



Ivey

ENERGY TRENDS

Upheaval coming for the energy sector?

1. Energy primer – fossil fuel is still king
2. ESG and climate – potential liabilities?
3. Lessons from Ukraine – how quick the winds can change
4. Where are changes most likely?

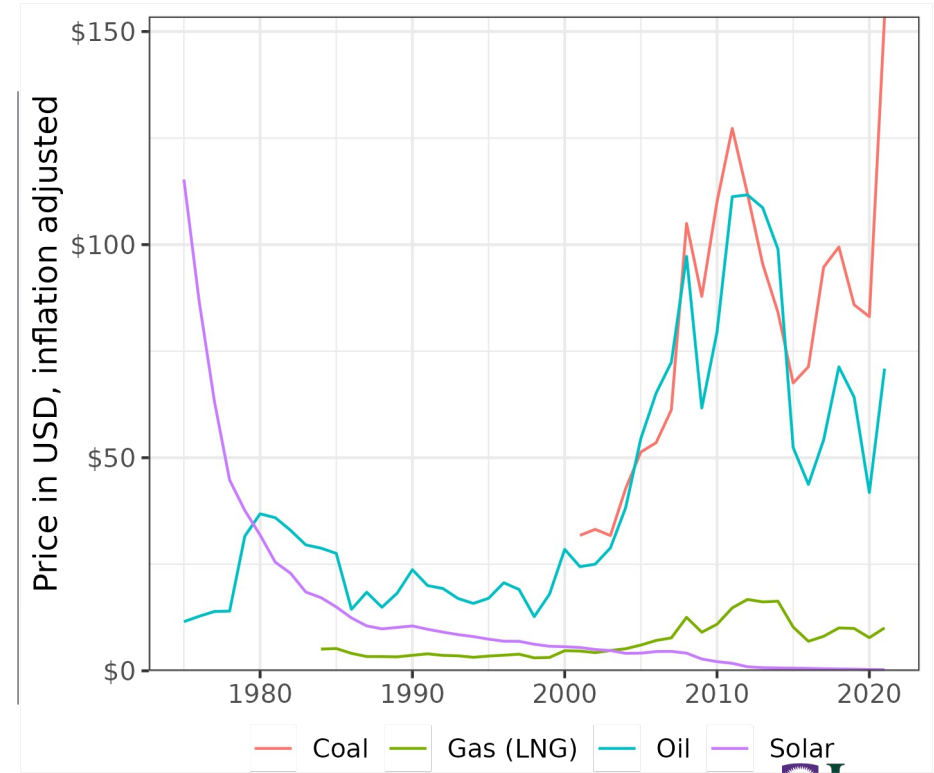
Abbreviations

- LNG
 - Liquid Nitrogen Gas

Energy primer – fossil fuel is still king

Energy prices

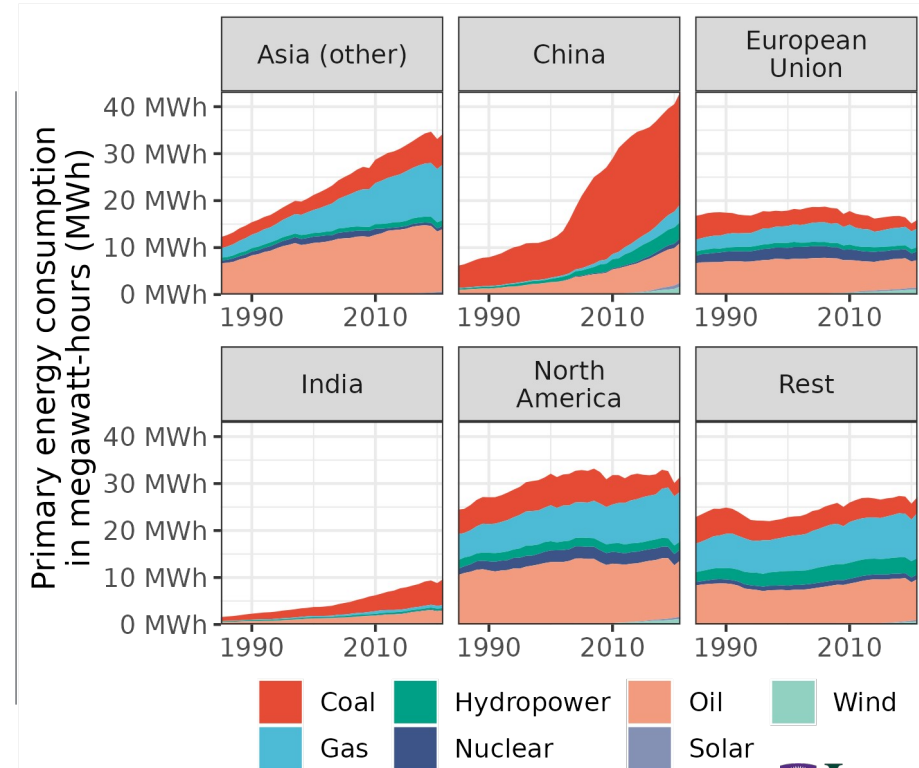
- Prices for conventional energy are high
- Good for upstream companies
- Less good for downstream companies



What is driving energy prices?

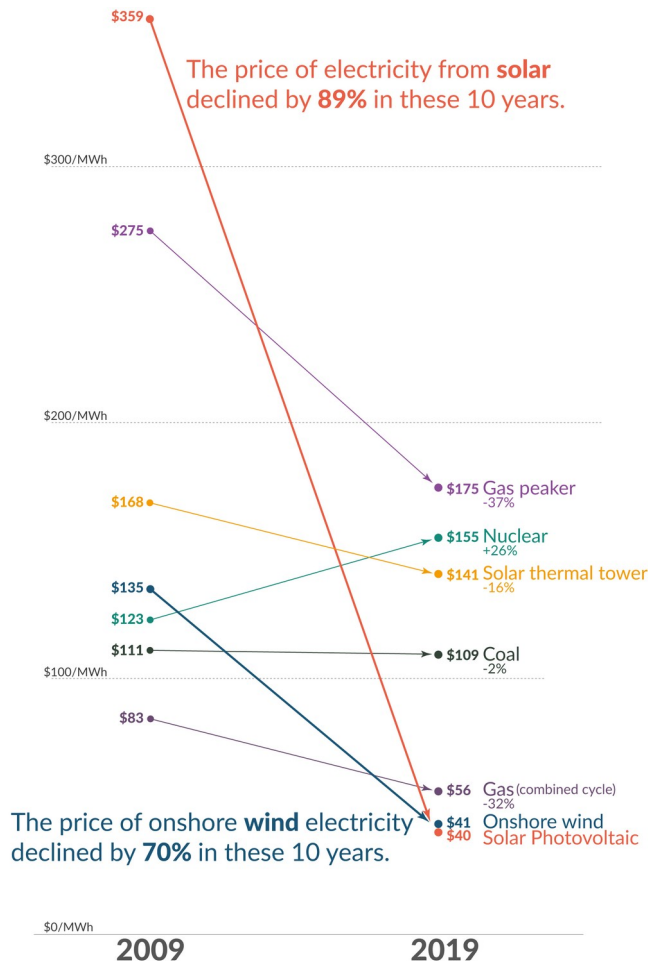
- Renewables growing but still negligible
- Oil, gas & coal still strong
- European Union phasing out coal
- U.S. phasing out coal, but growing oil & gas
- China & India growing all energy sources

Demand-driven prices



What does that mean for investments?

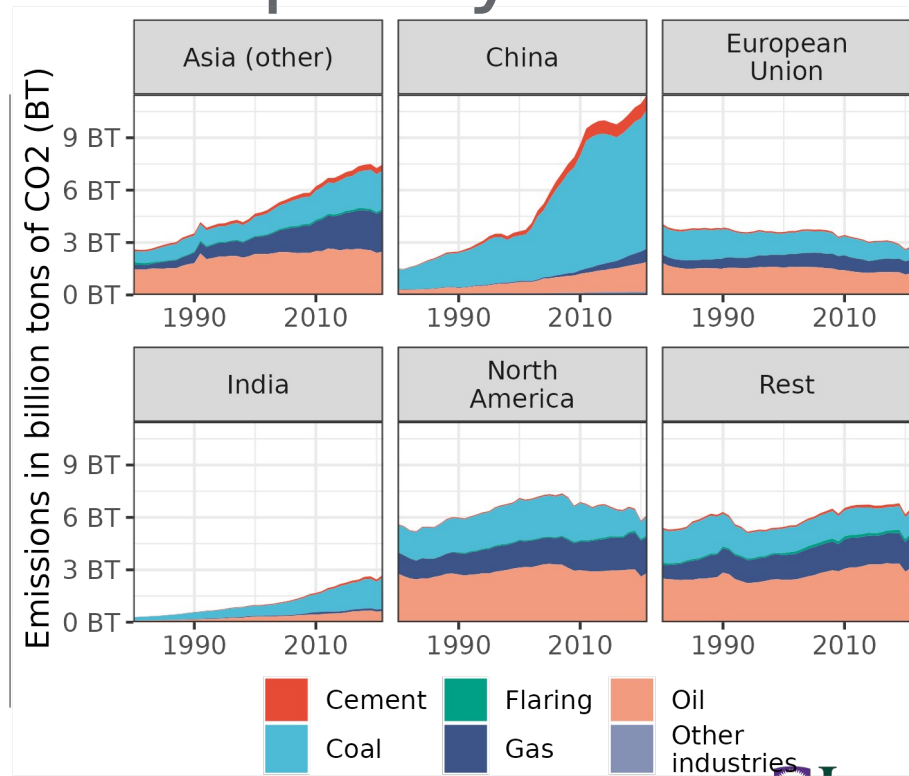
- Solar and wind are cheaper than all, trending downward
- Despite increase in supply, fossil cannot compete in price



Energy trends conflict with declared climate policy

- Weak downward trend in EU
- Emissions stable in North America
- Emission growth in China and India due to coal

Energy policy changes on the horizon?
 What would cuts to fossil fuel look like?
 Supercharged renewable energy investments
 on the horizon?



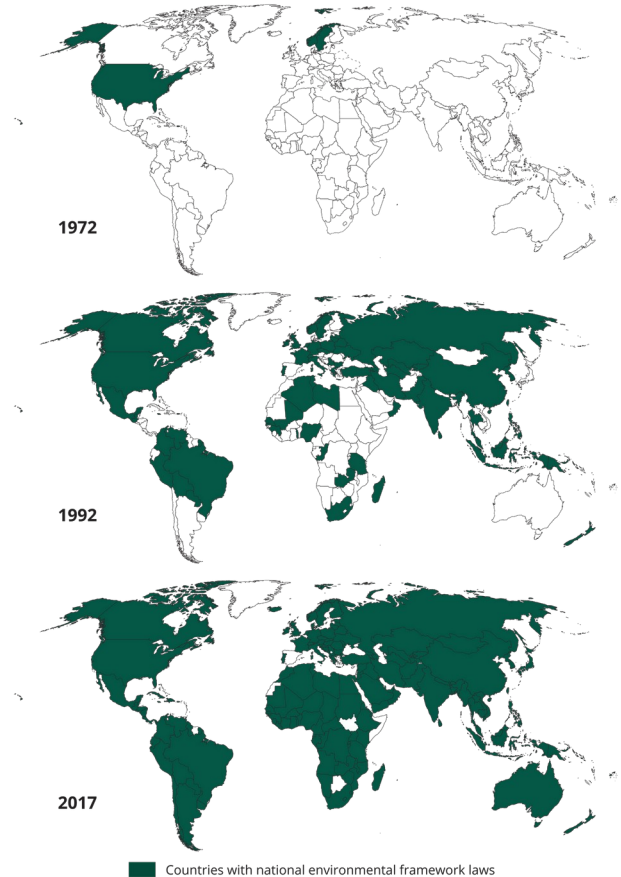
ESG and climate – potential liabilities?

Legal action conceivable worldwide

- As of 2017:
 - 176 countries have environmental framework law
 - 150 countries mention environmental protection in constitution
 - 164 countries have environmental ministry

Potential for legal attacks on emitters/polluters worldwide

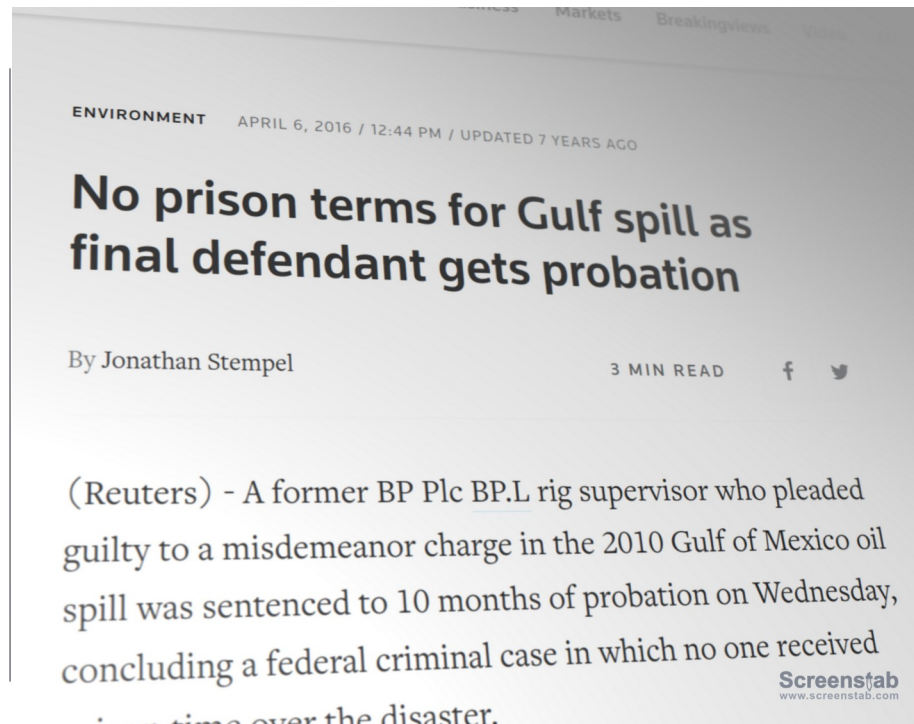
Figure 1.1: Countries with Framework Environmental Laws (1972, 1992, and 2017)



So far, polluters granted benefit of doubt

Largest environmental disasters

- Deepwater Horizon (BP, 2010, US):
 - 11 deaths
 - 10 months probation
- Exxon Valdez (Exxon, 1989, US):
 - 4 deaths
 - \$50,000 fine, 1,000 hours community service
- Bhopal disaster (Union Carbide, 1984, India):
 - 15,000–20,000 deaths
 - 2 years sentence for 8 individuals



Meanwhile...

General public

POLITICO

CONGRESS MINUTES

MEDIA

Reporter arrested during news event on Ohio train derailment

Evan Lambert was held for about five hours before being released from jail.



Ohio Gov. Mike DeWine addresses reporters after touring the train derailment site in East Palestine, Ohio, on Feb. 6, 2023. | AP Photo/Gene J. Puskar

Environmental culprits

ENVIRONMENT

APRIL 6, 2016 / 12:44 PM / UPDATED 7 YEARS AGO

No prison terms for Gulf spill as final defendant gets probation

By Jonathan Stempel

3 MIN READ



(Reuters) - A former BP Plc BP.L rig supervisor who pleaded guilty to a misdemeanor charge in the 2010 Gulf of Mexico oil spill was sentenced to 10 months of probation on Wednesday, concluding a federal criminal case in which no one received time over the disaster.

Screenstab
www.screenstab.com

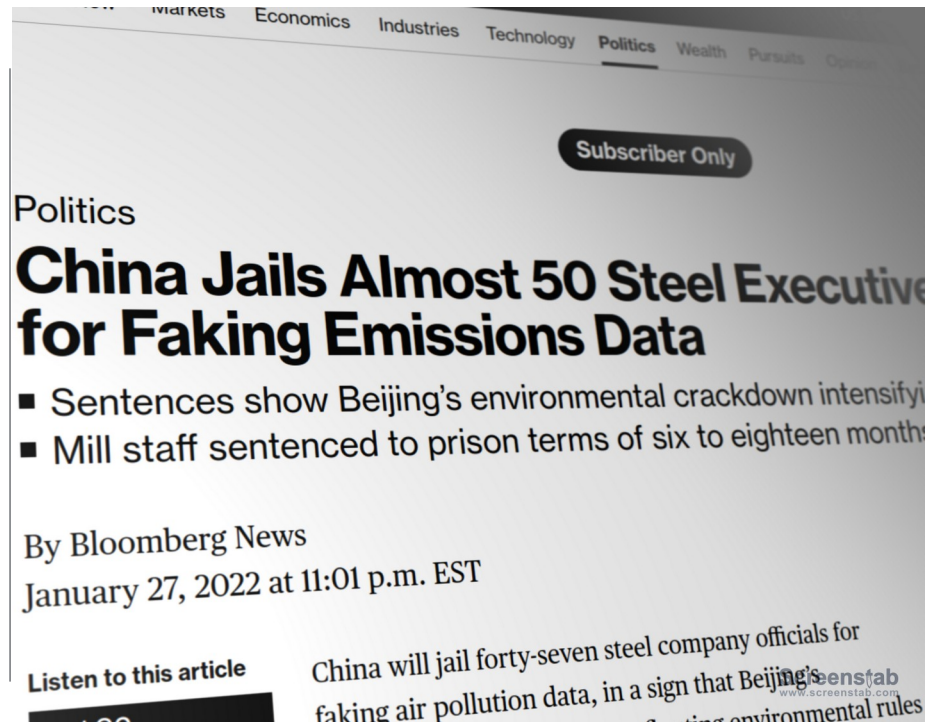
Energy industry is holding up on litigation

- Example climate change: 873 lawsuits in the U.S. alone 1990-2016 (McCormick et al., 2018)
- Hot spots: U.S., Australia, U.K., Germany, Canada (Setzer and Higham, 2022)
- Most dismissed, no landmark cases
- Number of cases rising:
 - 1,890 in Feb 2022 vs. 2,419 in Sep 2022
- High-profile pending cases e.g., against Germany #3 energy company RWE



Could more serious litigation be on the horizon?

- China landmark case against steel executives for faking emissions data (right side)
- Europe: landmark case against Shell unfolding:
 - May 2021: Shell ordered by Dutch court to reduce carbon emissions by 45% by 2030
 - Dec 2021: Shell moves headquarter to U.K.
 - Jan 2023: *personal* lawsuit against 11 Shell board members in U.K. over failure to manage climate change risk
- Front-runner ESG litigation:
 - Lawsuits over personal misleading statements rather than damages
 - 2022 U.S. ruling against small bank BNY Mellon
 - \$1.5 million fine over false ESG statements (~40% of annual profit)



Could more serious litigation be on the horizon?

Example

1. Energy company makes statement about climate change risk
 - E.g., “foresee no risk from climate change”
 - While other companies acknowledge climate change risk
2. Climate change–related damage to power plant
3. Shareholders can now sue energy company, author of statement liable
 - Failure to disclose risk can also be cause for lawsuit
- Damned if you do, damned if you don’t
 - No language – pressure from investors
 - Add language – liability/pressure from regulator & NGOs



What are the liabilities?

The risk: 10% contraction of world economy by 2050 (Swiss Re, 2021)

250,000 excess deaths per year by 2050

Energy companies could face lawsuits that threaten financial viability

Right side: newspaper about Harvard Law Review article "Climate Homicide: Prosecuting Big Oil For Climate Deaths"



Lessons from Ukraine

Russian-European oil diplomacy

- U.S. Sen John McCain: Russia “a gas station masquerading as a country”
- In 2021 50% of European gas imports from Russia
- Oil revenues account for 45% of Russian budget
- Background: 1980–90s mutual decision to create economic ties
 - “Mutually dependent countries don’t start wars”



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Russo-Ukrainian war

- Feb 2022 Russia begins attack on Kyiv, capital of Ukraine
- EU depends on Russian gas for heating

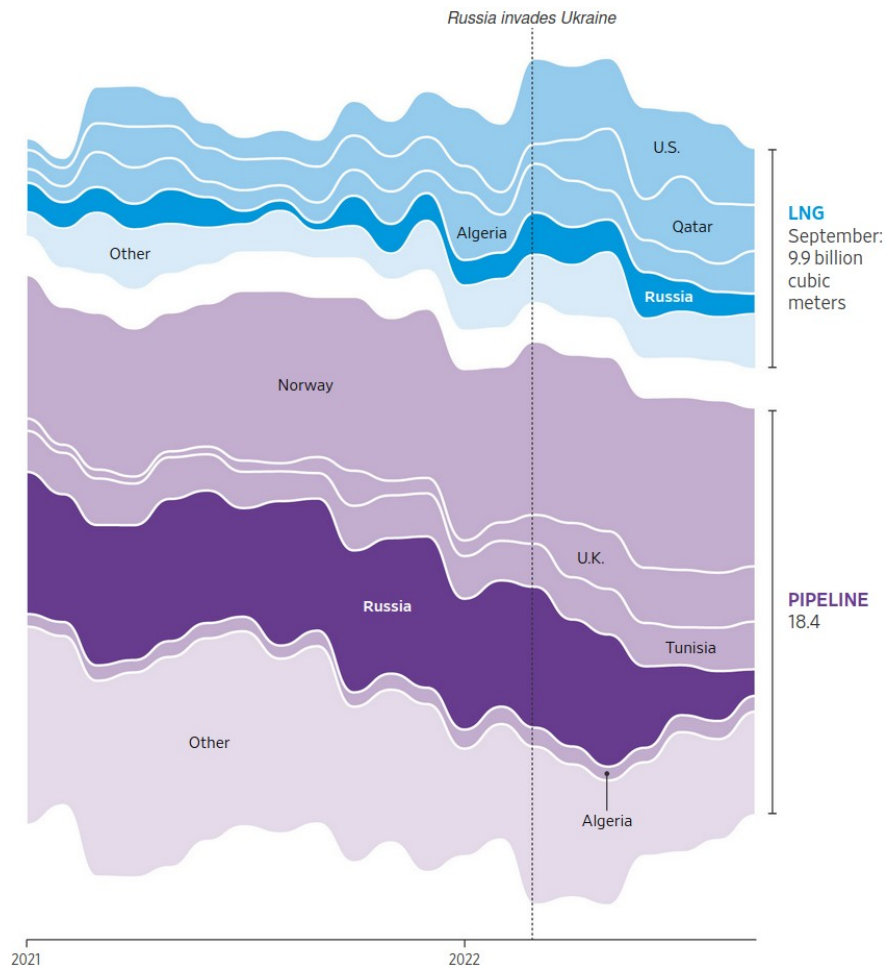
Russia *thought* because of energy dependence, EU will not take side of Ukraine



But Europe managed

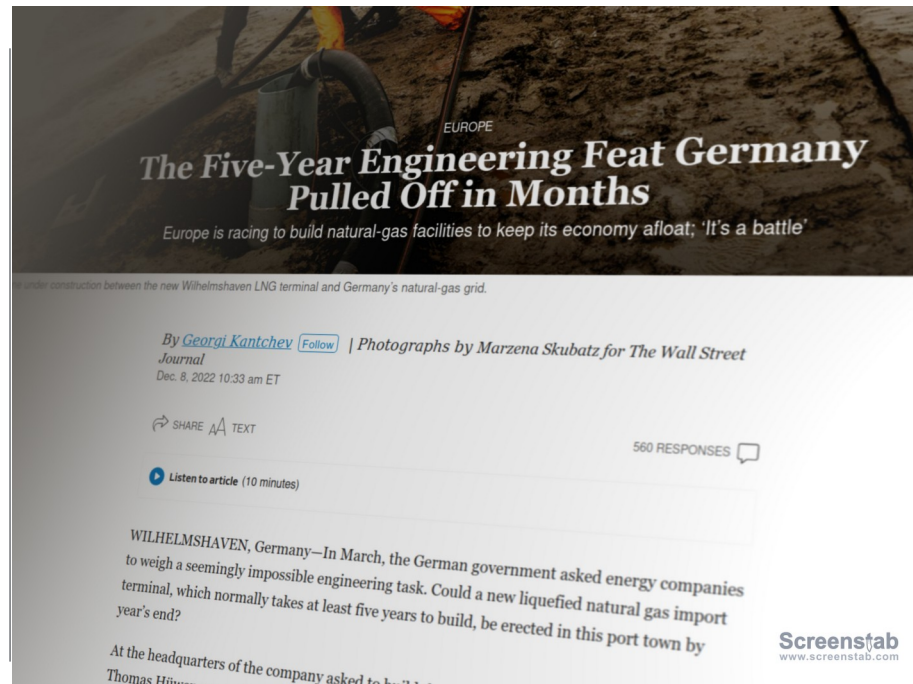
- Right side: EU gas imports by country
- A year later, Europe no longer dependent on Russian gas

Energy policy,
infrastructure construction *can*
be fast



Accomplishments in one year

- Germany among most dependent on Russia
- Surprising speed of construction
- LNG ship terminal 1 (Wilhelmshaven):
 - Feb 24, 2022 start of conflict
 - Feb 27 German chancellor greenlights
 - Mai, 2022 construction starts
 - Dec, 2022 first LNG carrier docks
- LNG ship terminal 2 (Lubmin):
 - Feb 27 German chancellor greenlights
 - Sep, 2022 construction starts
 - Jan, 2023 first LNG carrier docks
- LNG ship terminal 3 (Brunsbüttel):
 - Sep, 2022 construction starts
 - First delivery scheduled for 2026
 - Scheduled for completion by Oct, 2023



International collaboration suddenly possible

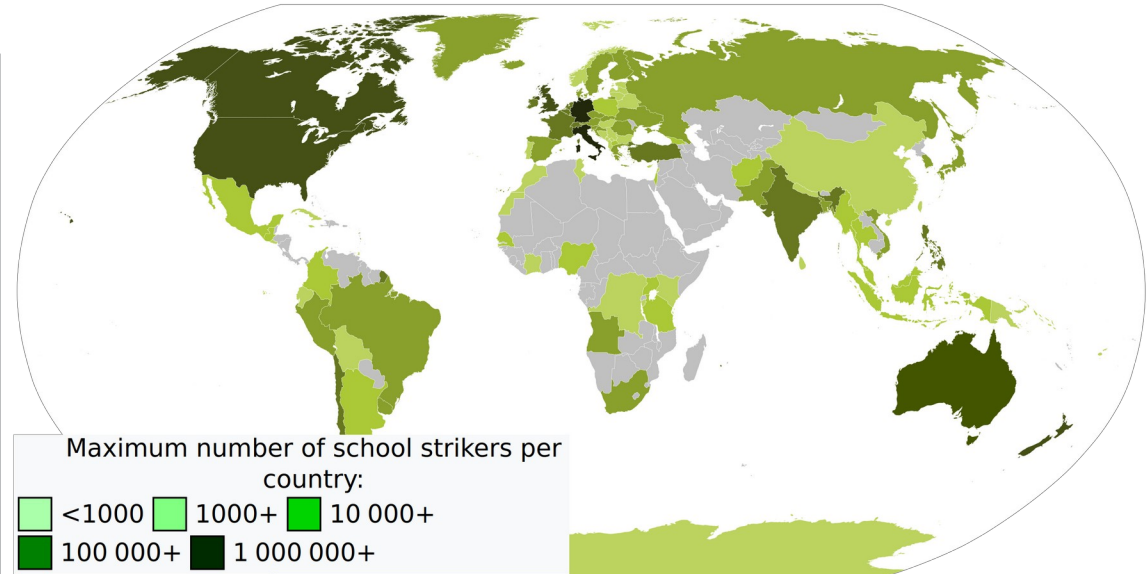
- Feb 16, 2022
 - Germany & Canada discuss hypothetical hydrogen alliance
- Feb 24, 2022
 - Start of conflict
- May, 2022
 - German-Canadian working group creates specific action plan
- Aug, 2022
 - Governments create official Canada-Germany Hydrogen Alliance
 - Plan to create wind-powered zero-emission hydrogen plant in Canada
- Feb, 2023
 - Approval granted for \$6 billion project in Canada



Where sudden changes are most likely

Climate movement hot spots

- Right side: 2019 school strike for climate initiated by Greta Thunberg
- Some countries more likely to see change based on political attacks & lawsuits
 - Germany
 - Australia
 - UK
 - USA
 - Canada



Germany

- Picture: 2,000 protesters occupying coal mine in 2019
- Facing drought and heat waves because of climate change
- Hot spot of climate protests
- Hot spot of activism against energy infrastructure
 - Coal & nuclear energy
- For political reasons unlikely to replace domestic production with imports
- Faces difficulty scaling wind energy
 - Germany likely to import more gas
 - Increase of gas prices worldwide



Australia

- Picture: protesters in Australia block train tracks, port for coal export
- Second-largest exporter of coal
 - Sparse – trains and ports are bottlenecks
- Faces severe wild fires because of climate change
- Coal-friendly government faces losing popularity
- Some climate activism

Likelihood of increased prices, less export of coal after next election (2025)



U.S. & Canada

- Picture: refinery shut down after Hurricane Ida (2021)
- Largest concentration of refineries in Texas/Louisiana
 - Canada exporting via U.S.
- Pipeline projects were facing protests, but indigenous opposition suppressed
- Bigger challenge: increasing frequency and severity of hurricanes in refineries hot spot Texas/Louisiana
- Also hot spot of climate litigation
 - Risk of sudden price increases for oil



Summary

Upheaval coming for the energy sector?

1. Renewables still weak compared to fossil fuel
2. Potential for volatility oil, gas & coal
3. Good climate for renewable energy initiatives
 - See Canadian-German response to Ukraine war
 - Short-term price increases for solar possible
 - If production capacity added, long-term price reduction
4. Fossil fuel companies with international assets at risk
 - U.S. in particular known to seize international companies' assets following lawsuits
5. In addition: risk of global instability because of rising energy prices in conjunction with natural disasters & political conflict
 - Some harbingers permanent 3rd world crises
 - Sri Lanka economic & political crisis since 2019
 - Pakistan economic crisis since 2022
 - Could spill over into resource supply chains?

References

McCormick, S., Glicksman, R. L., Simmens, S. J., Paddock, L., Kim, D., and Whited, B. (2018). Strategies in and outcomes of climate change litigation in the United States. *Nature Climate Change*, 8(9), 829–833.

Setzer, J., and Higham, C. (2022). *Global trends in climate change litigation: 2022 snapshot*. London: Grantham Research Institute on Climate Change and the Environment and Centre for Climate Change Economics and Policy, London School of Economics and Political Science.

Swiss Re. (2021). *The economics of climate change: No action not an option*. Zurich.