

“REFUND” FUNDS ASSESSMENT MODEL

SUPPLY CHAINS AND SUSTAINABLE FINANCE

AN AMBIDEXTROUS RELATIONSHIP

**Ioana-Stefania Popescu^{1,2}, Claudia Hitaj¹, Claudio Petucco¹,
Thomas Gibon¹, Thomas Schaubroeck¹, Enrico Benetto¹**

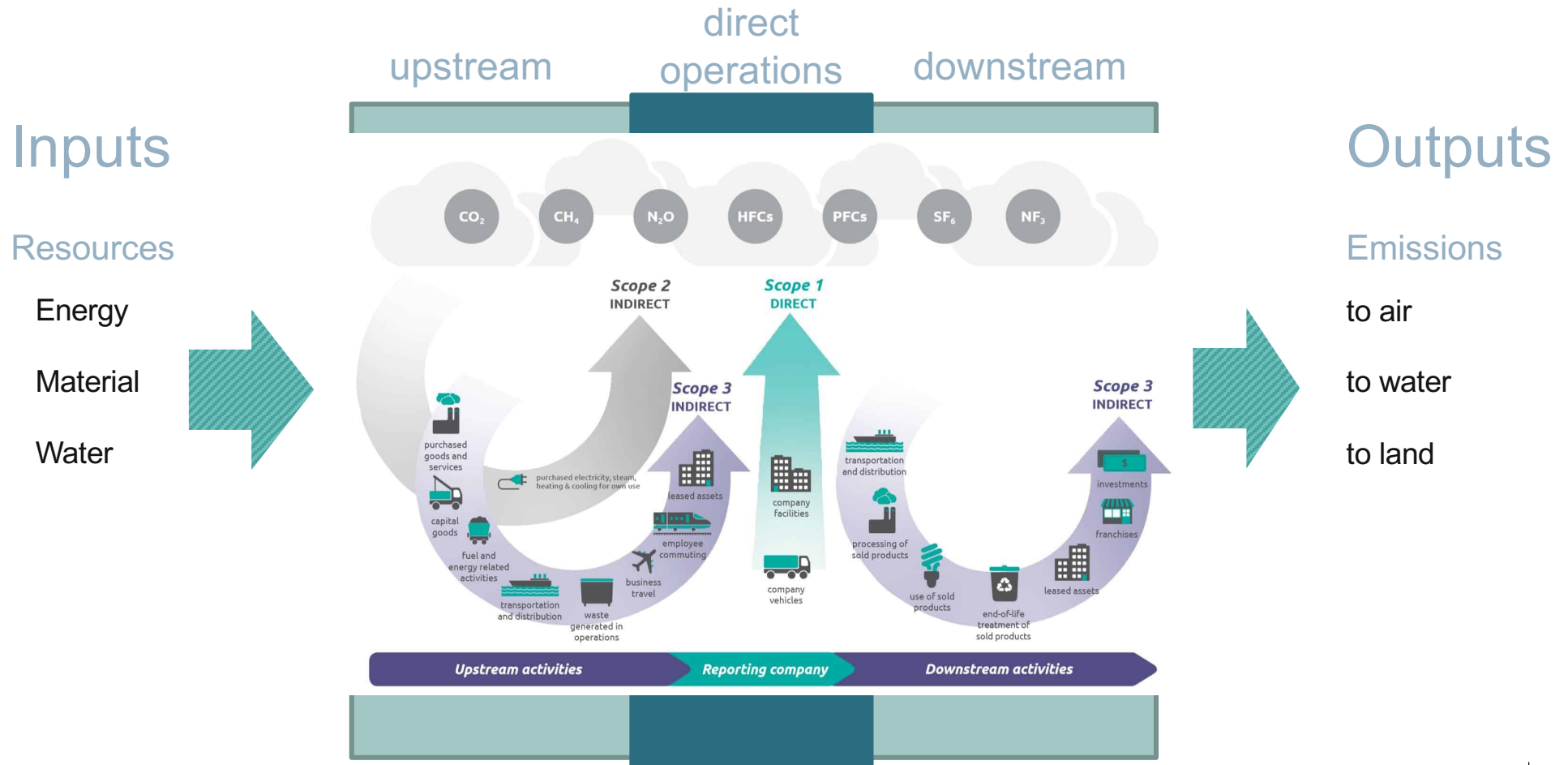
¹Luxembourg Institute of Science and Technology (LIST) | Environmental Research
and Innovation (ERIN)

²University of Luxembourg | Doctoral School of Science and Engineering (DSSE)



SUSTAINABILITY IS ABOUT DIRECT & INDIRECT IMPACTS

The case of a multinational company



THE PROBLEM WE FACE

Climate experts are worried about the toughest carbon emissions for companies to capture

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CNBC, 2021 <https://www.cnn.com/2021/08/18/apple-amazon-exxon-and-the-toughest-carbon-emissions-to-capture.html>

The triple planetary crisis refers to the three main interlinked issues that humanity currently faces: **climate change**, **pollution** and **biodiversity loss**. [...] each issue needs to be resolved if we are to have a viable future on this planet.

UNFCCC, 2022

<https://unfccc.int/blog/what-is-the-triple-planetary-crisis>

the ESG fund [...] can amplify its impact by imposing restrictions on the suppliers of the firms where it invests.

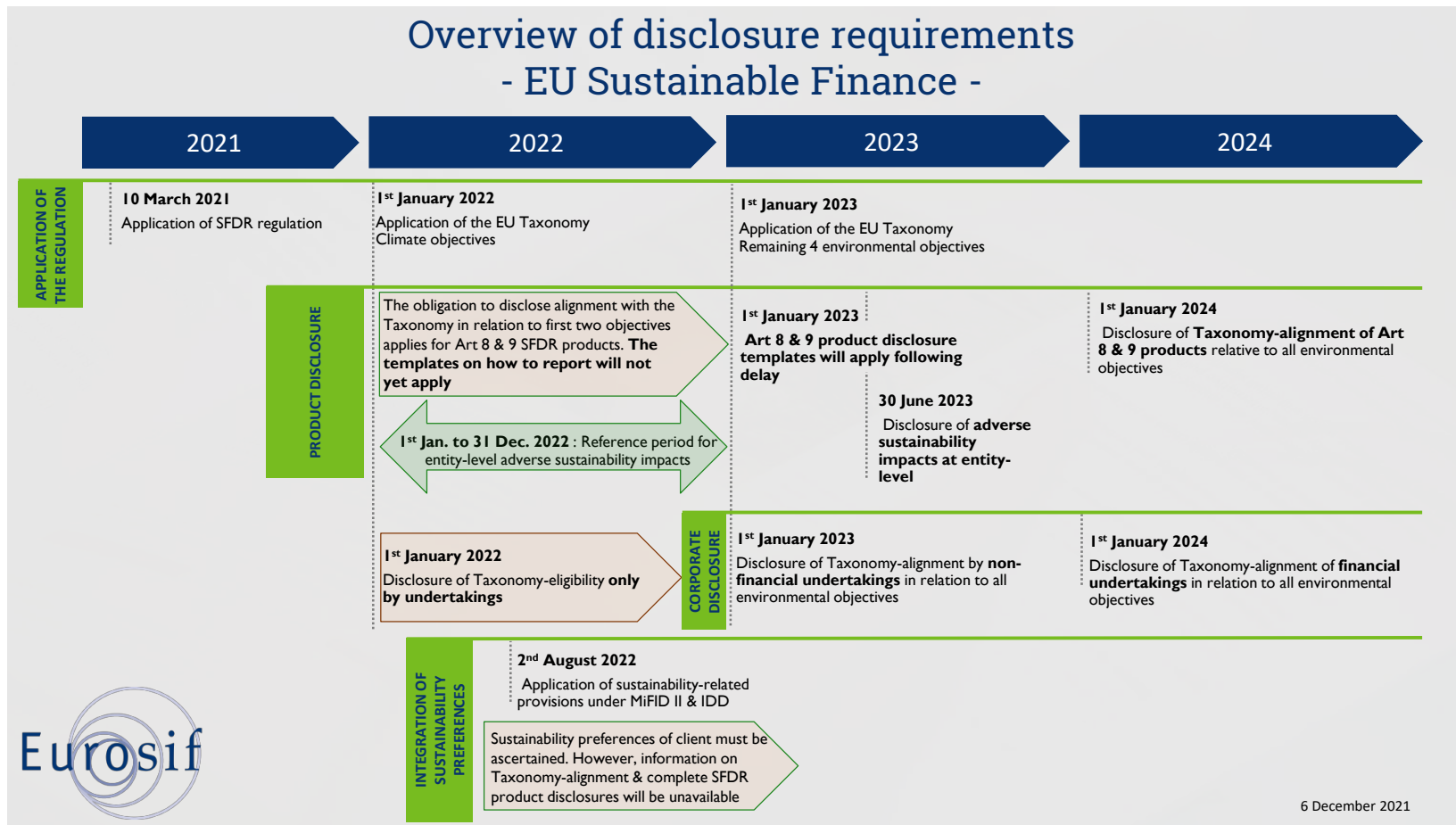
Landier, A. & Lovo, S. 2020 *ESG Investing: How to Optimize Impact?* <http://dx.doi.org/10.2139/ssrn.35089382020>

Issue - lack of “useful data”

- relevance
- resolution and scalability
- time-series availability
- frequency of update
- comprehensive geographic coverage
- accessibility
- comparability
- reliability

Karolyi, G. and Tobin-de la Puente, J., 2022. Biodiversity Finance: A Call for Research into Financing Nature <http://dx.doi.org/10.2139/ssrn.4142482>

REGULATION: SUSTAINABLE FINANCE AND REPORTING (SFRD)

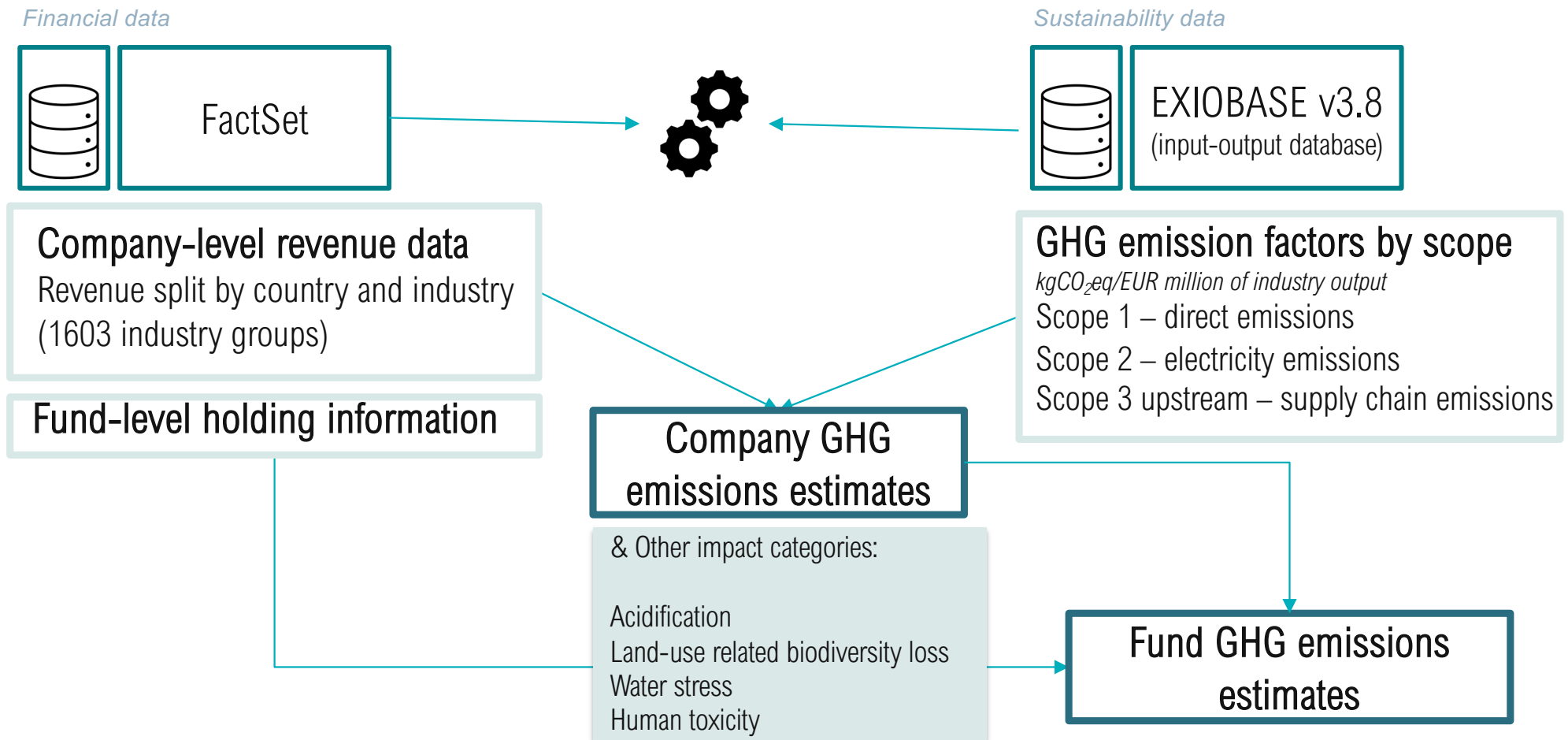


REGULATION: CORPORATE SUSTAINABILITY REPORTING (CSR)



<https://www.pwc.lu/en/newsletter/2022/csrd-was-adopted-new-sustainability-reporting-obligations-in-the-eu-start.html>

FUND LEVEL ASSESSMENT APPROACH



MODEL OUTPUT – LIFE CYCLE GHG EMISSIONS ESTIMATES FOR COMPANIES AND FUNDS

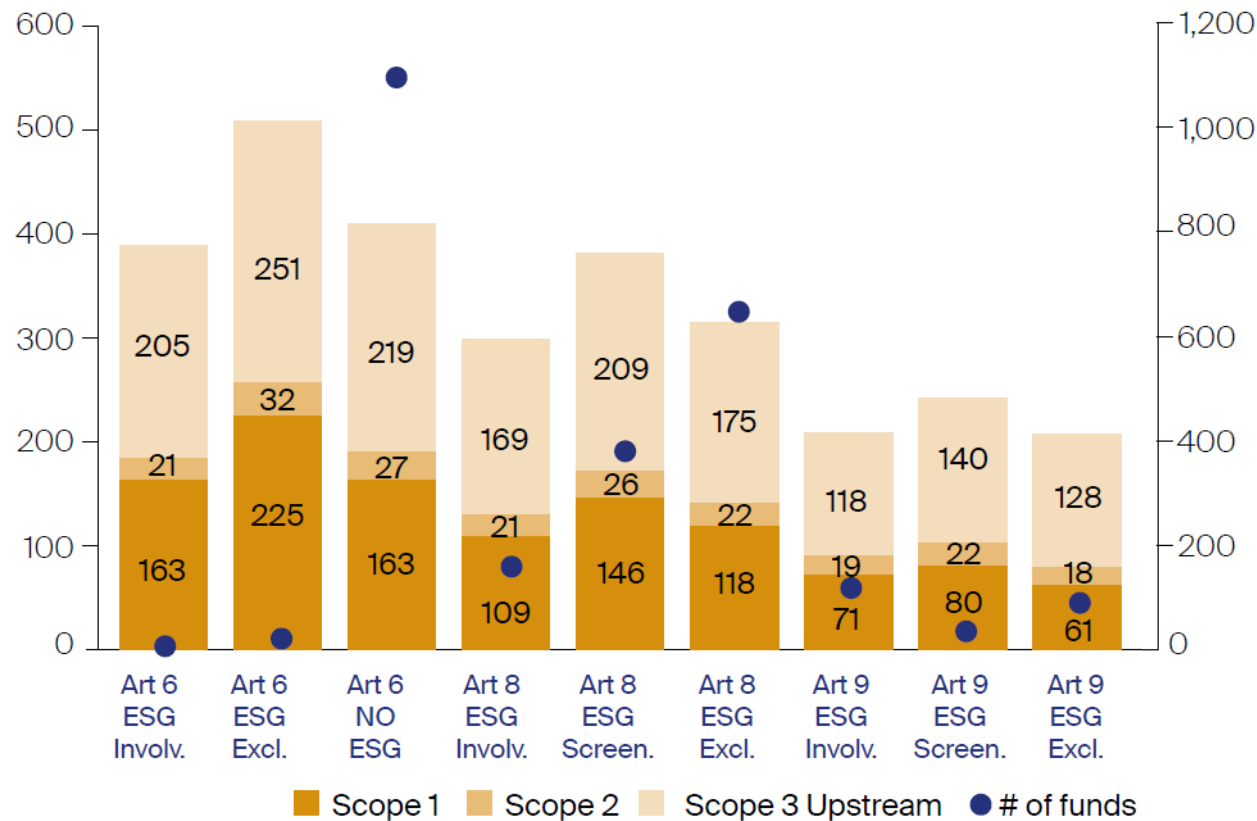
COMPANY	WACI – Weighed average Carbon Intensity (tCO ₂ -eq/MEUR)				reporting year
	scope 1	scope 2	scope 3 upstream	life cycle	
Saudi Arabian Oil Co.	1,267	77	575	1,919	2018
Agilysys, Inc. (software)	10	17	65	92	2018
iHeartMedia, Inc.	54	32	145	231	2018
CytomX Therapeutics, Inc.	130	74	235	439	2018
SG Fleet Group Ltd. (fleet mgmt.)	25	20	166	211	2018

Including indirect scope 3 emissions doubles or even triples total carbon exposure of an investment fund

FUND	RCF – Relative Carbon Footprint (tCO ₂ -eq/MUSD invested)				reporting year
	scope 1	scope 2	scope 3	life cycle	
State Street Europe Small Cap ESG Screened Equity Fund	104	20	196	321	2018
AMUNDI MSCI EMU ESG LEADERS	133	27	222	382	2018
iShares Developed World ESG Screened Index Fund (IE)	112	17	133	263	2018
Lyxor MSCI Europe ESG Leaders	108	21	172	301	2018
State Street Emerging Markets Small Cap ESG Screened Equity	639	214	643	1,497	2018

MODEL OUTPUT | SAMPLE OF SFDR SELF-LABELLED FUNDS DOMICILED IN LUXEMBOURG

Exhibit 65: Relative Carbon Footprint for the funds sample, in tCO₂-eq/mUSD invested (GWP100) (averages by fund category)



<https://lsfi.lu/sf-luxembourg-study/>

Source: Luxembourg Institute of Science and Technology (LIST)

MODEL OUTPUT | SFDR ARTICLE 9 VS ARTICLE 8 IMPACT AND EXPOSURE

BREAKDOWN OF FUND IMPACT USING CPRS INDUSTRY CLASSIFICATION

SFDR Article 9 fund
sustainable goals as their objective

LU0250158358 Article 9 fund

CPRS2 sector	Holdings' revenue	MV held by fund	Scope 1 & 2 impact share	Scope 3 impact share
	mEUR	'000 USD	tCO2-eq.	tCO2-eq.
3-energy-intensive	287,629	144,364	7,644	33% 14,980 62%
9-other	222,974	66,754	834	3.6% 3,121 13%
7-finance	60,185	45,689	475	2.1% 1,116 4.6%
5-transportation	861	12,619	74	0.3% 170 0.7%
4-buildings	7,695	6,852	61	0.3% 283 1.2%
2-utility electricity	34,757	4,510	13,865	60% 4,490 19%
2-utility waste	377	2,403	9	0.0% 78 0.3%
1-fossil oil	35	5	3	0.0% 1 0.0%
1-fossil gas	14	2	3	0.0% 2 0.0%

SFDR Article 8 fund
promoting sustainability characteristics

LU0082087510 Article 8 fund

CPRS2 sector	Holdings' revenue	MV held by fund	Scope 1 & 2 impact share	Scope 3 impact share
	mEUR	'000 USD	tCO2-eq.	tCO2-eq.
3-energy-intensive	535,592	74,092	8,438	27% 10,499 30%
7-finance	513,047	33,346	419	1.3% 2,034 5.9%
9-other	244,320	22,360	575	1.8% 1,817 5.2%
1-fossil oil	706,699	13,819	14,951	48% 28,341 82%
2-utility electricity	156,778	12,249	12,296	39% 4,680 13.5%
4-buildings	75,471	11,051	409	1.3% 3,312 9.5%
5-transportation	322,840	8,527	908	2.9% 5,061 14.6%
2-utility waste	5,626	2,744	461	1.5% 302 0.9%
5-transportation air	5,040	2,699	389	1.2% 184 0.5%
1-fossil gas	19,859	1,180	1,107	3.5% 844 2.4%
5-transportation roads	9,156	423	9	0.0% 74 0.2%
1-fossil coal	8,835	415	1,308	4.2% 520 1.5%
1-fossil-fuel	11,230	378	279	0.9% 358 1.0%
6-agric. etc agriculture	2,133	166	32	0.1% 64 0.2%
6-agric. etc forestry	320	36	3	0.0% 3 0.0%

COMPANY LEVEL ASSESSMENT: COMPARATIVE STUDY IN AUTOMOTIVE SECTOR



Reporting on emissions by few companies –
36% reporting on scope 3 emissions
(Blood and Levina, 2020)



Time period
FY2019



Companies compared
**13 large Auto
Manufacturers**



Impact category
**GHG emissions, GWP100
Cradle to gate**

CHOICE OF DATA AND METHODOLOGY



Reported data

- 20% coverage (out of 110 Auto companies)
- Inconsistences in reporting and standards used



Estimated top-down EIO-LCA

- 90% of companies covered
- Revenue data by sector and country (FactSet)
- Life cycle GHG multipliers (EXIOBASE)



! By-country emission factors for “*Manufacture of motor vehicles, trailers and semi-trailers*” & other matching sectors

! Completeness in scope



Estimated bottom-up Process-based LCA (PLCA)

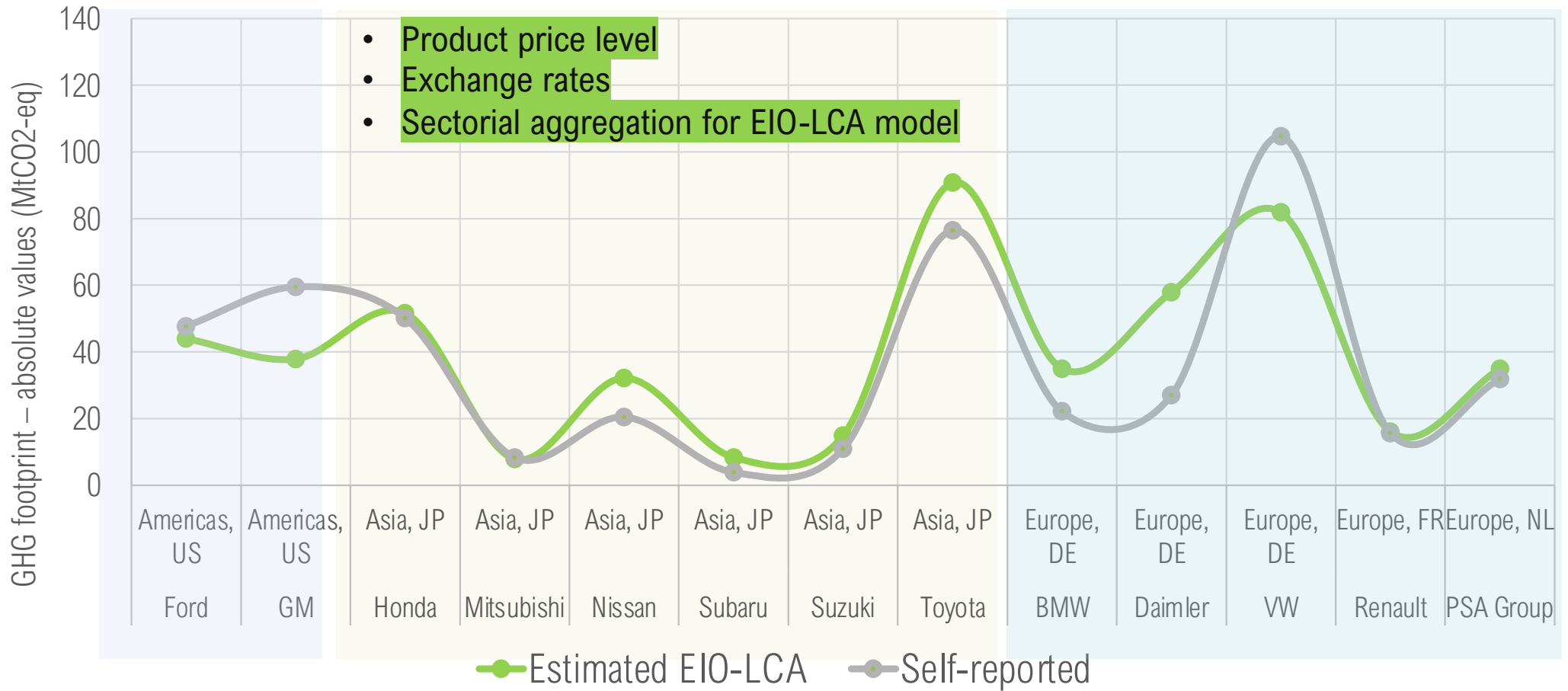
- 16% covered (13 manufactures)
- Production data by powertrain and model
- LCI by powertrain



! Limited publicly-available reporting by model and powertrain

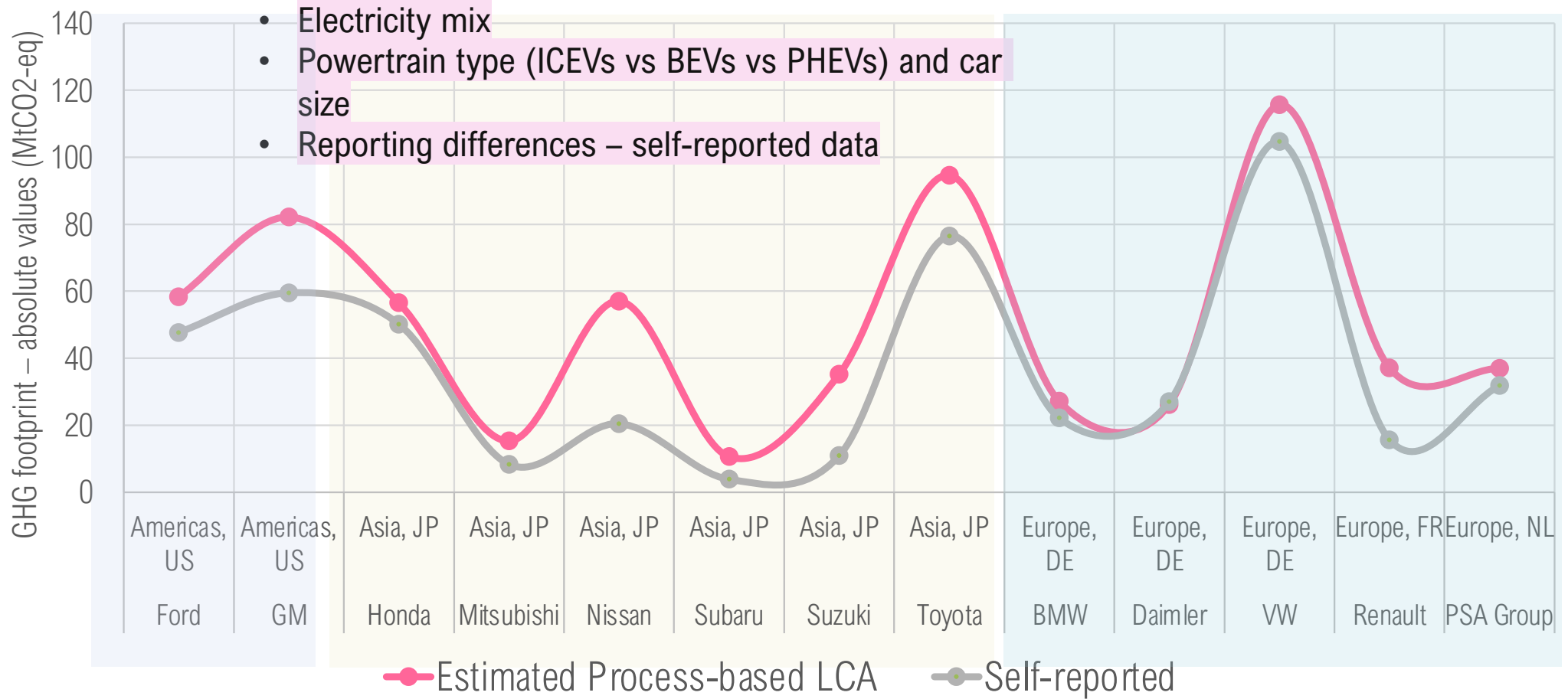
! Use of average emission factors by powertrain and average car weights

RESULTS | ESTIMATED EIO-LCA VS REPORTED DATA



We assume an equal mix of small and medium sized cars sold by each company (average car weight by size used)

RESULTS | ESTIMATED PROCESS-BASED LCA VS REPORTED DATA



We assume an equal mix of small and medium sized cars sold by each company (average car weight by size used)

LEARNINGS FOR SUSTAINABILITY REPORTING (WITH OR WITHOUT REPORTED DATA)

Estimation method for life cycle GHG emissions (and other sustainability impact categories), based on **EIO-LCA (top-down)** or **Process-based LCA (bottom-up)**



- Scope,
- Coverage
- Easy of use
- Fund level reporting
- Comparability across industries



- Differentiation
- Accuracy



- Same production recipe for all companies (same country industry class)
- Uncertainties

- Not applicable to funds
- Less easy to use



thank you

The “REFUND” project group at LIST



**Enrico
Benetto**



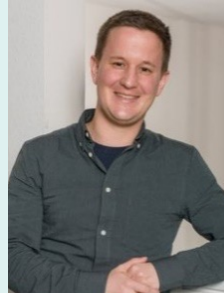
**Thomas
Gibon**



**Claudio
Petucco**



**Ioana
Popescu**



**Thomas
Schaubroeck**

contact information

For more info, please
contact us at

ioana.popescu@list.lu