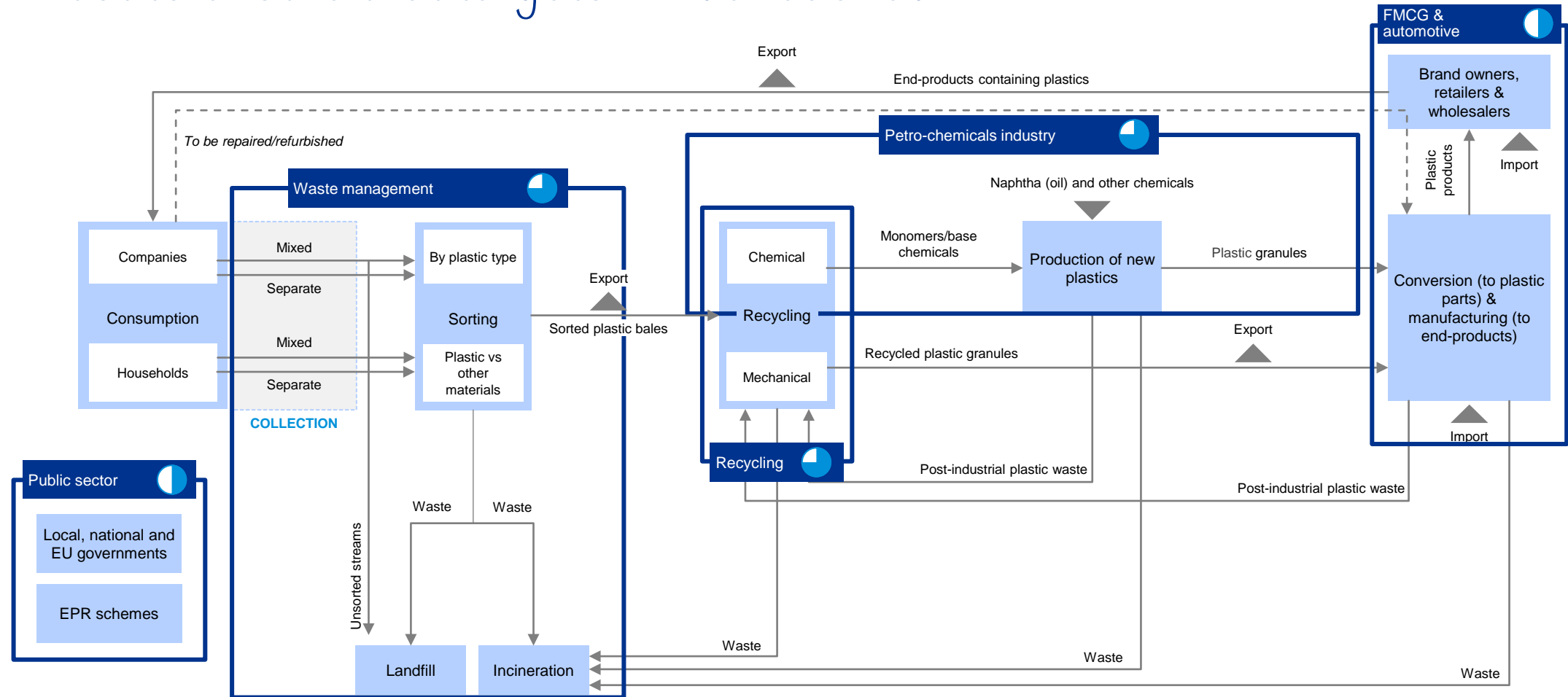
B

Plastic converter demand Europe, virgin versus recycled (2018-2030FC) – conservative scenario



Material flows

Stakeholders across the value chain are impacted and need to act and invest to ensure that targets will be reached



Your contacts



Dr. Christian Lumpe

Partner
Global Strategy Group
M +49 151 74453543
clumpe@kpmg.com

KPMG AG
Wirtschaftsprüfungsgesellschaft
Tersteegenstraße 19-23
40474 Düsseldorf



Tom Hesselink

Partner
Deal and Growth Strategy
M +31 6 27047329
hesselink.tom@kpmg.nl

KPMG N.V.
Laan van Langerhuize 1
1186 DS Amstelveen
The Netherlands



Julian J. Rossig, Ph.D.

Senior Manager
Global Strategy Group
M +49 170 3028 107
jrossig@kpmg.com

KPMG AG
Wirtschaftsprüfungsgesellschaft
Fuhrentwiete 5
20355 Hamburg



www.kpmg.de/socialmedia

ESG has become a key driver of global economic value creation

Economic forces of climate change



Climate Change

Economic consequences of a 3 to 4° global warming trajectory. Natural disasters as a risk for **global operating-, business models** and **investments**



Consumer Sentiment

Social **pressure**, rising **purchasing power** and **growing wealth** of the young environmentally conscious **generations "Y" and "Z"**



Capital Markets

Emergence of **ESG premia** and increasing **pressure from asset managers**
Increasing importance of **ESG-related reporting and disclosures**



EU Green New Deal & Green Recovery

Sustainable transformation strategy for the EU and **€750bn recovery package** for ecological growth following Covid-19 crisis, partly financed by **new ESG taxes**



EU Taxonomy

Classification system for **ecologically sustainable** economic activities **channeling capital flows** towards sustainable **development**



Policy Shifts by China & USA

Pledge to reach **climate neutrality by 2060** is shaping next Chinese 5-year plan
Biden administration is very likely to realize more ambitious climate policies

KPMG offers a suite of dedicated tools to tackle these challenges

| # | Topic | Solution |
|------|---|--|
| I | ESG Strategy & Value Creation | Identification of value-creating measures along ESG criteria Definition and implementation of sustainable company strategies |
| II | ESG Due Diligence | Quantitative sustainability-related insights along the transaction cycle at deal speed Maximization of the transaction value (buy & sell side) |
| III | Green Deal Assessment | Impact of the EU Green Deal on the business / operating model and financing conditions |
| IV | Hydrogen Assessment | Effects of a hydrogen market entry or a company transformation to a hydrogen-based business model |
| V | Decarbonization | Transparency on potential decarbonization options Analysis of financial and strategic effects |
| VI | Sustainable Business Valuation & Decision Assessment | Quantification of ESG business risks / opportunities Performance / risk simulation of potential strategic options |
| VII | ESG Investment Story - Debt Advisory | ESG-driven financing solutions and support across all phases of the financing process |
| VIII | ESG Investment Story - Rating | Maximize value by optimizing ESG ratings from leading providers |
| IX | Circular Economy | Definition of circular business models to disrupt existing markets as well as create new segments Identification of value chain optimization potentials |