

## 4.1 Carbon Emissions and Stock Returns

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### **1 Regressions**

Table 1: Carbon Emissions and Stock Returns: LOG Emission

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
LN SCOPE1	-0.00182 (0.00193)				-0.000267 (0.00103)			
LN SCOPE2		-0.000215 (0.00228)				-0.000673 (0.00137)		
LN TOTAL			-0.000706 (0.00114)				-0.000627 (0.000731)	
LN ENERGY				-0.00423 (0.00321)				-0.000733 (0.00108)
LOGSIZE	-0.00502 (0.00479)	-0.00553 (0.00510)	-0.00525 (0.00481)	-0.00515 (0.00474)	-0.00775** (0.00268)	-0.00720*** (0.00225)	-0.00786*** (0.00227)	-0.00782*** (0.00237)
B/M	-0.0297*** (0.00856)	-0.0301*** (0.00919)	-0.0298*** (0.00890)	-0.0294*** (0.00866)	-0.0261*** (0.00650)	-0.0254*** (0.00760)	-0.0258*** (0.00696)	-0.0259*** (0.00671)
LEVERAGE	-0.0102 (0.0148)	-0.00963 (0.0156)	-0.0128 (0.0151)	-0.0158 (0.0150)	-0.0142 (0.00940)	-0.0140 (0.00997)	-0.0165 (0.0105)	-0.0158 (0.00980)
MOM	-0.0617 (0.124)	-0.0457 (0.127)	-0.0598 (0.124)	-0.0626 (0.126)	-0.00341 (0.0987)	0.00885 (0.101)	-0.00444 (0.0969)	-0.00430 (0.0966)
INVEST/A	0.159* (0.0794)	0.156* (0.0733)	0.153* (0.0737)	0.165* (0.0854)	0.0972 (0.0628)	0.0996 (0.0657)	0.103 (0.0663)	0.0997 (0.0639)
ROE	0.00172 (0.0215)	0.000327 (0.0207)	0.00217 (0.0221)	0.00200 (0.0215)	0.0101 (0.0196)	0.00963 (0.0197)	0.0102 (0.0198)	0.0102 (0.0198)
LOGPPE	0.00364 (0.00595)	0.00299 (0.00629)	0.00368 (0.00629)	0.00531 (0.00622)	0.00685 (0.00419)	0.00658* (0.00313)	0.00778* (0.00416)	0.00728* (0.00387)
BETA	0.00392 (0.00480)	0.00363 (0.00508)	0.00370 (0.00490)	0.00432 (0.00484)	0.00238 (0.00344)	0.00234 (0.00343)	0.00223 (0.00341)	0.00232 (0.00343)
VOLAT	0.0107 (0.00936)	0.0104 (0.00898)	0.0106 (0.00935)	0.0110 (0.00948)	0.0131* (0.00690)	0.0132* (0.00693)	0.0134* (0.00696)	0.0132* (0.00682)
SALESGR	0.00590 (0.00437)	0.00640 (0.00457)	0.00617 (0.00443)	0.00525 (0.00427)	0.00621 (0.00478)	0.00593 (0.00475)	0.00601 (0.00474)	0.00619 (0.00481)
EPSGR	0.000113 (0.0000707)	0.000111 (0.0000714)	0.000109 (0.0000712)	0.000118 (0.0000717)	0.000125* (0.0000610)	0.000126* (0.0000605)	0.000126* (0.0000619)	0.000127* (0.0000616)
_cons	0.0878 (0.0535)	0.0937 (0.0549)	0.0881 (0.0547)	0.0981* (0.0513)	0.0553 (0.0395)	0.0529 (0.0424)	0.0513 (0.0424)	0.0562 (0.0372)
Year FE	yes	yes	yes	yes	yes	yes	yes	yes
Industry FE	yes	yes	yes	yes	no	no	no	no
Observations	3560	3534	3560	3560	3560	3534	3560	3560
R2-Adj	0.185	0.187	0.185	0.186	0.189	0.191	0.189	0.189

Standard errors in parentheses

Table 2: Carbon Emissions and Stock Returns: Yearly Change in Emissions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$\Delta$ SCOPE1	1.95e-09*** (5.95e-10)				9.76e-10* (5.06e-10)			
$\Delta$ SCOPE2		-4.01e-08 (5.42e-08)				-3.95e-08 (5.26e-08)		
$\Delta$ TOTAL			3.25e-16 (2.00e-16)				2.73e-16 (2.16e-16)	
$\Delta$ ENERGY				5.14e-11 (1.58e-10)				7.01e-12 (1.31e-10)
LOGSIZE	-0.00565 (0.00569)	-0.00511 (0.00575)	-0.00522 (0.00558)	-0.00528 (0.00569)	-0.00783*** (0.00240)	-0.00781*** (0.00240)	-0.00778*** (0.00237)	-0.00781*** (0.00239)
B/M	-0.0296** (0.00956)	-0.0287** (0.00928)	-0.0292*** (0.00925)	-0.0294** (0.00960)	-0.0237** (0.00833)	-0.0232** (0.00808)	-0.0237** (0.00805)	-0.0236** (0.00836)
LEVERAGE	-0.0161 (0.0155)	-0.0139 (0.0154)	-0.0151 (0.0156)	-0.0159 (0.0149)	-0.0150 (0.0123)	-0.0140 (0.0124)	-0.0154 (0.0125)	-0.0152 (0.0125)
MOM	0.0144 (0.119)	0.0243 (0.117)	0.0262 (0.117)	0.0233 (0.120)	0.0879 (0.0859)	0.0920 (0.0852)	0.0933 (0.0862)	0.0917 (0.0858)
INVEST/A	0.155* (0.0844)	0.151 (0.0860)	0.151* (0.0828)	0.153* (0.0850)	0.0969 (0.0710)	0.0957 (0.0702)	0.0964 (0.0693)	0.0976 (0.0709)
ROE	0.0108 (0.0284)	0.0108 (0.0278)	0.00970 (0.0284)	0.0101 (0.0281)	0.0197 (0.0250)	0.0199 (0.0245)	0.0190 (0.0248)	0.0193 (0.0250)
LOGPPE	0.00157 (0.00660)	0.00138 (0.00662)	0.00140 (0.00646)	0.00139 (0.00661)	0.00607* (0.00302)	0.00638* (0.00302)	0.00611* (0.00286)	0.00620* (0.00300)
BETA	0.00400 (0.00391)	0.00397 (0.00350)	0.00372 (0.00367)	0.00372 (0.00402)	0.00240 (0.00353)	0.00215 (0.00344)	0.00225 (0.00350)	0.00212 (0.00368)
VOLAT	0.00746 (0.00661)	0.00817 (0.00664)	0.00664 (0.00623)	0.00764 (0.00647)	0.0108* (0.00599)	0.0117* (0.00633)	0.0102 (0.00590)	0.0110* (0.00608)
SALESGR	0.00710 (0.00514)	0.00706 (0.00497)	0.00650 (0.00494)	0.00664 (0.00499)	0.00555 (0.00434)	0.00592 (0.00429)	0.00532 (0.00441)	0.00547 (0.00438)
EPSGR	0.0000956 (0.0000626)	0.0000974 (0.0000623)	0.0000988 (0.0000627)	0.0000982 (0.0000631)	0.000112* (0.0000551)	0.000113* (0.0000555)	0.000112* (0.0000554)	0.000112* (0.0000552)
_cons	0.123** (0.0540)	0.114* (0.0556)	0.117* (0.0552)	0.119* (0.0562)	0.0672 (0.0421)	0.0598 (0.0425)	0.0659 (0.0402)	0.0647 (0.0425)
Year FE	yes	yes	yes	yes	yes	yes	yes	yes
Industry FE	yes	yes	yes	yes	no	no	no	no
Observations	3086	3086	3086	3078	3087	3087	3087	3079
R2-Adj	0.175	0.174	0.174	0.174	0.178	0.178	0.178	0.178

Standard errors in parentheses

Table 3: Carbon Emissions and Stock Returns: Emission Intensity

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SCOPE1 INT	3.21e-08 (0.000000151)				-2.01e-08 (9.70e-08)			
SCOPE2 INT		0.00000506 (0.00000608)				0.00000138 (0.00000354)		
TOTAL INT			-3.44e-12 (2.26e-12)				-2.94e-12** (1.30e-12)	
ENERGY INT				-0.000000191 (0.000000309)				-2.79e-08 (0.000000127)
LOGSIZE	-0.00516 (0.00499)	-0.00497 (0.00505)	-0.00543 (0.00490)	-0.00606 (0.00555)	-0.00757*** (0.00236)	-0.00740*** (0.00236)	-0.00792*** (0.00226)	-0.00766** (0.00271)
B/M	-0.0299*** (0.00900)	-0.0295*** (0.00907)	-0.0291*** (0.00868)	-0.0307*** (0.00830)	-0.0262*** (0.00675)	-0.0259*** (0.00668)	-0.0252*** (0.00676)	-0.0262*** (0.00660)
LEVERAGE	-0.0123 (0.0171)	-0.0147 (0.0160)	-0.0136 (0.0151)	-0.0119 (0.0147)	-0.0134 (0.00977)	-0.0138 (0.00968)	-0.0154 (0.00999)	-0.0136 (0.00935)
MOM	-0.0623 (0.124)	-0.0643 (0.124)	-0.0662 (0.122)	-0.0625 (0.123)	-0.00357 (0.0977)	-0.00524 (0.0975)	-0.00666 (0.0960)	-0.00420 (0.0966)
INVEST/A	0.151* (0.0700)	0.152* (0.0708)	0.168* (0.0779)	0.160* (0.0782)	0.0962 (0.0599)	0.0957 (0.0602)	0.110 (0.0652)	0.0967 (0.0615)
ROE	0.00203 (0.0224)	0.00235 (0.0225)	-0.00209 (0.0218)	0.00287 (0.0218)	0.0105 (0.0199)	0.0103 (0.0201)	0.00839 (0.0198)	0.0104 (0.0200)
LOGPPE	0.00271 (0.00529)	0.00290 (0.00528)	0.00323 (0.00541)	0.00323 (0.00580)	0.00638** (0.00293)	0.00638* (0.00293)	0.00768** (0.00321)	0.00652* (0.00324)
BETA	0.00403 (0.00532)	0.00489 (0.00528)	0.00267 (0.00538)	0.00367 (0.00488)	0.00238 (0.00342)	0.00250 (0.00347)	0.00150 (0.00382)	0.00236 (0.00338)
VOLAT	0.00989 (0.00892)	0.00960 (0.00883)	0.0139 (0.0111)	0.0103 (0.00870)	0.0130* (0.00729)	0.0126 (0.00716)	0.0170* (0.00938)	0.0130* (0.00684)
SALESGR	0.00635 (0.00454)	0.00623 (0.00456)	0.00592 (0.00463)	0.00563 (0.00444)	0.00620 (0.00480)	0.00625 (0.00484)	0.00607 (0.00492)	0.00612 (0.00473)
EPSGR	0.000113 (0.0000765)	0.000119 (0.0000774)	0.000106 (0.0000717)	0.000115 (0.0000715)	0.000124* (0.0000658)	0.000128* (0.0000650)	0.000125* (0.0000622)	0.000126* (0.0000597)
_cons	0.0886 (0.0573)	0.0798 (0.0579)	0.0870 (0.0511)	0.0997* (0.0544)	0.0579 (0.0408)	0.0539 (0.0396)	0.0401 (0.0404)	0.0572 (0.0377)
Year FE	yes	yes	yes	yes	yes	yes	yes	yes
Industry FE	yes	yes	yes	yes	no	no	no	no
Observations	3560	3560	3560	3560	3560	3560	3560	3560
R2-Adj	0.185	0.185	0.186	0.185	0.189	0.189	0.190	0.189

Standard errors in parentheses