

Discussion on Cho, Kim, and Yang (2021)
**“Governance Externalities of Climate-Related Disclosures:
Evidence from Facility Emissions ”**

Mingyi Hung

HKUST

ABFER Conference, 2022

Climate-related Disclosures: An Important Topic

Press Release

SEC Proposes Rules to Enhance and Standardize Climate-Related Disclosures for Investors

FOR IMMEDIATE RELEASE

2022-46



SUMMARY: The Securities and Exchange Commission (“Commission”) is proposing for public comment amendments to its rules under the Securities Act of 1933 (“Securities Act”) and Securities Exchange Act of 1934 (“Exchange Act”) that would require registrants to provide certain climate-related information in their registration statements and annual reports. The

Spillover Effects: An Important Phenomenon

A large literature on spillover effects or externalities of disclosures

Most of the research relates to financial information

Several recent studies examine spillover effects of E&S information

Releases about facilities' violation of safety & health regulation



Motivate peers to avoid being the target of future negative publicity

improve peer' compliance with regulations and workplace safety (Johnson 2020)

UK 2013 mandatory carbon disclosure




Facilitate investors' engagement of peers

increases peers' carbon disclosures, especially in countries with close geographic and economic proximity (Bolton and Kacperczyk 2021)

Spillover Effects: An Important Phenomenon

Firms' initiation of climate-related disclosures


raise local stakeholders' awareness of climate issues => increase monitoring of emissions among local peers

peer facilities in the same counties reduce carbon emissions (Cho et al. 2021, WP)



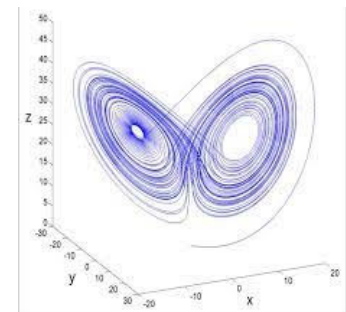
THE BUTTERFLY EFFECT

It has been said that something as small as the flutter of a butterfly's wing can ultimately cause a typhoon halfway around the world.

-Chaos Theory



#2: Mechanism



Comment #1: Setting and Policy Implications

Setting of Cho et al. (2021): Initiation of a firm's voluntary carbon disclosure

- Not the initiation of stand-alone CSR disclosures, as in prior studies (Dhaliwal et al. 2011, Chen et al. 2018).
- A key challenge is to identify the year in which a firm begins providing carbon emission data – a difficult task to manually check CSR/ESG/sustainability reports.

Appendix B Example of Voluntary GIG Disclosures



Environment Overview

We’re aiming to achieve carbon neutrality by 2050.

Climate change is a global challenge that affects us all. Its implications are profound, so we’ve set ourselves a long-term ambition to achieve carbon neutrality for our vehicles, facilities and suppliers by 2050, aligned with approved science-based targets. We are the only full-line U.S. automaker to stand with California in seeking stronger greenhouse gas (GHG) standards and to align our carbon reduction targets with the Paris Agreement.



We’re leading the electrification revolution.

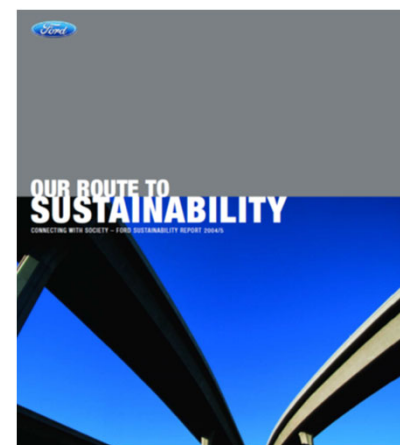
We are doubling our planned investment in electrification and offering electrified versions of our most popular nameplates, including our new all-electric Mustang Mach-E launched in late 2020, our E-Transit coming in 2021 and an all-electric F-150 in mid-2022. We have recently announced that by 2030, our passenger vehicles in Europe will be all electric, while two-thirds of commercial vehicle sales are expected to be all-electric or plug-in hybrid.

We’re positively impacting the world around us.

Our operations will seek to create a positive impact in the local ecosystem. We are managing energy responsibly and moving toward 100 percent local, renewable

An excerpt from Ford 2021 Integrated Sustainability and Financial Report.

Ford, Integrated sustainability and Financial report (CKY 2021, Appendix B)



Ford, Sustainability report 2004/5

Comment #1: Setting and Policy Implications

Cho et al. (2021)'s solution: S&P's Trucost data

Trucost data, Ford Motor

Year	Scope 1 Carbon Disclosure (di_319403_text)
2010	Value derived from data provided in Environmental/CSR
2011	Exact Value from CDP (Carbon Disclosure Project)
2012	Exact Value from CDP
2013	Exact Value from CDP
2014	Exact Value from CDP
2015	Exact Value from CDP
2016	Exact Value from CDP
2017	Exact Value from CDP
2018	Exact Value from CDP
2019	Exact Value from CDP

Trucost data, Hologic

Year	Scope 1 Carbon Disclosure (di_319403_text)
2010	Estimated data
2011	Estimated data
2012	Estimated data
2013	Estimated data
2014	Estimated data
2015	Estimated data
2016	Exact Value from CDP
2017	Exact Value from CDP
2018	Exact Value from CDP
2019	Exact Value from CDP

Current design: Disclosures in various venues are treated the same as firm disclosure.

Comment #1: Setting and Policy Implications

Limitations of the current research design:

- Does not differentiate disclosure venues (e.g., corporate sustainability reports, integrated reports, versus third-party platforms)
- Difficult to draw implications for the SEC climate-related disclosure requirement

SECURITIES AND EXCHANGE COMMISSION The Enhancement and **Standardization** of Climate-Related Disclosures for Investors

“Since 2010, disclosures related to climate change have generally increased, but there is considerable variation in the content, detail, and location....”

The inclusion of climate-related disclosures in SEC filings should increase the consistency, comparability, and reliability of climate-related information...”



Suggestions:

- Clarify the identification of the event
- Explore specific disclosure venues
- Tone down policy implications

Comment #2: Theory and Mechanisms

Proposed link

“We predict that a firm will reduce its emissions of greenhouse gases after its geographic peer initiates climate-related disclosures and attracts the attention of local activists and residents to climate risk issues.” CKY (2021, p.2)

Firm A's initiation of carbon disclosure, say, in CSR reports



raise local stakeholders' awareness of climate issues => increase monitoring of emissions among local peers

Reduce peer facilities' carbon emissions

↑
Require strong assumption on the capacity and behavior of local media, activists, and residents

Comment #2: Theory and Mechanisms

Obs: Local stakeholders tend to focus on local news

Ex: Ford Motor's local facilities

- 📍 LORAIN COUNTY
- 📍 WAYNE COUNTY
- 📍 JEFFERSON COUNTY
- 📍 WAYNE COUNTY
- 📍 MACOMB COUNTY
- 📍 JEFFERSON COUNTY
- 📍 CLAY COUNTY
- 📍 WAYNE COUNTY
- 📍 COOK COUNTY
- 📍 WAYNE COUNTY



Local news at Louisville

Louisville Chemours plant plans to curb climate super pollutants

By Ryan Van Velzer (<https://wpl.org/author/rvanvelzer/>)

courier journal

COMPANIES

EPA targets potent greenhouse gases, putting a Louisville company in its crosshairs

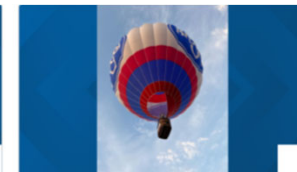
Phil McKenna and James Bruggers Inside Climate News

Published 5:36 a.m. ET Oct. 4, 2021

LOUISVILLE, Ky. — The U.S. Environmental Protection Agency has issued a landmark climate rule that will phase down U.S. production and use of potent greenhouse gases known as hydrofluorocarbons commonly used in refrigeration and air conditioning equipment.



KY Derby Festival Balloon Race 2022



KY Derby Festival Balloon Race 2022



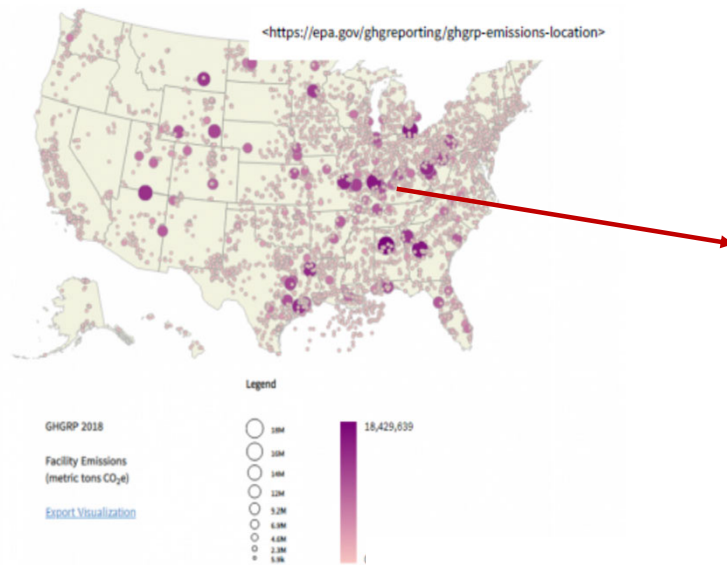
KY Derby Festival Balloon Race 2022

Comment #2: Theory and Mechanisms

Obs: Emission data on local facilities are publicly available

EPA's Greenhouse Gas Reporting Program (GHGRP)

- tracks facility-level emissions
- allows local benchmarking



View Emissions by Location



Kentucky – Jefferson County – Total Reported Emissions by Facility, by Year in Metric Tons of CO₂e

Facility	City	State	Total Reported Emissions, 2011	Total Reported Emissions, 2012
AMERICAN SYNTHETIC RUBBER	LOUISVILLE	KY	271,961	257,7
BROWN-FORMAN DISTILLERY (FORMERLY EARLY TIMES DISTIL... Cane Run	Louisville	KY	47,725 3,196,272	43,3 2,680,4
Carbide Industries LLC	Louisville	KY	60	3
CHEMOURS LOUISVILLE WORKS	LOUISVILLE	KY	32,563	28,3
Clariant Corporation, Louisville Site, West Plant	Louisville	KY	33,885	24,3
FORD MOTOR COMPANY – FORD KENTUCKY TRUCK PLANT	Louisville	KY	75,605	73,2
FORD MOTOR COMPANY – FORD LOUISVILLE ASSEMBLY PLANT	Louisville	KY	19,117	42,0
Haier US Appliance Solutions, Inc.	Louisville	KY	---	---
Heaven Hill Distilleries – Bernheim Distillery	Louisville	KY	---	---
Hexion Inc	Louisville	KY	27,566	21,8
KOSMOS CEMENT CO	LOUISVILLE	KY	4,366	7,2
LOU GAS & ELEC, ZORN STA	LOUISVILLE	KY	46	7
LOU MED CENTER STEAM PLANT	LOUISVILLE	KY	108,431	102,0
Mill Creek	Louisville	KY	8,621,671	8,047,4

Comment #2: Theory and Mechanisms

Alt. explanation #1: local emission benchmarking/disclosure spillover

Firm A's initiation of carbon disclosure



attracts firm A stakeholders' attention (Downar et al. 2021)

Firm A reduces emissions across all facilities



Signals firm performance

attracts local stakeholders' attention due to EPA data (Tomar 2021)



Peer facilities in the same county reduce emission

Comment #2: Theory and Mechanisms

Alt. Explanation #2: Disclosure spillover



Suggestions:

- Provide supporting evidence that the firm's "new" voluntary disclosures attract local media coverage or the attention of local activists
- Provide more information on the "volunteer disclosers," or explore the determinants (e.g., changes in emission performance?)
- Control for changes in facility emissions of the voluntary disclosers
- Control for peer firms' disclosures

Other Comments

Table 1

Panel A Number of Counties and Facilities Affected by a Geographic Peer's Disclosure Initiation

Year	Number of affected counties	Number of affected facilities
2010	40	122
2011	105	304
2012	77	244
2013	169	372
2014	12	36
2015	46	94
2016	6	12
2017	50	92
2018	131	234
2019	-	-
Total	636	1,510

More information on the voluntary disclosers would be useful.

Q: What is the number of firms initiating Carbon disclosures in each year (via CDP, CSR reports)?

Q: How do the voluntary disclosers' carbon emissions compare with their peers?

Other Comments

Table 4

Dependent Variable =	(1) <i>Emission</i>	(2) <i>Emission</i>
<i>Peer Disclosure</i>	-0.107** (0.046)	-0.127*** (0.048)
<i>Total Assets</i>	0.054 (0.049)	0.010 (0.075)
<i>ROA</i>	0.478*** (0.169)	0.345* (0.181)
<i>Leverage</i>	0.270* (0.152)	0.287 (0.201)
<i>Sales Growth</i>	0.003 (0.035)	0.000 (0.032)
<i>Tangible Assets</i>	0.066 (0.341)	-0.139 (0.394)
<i>R&D Expenses</i>	0.063 (0.652)	-2.066 (1.643)
<i>Population</i>	1.240*** (0.460)	0.722 (0.545)
<i>Unemployment</i>	-0.024*** (0.007)	-0.030*** (0.008)
Observations	6,304	6,304
R-squared	0.886	0.889
Facility FE	Yes	Yes
Year FE	Yes	No
Industry-Year FE	No	Yes

Trucost has sources for other emission indicators.
Q: How do the results look like using a different cutoff for Peer Disclosure (% disclosures)?

Peer Disclosure is measured at the county-level.
 Standard errors are clustered by industry-year.
Q: How do the results look like using county-level clustering?

Summary

- An important topic
- Interesting setting
- Impressive amount of work
- Would like to see additional clarifications of the events and evidence on the underlying mechanisms
- Good luck!

