State of the art of circular materials accounts

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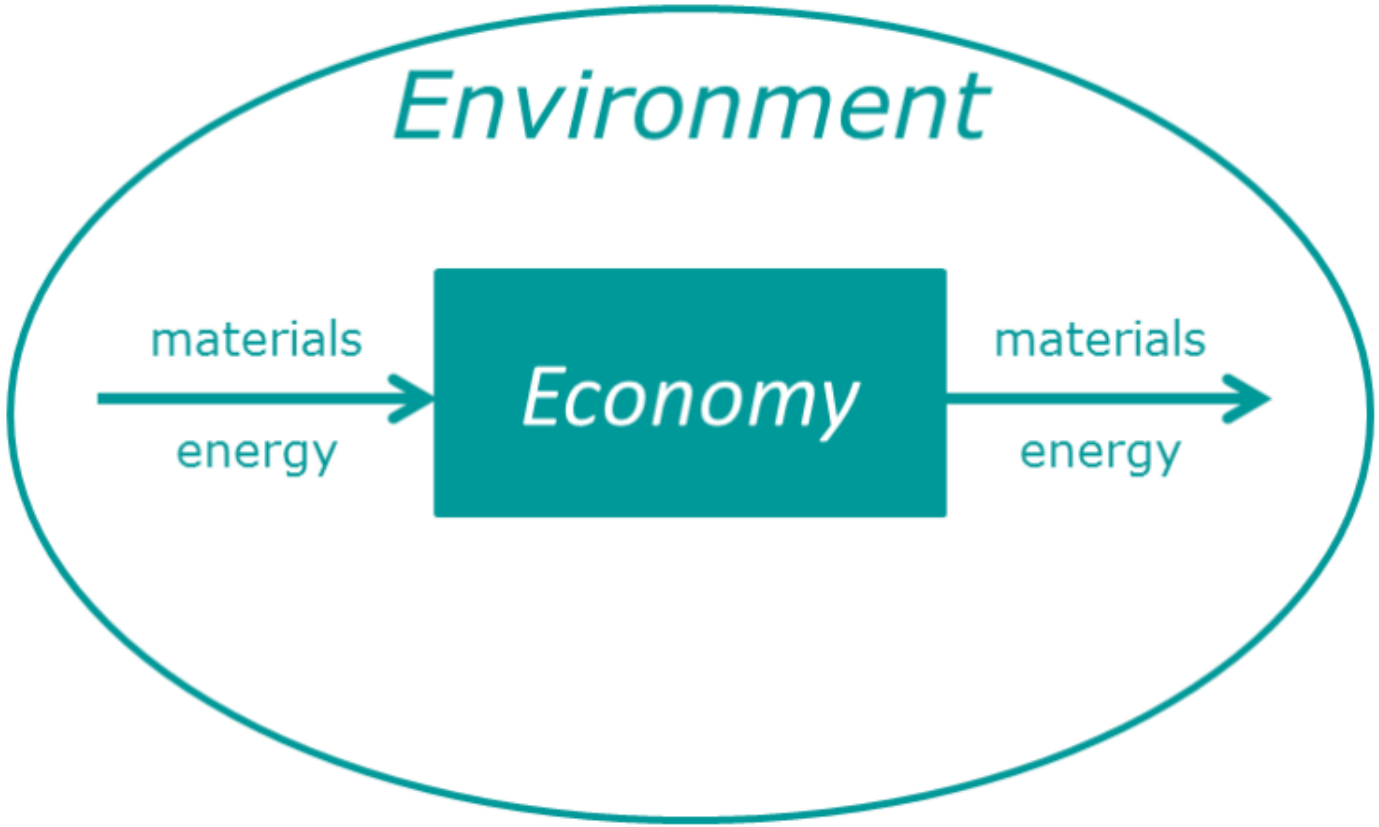
GUIDELINES

OECD

eurostat



OECD GUIDES

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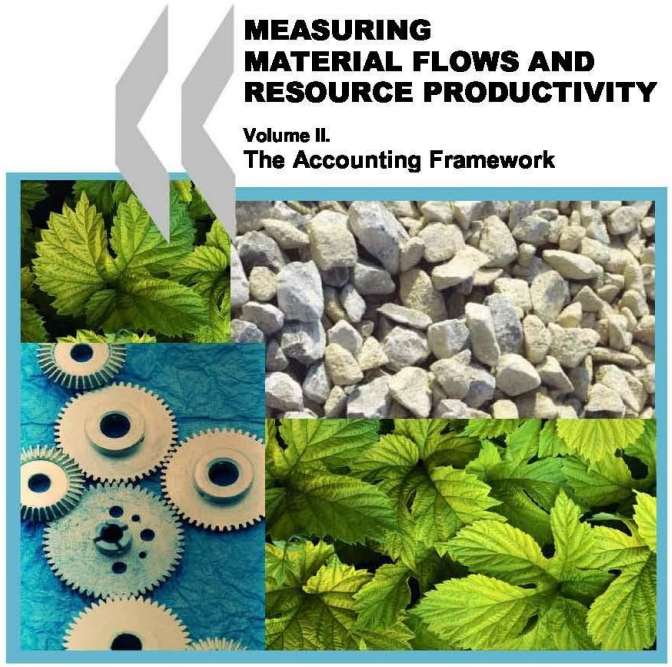

EUROSTAT'S EW-MFA

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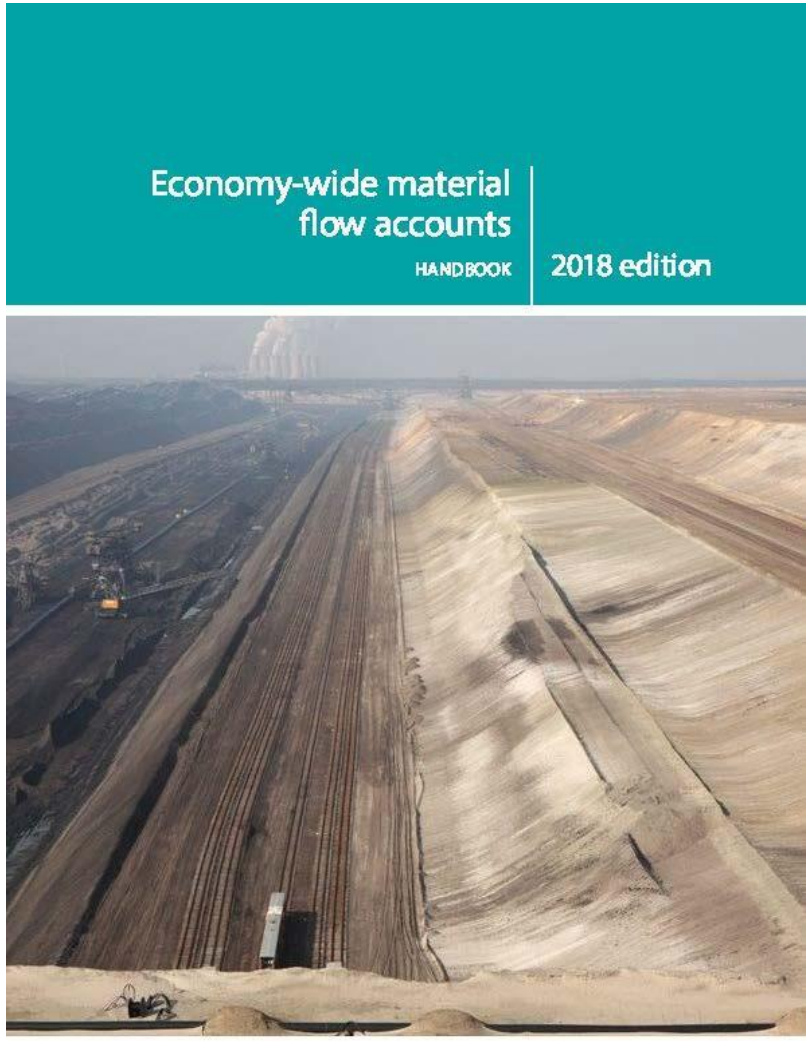
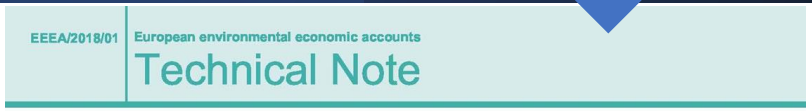
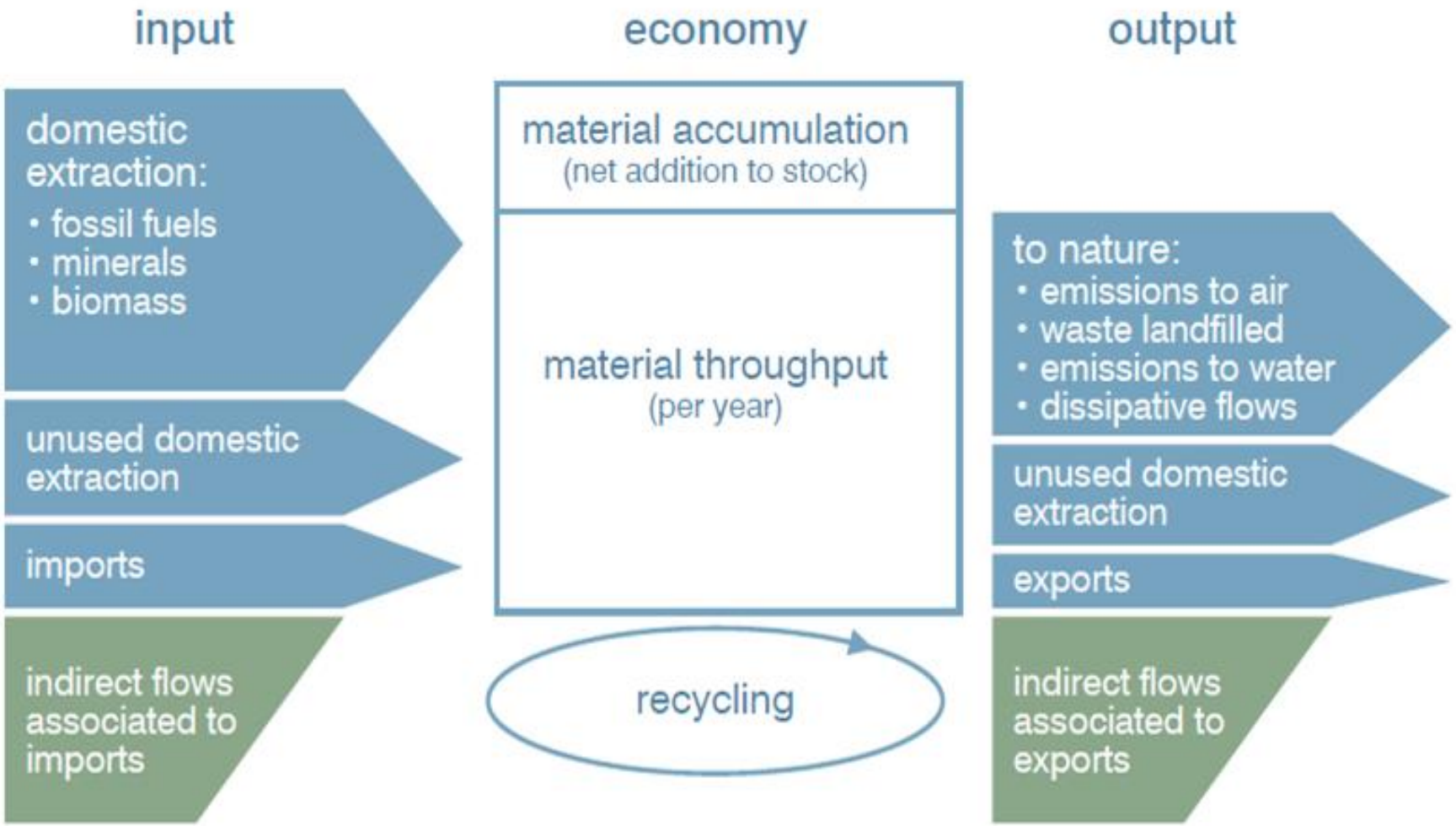




Secondary materials in European material flow accounts in raw material equivalents

November 2018

EW-MFA



SANKEY DIAGRAM

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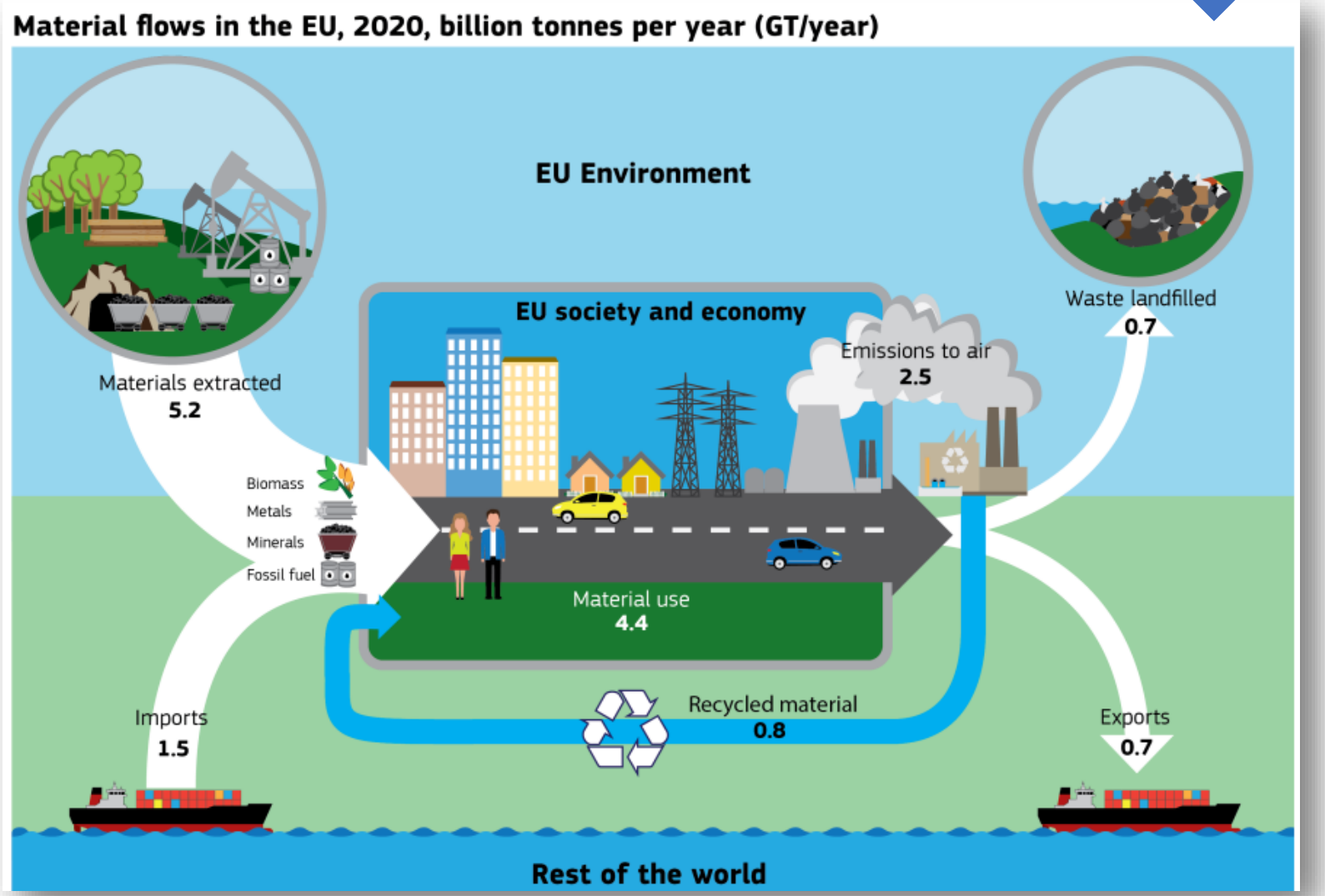

LITERATURE REVIEW

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Monitoring food-related material flows with the use of economy-wide material system analysis

Jan Kovanda

The importance of raw material equivalents in economy-wide material flow accounting and its policy dimension

Jan Kovanda [a], Jan Weinzettel [a, b]

Reutilisation-extended material flows and circular economy in China

Nan Li, Tianzhu Zhang, Sai Liang

Biomass flow in bioeconomy: Overview for Germany

Nora Szarka [a], Henryk Haufe [a], Nora Lange [a], Franziska Schier [b], Holger Weimar [b], Martin Banse [c], Viktoriya Sturm [c], Lara Dammer [d], Stephan Piotrowski [e], Daniela Thrän [a, f]

Original Articles

Understanding the contribution of ecosystem services to urban metabolism assessments: An integrated framework

Úrsula Cárdenas-Mamani, Daniela Perrotti

Exploring the Sustainability of Resource Flow and Productivity Transition in Vietnam from 1978 to 2017: MFA and DEA-Based Malmquist Productivity Index Approach

by Ta-Thi Huong [1], Liang Dong [2,3], Izhar Hussain Shah [4] and Hung-Suck Park [1,*]

Methodology of supporting decision-making of waste management with material flow analysis (MFA) and consequential life cycle assessment (CLCA): case study of waste paper recycling

Eva Sevigné-Itoiz [a, b], Carles M. Gasol [a, c], Joan Rieradevall [a, b], Xavier Gabarrell [a, b]

Full length article

Comprehensive evaluation of plastic flows and stocks in South Africa

Kunle Ibukun Olatayo [a], Paul T. Mativenga [a, b], Annlizé L. Marnewick [a]

Coupling Material Flow Analysis and Network DEA for the evaluation of eco-efficiency and circularity on dairy farms

Ricardo Rebolledo-Leiva [a], Leonardo Vásquez-Ibarra [b], Eduardo Entrena-Barbero [a], Mario Fernández [c], Gumersindo Feijoo [a], María Teresa Moreira [a], Sara González-García [a]

Review

Review of applying material flow analysis-based studies for a sustainable Norwegian Salmon aquaculture industry

Mohd Abualtaher & Eirin Skjøndal Bar

Sankey diagrams for energy consumption and scope 2 carbon emissions in laser de-coating

J. Ouyang [a], P. Mativenga [a], Z. Liu [b], N. Goffin [c], L. Jones [c], E. Woolley [c], L. Li [a]

COVID-19 PPE plastic material flows and waste management: Quantification and implications for South Africa

Kunle Ibukun Olatayo [a], Paul T. Mativenga [a, b], Annlizé L. Marnewick [a]

LITERATURE REVIEW: EW-MFA

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AUTHORS	TITLE	YEAR	TOPIC
Kovanda J.	Monitoring food-related material flows with the use of economy-wide material system analysis	2022	EW-MSA (based on EW-MFA) of food-related primary materials and products in Czech Republic
Cárdenas-Mamani U., Perrotti D.	Understanding the contribution of ecosystem services to urban metabolism assessments: An integrated framework	2022	EW-MFA to understand the relationships between anthropogenic and natural systems
Rebolledo-Leiva R. et al.	Coupling Material Flow Analysis and Network DEA for the evaluation of eco-efficiency and circularity on dairy farms	2022	EW-MFA and DEA applied on dairy farms in Galicia
Huong, T.-T.; Dong, L.; Shah, I.H.; Park, H.-S.	Exploring the Sustainability of Resource Flow and Productivity Transition in Vietnam from 1978 to 2017: MFA and DEA-Based Malmquist Productivity Index Approach	2021	EW-MFA and DEA applied to Vietnam as an emerging industrial country
CE CENTER Circular Economy Policy Research Centre	An economy wide circularity assessment in Flanders	2021	Report based on EW-MFA in the Flandres

LITERATURE REVIEW: EW-MFA

AUTHORS	TITLE	YEAR	TOPIC
Abualtaher M., Skjøndal Bar E.	Review of applying material flow analysis-based studies for a sustainable Norwegian Salmon aquaculture industry	2020	EW-MFA applied in studies about Norwegian Aquaculture of the Salmon
Sevigné-Itoiz E. et al.	Methodology of supporting decision-making of waste management with material flow analysis (MFA) and consequential life cycle assessment (CLCA): case study of waste paper recycling	2015	EW-MFA to measure efficiency of industrial areas
Kovanda J., Weinzettel J.	The importance of raw material equivalents in economy-wide material flow accounting and its policy dimension	2013	Indicators importance and comparison in EW-MFA
Li N., Zhang T., Liang S.	Reutilisation-extended material flows and circular economy in China	2013	EW-MFA extended to cover reutilisation flows in China

LITERATURE REVIEW: SANKEY DIAGRAM

AUTHORS	TITLE	YEAR	TOPIC
Ouyang J. et al.	Sankey diagrams for energy consumption and scope 2 carbon emissions in laser de-coating	2022	Energy requirements visualised through Sankey diagrams
Szarka N. et al.	Biomass flow in bioeconomy: Overview for Germany	2021	Biomass flow Sankey diagram in Germany
Olatayo K.I., Mativenga P.T., Marnewick A.L.	COVID-19 PPE plastic material flows and waste management: Quantification and implications for South Africa	2021	EW-MFA and Sankey Diagram applied on Covid-19 Personal protective equipment plastic footprint in South Africa
Olatayo K.I., Mativenga P.T., Marnewick A.L.	Comprehensive evaluation of plastic flows and stocks in South Africa	2021	Sankey diagram for plastic materials in South Africa

CONCLUSIONS AND PROSPECTIVES

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STRENGHTS OF OECD AND EUROSTAT WORK

- CLEANER AND MORE CIRCULAR PRODUCTION
- DEVELOPMENT POSSIBILITIES IN TERMS OF SUSTAINABLE RESOURCE
- IDENTIFY CURRENT MATERIAL CYCLE
- FACILITATE THE COMPARISON OF RESULTS
- DECISION-MAKING PATHS TO CIRCULAR MANAGEMENT OF FLOWS

THANK YOU!

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