

Green Innovation



Building Competence. Crossing Borders.

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Why is Innovation important?

- It is the cornerstone of sustained economic growth and prosperity.
- Allows the products and services to evolve.
- Gives a competitive advantage.

Innovation is a product, service, business model, or strategy that's both novel and useful. Innovations don't have to be major breakthroughs in technology or new business models; they can be as simple as upgrades to a company's customer service or features added to an existing product.¹

¹ <https://online.hbs.edu/blog/post/importance-of-innovation-in-business>

Innovation Examples



Source: https://static.nationalgeographic.de/files/styles/image_3200/public/72053.jpg?w=1600&h=900



Source: <https://cdn.motor1.com/images/mgl/Vzzkpz/s3/tesla-model-s-am-supercharger.jpg>

How can we measure Innovation?

- Innovation is hard to measure. For technology driven companies their innovativeness can be proxied by patents.
- Patents are openly available and can be easily searched via Google Patents

A patent is an exclusive right granted for an invention, which is a product or a process that provides, in general, a new way of doing something, or offers a new technical solution to a problem. To get a patent, technical information about the invention must be disclosed to the public in a patent application.

Mitigating Climate Change requires Innovation

- The effects of human-caused global warming are happening now, are irreversible on the timescale of people alive today, and will worsen in the decades to come.¹
- We might reach or have already reached a tipping point at which the effects humanity had over the past decade might not be reversible.²
- Needed decarbonization by 2030 is largely achievable with readily available technologies, but by mid-century almost half of required emissions reductions will call for technologies that are not yet on the market.³

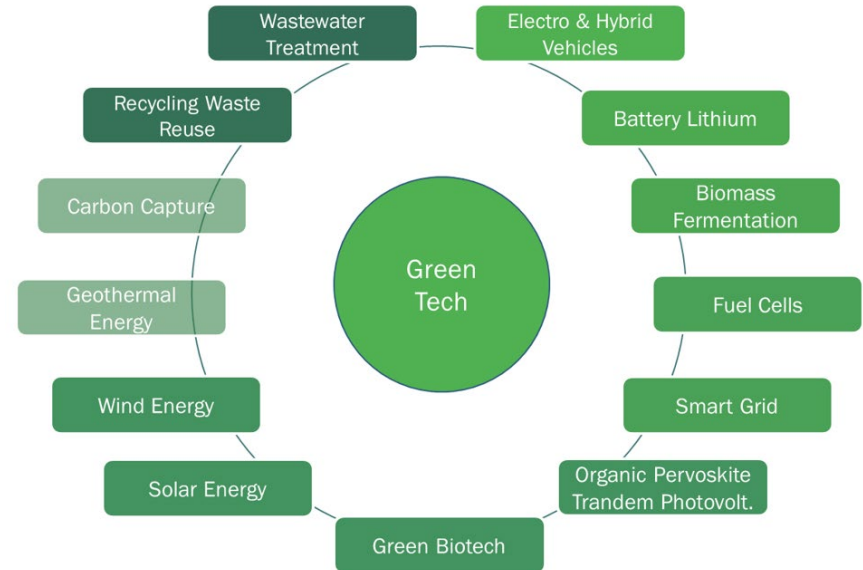
¹ <https://climate.nasa.gov/effects/>

² <https://ec.europa.eu/research-and-innovation/en/horizon-magazine/tipping-points-lead-irreversible-shifts-climate-experts>

³ <https://www.imf.org/en/Publications/fandd/issues/2021/09/bezos-earth-fund-climate-change-innovation-levin#:~:text=Three%20innovation%20opportunities%20alone%E2%80%94direct,reductions%20between%202030%20and%202050>

How can we measure Green Innovation?

- We can use patents as a proxy for Innovation.
- Can use patents on Green Tech as a proxy for Green Innovation.
- The share of Green Patents in a companies portfolio can be measured.
- We can also measure the share of Brown Patents in a portfolio.



Quelle: BAK Economics, IGE

Source: <https://rea.bak-economics.com/leistungen/green-technologies>

Case Study

Exxon Mobil

- Sector: Energy
- Industry: Oil & Gas Integrated
- FT Employees: 63'000
- Market Cap: USD 350'618'876



Chevron

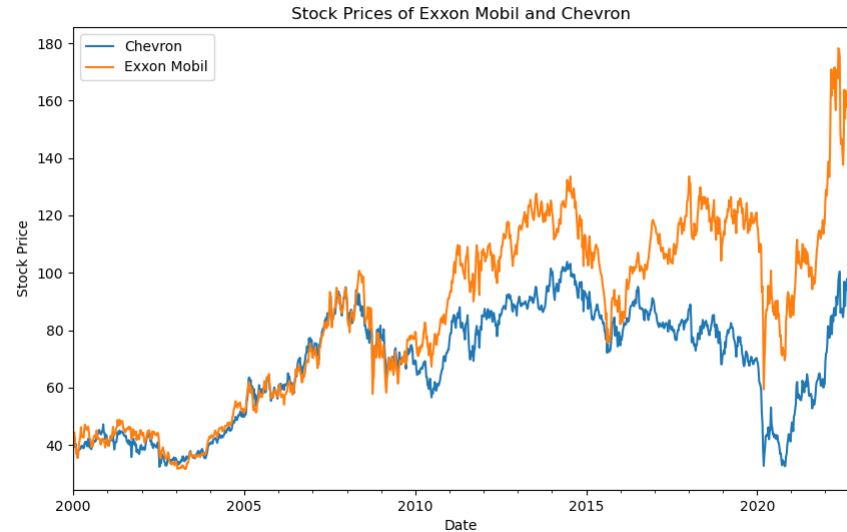
- Sector: Energy
- Industry: Oil & Gas Integrated
- FT Employees: 42'595
- Market Cap: USD 253'331'701



Stock Prices

Timeline

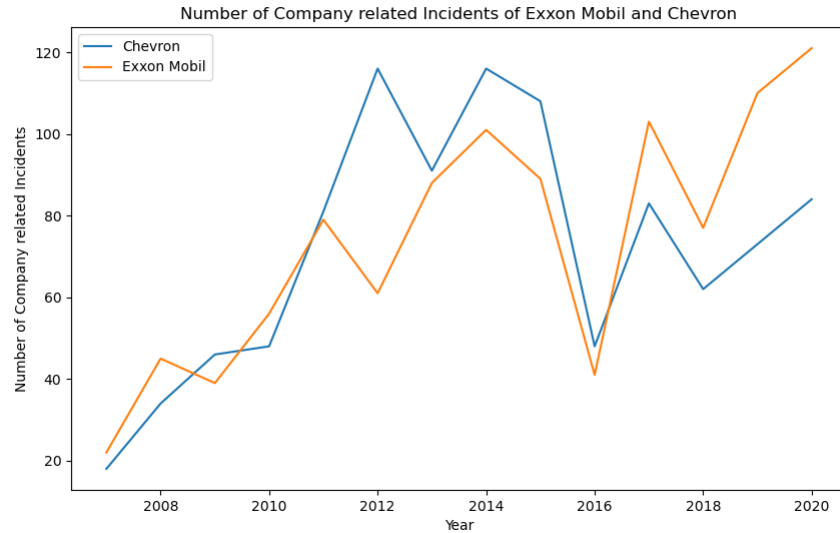
- 2008 Financial Crisis
- 2010 – 2020 Shale Oil Revolution
- 2015 / 2016 Paris Agreement
- Feb. 2020 COVID-19
- Feb. 2022 Russian Invasion



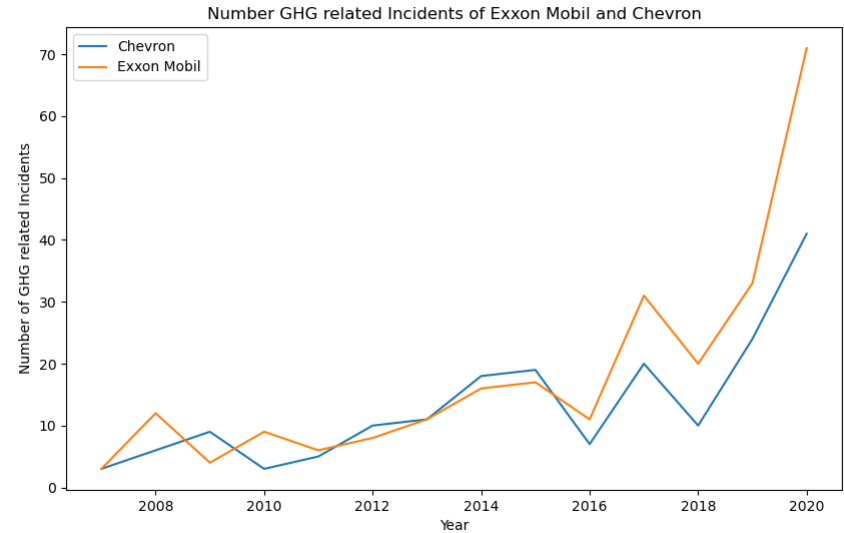
Source: Yahoo Finance

How is the Public Perception of the Companies?

Company ESG related Incidents



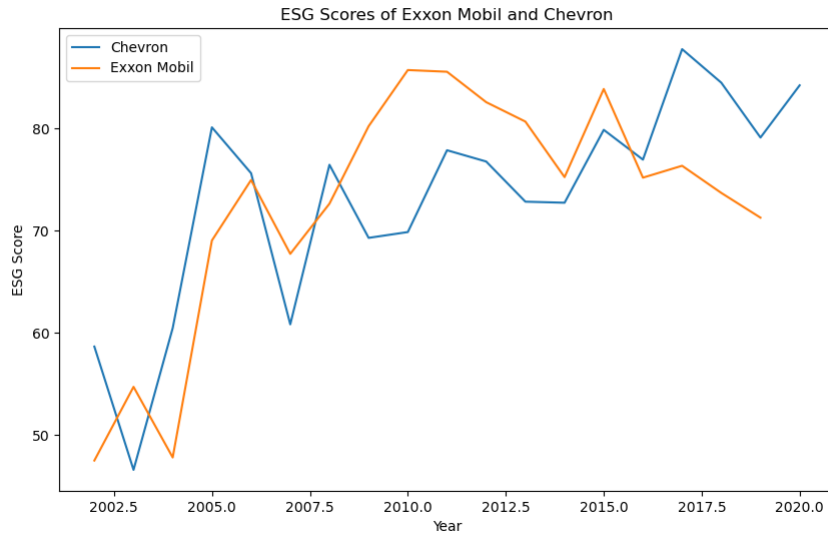
GHG related Incidents



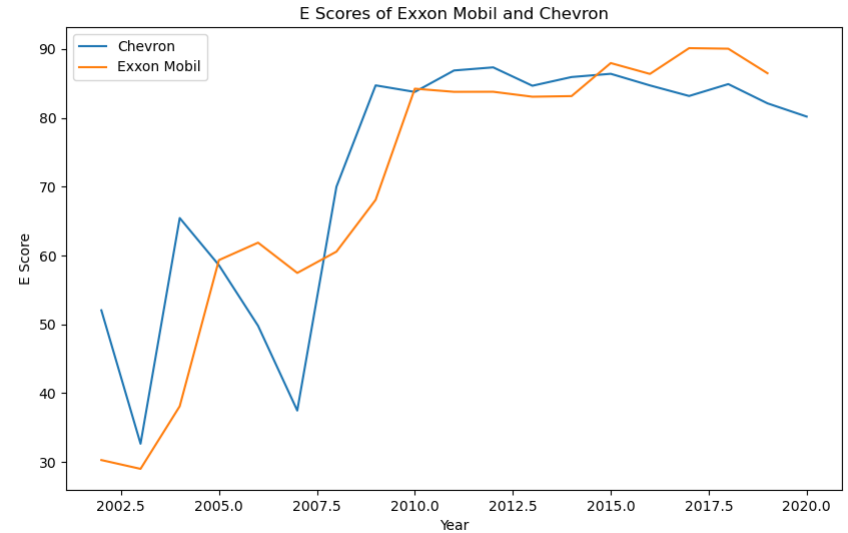
Source: Reprisk via WRDS

Compare the E and ESG Scores

ESG-Composite-Scores



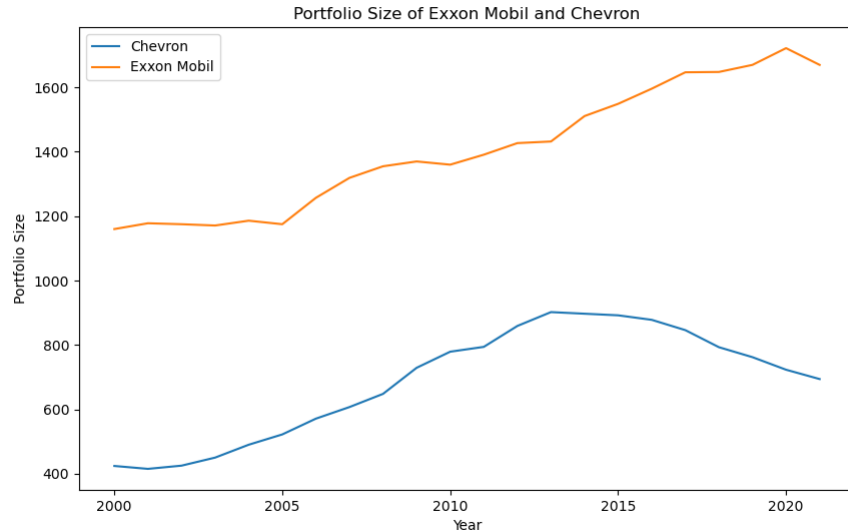
E-Scores



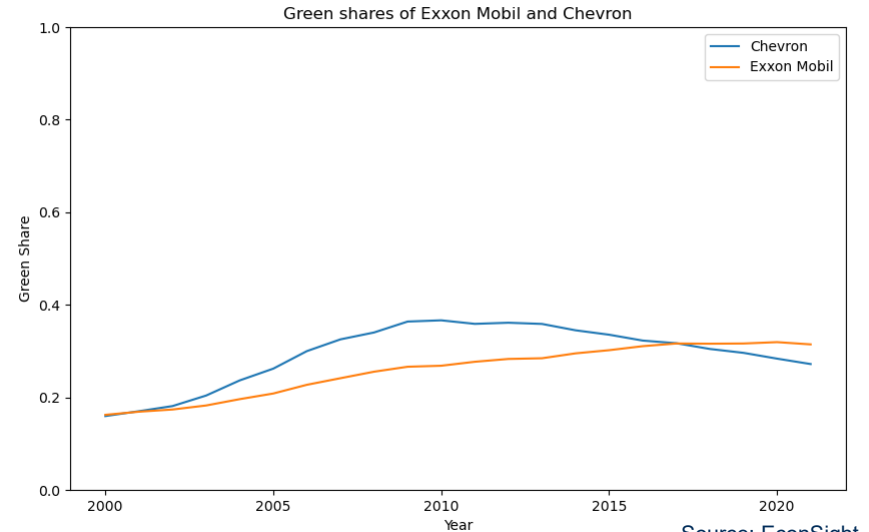
Source: Refinitiv

Compare their Patents

Portfolio Size



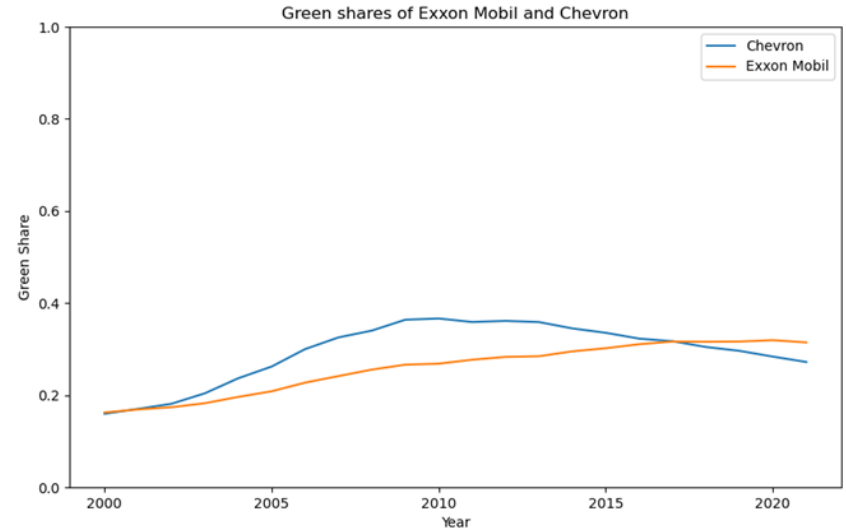
Green Share of Patents



Source: EconSight

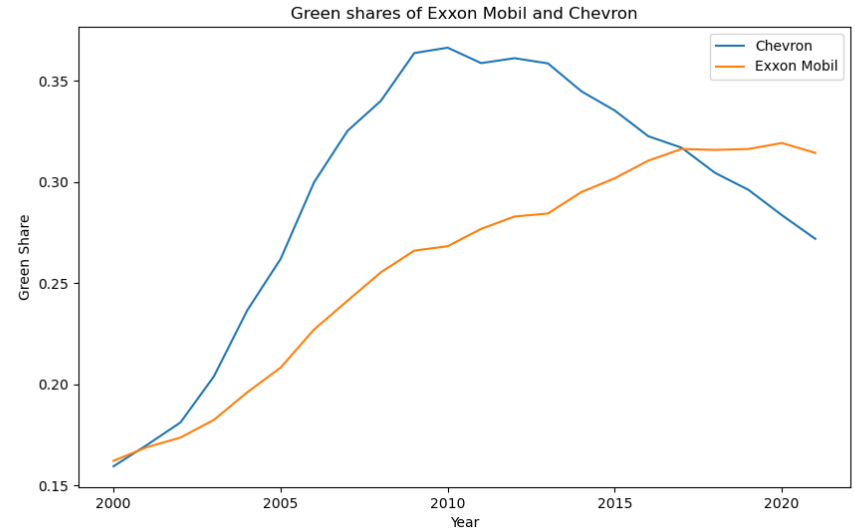
Interpretation of Results

- Assessing the Greenness of a Company is difficult.
- Attention on Sustainability grows.
- ESG can be confusing.
- Patents can be used as a proxy for Green Innovation.
- Greenwashing is a real issue.



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Green Innovation as Enabler

Green Innovation is the single-most important enabler to **unlock the technological transformation** and **innovation potential** necessary for the change towards a more sustainable economy and society.

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AI-supported analysis of patent data helps to identify up-and-coming trends in green technologies and thus **essential technologies** that will help to transform today's society **towards more sustainability** and to **battle Greenwashing**.

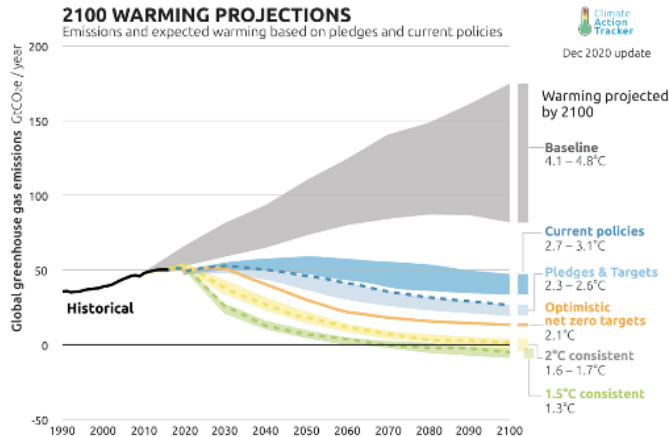
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More sustainability



Finanzen

Neue Zürcher Zeitung

Greenwashing: Den Blendern in Sachen Nachhaltigkeit soll es an den Kragen gehen

Nicht nur Firmen wie VW greifen in die Trickkiste, um sich oder ihre Produkte als umweltbewusster darzustellen, als sie tatsächlich sind.

Ähnliche Praktiken gibt es bei Anlageprodukten, die auch die Schweizer Finanzmarktaufsicht (Finma) und den Bundesrat beschäftigen.

Michael Schäfer

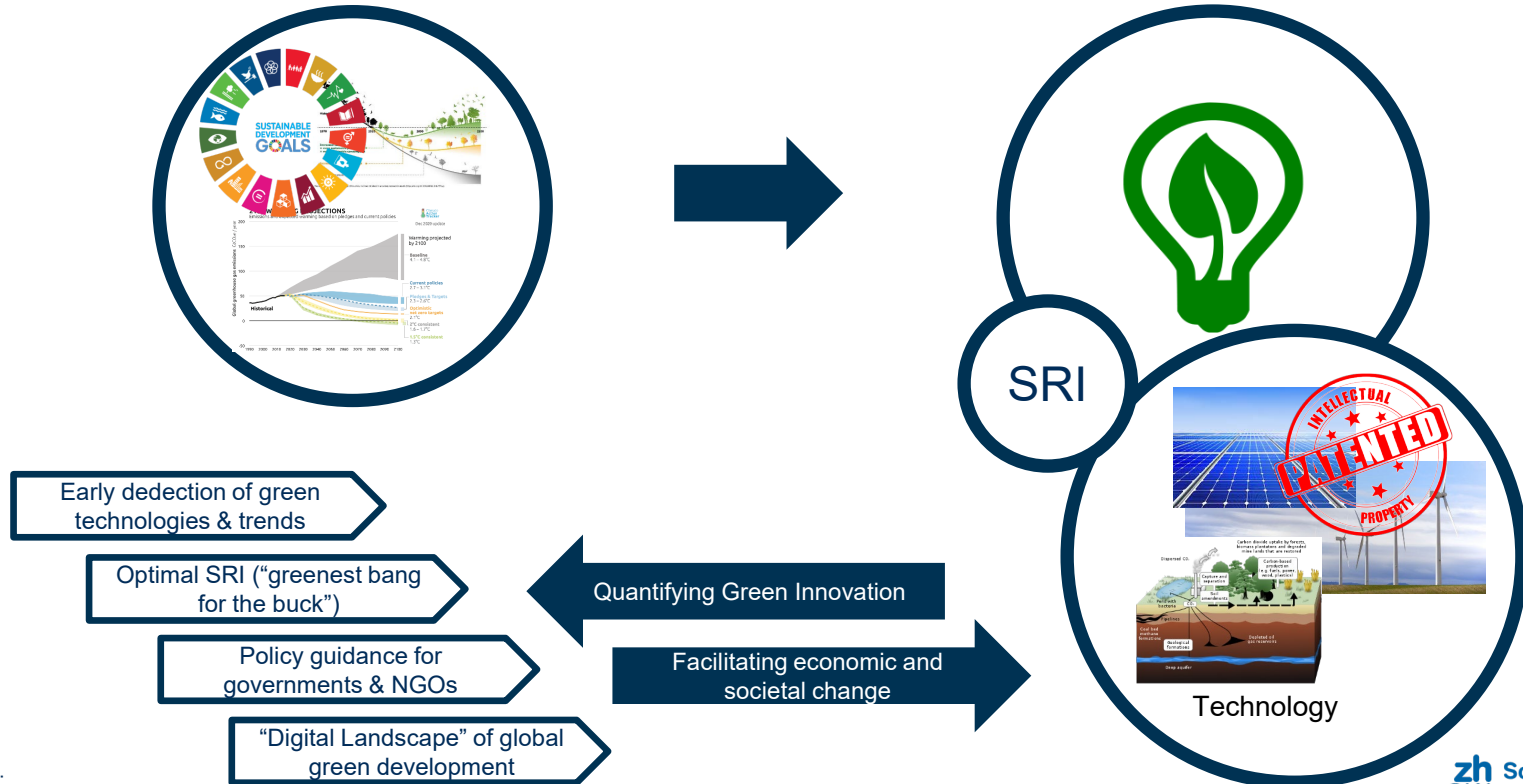
48 Kommentare →

19.07.2021, 06:30 Uhr

Hören Merken Drucken Teilen

Less Greenwashing

Quantifying Green Innovation to unlock Change

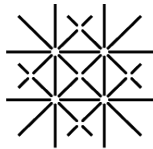


The Team behind Quantifying Innovation



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Thank you.

