

5 OCTOBER 2017

# Wirkungsmessung in der Wertschöpfungskette SESSION D



## Umweltwirkungen deutscher Lieferketten

*Moritz Nill*

*Director*

*Sytain Consulting GmbH*



**systain**



## Umweltwirkung in der Lebensmittel-Belieferung

*Michael Goebbels*

*Director Corporate Sustainability*

*Metro AG*

**METRO**

# Atlas on Environmental Impacts

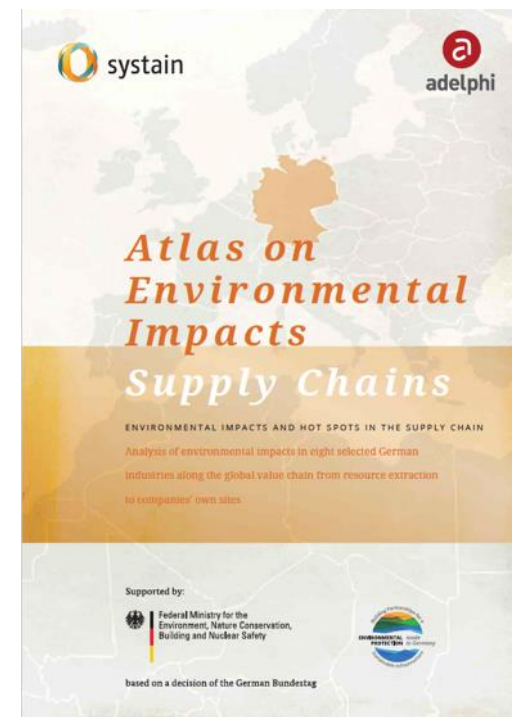
Analysis of environmental impacts along the  
global supply chain

5 October 2017

Supported by:



Federal Ministry for the  
Environment, Nature Conservation,  
Building and Nuclear Safety





**Dr. Moritz Nill**

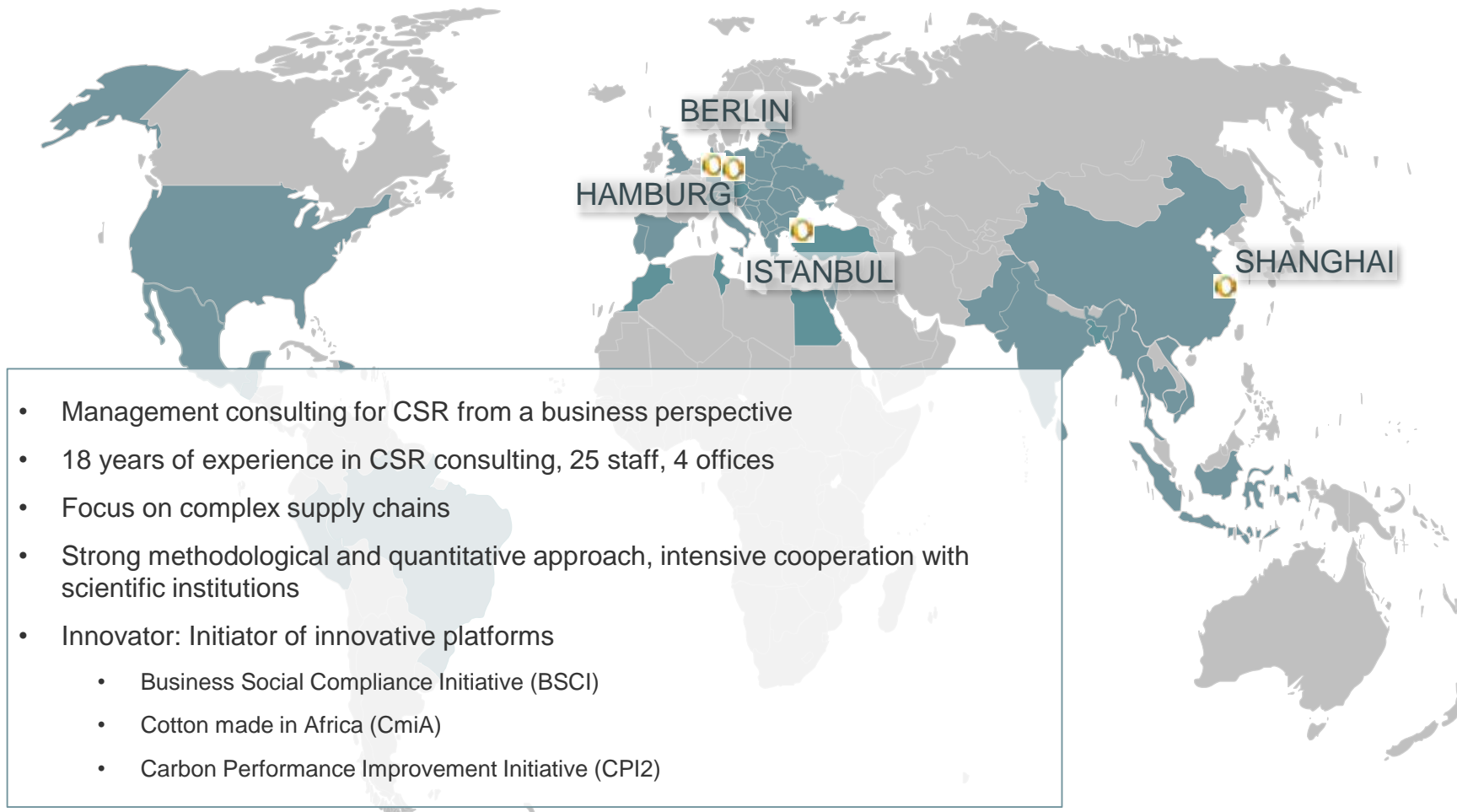
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## ***Director, Strategy and Impact Measurement***

- Dipl.-Phys.
- PhD in Energy Economics, using LCA, Input-Output-Modelling and External Costs
- Head of Climate Change Services at PwC until 2012
- Expert on the verification of greenhouse gas emissions



systain “we embed sustainability into the core business of our clients”



Systain offices

Countries with business activities

The atlas provides practical help to companies to better understand the environmental impacts along the supply chain



The Atlas on Environmental Impacts in Supply Chains helps companies, especially SME's, to identify hot-spots and areas for improvement in their (global) supply chains

#### The (global) supply chain



#### Environmental impacts in the supply chain



GHG-Emissions



Air Pollution



Water Use



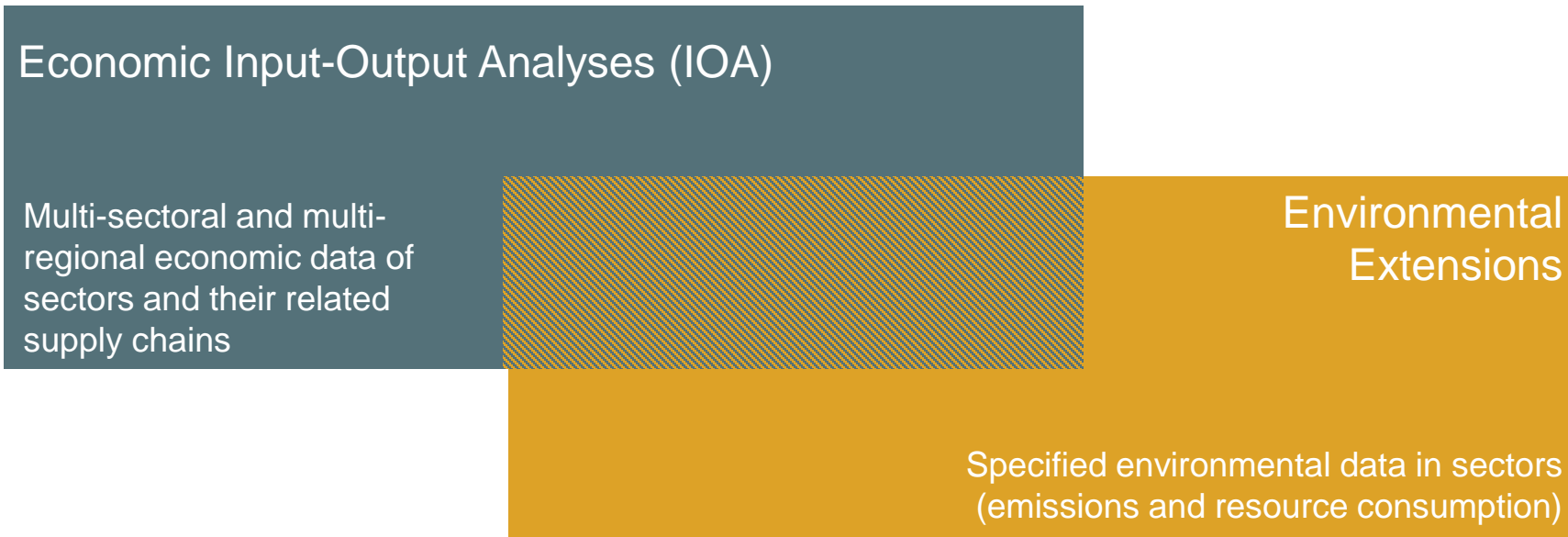
Land Use

Where do which environmental impacts occur, at which supply chain level, in which sectors and in which regions?

Statistical data on supply chain structures and environmental data were combined to quantify the environmental impacts



Environmental impacts have been quantified by so-called Environmentally Extended Input-Output-Analyses (EEIOA)

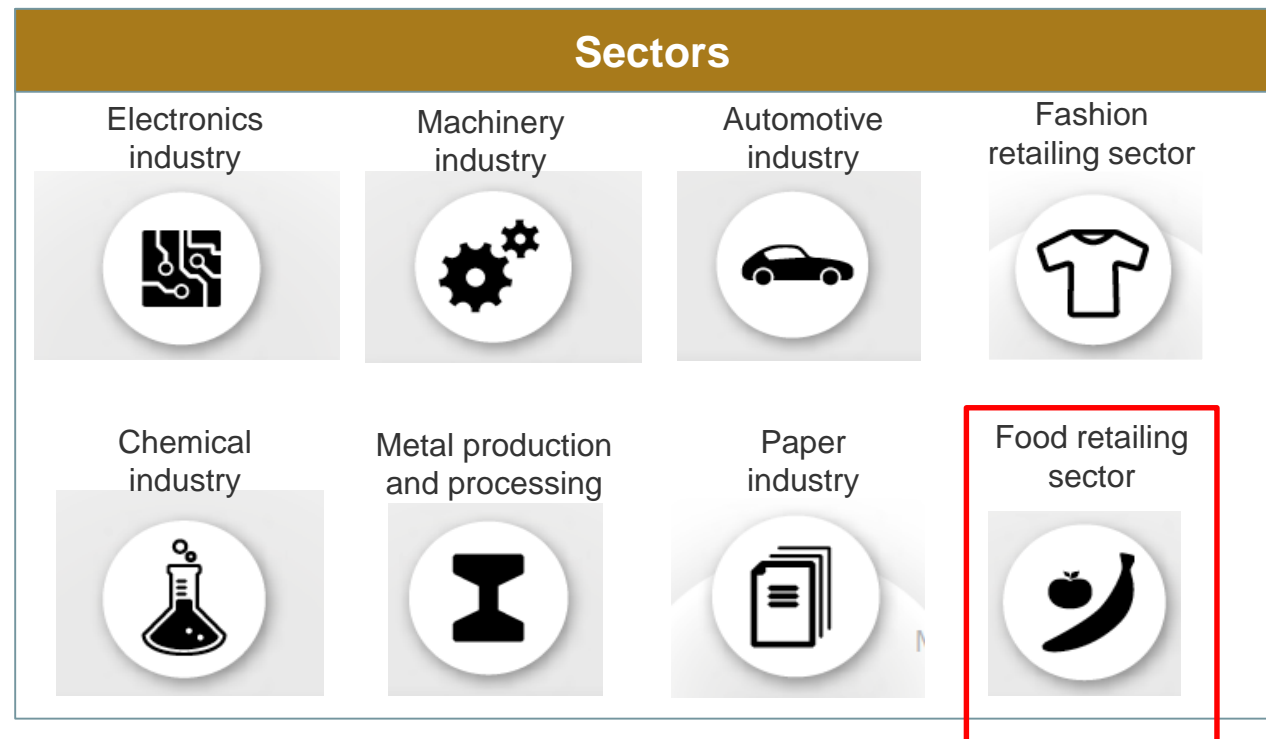


Combining statistical sectoral data and environmental data to analyse environmental impacts in supply chains

## Eight sectors were analysed and described in industry profiles in the Atlas



Profiles of the environmental impacts of eight sectors have been analysed

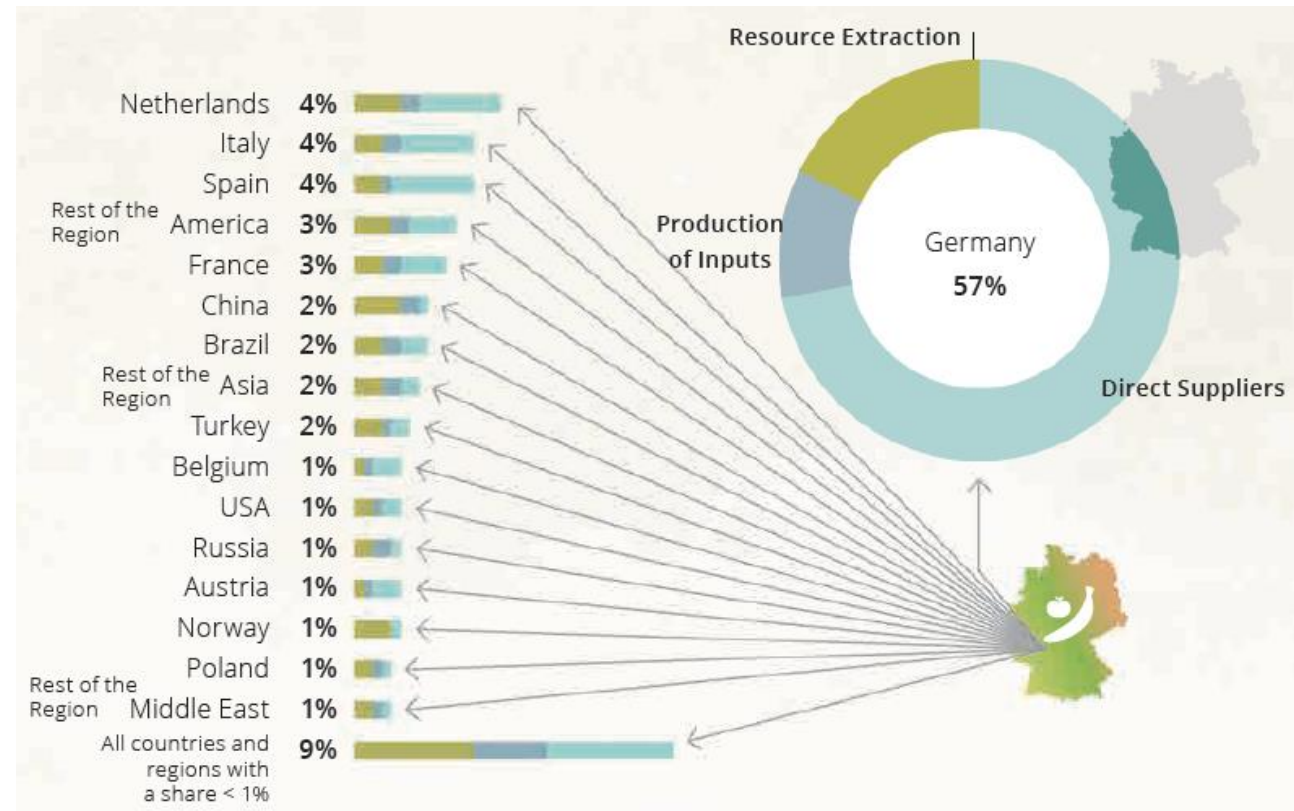




## A majority of the supply chain of Germany's food retailing sector is located in Germany



Value chain in the supply chain of Germany's food retailing sector by major country and supply chain level

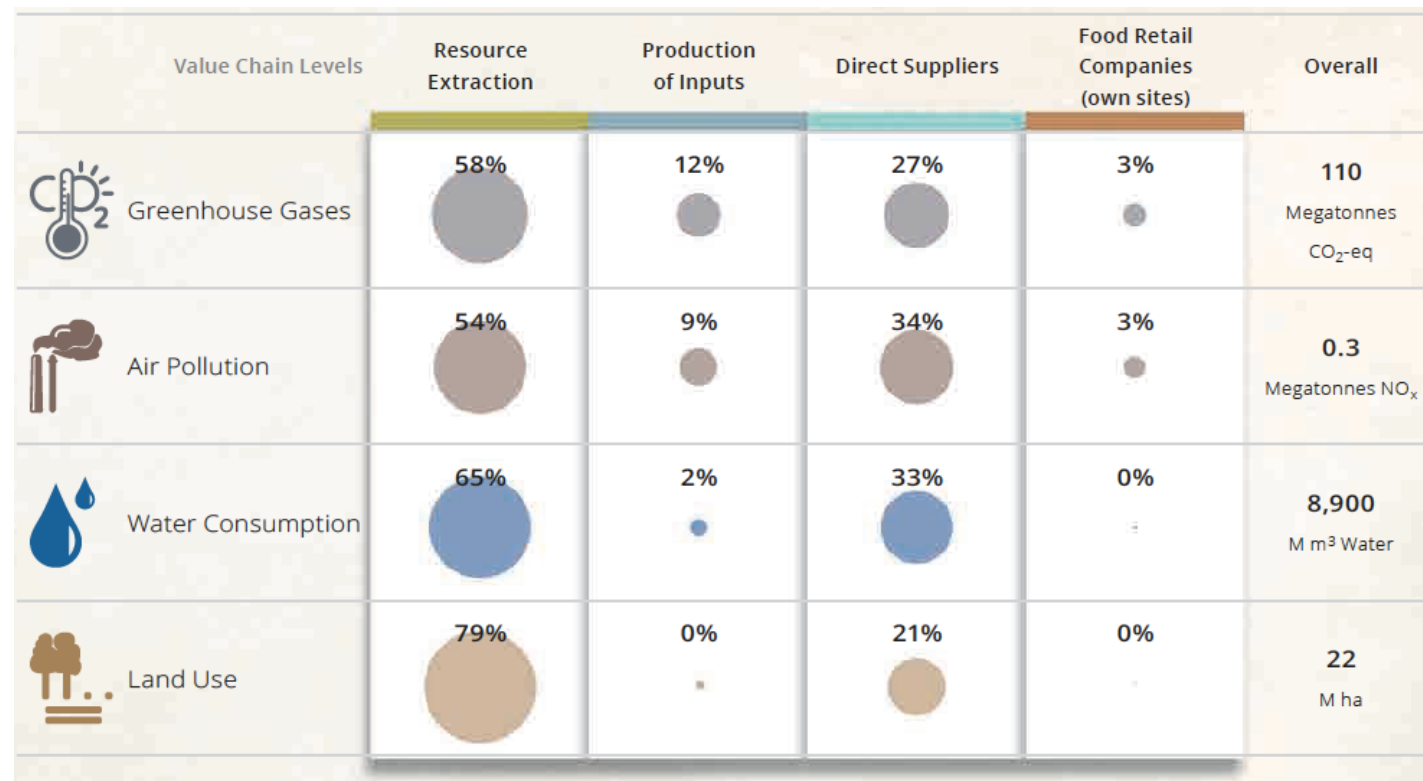




# Food retailers have the highest environmental impacts in the supply chain of all industries under investigation



Distribution of environmental impacts along the supply chain of Germany's food retailing sector



Water consumption can be traced above all to the cultivation of plants (over 90%)



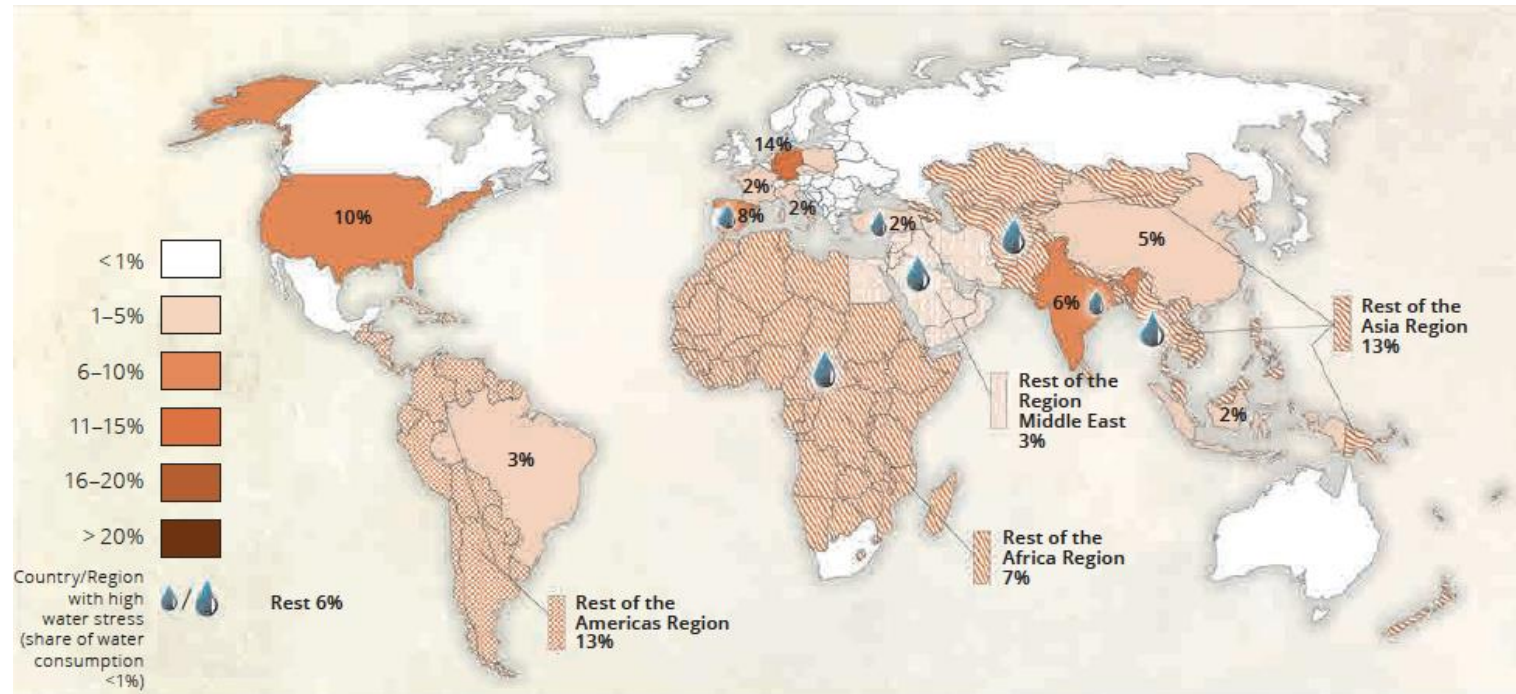
Focus on water consumption: Distribution of water consumption along the supply chain of Germany's food retailing sector by sector



## The highest water consumption is found in regions with high water stress (40%)



Focus on water consumption: Distribution of water consumption along the supply chain of Germany's food retailing sector by country





- The atlas shows the special importance of the supply chain for the analysed industries concerning environmental impacts
- Often environmental management within companies is focused on the impacts at the own sites
- The methodology applied allows identifying hot spots and identifying levers for improvement and benchmarking
- Key questions:
  - What implications does the analysis have for priorities within the environmental management?
  - To what extent are companies responsible for the environmental impacts in the supply chain?
  - How to address impacts in the supply chain?

You can find the atlas here



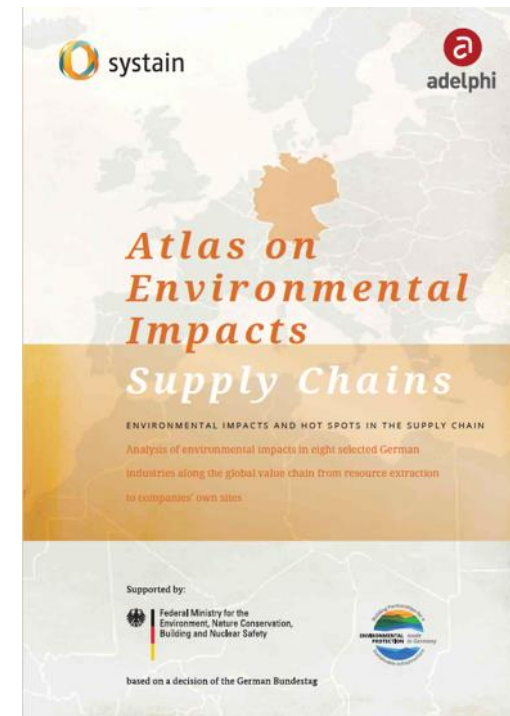
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<http://en.systain.com/umweltatlas-lieferketten/>





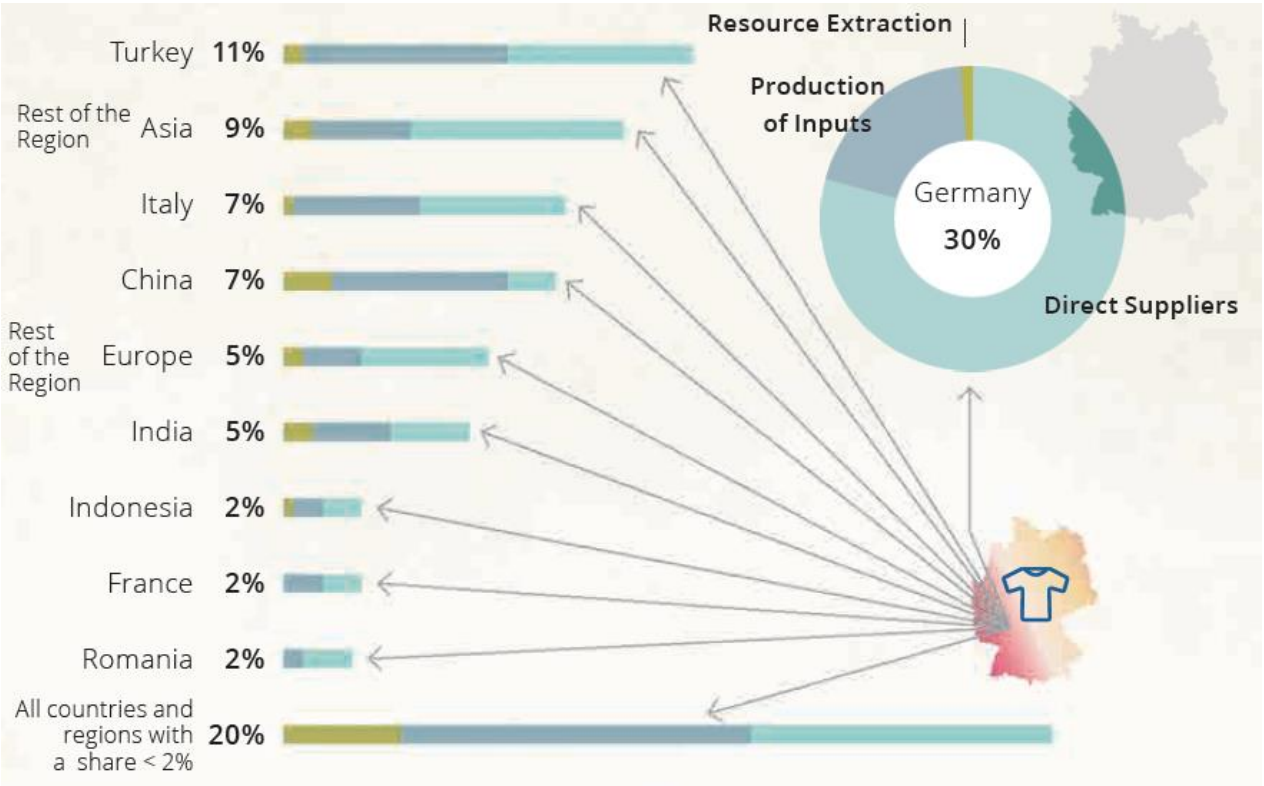
# Appendix

Fashion retailing sector

Important import countries / regions of Germany' fashion retailing sector are Turkey and Asia



Value chain in the supply chain of Germany's fashion retailing sector by major country and supply chain level

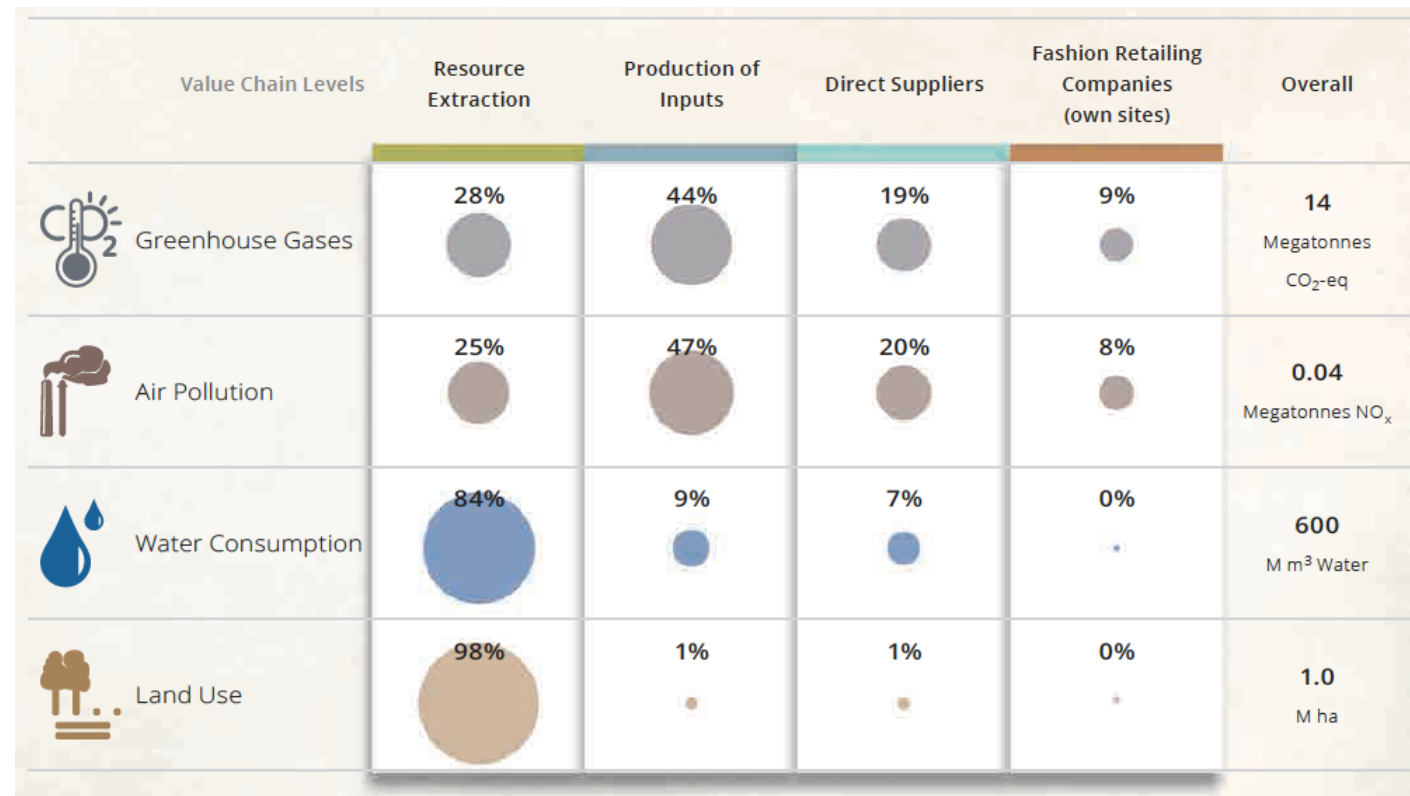




The environmental impacts are many times higher for the supply chain than at the companies' own sites



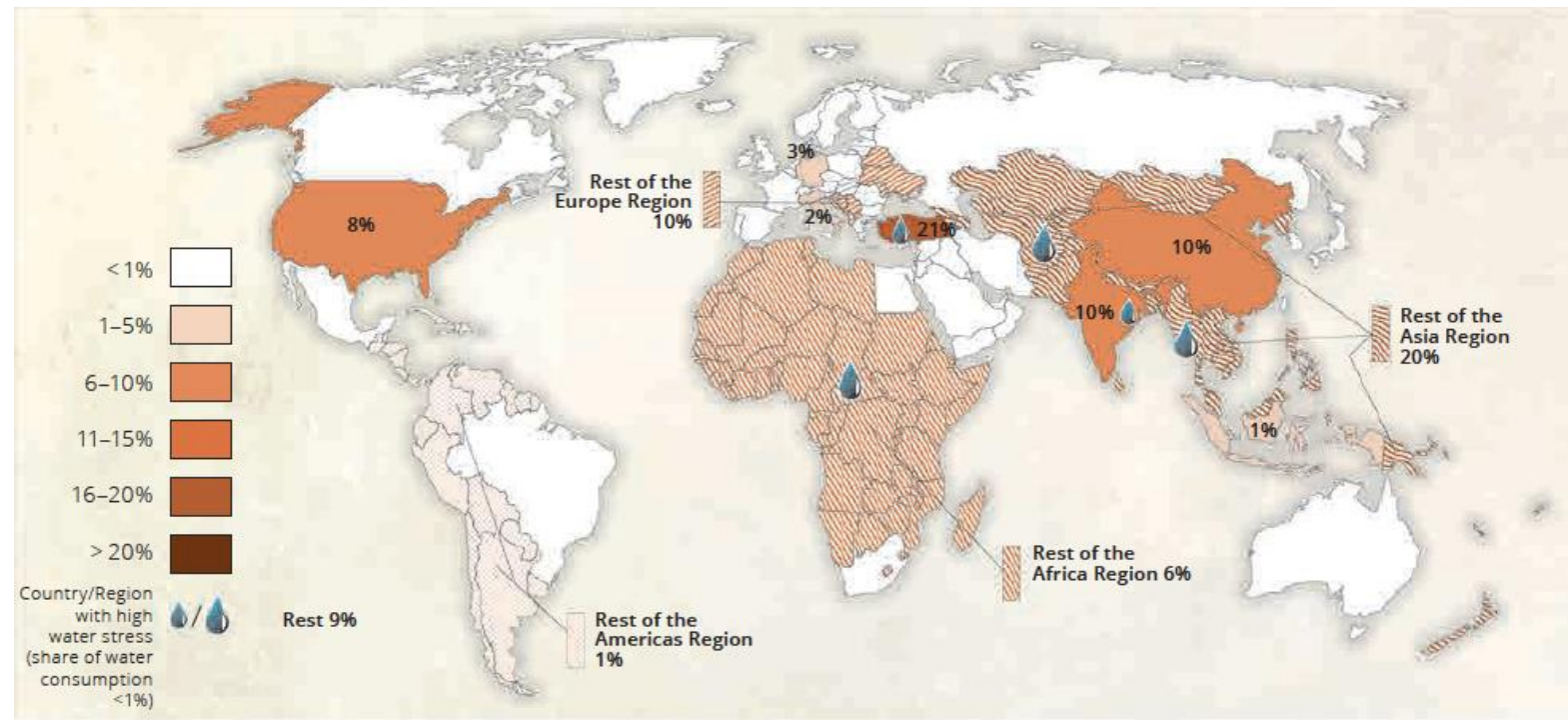
Distribution of environmental impacts along the supply chain of Germany's fashion retailing sector



## Nearly two thirds of water consumption comes from regions with high water stress, esp. Turkey and Asia



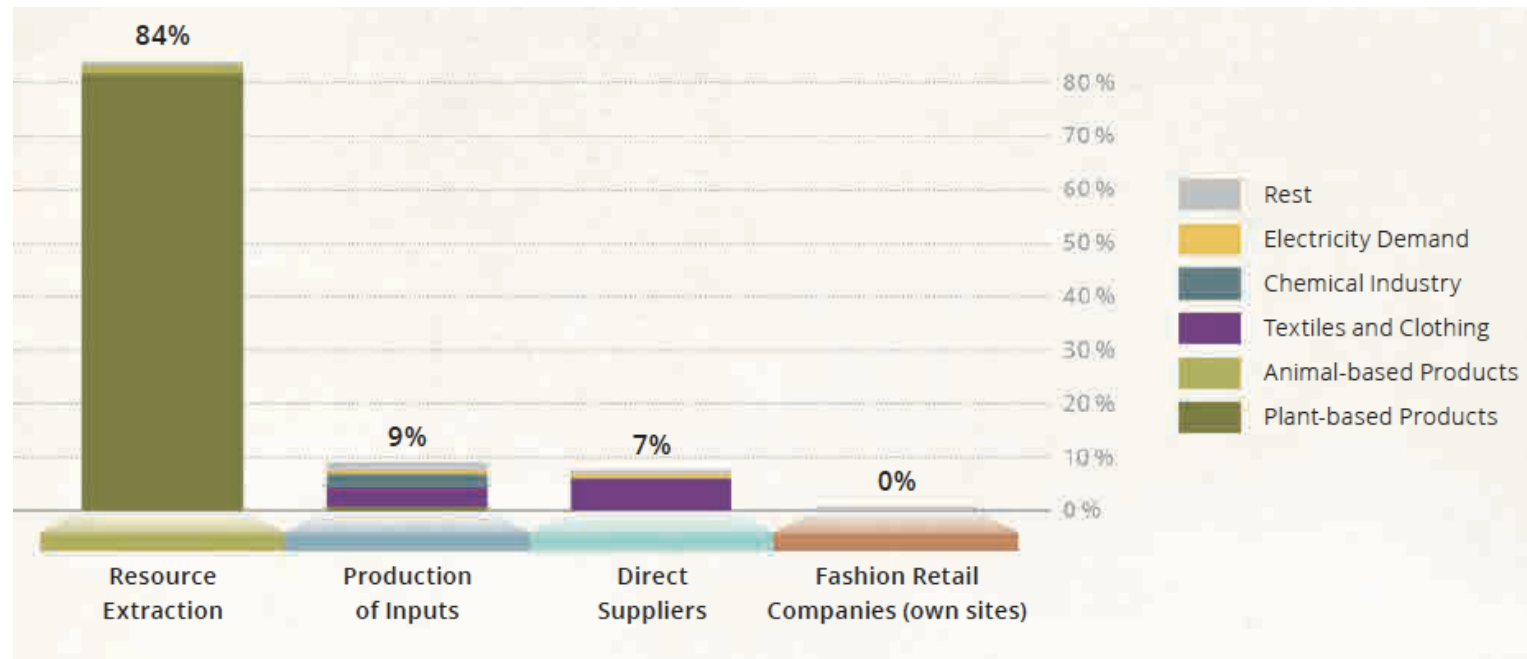
Focus on water consumption: Distribution of water consumption along the supply chain of Germany's fashion retailing sector by country



More than 80% of water consumption is caused by the production of raw materials



Focus on water consumption: Distribution of water consumption along the supply chain of Germany's fashion retailing sector by sector





# **SUSTAINABILITY ACCOUNTING IN ACTION**

05. Oktober 2017,  
#BBNC17

Club Of Rome –  
Die Grenzen des Wachstums



Karl von Frisch –  
Aus dem Leben der Bienen



Diplomarbeit –  
Öko-Controlling



**-50%**

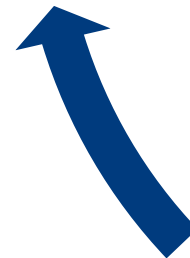
METRO AG –  
Klimaziel 2030

Berufserfahrung –  
20 Jahre Controlling



Studium –  
Wirtschaftsmathematik

METRO AG –  
Sustainability Accounting



METRO AG –  
DJSI Branchenführer 2015-17



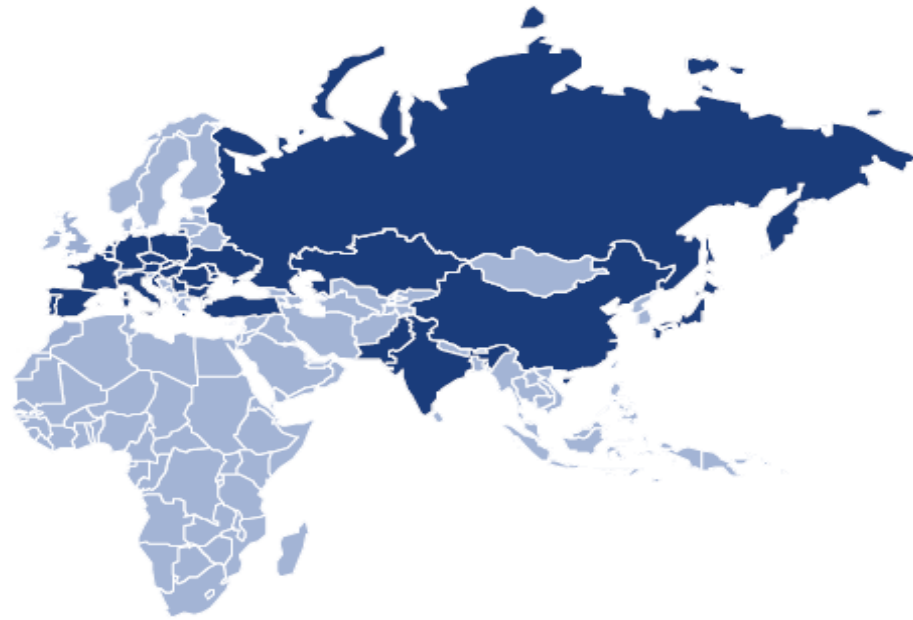
# 1

## METRO WIR HANDELN





# METRO MIT GROßEM FUßABDRUCK ...



**35 Länder**  
**1.030 Märkte**

AUSTRIA BELGIUM BULGARIA  
CHINA CROATIA CZECH REP.  
FRANCE GERMANY HUNGARY  
INDIA ITALY JAPAN KAZAKHSTAN  
MOLDOVA NETHERLANDS  
PAKISTAN POLAND PORTUGAL  
ROMANIA RUSSIA SERBIA  
SLOVAKIA SPAIN TURKEY  
UKRAINE

**> 150.000 Mitarbeiter**  
**> 37 Mrd € Umsatz**



# ... UND ENORMEM HEBEL.

## Unzählige Verbraucher.



# NACHHALTIGKEIT IST INTEGRALER BESTANDTEIL DER STRATEGIE



DIE GLOBALEN HERAUSFORDERUNGEN SIND AUCH UNSERE –  
DA UNSER GESCHÄFT AUF DEM HANDEL MIT ROHSTOFFEN BASIERT.

# EXTERNE ANERKENNUNG UNSERER AKTIVITÄTEN UND TRANSPARENZ



	2015	2016	2017
DJSI	Leader	Leader	Leader
FTSE4GOOD	Listed	Listed	Listed
CDP	99 A-	A-	2017
OEKOM	C+ (prime)	2017	2017



☐ Supply chain and assortment  
☐ Own operations and employees  
☐ All

☐ Customers / product use and end of product life  
☐ Broad corporate governance and social engagement  
☐ Moderate material  
☐ Material  
☒ Very material

Human rights / working conditions in the supply chain

Economic sustainability

Transparency and product information

Support of local community

Grantmaking of owners / external stakeholders

Offering more sustainable product choices

Compliance / anti-corruption

Responsible education and employment

Sustainability of packaging

W.W. METRO GROUP DE MATERIALITY

METRO GROUP | SUSTAINABLE DEVELOPMENT GOALS

METRO GROUP supports the Sustainable Development Goals

# 2

## PROJEKT WIR HANDELN NACHHALTIGER

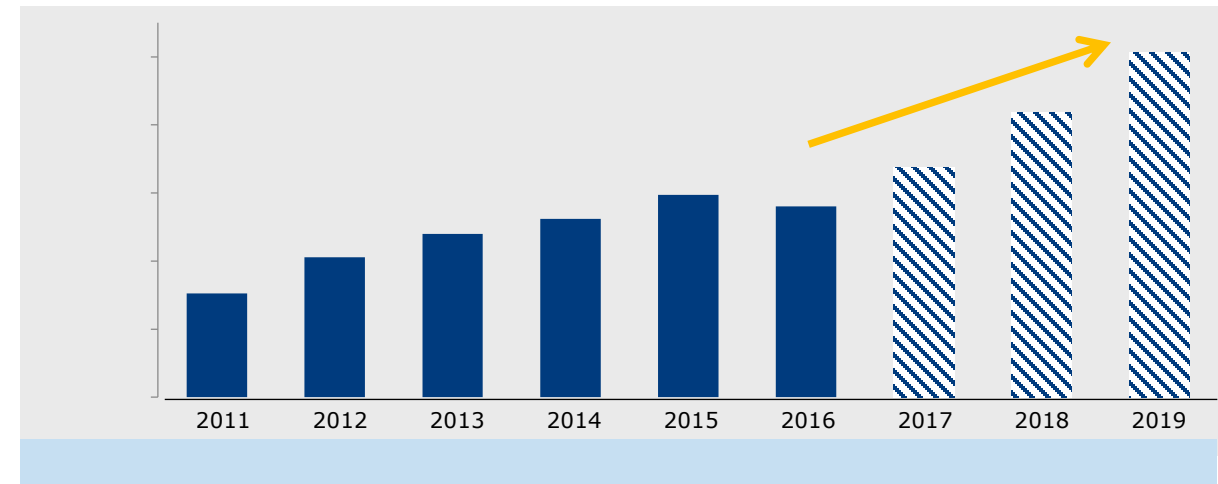


# FOOD SERVICE DISTRIBUTION (FSD) MIT SIGNIFIKANTER WIRKUNG AUF DAS GESCHÄFT ...

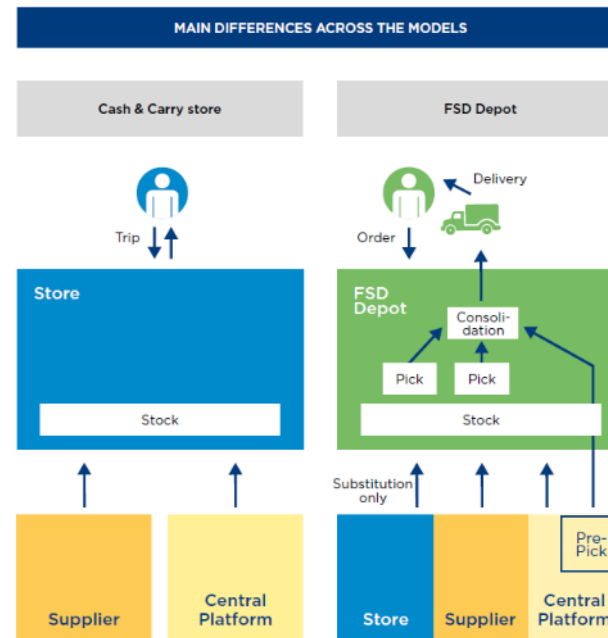
**METRO Cash & Carry plant eine starke Expansion in der Food Service Distribution:**

- Strategische Säule in den Wertschöpfungsplänen.**
- Signifikantes Wachstum geplant.**
- Gesteigerte Investitionen in den nächsten drei Jahren.**

**METRO Cash & Carry Belieferungsumsatz**



# ... UND WIRKUNG AUF NATUR- UND SOZIALKAPITAL?

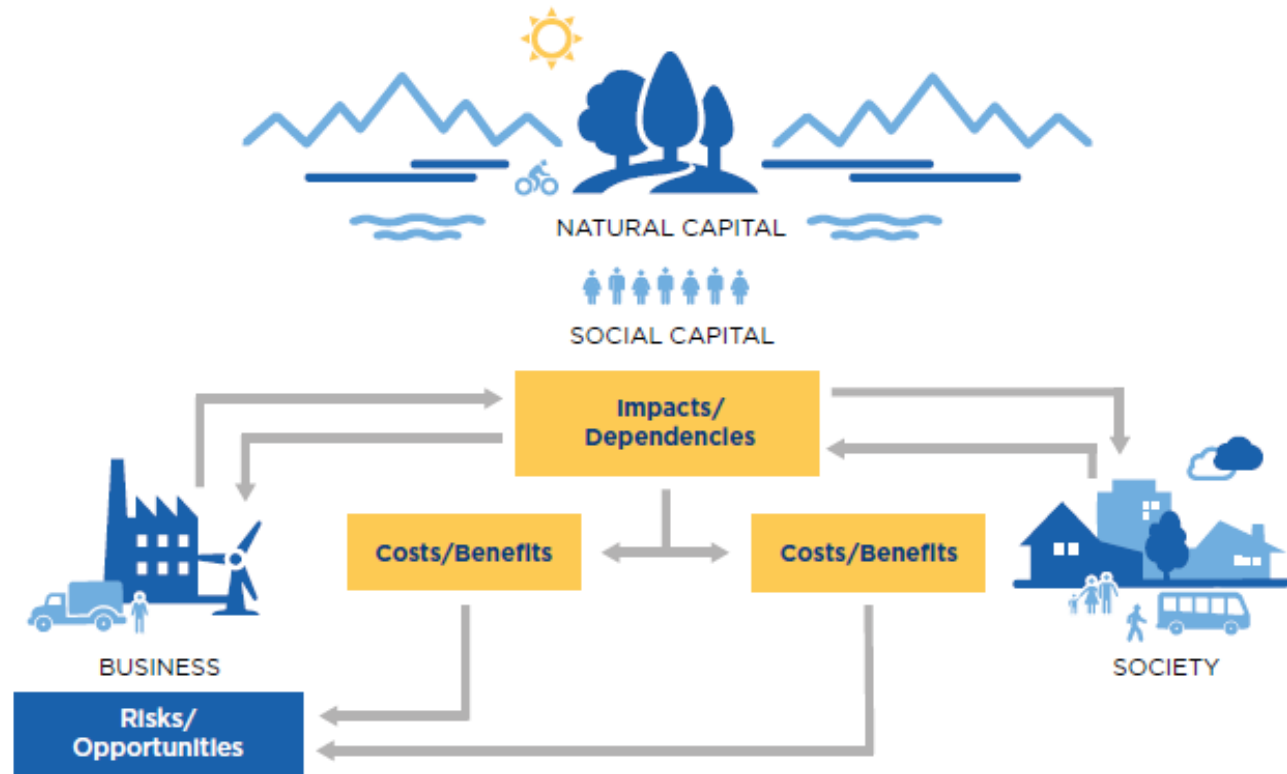


## Kernfrage:

Wie groß ist der Unterschied in der Wirkung auf Natur- und Sozialkapital zwischen €1.000 Umsatzwachstum in der Food Service Distribution und €1.000 zusätzlichem Umsatz in den Cash & Carry Märkten?



# STANDARDISIERTE METHODE: NATURAL CAPITAL PROTOCOL & SOCIAL CAPITAL PROTOCOL



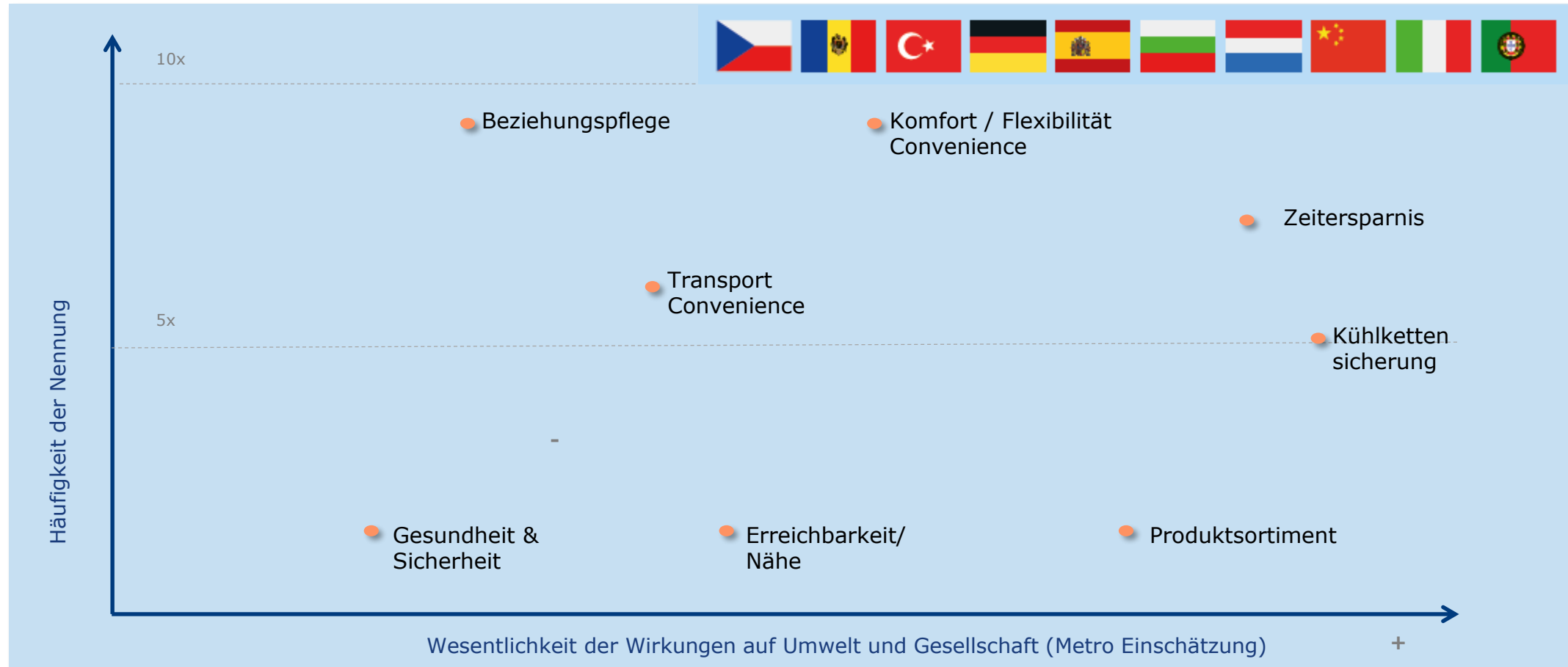
Adapted from the Natural Capital Protocol



# BEWERTUNGSMETHODE FÜR AUSGEWÄHLTE WIRKUNGSTREIBER

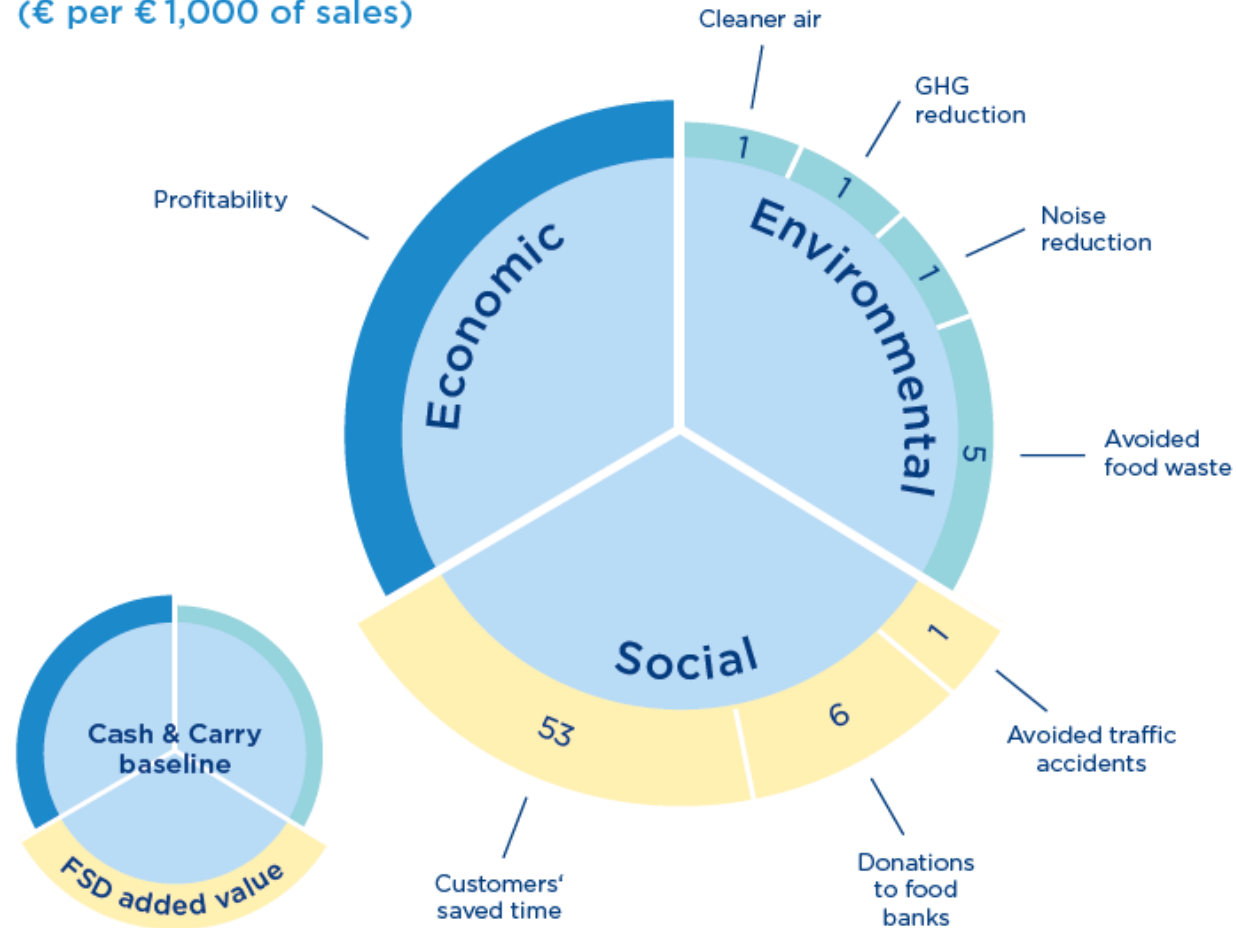


# STAKEHOLDER DEFINIERTEN WESENTLICHE WIRKUNGEN AUS DER ENTSCHEIDUNG FÜR BELIEFERUNG



# WACHSTUM IN DER FOOD SERVICE DISTRIBUTION MIT DREIFACH POSITIVEM EFFEKT.

Added value of METRO's FSD  
vs. Cash & Carry  
(€ per €1,000 of sales)



# METRO'S GESCHÄFTSMODELL WIRD AUS SICH HERAUS NACHHALTIGER.

## Kernaussagen.

Food Service Distribution schafft im Vergleich zu den traditionellen Cash & Carry Märkten zusätzlichen Nutzen für Kunden, Gesellschaft und Umwelt in Höhe von €68 pro €1.000 Umsatz:

1. Zeitersparnis für professionelle Kunden (78% des zusätzlichen Gesamtnutzens oder €53).
2. Vermeidung von Lebensmittelabfällen (verursacht durch den Transport).
3. Abgabe von Lebensmitteln an Tafeln und Food Banks.
4. Reduktion von Umweltauswirkungen wie Kohlenstoffdioxid, Luftverschmutzung und Lärm.
5. Reduktion von Verkehrsunfällen.

Der Umsatzanteil von FSD ist bislang noch gering. Das geplante Wachstum wird den positiven Effekt auf Umwelt und Gesellschaft im Vergleich zu Cash & Carry jedoch weiter verstärken.

# POTENTIAL / NEXT STEPS

- Verbesserung des Ansatzes durch Stakeholder Dialog.
- Ausdehnung der Wirkungsanalyse auf alle Länder, in denen METRO operativ ist.
- Ermittlung des positiven Effektes auf Natur- und Sozialkapital durch die geplante Expansion in verschiedenen Szenarien.
- Erweiterung der Wirkungsanalyse auf die Supply Chain, um den Gesamteffekt sowohl von FSD als auch von Cash & Carry zu verstehen.
- Integration der Wirkungen in Entscheidungsfindungsprozesse.

# METRO'S GESCHÄFTSMODELL WIRD AUS SICH HERAUS NACHHALTIGER.

Fazit.

Food Service Distribution schafft im Vergleich zu den traditionellen Cash & Carry Märkten zusätzlichen Nutzen für Kunden, Gesellschaft und Umwelt in Höhe von €68 pro €1.000 Umsatz.

## KONTAKT

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