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# Impact Report for People's Republic of China



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Financial Market Chapter



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## Introduction

Understanding the societal impact of public policy in economic sectors is vital for fostering growth while achieving transition and other policy goals. To this end, the present report offers key insights into the performance of specific sectors.

This document presents impact statements for People's Republic of China's NACE sectors.<sup>1</sup> The tables show the *direct impact* of companies' own operations as well as the *upstream impact* along their supply chains.<sup>2</sup> Positive or negative impact values are quantified in monetary terms and divided by each sector's macroeconomic output. These '*Impact Intensities*' (expressed in EUR of impact per EUR of output) enable comparability across countries, sectors, and companies. The output part of the formula is based on a macroeconomic assessment and reflects overall sector turnover volume.

Impact Intensities are provided for each impact driver across four stages of the value chain: Own operations, upstream tier 1, upstream tier 2, and upstream tier 3 to n.<sup>3</sup> Results are shown for specific countries—Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Korea, Spain, Switzerland, Türkiye, the UK, and the USA—as well as a global average.

The tables provide a foundation for 'Type 4' sector-based benchmarks;<sup>4</sup> companies can compare their reported or estimated impact with the table values. To ensure consistency, a company's impact must be monetized using the same value factor and scaled relative to revenue. In this way, company-specific Impact Intensity can be compared within the sector and across multiple sectors.

The comparison spans value chain stages within a company's control (own operations) and beyond (upstream). Impact Intensities are depicted for each upstream stage in the global supply chain, viewed from the perspective of the respective country. These stages are presented in tiers, enabling comparison with a company's global upstream supply chain. Note that these upstream impacts may not necessarily be located in the same country.

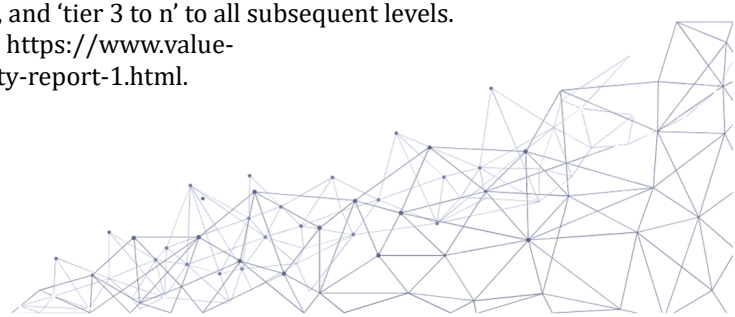
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<sup>1</sup> Eurostat, NACE Rev. 2. Statistical classification of economic activities in the European Community, <https://ec.europa.eu/eurostat/documents/3859598/5902521/KS-RA-07-015-EN.pdf>.

<sup>2</sup> VBA, VBA Impact Statement, 11.2024, [https://www.value-balancing.com/\\_Resources/Persistent/6/b/e/c/6bec726b5e28d5f75e2e5f153db845a3bbb93f2e/VBA\\_Impact%20Statement\\_Final.pdf](https://www.value-balancing.com/_Resources/Persistent/6/b/e/c/6bec726b5e28d5f75e2e5f153db845a3bbb93f2e/VBA_Impact%20Statement_Final.pdf).

<sup>3</sup> Tiers represent different levels of suppliers in the supply chain, where 'tier 1' refers to direct suppliers, 'tier 2' to the suppliers of those direct suppliers, and 'tier 3 to n' to all subsequent levels.

<sup>4</sup> VBA et al., Valuing Impact Materiality 2025, 2025, <https://www.value-balancing.com/en/publications/valuing-impact-materiality-report-1.html>.



The values are modeled using input-output modeling, as outlined in the System of National Accounts.<sup>5</sup> WifOR compiles the hybrid multi-regional model based on WIOD, EORA, and EXIOBASE,<sup>6</sup> enhanced by estimates based on *satellite accounts*, as outlined in the System of Environmental-Economic Accounting.<sup>7</sup> The modeled effects are then multiplied by publicly available context-specific value factors<sup>8</sup> to capture their societal impact.<sup>9</sup>

The tables are complemented by bar charts showing each impact driver's effect (in EUR per EUR output) in all the four value chain stages.

## Responsibility of States

States have a primary duty to protect human rights and fundamental rights under international law, in accordance with the primacy principle. This obligation extends to preventing human rights abuses by third parties (including businesses) within their jurisdiction. This duty is grounded in legal obligations and reinforced by policy rationales that ensure consistency in enforcement.

## Responsibility of Business

Businesses, by contrast, have a responsibility (rather than a duty) to respect human rights. Their role is supportive of state obligations but remains distinct. While international law has yet to fully define the extent of corporate human rights responsibilities, the UNGPs establish that businesses, at minimum, must prevent and address human rights harms linked to their operations. Beyond compliance with legal obligations, involvement in adverse human rights impacts must be prevented or remedied. Human rights due diligence is required for this purpose; this due diligence process includes assessing risks, integrating findings into corporate decision-making, and mitigating or remedying any adverse impacts.

## Interplay

The interplay between *state obligations* and *business responsibilities* reflects a layered system of accountability: While states bear legal obligations to regulate corporate behavior, businesses have a practical responsibility to prevent harm. These responsibilities arise in different forms—whether they cause, contribute to, or are linked to human rights abuses.

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<sup>5</sup> European Commission, International Monetary Fund, Organisation for Economic Co-operation and Development, United Nations, and World Bank. 2009. System of National Accounts 2008. New York: United Nations. <https://unstats.un.org/unsd/nationalaccount/docs/SNA2008.pdf>.

<sup>6</sup> Scholz, Richard; Dorndorf, Tabea; Tesch, Jasmin; Köster, Robert; Croner, Daniel; Kalamov, Zarko; Setzer, Jana. 2025. Impact measurement using WifOR's sustainability footprint method. Methodological report. Version February 2025. WifOR Institute.

<sup>7</sup> United Nations, ed. 2014. *System of Environmental-Economic Accounting 2012: Central Framework*. New York, NY: United Nations.

<sup>8</sup> WifOR, Value Factors, <https://www.wifor.com/en/value-factors/#:~:text=Value%20factors%20convert%20physical%20units,dimensions%20and%20with%20financial%20indicators>

<sup>9</sup> Scholz, Richard; Albu, Nora; Croner, Daniel; Kalamov, Zarko; Mai, Lukas; Forin, Silvia; Tesch, Jasmin; Dorndorf, Tabea; Setzer, Jana. 2025. WifOR Impact Valuation. Methodological Report. Version February 2025. WifOR Institute.



The nature of corporate involvement in human rights impacts determines their level of responsibility, with leverage and mitigation playing a critical role in addressing violations. Thus, while business responsibilities complement state obligations, they remain distinct and non-parallel, ensuring a balanced but clear accountability framework.

### **Accountability**

While global businesses in the main complement state efforts and uphold responsible practices, international law establishes the primacy of state responsibility. States must create robust legal frameworks to hold businesses accountable, while companies must conduct human rights due diligence to prevent, mitigate, and remediate adverse impacts. Together, these obligations form a layered system, where corporate responsibility reinforces (rather than replaces) state duties to address human rights risks. Impact accounting helps states and businesses alike understand their respective responsibilities in the context of human rights and broader social, environmental, and economic impacts. While companies must assess their roles within supply chains and address potential harms, it is the states that bear the primary responsibility to tackle these issues and implement policies that prevent extensive negative impacts. Regulatory frameworks should go beyond preventing harm. They should empower businesses to generate positive impacts throughout the value chain. Neither states nor businesses may evade their responsibilities. States cannot plead powerlessness given that international treaties and criminal law extend their reach beyond national boundaries. By the same token, businesses cannot excuse harmful actions by pointing to weak state enforcement of human rights protections.

### **Benchmarks**

This document explores the impacts of People's Republic of China's economy, focusing on direct and upstream supply chain impacts on the economic, environmental, and social domains. The analysis is based on the NACE classification of economic activities. Positive and negative impact values are quantified in monetary terms per unit of macroeconomic output (hereinafter "*Impact Intensities*"). The tables display these Impact Intensities in EUR per EUR output for each impact driver across five stages of the sector's value chain: own operations, upstream tier 1, upstream tier 2, and upstream tier 3 to n. The output data is derived from a macroeconomic assessment and reflects the turnover of each sector.

### **Intensities**

The tables help identify the domestic economic sectors with the largest impacts across the country-specific value chain serving the Chinese economy. By providing maximum transparency on where significant impacts occur throughout the value chain stages, our analysis enables policymakers and regulators to more effectively manage the impacts. It supports the crafting of regulatory frameworks to mitigate negative and enhance positive impacts.



## Sector Intensity Benchmarks

### Agriculture, Forestry and Fishing (A)

Variable	direct	upstream tier 1	upstream tier 2	upstream rest	Total
<b>Air Emission</b>	-0.12	-0.03	-0.02	-0.03	-0.19
<b>Fair Wages</b>	-2.31	-0.44	-0.24	-0.31	-3.30
<b>GHG</b>	-0.13	-0.04	-0.03	-0.05	-0.23
<b>GVA</b>	0.59	0.15	0.10	0.16	0.99
<b>Human Rights</b>	-0.05	-0.01	-0.01	-0.01	-0.08
<b>Invasive Species</b>	-0.00	-0.00	-0.00	-0.00	-0.00
<b>Land Use</b>	-0.14	-0.04	-0.01	-0.01	-0.20
<b>Occupational Health &amp; Safety</b>	-0.36	-0.06	-0.03	-0.04	-0.49
<b>Ocean Plastic</b>	0.00	-0.00	-0.00	-0.00	-0.01
<b>Training</b>	0.00	0.00	0.00	0.01	0.02
<b>Waste</b>	-0.01	-0.00	-0.00	-0.00	-0.02
<b>Water</b>	-0.99	-0.17	-0.08	-0.08	-1.33

Source: WifOR / VBA, Table for People's Republic of China - Agriculture, Forestry and Fishing (NACE Code A), 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025.

The impact intensity table for the Agriculture, Forestry, and Fishing sector in the People's Republic of China reveals significant negative impacts across various categories, particularly in Fair Wages (-3.299388 EUR impact per EUR output) and Water (-1.328167 EUR impact per EUR output), indicating substantial social and environmental challenges. In contrast, the impacts related to Training and Ocean Plastic show negligible values, suggesting that these areas may require more attention and investment to mitigate their effects. Overall, the data highlights a concerning trend of negative impacts predominantly driven by upstream activities, emphasizing the need for targeted interventions to improve sustainability in this sector.





## Mining and Quarrying (B)

Variable	direct	upstream tier 1	upstream tier 2	upstream rest	Total
Air Emission	-0.04	-0.03	-0.02	-0.04	-0.13
Fair Wages	-0.07	-0.26	-0.17	-0.35	-0.86
GHG	-0.17	-0.08	-0.05	-0.08	-0.37
GVA	0.46	0.18	0.12	0.23	0.99
Human Rights	-0.00	-0.01	-0.01	-0.01	-0.04
Invasive Species	-0.00	-0.00	-0.00	-0.00	-0.00
Land Use	0.00	-0.00	-0.01	-0.02	-0.03
Occupational Health & Safety	-0.05	-0.03	-0.02	-0.05	-0.15
Ocean Plastic	0.00	-0.00	-0.00	-0.00	-0.01
Training	0.02	0.01	0.01	0.02	0.06
Waste	-0.06	-0.01	-0.00	-0.01	-0.08
Water	0.00	-0.01	-0.01	-0.04	-0.07

Source: WifOR / VBA, Table for People's Republic of China - Mining and Quarrying (NACE Code B), 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025.

The impact intensity table for the Mining and Quarrying sector in the People's Republic of China indicates significant negative impacts, particularly in Fair Wages (-0.855440 EUR impact per EUR output) and GHG emissions (-0.367134 EUR impact per EUR output), reflecting serious social and environmental concerns. Additionally, the impacts related to Water (-0.070581 EUR impact per EUR output) and Occupational Health & Safety (-0.147765 EUR impact per EUR output) further highlight the sector's detrimental effects on both human and ecological well-being. Conversely, the Training variable shows a positive impact intensity (0.056398 EUR impact per EUR output), suggesting potential for improvement and investment in workforce development within the sector.



## Manufacturing (C)

Variable	direct	upstream tier 1	upstream tier 2	upstream rest	Total
Air Emission	-0.04	-0.04	-0.03	-0.06	-0.18
Fair Wages	-0.26	-0.48	-0.32	-0.61	-1.66
GHG	-0.05	-0.07	-0.06	-0.11	-0.29
GVA	0.19	0.25	0.18	0.37	0.98
Human Rights	-0.00	-0.02	-0.01	-0.02	-0.05
Invasive Species	-0.00	-0.00	-0.00	-0.00	-0.00
Land Use	0.00	-0.02	-0.02	-0.03	-0.07
Occupational Health & Safety	-0.04	-0.06	-0.04	-0.08	-0.22
Ocean Plastic	-0.01	-0.01	-0.00	-0.01	-0.02
Training	0.01	0.01	0.01	0.02	0.06
Waste	-0.00	-0.01	-0.01	-0.01	-0.03
Water	-0.04	-0.08	-0.05	-0.09	-0.27

Source: WifOR / VBA, Table for People's Republic of China - Manufacturing (NACE Code C), 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025.

The impact intensity table for the Manufacturing sector in the People's Republic of China reveals substantial negative impacts, particularly in Fair Wages (-1.663070 EUR impact per EUR output) and Water (-0.265939 EUR impact per EUR output), indicating serious social and environmental challenges within the industry. Additionally, the GHG emissions impact (-0.291347 EUR impact per EUR output) and Occupational Health & Safety (-0.221342 EUR impact per EUR output) further underscore the sector's detrimental effects on both human health and the environment. In contrast, the Training variable shows a positive impact intensity (0.059539 EUR impact per EUR output), suggesting opportunities for enhancing workforce skills and improving overall sector sustainability.



## Electricity, Gas, Steam and Air Conditioning Supply (D)

Variable	direct	upstream tier 1	upstream tier 2	upstream rest	Total
<b>Air Emission</b>	-0.19	-0.08	-0.04	-0.06	-0.38
<b>Fair Wages</b>	0.06	-0.25	-0.22	-0.49	-0.91
<b>GHG</b>	-0.66	-0.27	-0.12	-0.14	-1.18
<b>GVA</b>	0.20	0.25	0.18	0.34	0.98
<b>Human Rights</b>	-0.00	-0.01	-0.01	-0.02	-0.04
<b>Invasive Species</b>	-0.00	-0.00	-0.00	-0.00	-0.00
<b>Land Use</b>	0.00	-0.00	-0.00	-0.02	-0.02
<b>Occupational Health &amp; Safety</b>	-0.00	-0.04	-0.03	-0.06	-0.13
<b>Ocean Plastic</b>	0.00	-0.00	-0.00	-0.01	-0.01
<b>Training</b>	0.01	0.02	0.02	0.03	0.07
<b>Waste</b>	-0.01	-0.01	-0.01	-0.01	-0.04
<b>Water</b>	-0.02	-0.01	-0.01	-0.05	-0.09

Source: WifOR / VBA, Table for People's Republic of China - Electricity, Gas, Steam and Air Conditioning Supply (NACE Code D), 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025.

The impact intensity table for the Electricity, Gas, Steam, and Air Conditioning Supply sector in the People's Republic of China highlights significant negative impacts, particularly in GHG emissions (-1.177793 EUR impact per EUR output) and Fair Wages (-0.906375 EUR impact per EUR output), indicating serious environmental and social issues within the sector. Additionally, the Air Emission impact (-0.381641 EUR impact per EUR output) further emphasizes the detrimental effects of energy production on air quality. Conversely, the Training variable shows a positive impact intensity (0.067232 EUR impact per EUR output), suggesting potential for enhancing workforce capabilities and improving sustainability practices in the sector.



## Water Supply; Sewerage, Waste Management And Remediation Activities (E)

Variable	direct	upstream tier 1	upstream tier 2	upstream rest	Total
<b>Air Emission</b>	-0.03	-0.03	-0.02	-0.05	-0.13
<b>Fair Wages</b>	0.22	-0.46	-0.26	-0.46	-0.96
<b>GHG</b>	-1.14	-0.20	-0.06	-0.09	-1.49
<b>GVA</b>	0.35	0.22	0.14	0.27	0.99
<b>Human Rights</b>	-0.00	-0.01	-0.01	-0.01	-0.03
<b>Invasive Species</b>	-0.00	-0.00	-0.00	-0.00	-0.00
<b>Land Use</b>	0.00	-0.01	-0.01	-0.02	-0.04
<b>Occupational Health &amp; Safety</b>	-0.01	-0.03	-0.03	-0.06	-0.12
<b>Ocean Plastic</b>	0.00	-0.00	-0.00	-0.00	-0.01
<b>Training</b>	0.02	0.02	0.01	0.02	0.07
<b>Waste</b>	-0.00	-0.00	-0.00	-0.01	-0.02
<b>Water</b>	-0.00	-0.01	-0.02	-0.07	-0.10

Source: WifOR / VBA, Table for People's Republic of China - Water Supply; Sewerage, Waste Management and Remediation Activities (NACE Code E), 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025.

The impact intensity table for the Water Supply; Sewerage; Waste Management and Remediation Activities sector in the People's Republic of China indicates significant negative impacts, particularly in GHG emissions (-1.487377 EUR impact per EUR output) and Fair Wages (-0.959232 EUR impact per EUR output), highlighting critical social and environmental challenges within the sector. Additionally, the Air Emission impact (-0.132861 EUR impact per EUR output) further underscores the detrimental effects of waste management practices on air quality. In contrast, the Training variable shows a positive impact intensity (0.065571 EUR impact per EUR output), suggesting opportunities for workforce development and improvements in operational sustainability.



## Construction (F)

Variable	direct	upstream tier 1	upstream tier 2	upstream rest	Total
Air Emission	-0.00	-0.08	-0.04	-0.07	-0.19
Fair Wages	-0.58	-0.35	-0.27	-0.58	-1.79
GHG	-0.01	-0.09	-0.06	-0.12	-0.29
GVA	0.23	0.22	0.17	0.37	0.98
Human Rights	-0.01	-0.01	-0.01	-0.02	-0.05
Invasive Species	-0.00	-0.00	-0.00	-0.00	-0.00
Land Use	0.00	-0.01	-0.02	-0.04	-0.07
Occupational Health & Safety	-0.04	-0.04	-0.04	-0.08	-0.19
Ocean Plastic	0.00	-0.00	-0.00	-0.01	-0.01
Training	0.01	0.01	0.01	0.02	0.06
Waste	-0.00	-0.00	-0.01	-0.01	-0.02
Water	0.00	-0.03	-0.02	-0.07	-0.12

Source: WifOR / VBA, Table for People's Republic of China - Construction (NACE Code F), 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025.

The impact intensity table for the Construction sector in the People's Republic of China reveals significant negative impacts, particularly in Fair Wages (-1.790658 EUR impact per EUR output) and Water (-0.123813 EUR impact per EUR output), indicating serious social and environmental issues associated with construction activities. Additionally, the GHG emissions impact (-0.285994 EUR impact per EUR output) and Occupational Health & Safety (-0.188460 EUR impact per EUR output) further highlight the detrimental effects of the sector on both human health and the environment. In contrast, the Training variable shows a positive impact intensity (0.058266 EUR impact per EUR output), suggesting potential for enhancing workforce skills and improving sustainability practices within the construction industry.



## Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles (G)

Variable	direct	upstream tier 1	upstream tier 2	upstream rest	Total
Air Emission	-0.00	-0.01	-0.01	-0.02	-0.03
Fair Wages	-2.08	-0.27	-0.13	-0.21	-2.69
GHG	-0.01	-0.02	-0.01	-0.03	-0.08
GVA	0.60	0.19	0.08	0.13	1.00
Human Rights	-0.03	-0.00	-0.00	-0.01	-0.04
Invasive Species	-0.00	-0.00	-0.00	-0.00	-0.00
Land Use	0.00	-0.00	-0.00	-0.01	-0.01
Occupational Health & Safety	-0.1	-0.02	-0.01	-0.03	-0.15
Ocean Plastic	0.00	-0.00	-0.00	-0.00	-0.00
Training	0.03	0.01	0.00	0.01	0.05
Waste	-0.00	-0.00	-0.00	-0.00	-0.00
Water	0.00	-0.00	-0.01	-0.03	-0.04

Source: WifOR / VBA, Table for People's Republic of China - Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles (NACE Code G), 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025.

The impact intensity table for the Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles sector in the People's Republic of China indicates substantial negative impacts, particularly in Fair Wages (-2.694922 EUR impact per EUR output) and Water (-0.042412 EUR impact per EUR output), highlighting significant social and environmental challenges within the sector. Additionally, the GHG emissions impact (-0.075359 EUR impact per EUR output) and Occupational Health & Safety (-0.152465 EUR impact per EUR output) further emphasize the detrimental effects of this sector on both human health and the environment. In contrast, the Training variable shows a positive impact intensity (0.051749 EUR impact per EUR output), suggesting opportunities for workforce development and improvements in operational sustainability.



## Transportation and Storage (H)

Variable	direct	upstream tier 1	upstream tier 2	upstream rest	Total
Air Emission	-0.06	-0.02	-0.02	-0.04	-0.12
Fair Wages	-0.36	-0.29	-0.21	-0.35	-1.21
GHG	-0.10	-0.03	-0.03	-0.07	-0.24
GVA	0.45	0.18	0.13	0.22	0.99
Human Rights	-0.01	-0.00	-0.00	-0.01	-0.03
Invasive Species	-0.00	-0.00	-0.00	-0.00	-0.00
Land Use	0.00	-0.00	-0.00	-0.01	-0.02
Occupational Health & Safety	-0.05	-0.02	-0.02	-0.04	-0.13
Ocean Plastic	0.00	-0.00	-0.00	-0.00	-0.01
Training	0.02	0.01	0.01	0.02	0.06
Waste	-0.00	-0.00	-0.01	-0.01	-0.01
Water	0.00	-0.02	-0.02	-0.05	-0.09

Source: WifOR / VBA, Table for People's Republic of China - Transportation and Storage (NACE Code H), 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025.

The impact intensity table for the Transportation and Storage sector in the People's Republic of China reveals significant negative impacts, particularly in Fair Wages (-1.214189 EUR impact per EUR output) and Water (-0.087315 EUR impact per EUR output), indicating serious social and environmental challenges associated with transportation activities. Additionally, the GHG emissions impact (-0.235702 EUR impact per EUR output) and Occupational Health & Safety (-0.134079 EUR impact per EUR output) further highlight the detrimental effects of this sector on both human health and the environment. In contrast, the Training variable shows a positive impact intensity (0.055891 EUR impact per EUR output), suggesting potential for enhancing workforce skills and improving sustainability practices within the sector.



### Accommodation and Food Service Activities (I)

Variable	direct	upstream tier 1	upstream tier 2	upstream rest	Total
<b>Air Emission</b>	-0.00	-0.01	-0.02	-0.04	-0.08
<b>Fair Wages</b>	-1.23	-0.58	-0.47	-0.51	-2.78
<b>GHG</b>	-0.02	-0.03	-0.03	-0.06	-0.15
<b>GVA</b>	0.38	0.23	0.16	0.22	0.99
<b>Human Rights</b>	-0.02	-0.01	-0.01	-0.01	-0.05
<b>Invasive Species</b>	-0.00	-0.00	-0.00	-0.00	-0.00
<b>Land Use</b>	0.00	-0.00	-0.01	-0.02	-0.03
<b>Occupational Health &amp; Safety</b>	-0.07	-0.08	-0.06	-0.06	-0.27
<b>Ocean Plastic</b>	0.00	-0.00	-0.00	-0.00	-0.01
<b>Training</b>	0.02	0.01	0.01	0.01	0.04
<b>Waste</b>	-0.01	-0.00	-0.00	-0.01	-0.02
<b>Water</b>	0.00	-0.08	-0.17	-0.15	-0.39

Source: WifOR / VBA, Table for People's Republic of China - Accommodation and Food Service Activities (NACE Code I), 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025.

The impact intensity table for the Accommodation and Food Service Activities sector in the People's Republic of China highlights significant negative impacts, particularly in Fair Wages (-2.779110 EUR impact per EUR output) and Water (-0.393720 EUR impact per EUR output), indicating serious social and environmental challenges within this sector. Additionally, the GHG emissions impact (-0.145255 EUR impact per EUR output) and Occupational Health & Safety (-0.272345 EUR impact per EUR output) further emphasize the detrimental effects of this sector on both human health and environmental sustainability. In contrast, the Training variable shows a positive impact intensity (0.043043 EUR impact per EUR output), suggesting opportunities for workforce development and improvements in operational practices.





## Information and Communication (J)

Variable	direct	upstream tier 1	upstream tier 2	upstream rest	Total
Air Emission	-0.00	-0.00	-0.01	-0.03	-0.04
Fair Wages	-0.66	-0.30	-0.15	-0.27	-1.38
GHG	-0.01	-0.01	-0.01	-0.05	-0.08
GVA	0.54	0.19	0.09	0.17	0.99
Human Rights	-0.01	-0.00	-0.00	-0.01	-0.02
Invasive Species	-0.00	-0.00	-0.00	-0.00	-0.00
Land Use	0.00	-0.00	-0.00	-0.01	-0.01
Occupational Health & Safety	-0.03	-0.02	-0.01	-0.03	-0.1
Ocean Plastic	0.00	-0.00	-0.00	-0.00	-0.01
Training	0.08	0.02	0.01	0.01	0.11
Waste	-0.00	-0.00	-0.00	-0.00	-0.01
Water	0.00	-0.00	-0.01	-0.04	-0.05

Source: WifOR / VBA, Table for People's Republic of China - Information and Communication (NACE Code J), 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025.

The impact intensity table for the Information and Communication sector in the People's Republic of China indicates notable negative impacts, particularly in Fair Wages (-1.380623 EUR impact per EUR output) and Water (-0.053351 EUR impact per EUR output), highlighting significant social and environmental concerns within this sector. Additionally, the GHG emissions impact (-0.079395 EUR impact per EUR output) and Occupational Health & Safety (-0.101646 EUR impact per EUR output) further emphasize the adverse effects of this sector on both human health and environmental sustainability. Conversely, the Training variable shows a positive impact intensity (0.114317 EUR impact per EUR output), suggesting potential for enhancing workforce skills and improving operational practices in the sector.



## Financial and Insurance Activities (K)

Variable	direct	upstream tier 1	upstream tier 2	upstream rest	Total
Air Emission	-0.00	-0.00	-0.00	-0.01	-0.02
Fair Wages	-0.25	-0.25	-0.12	-0.18	-0.80
GHG	-0.00	-0.01	-0.01	-0.02	-0.04
GVA	0.68	0.16	0.06	0.10	1.00
Human Rights	0.00	-0.00	-0.00	-0.00	-0.01
Invasive Species	-0.00	-0.00	-0.00	-0.00	-0.00
Land Use	0.00	-0.00	-0.00	-0.01	-0.01
Occupational Health & Safety	-0.02	-0.02	-0.01	-0.02	-0.07
Ocean Plastic	0.00	-0.00	-0.00	-0.00	-0.00
Training	0.09	0.01	0.00	0.01	0.11
Waste	-0.00	-0.00	-0.00	-0.00	-0.00
Water	0.00	-0.00	-0.01	-0.03	-0.04

Source: WifOR / VBA, Table for People's Republic of China - Financial and Insurance Activities (NACE Code K), 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025.

The impact intensity table for the Financial and Insurance Activities sector in the People's Republic of China reveals significant negative impacts, particularly in Fair Wages (-0.796790 EUR impact per EUR output) and Water (-0.044841 EUR impact per EUR output), indicating serious social and environmental concerns associated with this sector. Additionally, the GHG emissions impact (-0.044173 EUR impact per EUR output) and Occupational Health & Safety (-0.066904 EUR impact per EUR output) further highlight the adverse effects of financial activities on human health and environmental sustainability. In contrast, the Training variable shows a positive impact intensity (0.113985 EUR impact per EUR output), suggesting opportunities for enhancing workforce skills and improving operational practices within the sector.



## Real Estate Activities (L)

Variable	direct	upstream tier 1	upstream tier 2	upstream rest	Total
Air Emission	-0.00	-0.00	-0.00	-0.01	-0.01
Fair Wages	-0.41	-0.09	-0.05	-0.08	-0.63
GHG	-0.00	-0.01	-0.01	-0.01	-0.03
GVA	0.83	0.09	0.03	0.05	1.00
Human Rights	0.00	-0.00	-0.00	-0.00	-0.00
Invasive Species	-0.00	-0.00	-0.00	-0.00	-0.00
Land Use	0.00	-0.00	-0.00	-0.00	-0.00
Occupational Health & Safety	-0.02	-0.01	-0.00	-0.01	-0.04
Ocean Plastic	0.00	-0.00	-0.00	-0.00	-0.00
Training	0.05	0.01	0.00	0.00	0.06
Waste	-0.00	-0.00	-0.00	-0.00	-0.00
Water	0.00	-0.00	-0.00	-0.01	-0.02

Source: WifOR / VBA, Table for People's Republic of China - Real Estate Activities (NACE Code L), 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025.

The impact intensity table for the Real Estate Activities sector in the People's Republic of China indicates significant negative impacts, particularly in Fair Wages (-0.630959 EUR impact per EUR output) and Water (-0.016891 EUR impact per EUR output), highlighting serious social and environmental issues associated with real estate operations. Additionally, the GHG emissions impact (-0.027385 EUR impact per EUR output) and Occupational Health & Safety (-0.036685 EUR impact per EUR output) further emphasize the adverse effects of this sector on human health and environmental sustainability. In contrast, the Training variable shows a positive impact intensity (0.061837 EUR impact per EUR output), suggesting opportunities for enhancing workforce skills and improving operational practices within the sector.



### Professional, Scientific and Technical Activities (M)

Variable	direct	upstream tier 1	upstream tier 2	upstream rest	Total
Air Emission	-0.00	-0.01	-0.02	-0.04	-0.07
Fair Wages	-0.07	-0.38	-0.23	-0.44	-1.12
GHG	-0.01	-0.02	-0.03	-0.07	-0.14
GVA	0.38	0.21	0.13	0.26	0.99
Human Rights	0.00	-0.01	-0.00	-0.01	-0.02
Invasive Species	-0.00	-0.00	-0.00	-0.00	-0.00
Land Use	0.00	-0.00	-0.00	-0.02	-0.03
Occupational Health & Safety	-0.02	-0.03	-0.02	-0.05	-0.13
Ocean Plastic	0.00	-0.00	-0.00	-0.00	-0.01
Training	0.02	0.01	0.01	0.02	0.06
Waste	-0.00	-0.00	-0.00	-0.01	-0.01
Water	0.00	-0.02	-0.03	-0.07	-0.11

Source: WifOR / VBA, Table for People's Republic of China - Professional, Scientific and Technical Activities (NACE Code M), 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025.

The impact intensity table for the Professional, Scientific and Technical Activities sector in the People's Republic of China reveals notable negative impacts, particularly in Fair Wages (-1.120739 EUR impact per EUR output) and Water (-0.114476 EUR impact per EUR output), indicating significant social and environmental concerns within this sector. Additionally, the GHG emissions impact (-0.135359 EUR impact per EUR output) and Occupational Health & Safety (-0.130973 EUR impact per EUR output) further highlight the adverse effects of this sector on human health and environmental sustainability. In contrast, the Training variable shows a positive impact intensity (0.061606 EUR impact per EUR output), suggesting opportunities for enhancing workforce skills and improving operational practices in the professional and technical fields.



### Administrative and Support Service Activities (N)

Variable	direct	upstream tier 1	upstream tier 2	upstream rest	Total
Air Emission	-0.00	-0.02	-0.02	-0.03	-0.07
Fair Wages	-0.13	-0.59	-0.20	-0.35	-1.27
GHG	-0.01	-0.05	-0.03	-0.06	-0.15
GVA	0.46	0.21	0.11	0.21	0.99
Human Rights	0.00	-0.01	-0.00	-0.01	-0.02
Invasive Species	-0.00	-0.00	-0.00	-0.00	-0.00
Land Use	0.00	-0.00	-0.00	-0.02	-0.02
Occupational Health & Safety	-0.02	-0.04	-0.02	-0.04	-0.13
Ocean Plastic	0.00	-0.00	-0.00	-0.00	-0.01
Training	0.03	0.01	0.01	0.01	0.06
Waste	-0.00	-0.00	-0.00	-0.01	-0.01
Water	0.00	-0.09	-0.03	-0.06	-0.17

Source: WifOR / VBA, Table for People's Republic of China - Administrative and Support Service Activities (NACE Code N), 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025.

The impact intensity table for the Administrative and Support Service Activities sector in the People's Republic of China indicates significant negative impacts, particularly in Fair Wages (-1.269401 EUR impact per EUR output) and Water (-0.169391 EUR impact per EUR output), highlighting serious social and environmental concerns within this sector. Additionally, the GHG emissions impact (-0.148516 EUR impact per EUR output) and Occupational Health & Safety (-0.129551 EUR impact per EUR output) further emphasize the adverse effects of this sector on human health and environmental sustainability. In contrast, the Training variable shows a positive impact intensity (0.060741 EUR impact per EUR output), suggesting opportunities for enhancing workforce skills and improving operational practices within administrative and support services.



## Public Administration and Defense; Compulsory Social Security (O)

Variable	direct	upstream tier 1	upstream tier 2	upstream rest	Total
Air Emission	-0.01	-0.01	-0.01	-0.03	-0.05
Fair Wages	-1.28	-0.52	-0.19	-0.31	-2.30
GHG	-0.01	-0.02	-0.02	-0.05	-0.10
GVA	0.55	0.18	0.09	0.17	0.99
Human Rights	0.00	-0.01	-0.00	-0.01	-0.02
Invasive Species	-0.00	-0.00	-0.00	-0.00	-0.00
Land Use	0.00	-0.00	-0.00	-0.01	-0.02
Occupational Health & Safety	-0.3	-0.03	-0.02	-0.04	-0.39
Ocean Plastic	0.00	-0.00	-0.00	-0.00	-0.00
Training	0.03	0.01	0.01	0.01	0.06
Waste	-0.00	-0.00	-0.00	-0.00	-0.01
Water	0.00	-0.00	-0.02	-0.06	-0.09

Source: WifOR / VBA, Table for People's Republic of China - Public Administration and Defense; Compulsory Social Security (NACE Code O), 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025.

The impact intensity table for the Public Administration and Defense; Compulsory Social Security sector in the People's Republic of China shows significant negative impacts, particularly in Fair Wages (-2.304053 EUR impact per EUR output) and Occupational Health & Safety (-0.385873 EUR impact per EUR output), indicating serious social and health-related concerns within this sector. Additionally, the GHG emissions impact (-0.102665 EUR impact per EUR output) and Water (-0.087903 EUR impact per EUR output) further highlight the adverse environmental effects associated with public administration activities. In contrast, the Training variable shows a positive impact intensity (0.061058 EUR impact per EUR output), suggesting opportunities for workforce development and improvements in operational practices within public services.



## Education (P)

Variable	direct	upstream tier 1	upstream tier 2	upstream rest	Total
Air Emission	-0.00	-0.01	-0.01	-0.02	-0.05
Fair Wages	-1.70	-0.46	-0.19	-0.28	-2.63
GHG	-0.01	-0.03	-0.02	-0.04	-0.10
GVA	0.56	0.19	0.09	0.15	0.99
Human Rights	0.00	-0.01	-0.00	-0.01	-0.02
Invasive Species	-0.00	-0.00	-0.00	-0.00	-0.00
Land Use	0.00	-0.00	-0.00	-0.01	-0.02
Occupational Health & Safety	-0.21	-0.03	-0.02	-0.03	-0.30
Ocean Plastic	0.00	-0.00	-0.00	-0.00	-0.00
Training	0.03	0.01	0.01	0.01	0.06
Waste	-0.00	-0.00	-0.00	-0.00	-0.01
Water	-0.00	-0.02	-0.03	-0.05	-0.10

Source: WifOR / VBA, Table for People's Republic of China - Education (NACE Code P), 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025.

The impact intensity table for the Education sector in the People's Republic of China reveals significant negative impacts, particularly in Fair Wages (-2.627478 EUR impact per EUR output) and Occupational Health & Safety (-0.297667 EUR impact per EUR output), indicating serious social and health-related concerns within the education system. Additionally, the GHG emissions impact (-0.102918 EUR impact per EUR output) and Water (-0.098918 EUR impact per EUR output) further highlight the adverse environmental effects associated with educational activities. In contrast, the Training variable shows a positive impact intensity (0.060106 EUR impact per EUR output), suggesting opportunities for enhancing workforce skills and improving educational practices.



## Human health and Social Work Activities (Q)

Variable	direct	upstream tier 1	upstream tier 2	upstream rest	Total
Air Emission	-0.04	-0.02	-0.02	-0.04	-0.12
Fair Wages	-1.11	-0.44	-0.38	-0.52	-2.45
GHG	-0.02	-0.04	-0.04	-0.07	-0.17
GVA	0.34	0.22	0.16	0.27	0.99
Human Rights	-0.01	-0.01	-0.01	-0.01	-0.04
Invasive Species	-0.00	-0.00	-0.00	-0.00	-0.00
Land Use	0.00	-0.00	-0.01	-0.02	-0.03
Occupational Health & Safety	-0.13	-0.04	-0.04	-0.06	-0.28
Ocean Plastic	0.00	-0.00	-0.00	-0.00	-0.01
Training	0.02	0.02	0.01	0.02	0.06
Waste	-0.00	-0.00	-0.00	-0.01	-0.01
Water	-0.00	-0.07	-0.11	-0.11	-0.28

Source: WifOR / VBA, Table for People's Republic of China - Human health and Social Work Activities (NACE Code Q), 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025.

The impact intensity table for the Human Health and Social Work Activities sector in the People's Republic of China indicates significant negative impacts, particularly in Fair Wages (-2.446122 EUR impact per EUR output) and Water (-0.284578 EUR impact per EUR output), highlighting serious social and environmental concerns within this sector. Additionally, the GHG emissions impact (-0.174721 EUR impact per EUR output) and Occupational Health & Safety (-0.277495 EUR impact per EUR output) further emphasize the adverse effects on both human health and environmental sustainability. In contrast, the Training variable shows a positive impact intensity (0.058314 EUR impact per EUR output), suggesting opportunities for enhancing workforce skills and improving practices in health and social services.





## Arts, Entertainment and Recreation and Other Services and Activities (R&S)

Variable	direct	upstream tier 1	upstream tier 2	upstream rest	Total
Air Emission	-0.03	-0.01	-0.01	-0.04	-0.09
Fair Wages	-5.55	-0.50	-0.22	-0.38	-6.65
GHG	-0.15	-0.03	-0.03	-0.06	-0.27
GVA	0.46	0.20	0.11	0.22	0.99
Human Rights	-0.07	-0.01	-0.00	-0.01	-0.10
Invasive Species	-0.00	-0.00	-0.00	-0.00	-0.00
Land Use	0.00	-0.00	-0.01	-0.02	-0.02
Occupational Health & Safety	-0.15	-0.03	-0.02	-0.05	-0.25
Ocean Plastic	0.00	-0.00	-0.00	-0.00	-0.01
Training	0.03	0.01	0.01	0.01	0.06
Waste	-0.00	-0.00	-0.00	-0.01	-0.01
Water	0.00	-0.01	-0.04	-0.07	-0.12

Source: WifOR / VBA, Table for People's Republic of China - Arts, Entertainment and Recreation and Other Services and Activities (NACE Code R&S), 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025.

The impact intensity table for the Arts, Entertainment and Recreation; Other Services sector in the People's Republic of China reveals significant negative impacts, particularly in Fair Wages (-6.645751 EUR impact per EUR output) and Water (-0.117416 EUR impact per EUR output), indicating serious social and environmental concerns within this sector. Additionally, the GHG emissions impact (-0.265007 EUR impact per EUR output) and Occupational Health & Safety (-0.247403 EUR impact per EUR output) further highlight the adverse effects of this sector on both human health and environmental sustainability. In contrast, the Training variable shows a positive impact intensity (0.059231 EUR impact per EUR output), suggesting opportunities for enhancing workforce skills and improving operational practices in arts and entertainment activities.

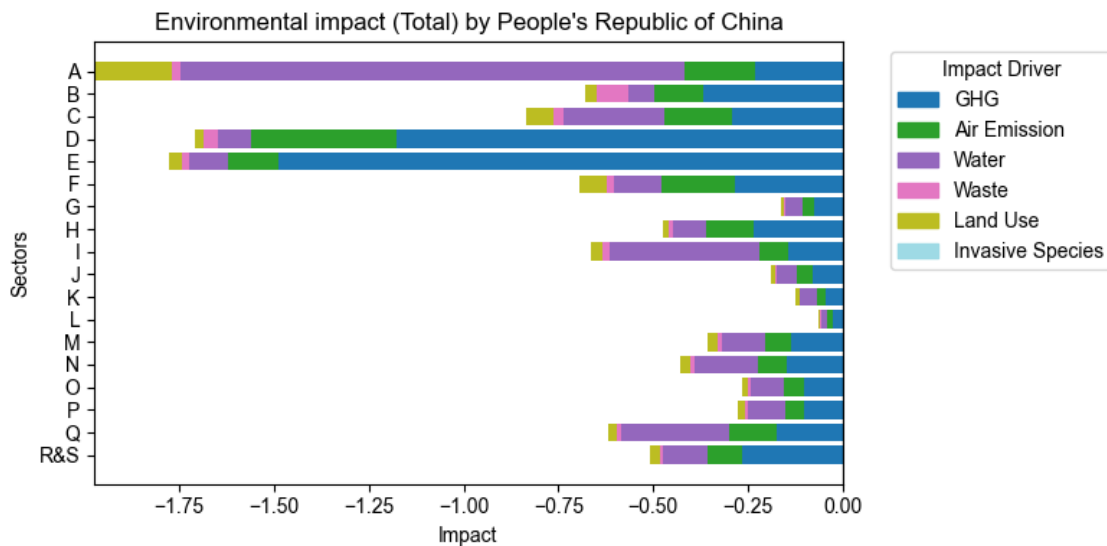


## Overview

The overall assessment of the People's Republic of China, based on the Value Balancing Alliance and WifOR methodologies, reveals significant social and environmental challenges across various sectors. The analysis indicates that sectors such as Manufacturing, Construction, and Agriculture exhibit high negative impacts in terms of air emissions, water usage, and fair wages, highlighting critical areas for improvement. Additionally, the social impact analysis underscores substantial concerns related to fair wages and occupational health and safety, particularly in sectors like Human Health and Social Work Activities. Upstream impacts further illustrate the cumulative effects of supply chains, emphasizing the need for comprehensive strategies that address both direct and indirect impacts. Overall, the findings suggest that targeted interventions and sustainable practices are essential for enhancing social equity and environmental sustainability in the country.

## Environmental Impact CHN

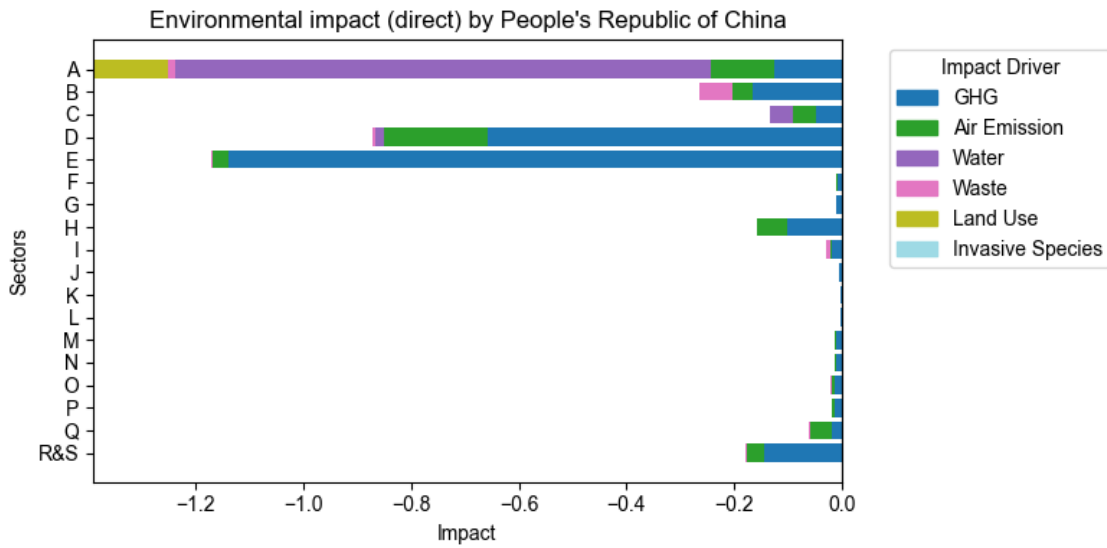
### Total



Source: VBA/WifOR, Overview of environmental impact, Total in People's Republic of China, 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025

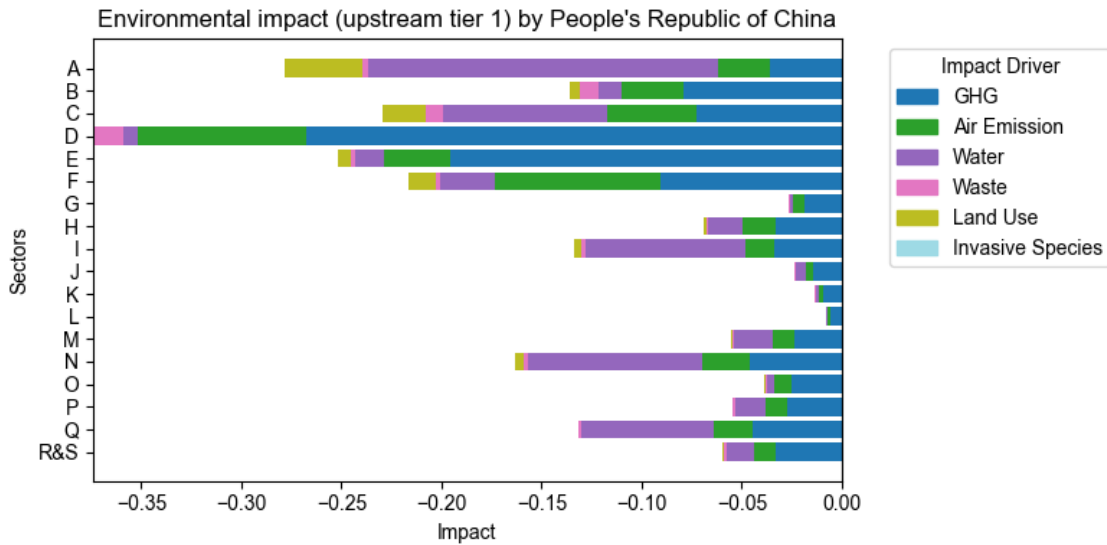


direct



Source: VBA/WifOR, Overview of environmental impact, direct in People's Republic of China, 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025

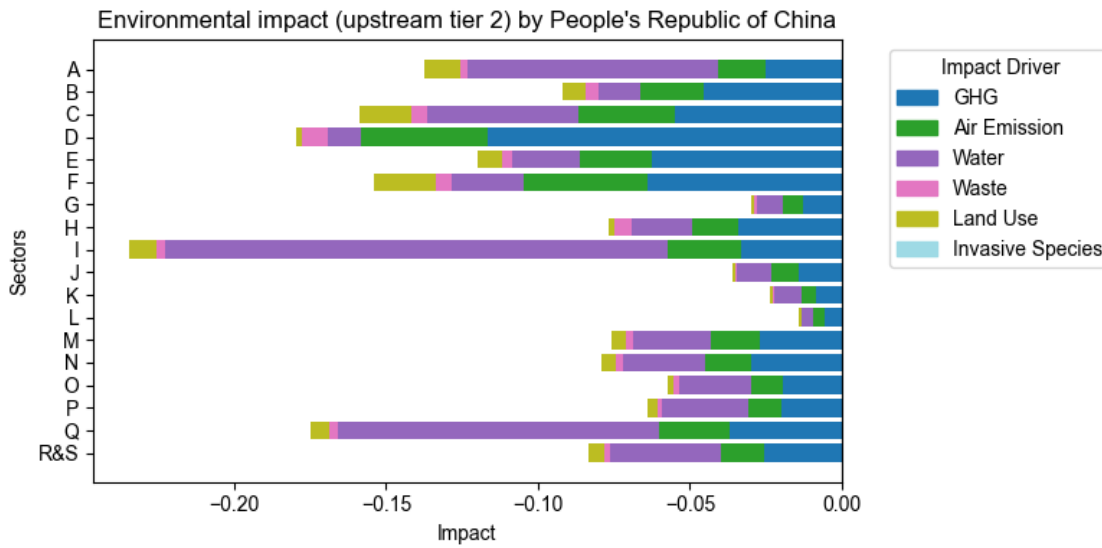
upstream tier 1



Source: VBA/WifOR, Overview of environmental impact, upstream tier 1 in People's Republic of China, 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025

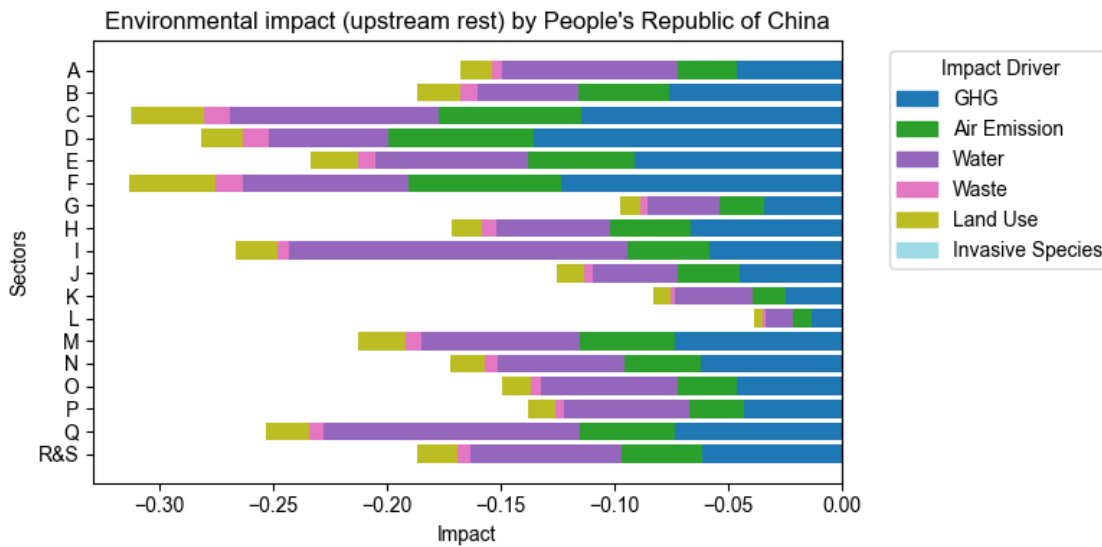


upstream tier 2



Source: VBA/WifOR, Overview of environmental impact, upstream tier 2 in People's Republic of China, 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025

upstream rest



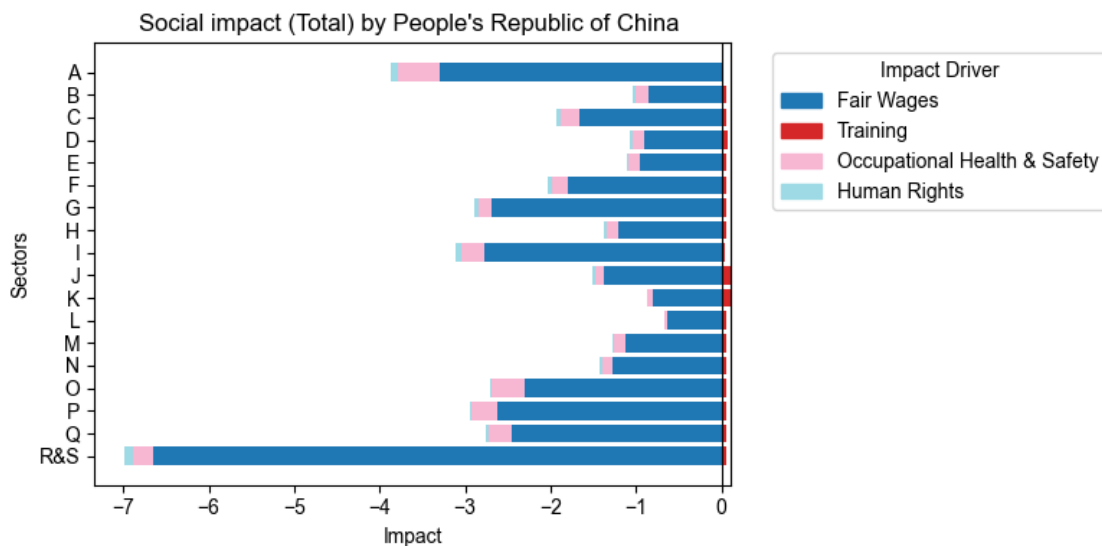
Source: VBA/WifOR, Overview of environmental impact, upstream rest in People's Republic of China, 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025



The environmental impact intensities across various NACE sectors in the People's Republic of China reveal significant differences in their contributions to air emissions, water usage, and greenhouse gas (GHG) emissions at different stages of the value chain. Direct impacts tend to show higher intensities in sectors such as Fair Wages and Human Health, indicating immediate environmental concerns. In contrast, upstream impacts, particularly in tier 1 and tier 2, often reflect broader supply chain effects, with sectors like Manufacturing and Construction exhibiting substantial negative impacts on air quality and water resources. The upstream rest category highlights the cumulative effects of indirect activities, where sectors like Agriculture and Mining show pronounced environmental burdens. Overall, the data underscores the importance of addressing both direct and upstream impacts to mitigate environmental degradation effectively.

## Social Impact CHN

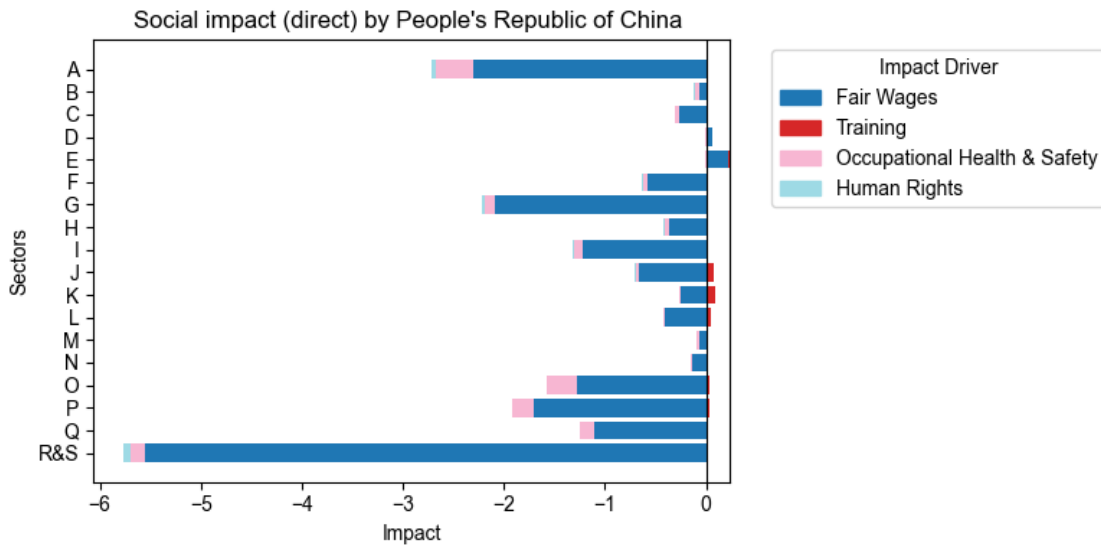
### Total



Source: VBA/WifOR, Overview of social impact, Total in People's Republic of China, 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025

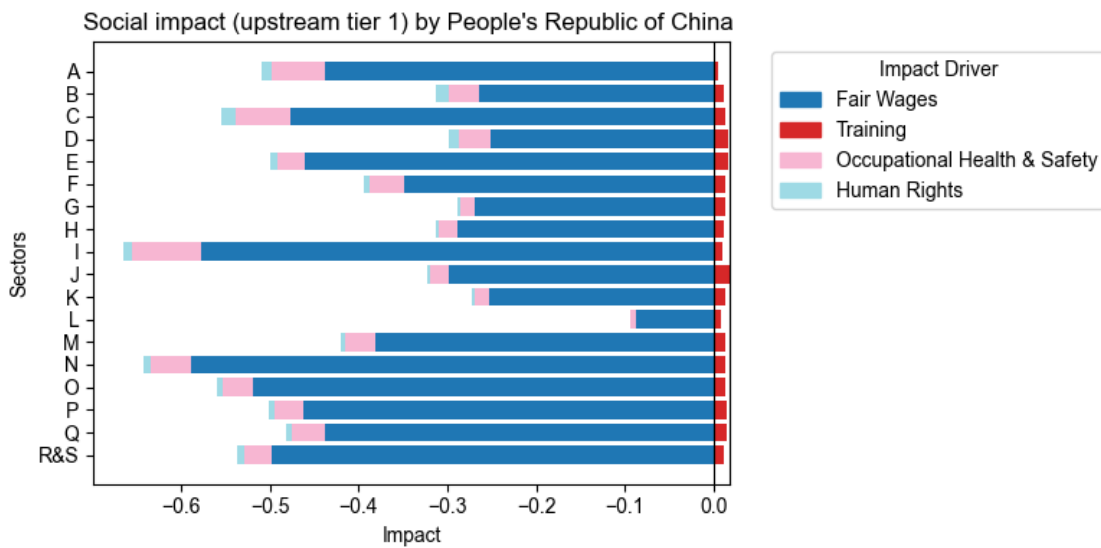


direct



Source: VBA/WifOR, Overview of social impact, direct in People's Republic of China, 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025

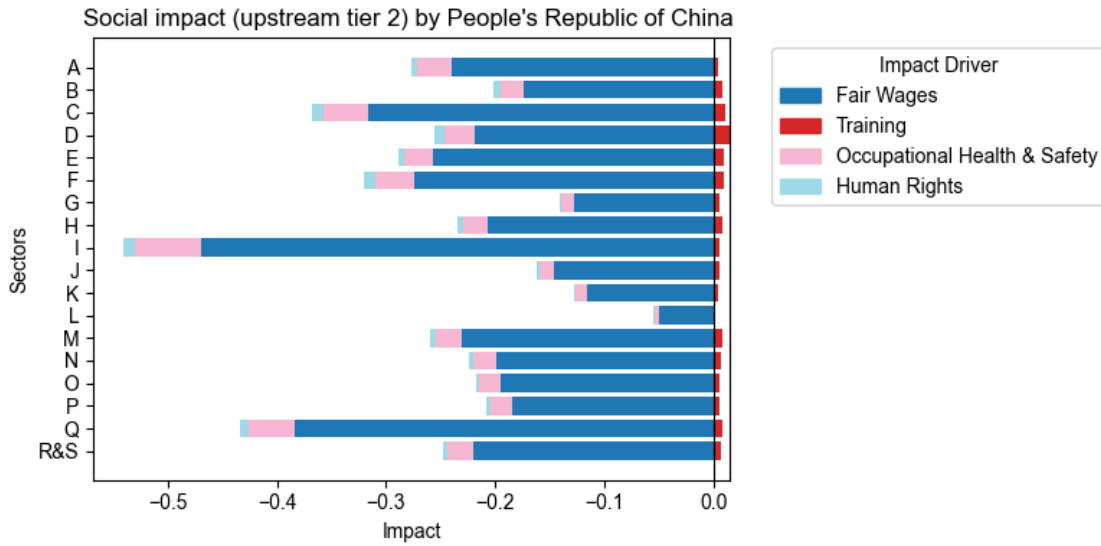
upstream tier 1



Source: VBA/WifOR, Overview of social impact, upstream tier 1 in People's Republic of China, 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025

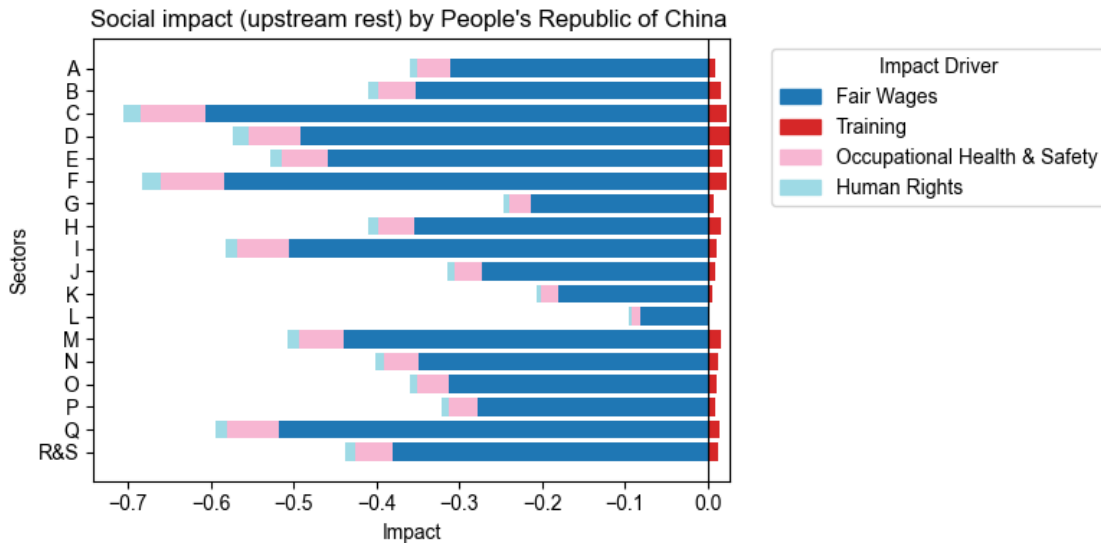


upstream tier 2



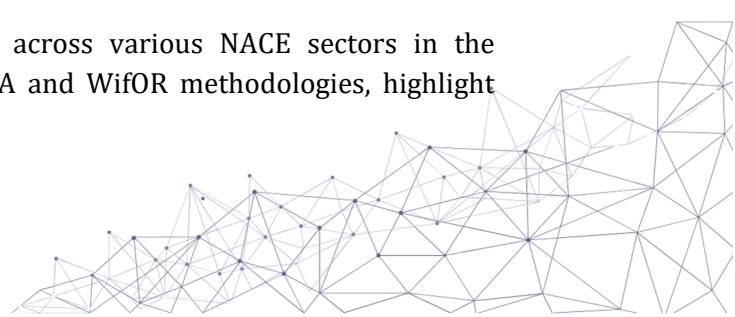
Source: VBA/WifOR, Overview of social impact, upstream tier 2 in People's Republic of China, 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025

upstream rest



Source: VBA/WifOR, Overview of social impact, upstream rest in People's Republic of China, 2024, Calculated based on WifOR Institute, WifOR Value Factors, Version February 2025

The impact intensities of environmental impacts across various NACE sectors in the People's Republic of China, as assessed by the VBA and WifOR methodologies, highlight



significant differences in how these sectors contribute to environmental degradation at various stages of the value chain. Direct impacts often reveal immediate environmental burdens, particularly in sectors like Manufacturing and Construction, where air emissions and water usage are notably high. In contrast, upstream impacts, especially in tier 1 and tier 2, reflect the broader supply chain effects, with sectors such as Agriculture and Mining exhibiting substantial negative impacts on air quality and resource depletion. The methodologies emphasize the importance of considering both direct and upstream impacts to develop comprehensive strategies for environmental sustainability. Overall, the findings underscore the need for targeted interventions across all stages of the value chain to effectively mitigate environmental impacts.





## Application

Beyond comparing company and sector impacts, the data presented here can support various additional applications. This chapter highlights several such use cases.

Impact benchmarks can help state institutions assess risks, guide investments and funding strategies, inform procurement decisions, enforce compliance, and shape policies that promote human rights protection, environmental sustainability, and economic growth. By applying country-specific and industry-specific impact benchmarks, governments and regulatory bodies can reduce liabilities, such as pollution and labor exploitation, while ensuring fair competition.

Collection of ideas				
	Regulation & Compliance	Policy & Economic Planning	Investment & Development Finance	Risk Assessment
<b>Institution</b>	Ministries	Development Institutions	Development Banks	Insurance Entities
<b>Vision of application</b>	Benchmarks could support industry-specific sustainability target setting and provide valuable insights for cost-benefit analyses of regulations	Development institutions could use benchmarks to shape industry-specific sustainability goals like labour protection guidelines	Benchmarks could help guide funding decisions for large projects, ensuring proper risk mitigation, particularly in sectors such as agriculture	Insurers could assess risks using industry benchmarks, helping determine eligibility and pricing for political risk insurance
	Public Procurement & Infrastructure	International Trade & Market Access	Accountability & Consumer Protection	Supply Chain Management
<b>Institution</b>	Public-Private Partnerships	Trade Ministries	Consumer Protection Agencies	Export Credit Agencies
<b>Vision of application</b>	Governments could use country-specific impact benchmarks to compare and select private sector partners (e.g., Infrastructure projects)	Trade ministries could apply sustainability benchmarks to imported goods (e.g., carbon intensity benchmarks for minerals)	Transparency rules could be enforced, requiring companies to disclose their impacts relative to benchmarks to prevent false claims and ensure accountability	Export credit agencies could use environmental and social benchmarks in financing decisions to promote ethical and sustainable supply chains

Figure VBA, Policy Applications, 2025

Impact Intensities represent the average environmental, social, and economic impact per sector output across countries, regions, and globally. They serve as a reference point for assessing an organization’s sustainability performance in its own operations and supply chains across industries and geographies. By comparing their performance to sector averages, companies and other organizations can determine whether they meet or exceed benchmarks and set specific targets for improvement.<sup>10</sup>

<sup>10</sup> VBA et al., Valuing Impact Materiality 2025, 2025, [www.value-balancing.com](http://www.value-balancing.com).



Beyond internal assessments, Impact Intensities encourage collaboration with suppliers and partners, fostering sustainability improvements across shared supply chains. By identifying high-impact tiers or regions, companies can make informed decisions about production and sourcing. On a global scale, comparing benchmarks across countries highlights regions with critical sustainability challenges, enabling firms to focus efforts where they are most needed. These benchmarks also help organizations anticipate risks beyond production, such as regulatory pressures or resource availability constraints. By revealing industries and countries where unsustainable environmental or social challenges could lead to future restrictions, they support strategic decisions on production, sourcing, resource allocation, and diversification. Additionally, they help companies effectively communicate sustainability achievements across diverse markets.

The benchmarks serve as a key reference for materiality assessments, helping companies prioritize impacts, allocate resources efficiently, and align with stakeholder and sustainability goals. They provide reliable data for transparent reporting, enabling companies to demonstrate their performance to investors, customers, and other stakeholders. This fosters trust, ensures compliance with standards, and enhances corporate reputation.

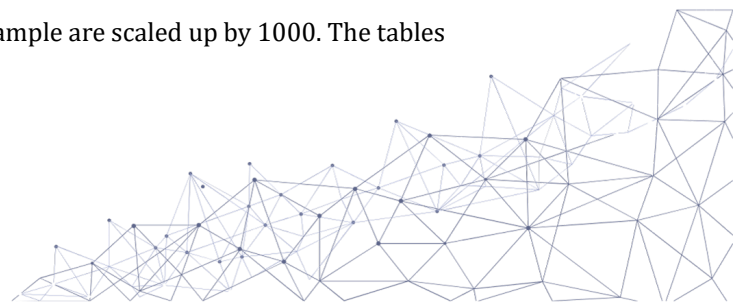
As sustainability becomes increasingly important and disclosure regulations evolve, assessment and reporting methodologies must keep pace. Impact Intensity benchmarks offer valuable guidance for improving practices, refining sustainability reporting, sharpening decision-making, and optimizing resource allocation. It is important to note that Impact Intensities are monetized using WifOR value factors, and meaningful comparisons require companies to calculate their impacts using the same methodology.

To illustrate how these benchmarks can be applied in practice, consider the following example: In Australia's Consumer Goods sector, an increase of EUR 1000<sup>11</sup> in production results in an average negative impact of EUR 6.98 from greenhouse gas (GHG) emissions within a company's own operations. Direct suppliers contribute another EUR 16.04, while suppliers' suppliers account for EUR 10.20 globally, and the remaining global supply chain adds EUR 15.77. Altogether, the total damage due to GHG emissions across the entire value chain amounts to approximately EUR 49 per EUR 1000 of output. This indicates that the majority of GHG emissions are driven by the upstream supply chain rather than the direct operations of Consumer Goods companies.

A company operating in this sector in Australia can compare these Impact Intensity benchmarks with its own data to evaluate its performance. To calculate its own GHG Impact Intensities, the company must take its environmental data per country and value chain stage, divide it by its output or turnover (own operations in the respective country), and multiply the result with the WifOR value factor:

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<sup>11</sup> For ease of interpretation, the numbers in this example are scaled up by 1000. The tables show impact per EUR 1 of output.



$$GHG\ Intensity_{c,v} = \frac{GHG\ emissions_{c,v}}{Output_c} * WifOR\ value\ factor\ for\ GHG\ emissions^{12}$$

If the company's calculated GHG Intensity values are lower than the benchmark, this indicates a smaller GHG footprint relative to the sector average. Conversely, higher values suggest a larger-than-average impact.

For a materiality assessment, Impact Intensities at or above the sectoral benchmark can be considered material, signaling areas that may require targeted sustainability measures.

## Caveats

### Data Accuracy

The input-output model used to calculate the Impact Intensities integrates satellite accounts for various indicators, constructed using multiple data sources. These accounts aim to accurately portray industry effects across all countries based on the best available knowledge and data.<sup>13</sup> However, varying data availability across indicators, countries, and sectors necessitates certain extrapolations and assumptions. WifOR is committed to continuously updating its data to improve accuracy and minimize errors or gaps. As such, the results here represent a snapshot, capturing current impacts as comprehensively as possible. Despite inherent limitations, this dataset remains, to the best of our knowledge, the most detailed, granular, and comprehensive source available for assessing industrial impacts.

### Impact Valuation

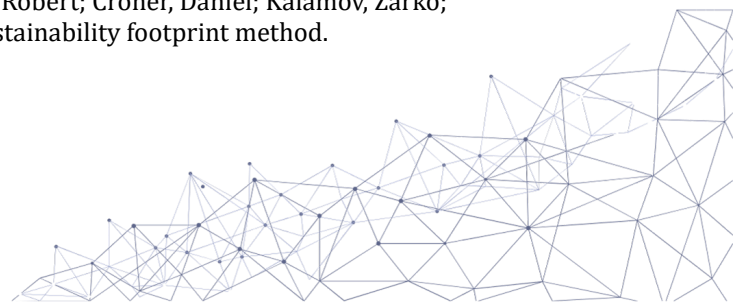
Impact Valuation advances traditional reporting beyond disclosure of companies' social and environmental effects in disparate units (e.g., GHG emissions in metric tons or occupational accidents in numbers of events). It captures the environmental and social changes caused by these outputs, tracks their broader impact on society, and conveys these effects in monetary terms—a unified metric that enables comparison across a diverse range of indicators.

Various approaches exist to quantify the societal value of indicators. In the present assessment, the indicators were monetized using the WifOR Impact Valuation methodology, with publicly available value factors. WifOR primarily focuses on damage costs to measure impacts. However, this is not feasible for all indicators, as some impact pathways and their consequences remain insufficiently understood. Each indicator therefore follows a specific valuation approach. For example, GHG emissions contribute to climate change regardless of

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<sup>12</sup> c = country of operation; v = value chain level

<sup>13</sup> Scholz, Richard; Dorndorf, Tabea; Tesch, Jasmin; Köster, Robert; Croner, Daniel; Kalamov, Zarko; Setzer, Jana. 2024. Impact measurement using WifOR's sustainability footprint method. Methodological report. 2024 WifOR Institute.



their source and are thus valued using a ‘social cost of carbon’ approach and a global value factor. By contrast, water consumption is assessed based on economic damage and human health impacts, yielding country-specific value factors that reflect local water scarcity. This means water consumption in highly water-stressed regions will generate a disproportionately higher impact, in some cases exceeding that of GHG emissions at global level. Given such methodological idiosyncrasies, comparisons between indicators should be interpreted cautiously, as differing valuation approaches limit direct comparability, especially on a worldwide level.

### Double Counting

Impact Valuation carries the risk of *double counting*, as different impact drivers may share the same, or overlapping, impact pathways. This challenge is particularly relevant when analyzing multiple indicators together. For instance, waste incineration releases air pollutants that contribute to respiratory disease and health-related costs—accounted for in the value factor for *Waste*, but also included in the factor for *Air Emission*. Simply subtracting this impact from the waste coefficient would underestimate the true impact of waste, while summing both indicators would lead to double counting.

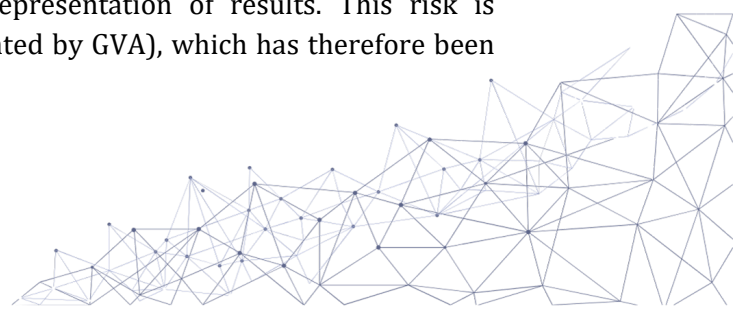
### Economic Impact

Gross Value Added (GVA) is a key metric for assessing a company’s economic contribution across value chains. It represents the economic value generated through company operations after deducting the cost of inputs and services used in production. Often, the total GVA across the entire value chain approximately matches the direct output of a company—if a company generates EUR 1,000 in direct output, the total GVA across its supply chain and internal operations typically also equals EUR 1,000. This equivalence is down to the fact that GVA encompasses all value-creation activities, from raw materials production to final goods and services, and is therefore distributed across all stages of the value chain. The distribution varies by industry and location: manufacturing or heavy engineering often rely on extensive supplier networks, resulting in significant upstream GVA contributions, while software development or advanced technology focus on highly integrated operations and tend to generate a substantial proportion of GVA internally.

### Netting Impacts

Impact Valuation seeks to enhance transparency, an aim that cannot be achieved if results are overly aggregated. Expressing diverse impacts using a common monetary metric does reduce complexity, but it also risks obscuring critical nuances. And while simplification can be useful, it should not carry the implication that negative impacts can be offset by positive ones.

There are certain cases where netting impacts can be appropriate (e.g., aggregating an indicator across different locations). But practices such as netting across different indicators can lead to *greenwashing* and a misrepresentation of results. This risk is particularly relevant for economic impact (represented by GVA), which has therefore been intentionally excluded from the charts below.



In the current phase of Impact Valuation development, limitations remain, including overlapping indicators (double counting), divergent valuation approaches, and data gaps that hinder a fully comprehensive assessment. Moreover, different impacts affect different groups unevenly, meaning that a positive impact on one group does not necessarily compensate for a negative impact on another (for instance, extra vocational training for managers cannot offset agricultural losses caused by water scarcity).





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