UNIVERSITY OF CAMBRIDGE | Energy Policy Research Group

Climate targets, management incentives and corporate strategy in the energy industry

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Research paper

This talk is mostly based on a draft research paper:

Ritz, Robert A. "*Climate targets, management incentives and corporate strategy in the energy industry*", August 2019

Updated versions of the paper will be available at:

http://www.econ.cam.ac.uk/faculty/ritz

Motivation: Climate change & investors

① **Since 2015 Paris Agreement:**

—Climate change moves up policy agenda

—Climate change + wider ESG move up corporate agenda

② **Pressure from institutional investors**

—Portfolio value at risk due to climate change

—Investor coalitions e.g. Climate Action 100+

 —Corporate disclosure of climate risks

 —“Paris-consistent” corporate strategy

③ **Emerging corporate response to climate transition**

—Repositioning: sell high-C assets, buy green entrants

—Electricity sector more advanced than oil & gas

⇒ *Unlike climate policy, investor-driven corporate action is global*

Management incentives & climate targets

Leading investors back Shell's climate targets

Dec 3, 2018

Royal Dutch Shell plc (Shell) today announces plans to set short-term targets as part of a long-term ambition to reduce the Net Carbon Footprint of its energy products. The company plans to link these targets to executive remuneration, subject to shareholder approval.

2018: Shell announces executive pay based on climate targets including Scope 3 “life cycle” product emissions

Opinion **Commodities**

Why Shell and BP are on different tracks on carbon

Investors likely to play a big role in deciding the ultimate paths the pair take

2019: BP, Chevron and others announce management incentives based on Scope 1 emissions from own production

Practice increasingly ahead of theory

Economics of climate policy

- Models influential: case for climate action
  - Firm is "black box" that delivers emissions cuts
  - Abatement cost function captures forgone profit
- Very little on incentives & organization inside firm

Economics of management incentives

- Models influential: executive compensation & corporate governance
- Very little on interplay between agency problems and climate externality

⇒ *This talk: Initial attempt to link climate & agency economics*

Plan for this talk

① Benchmark: Efficient markets & efficient policy

② Climate policy gap & corporate climate action

③ “Climate incentives”

④ Conclusions

Benchmark: Efficient markets & efficient policy

STRAWMAN

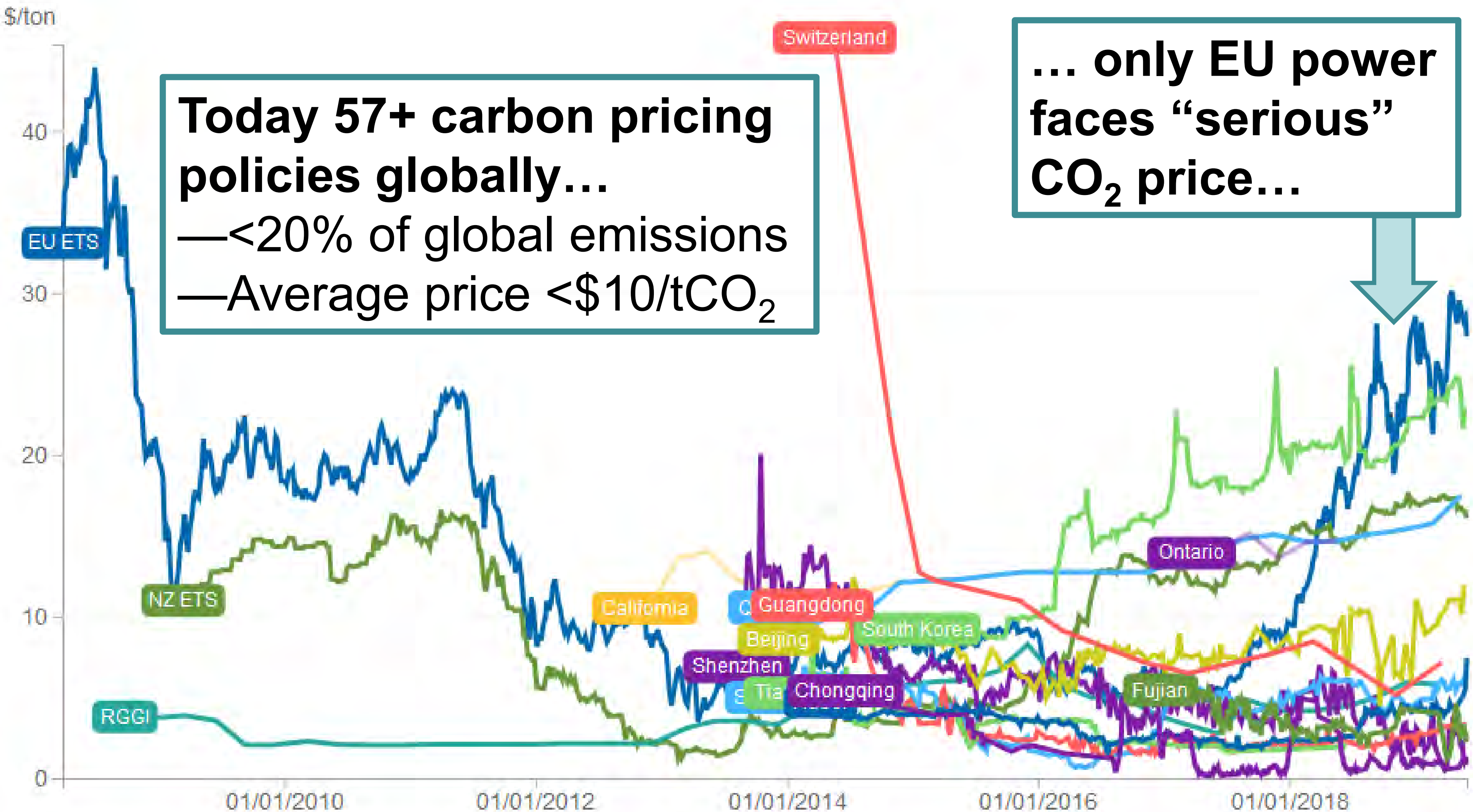
- **Social cost of carbon**
  - Say $\$50/tCO_2$ today
  - SCC rises over time
- **Global carbon price**
  - Set at SCC trajectory
  - All countries & sectors
- **Efficient markets**
  - Labour, product, financial

⇒ **Firm value reflects climate damages**
  - Global carbon price aligns private & social interests

IMPLICATIONS

1. No need for incentives based on anything apart from stock price
2. No need for firm- or product-specific emissions limits
3. No need to distinguish between different "scopes" of emissions
   - Firm's customers & suppliers also face SCC

Carbon pricing: Increasing action but large gap



Today 57+ carbon pricing policies globally…

—<20% of global emissions

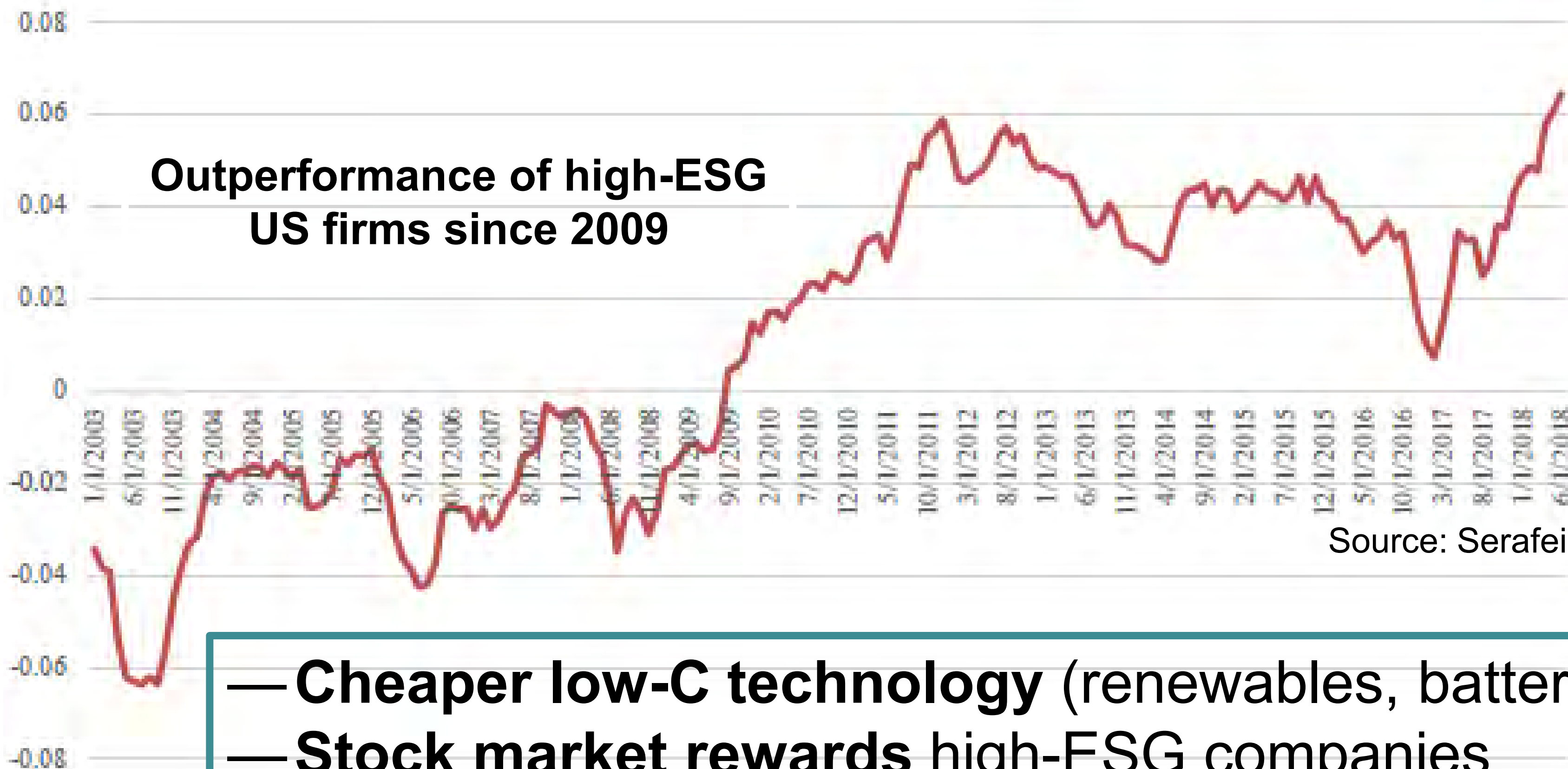
—Average price <$10/t$CO_2$

… only EU power faces "serious" CO_2 price…

Source: ICAP

Corporate climate action: What? Why?

- **Internal carbon prices** (1,400+ firms, many energy)
- **Paris-consistent climate targets** (200+ firms, few energy)



Source: Serafeim (2018)

- **Cheaper low-C technology** (renewables, batteries)
- **Stock market rewards** high-ESG companies

Agency theory & climate incentives

"Design management incentives to align with firm value while reducing risk and balancing incentives for different tasks"

① **Balanced scorecard** (non-financial metrics)

- Complex strategy & high innovation
- Inefficient & short-termist stock market

② **"Paying for luck"**

- Empirics: Oil & gas CEOs earn more when oil price is high
- Relative performance metric can filter out "noise"…

③ **Conflicts between tasks**

- *Short-term*: Emissions cuts vs production growth etc.
  - Weaker incentives may become optimal…
- *Longer-term*: Innovation to cut C-intensity of output

Corporate strategy & climate incentives

① **Firm-employee match**

— Greener incentives can attract greener people

— Signal commitment to new low-C strategy

② **Growth vs performance**

— Commodity markets prone to boom-bust

  — *Growth mode*: Production targets, market share…

  — *Performance mode*: ROCE, cash flow

— Climate targets discipline investment for performance?

③ **Mergers & acquisitions**

— Divestiture of high-C business gives climate quick-win

— What is the global climate benefit of M&A activity?

Management incentives & Scope 3 emissions

Perspective A
"Agency theory"

Scope 3 emissions:

- Hard to measure
- Significantly beyond management control…
  - *Ex post*
  - *Ex ante*
- Incentive to manipulate?

⇒ *Use in pay raises return to better measurement….*

Perspective B
"Corporate strategy"

Scope 3 emissions:

- Alignment with climate-ambitious strategy
- *May 2019*: Shell sells two "carbon-neutral" LNG cargos to Japan
  - Offset by bundling sale with carbon credits (forestry)

⇒ *Customers pay for green*

Conclusions for discussion

Corporate climate action & investors

① Financial sector as major force in solving climate problem

② Energy companies seeking to retain "investability"

③ Full-scale (Drax, Orsted) vs incremental change

Management incentives & climate targets

① No clear rationale with efficient markets & efficient policy

② Justification: climate policy gap + agency theory
+ corporate strategy

③ Scope 3 emissions: Difficult road ahead?