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Research article

What can green investors learn from funds' value chain carbon footprint? Evidence from Spain

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Appendix

Table 1. Spanish equity funds by size based on AUM as of December 31, 2022 (Panel A: Large; Panel B: Medium; Panel C: Small).

	Fund name	AUM (€ million)		Fund name	AUM (€ million)
Panel A. Large (over €100 million)				*Panel C. Small (below €50 million)*	
1	Santander Spanish Equities	861.25	20	Azvalor Iberia	49.14
2	Santander Small Caps Spain	272.25	21	Renta 4 Spanish Stock Exchange	49.13
3	Caixabank Master Spanish Equities	265.18	22	Ibercaja Spanish Stock Exchange	40.50
4	Caixabank Stock Exchange Spanish Index	256.17	23	Radar Investment	38.15
5	ING Direct Orange Fund IBEX35	214.89	24	Caixabank Stock Exchange Spain 150	38.07
6	EDM Investment	194.24	25	Unifond Spanish Equities	36.06
7	Sabadell Spanish Stock Exchange Future	148.76	26	Gesconsult Iberian Equities	31.09
8	GCO Equities	146.44	27	Okavango Delta	28.21
9	Bestinver Stock Exchange	131.46	28	Rural Spanish Equities	27.39
10	Magallanes Iberian Equity	131.14	29	Abante Global Funds Spanish Opportunities	25.58
11	Bindex Spanish Index	123.81	30	Occidente Spanish Stock Exchange	23.55
12	Caixabank Stock Exchange Spanish Management	117.39	31	Metavalor	22.28
13	Santalucia Espabolsa	105.59	32	Fondmapfre Iberian Stock Exchange	22.06
Panel B. Medium (from €50 million to €100 million)			33	Caja Ingenieros Iberian Equity	Caja Ingenieros Iberian Equity
14	Mutuafondo Spain	93.91	34	Mediolanum Small & Mid Caps Spain	18.03
15	Kutxabank Stock Exchange	92.12	35	BBVA Stock Exchange Plus	16.66
16	BBVA Stock Exchange	83.81	36	Allianz Spanish Stock Exchange	11.66
17	BBVA Stock Exchange Index	83.64	37	Laboral Kutxa Stock Exchange	8.82
18	Bankinter Spanish Stock Exchange	76.19	38	Imantia IBEX 35	8.30
19	Santalucia Iberian Equities	58.96	39	CBNK Spanish Equities	7.48
			40	Bankoa Stock Exchange	7.26
			41	SWM Spain Active Management	6.75
			42	Iberian Value	3.93
			43	Credit Suisse Stock Exchange	3.62
			44	Solventis Aura Iberian Equity	3.52
			45	Fonditel Lince	2.86

Table 2. This table provides the name, the abbreviated name, the capitalisation and the consolidated revenue for companies included in investigated Spanish funds

Company name	Abbreviated name	Capitalisation (€ million)	Consolidated revenue (€ million)
Acciona	Acciona	9430	11,195
Acerinox	Acerinox	2400	8688
ACS, Actividades De Construcción Y Servicios	ACS	7607	33,615
Aedas Homes	Aedas Homes	645	920
Aena	Aena	17,595	4182
Alantra Partners	Alantra	466	234
Almirall	Almirall	1641	863
Amadeus It Group	Amadeus	21,872	4486
Applus Services	Applus	872	2095
Atresmedia Corporacion De Medios De Comunicacion	Atresmedia	811	867
Atrys Health,	Atrys	457	187
Audax Renovables	Audax	330	2626
Azkoyen	Azkoyen	151	171
Banco Bilbao Vizcaya Argentaria	BBVA	33,974	19,153
Banco De Sabadell	Bando De Sabadell	4956	3799
Banco Santander	Banco Santander	47,066	38,619
Bankinter	Bankinter	5634	1537
Caixabank	Caixabank	29,599	6916
Cellnex Telecom	Cellnex	21,844	3248
Compañia De Distribucion Integral Logista Holdings	Logista	3133	11,463
Cie Automotive	Cie Automotive	2949	3839
Clinica Baviera	Clinica Baviera	285	198
Coca-Cola Europacific Partners Plc	Coca-Cola	23,850	17,320
Construcciones y Auxiliar de Ferrocarriles	CAF	908	3165
Corporacion Acciona Energías Renovables	Corporacion Acciona	11,899	4351
Corporacion Financiera Alba	Corporacion Financiera Alba	2556	167
Dia-Distribuidora Internacional De Alimentacion	DIA	737	6524
Ebro Foods	Ebro Foods	2256	2968
Ecoener	Ecoener	260	73
Edreams Odigeo	Edreams	504	588
Elecnor	Elecnor	922	3632
Enagas	Enagas	4067	957
Ence Energia y Celulosa	ENCE	692	983
Endesa	Endesa	18,671	32,545
Ercros	Ercros	313	1025
Faes Farma	Faes Farma	1091	439
Ferrovial	Ferrovial	24,458	7551
Fluidra	Fluidra	2841	2389
Fomento de Construcciones y Contratas	FCC	3866	7706
Gestamp Automocion	Gestamp	2080	10,726
Global Dominion Access	Global Dominion Access	547	1227
Grenergy Renovables	Grenergy Renovables	849	111
GRIFOLS	GRIFOLS	4589	6064
Grupo Catalana Occidente	Grupo Catalana Occidente	3546	3301
Iberdrola	Iberdrola	69,538	53,949
Iberpapel Gestion	Iberpapel Gestion	144	295
Indra Sistemas	Indra	1881	3851
Industria de Diseño Textil	Inditex	77,449	32,569
Inmobiliaria Colonial	Inmobiliaria Colonial	3243	362

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Inmobiliaria del Sur	Inmobiliaria del Sur	133	117
International Consolidated Airlines Group	IAG	6913	21,073
Laboratorio Reig Jofre	Laboratorio Reig Jofre	172	271
Laboratorios Farmaceuticos Rovi	Rovi	1948	818
Lar España Real Estate	LAR	354	80
Linea Directa Aseguradora	Linea Directa	1123	901
Lingotes Especiales	Lingotes Especiales	54	113
Mapfre	Mapfre	5574	14,569
Melia Hotels International	Melia Hotels	1009	1,692
Merlin Properties	Merlin Properties	4122	439
Metrovacesa	Metrovacesa	966	519
Miquel y Costas & Miquel	Miquel y Costas	468	337
Naturgy Energy Group	Naturgy	23,571	33,965
Naturhouse Health	Naturhouse	95	52
Neinor Homes	Neinor Homes	654	763
Nh Hotel Group	Nh Hotel	1294	1722
Obrascon Huarte Lain	Obrascon	265	3,260
Opdenergy Holding	Opdenergy	568	115
Pharma Mar	Pharma Mar	1180	196
Promotora De Informaciones	Prisa	208	831
Prosegur, Compañía De Seguridad	Prosegur	973	1872
Redeia Corporacion	Redeia	8798	2015
Renta 4 Banco	Renta 4 Banco	399	21,782
Repsol	Repsol	20,454	75,153
Sacyr	Sacyr	1,699	5,852
Solaria Energia y Medio Ambiente	Solaria	2,139	139
Soltec Power Holdings	Soltec	377	568
Talgo	Talgo	407	469
Tecnicas Reunidas	Tecnicas Reunidas	510	4233
Telefonica	Telefonica	19,549	39,993
Tubacex	Tubacex	258	715
Unicaja Banco	Unicaja Banco	2737	1058
Vidrala	Vidrala	2470	1347
Viscofan	Viscofan	2799	1201
Vocento	Vocento	79	341
Total		591,794	602,311

Notes: Capitalisation and revenue as of December 31, 2022.

Table 3. Number of companies reporting Scope 1 and Scope 2 emissions, and upstream Scope 3 emissions by company sector

		Scope 1 and 2 emissions		Upstream Scope 3 emissions	
	Funds' stock holdings	Number of reporting companies	Share on funds' stock holdings (%)	Number of reporting companies	Share on funds' stock holdings (%)
Consumer goods	16	16	100	9	56
Basic materials, industry, and construction	19	18	95	13	68
Oil and energy	13	13	100	10	77
Consumer services	13	12	92	11	85
Financial services	11	11	100	10	91
Real estate services	7	6	86	2	29
Technology and telecommunications	5	5	100	5	100

Notes: Company sectors as defined by the Spanish stock exchange (BME).

Table 4. Number of companies reporting Scope 3 emissions and reported Scope 3 emissions by category

	Number of reporting companies	Emissions $MtCO_{2e}$	Share (%)
Upstream Scope 3 categories			
1. Purchased goods and services	35	38.68	29.56
2. Capital goods	22	4.38	3.35
3. Fuel- and energy-related activities (not included in Scope 1 or Scope 2)	25	81.99	62.67
4. Upstream transportation and distribution	23	3.32	2.54
5. Waste generated in operations	26	0.41	0.32
6. Business travel	37	0.29	0.22
7. Employee commuting	30	0.61	0.46
8. Upstream leased assets	12	1.16	0.89
Downstream Scope 3 categories			
9. Downstream transportation and distribution	6	0.80	0.27
10. Processing of sold products	2	0.00	0.00
11. Use of sold products	13	285.22	97.84
12. End-of-life treatment of sold products	8	1.54	0.53
13. Downstream leased assets	2	0.32	0.11
14. Franchises	2	0.60	0.21
15. Investments	12	3.06	1.05

Notes: Scope 3 categories are as defined in the GHG Protocol's Corporate Value Chain (Scope 3) Accounting and Reporting Standard (GHG Protocol, 2013).

Table 5. Top 10 holdings and shares (%) for the three small-sized funds with the highest upstream total WACI.

Metavalor		Mediolanum Small & Mid Caps Spain		Laboral Kutxa Stock Exchange	
Cie Automotive	11.23%	Viscofan	11.15%	Iberdrola	8.56%
Melia Hotels	9.63%	Vidrala	7.82%	Viscofan	6.36%
Gestamp	7.85%	Global Dominion Access	6.64%	Inditex	5.79%
Logista	7.76%	Unicaja Banco	6.37%	Banco Santander	5.72%
Grifols	7.46%	Applus	6.33%	Vidrala	5.59%
Vidrala	6.61%	CAF	5.73%	Cie Automotive	5.35%
IAG	5.95%	Acerinox	5.71%	Cellnex	4.61%
Cellnex	5.70%	Repsol	5.50%	BBVA	3.92%
Repsol	5.56%	FCC	5.45%	Caixabank	3.66%
Grupo Catalana Occidente	5.25%	Elecnor	4.58%	Ebro Foods	2.93%

Notes: Colours for companies are set according to their carbon intensity including Scope 1, Scope 2, and upstream Scope 3 emissions. The top 10 companies included in our selection of funds with the highest carbon intensity (tCO_2e/€ million) are Vidrala (1754), Enagas (1324), Naturgy (1305), IAG (1224), Cie Automotive (1125), Iberdrola (1035), FCC (1029), Grenergy (757), Endesa (746), and Acerinox (732). The median and the minimum carbon intensity for Spanish companies our funds invest in are 108 tCO_2e/€ million and 0.05 tCO_2e/€ million, respectively.