

# SO YOU THINK YOU'RE GREEN?

FOCUS ON SPENDING

JUNE 3<sup>RD</sup> 2021

WEBINAR



# LUXEMBOURG INSTITUTE OF SCIENCE AND TECHNOLOGY



## LIFE CYCLE SUSTAINABILITY ASSESSMENT GROUP



**LIVE POLL !**



# 1. CARBON FOOTPRINT

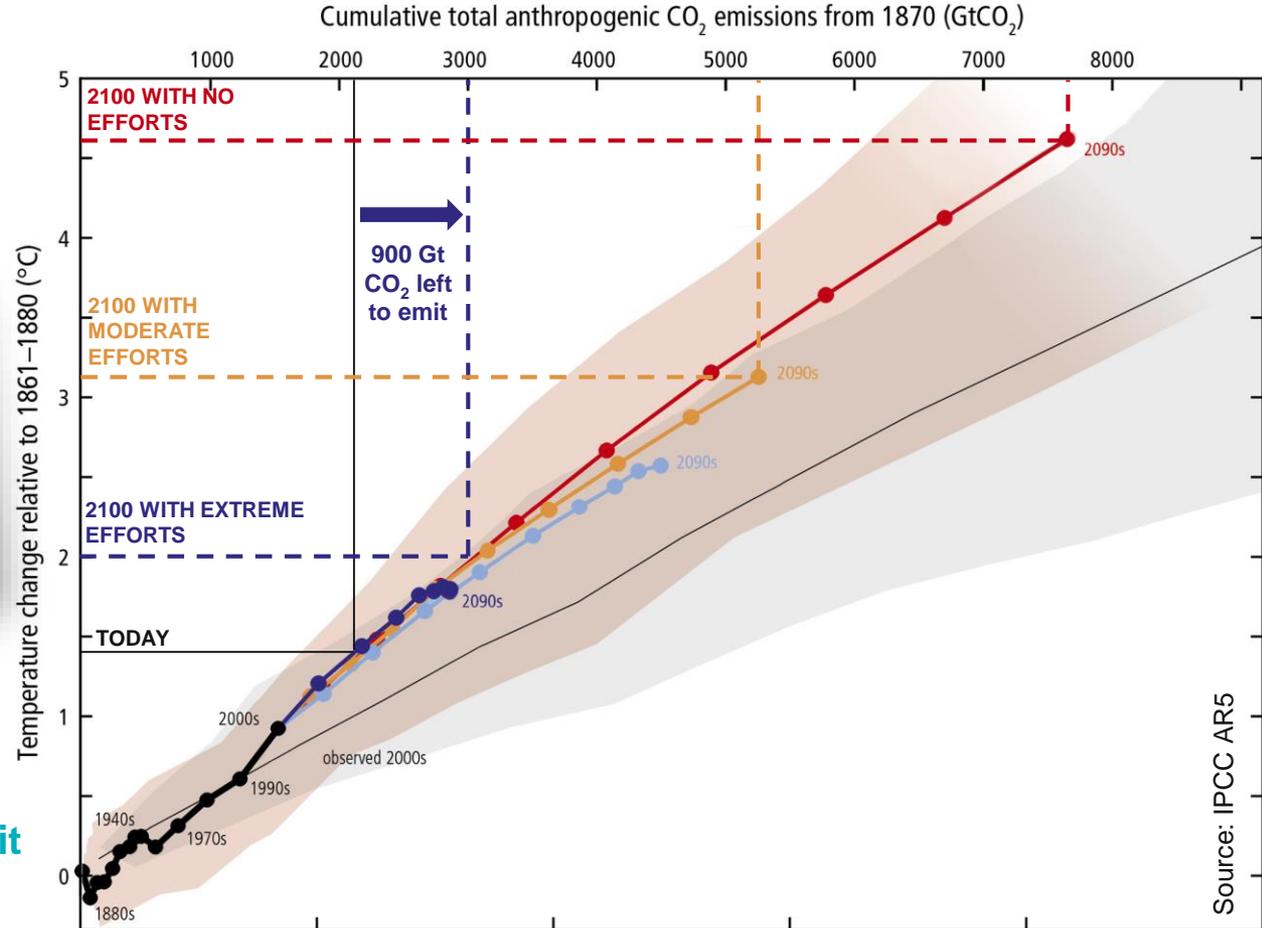


# Temperature and CO<sub>2</sub> emissions?

The Paris agreement is a pledge to remain under 2°C of warming



This translates roughly into an additional 800-1000 Gt CO<sub>2</sub> left to emit



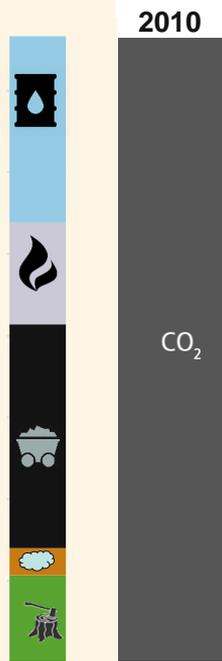
# Carbon footprint

Carbon dioxide (1 kg = 1 kg CO<sub>2</sub> eq.)

Fluorinated gases (1 kg = 8000-23000 kg CO<sub>2</sub> eq.)

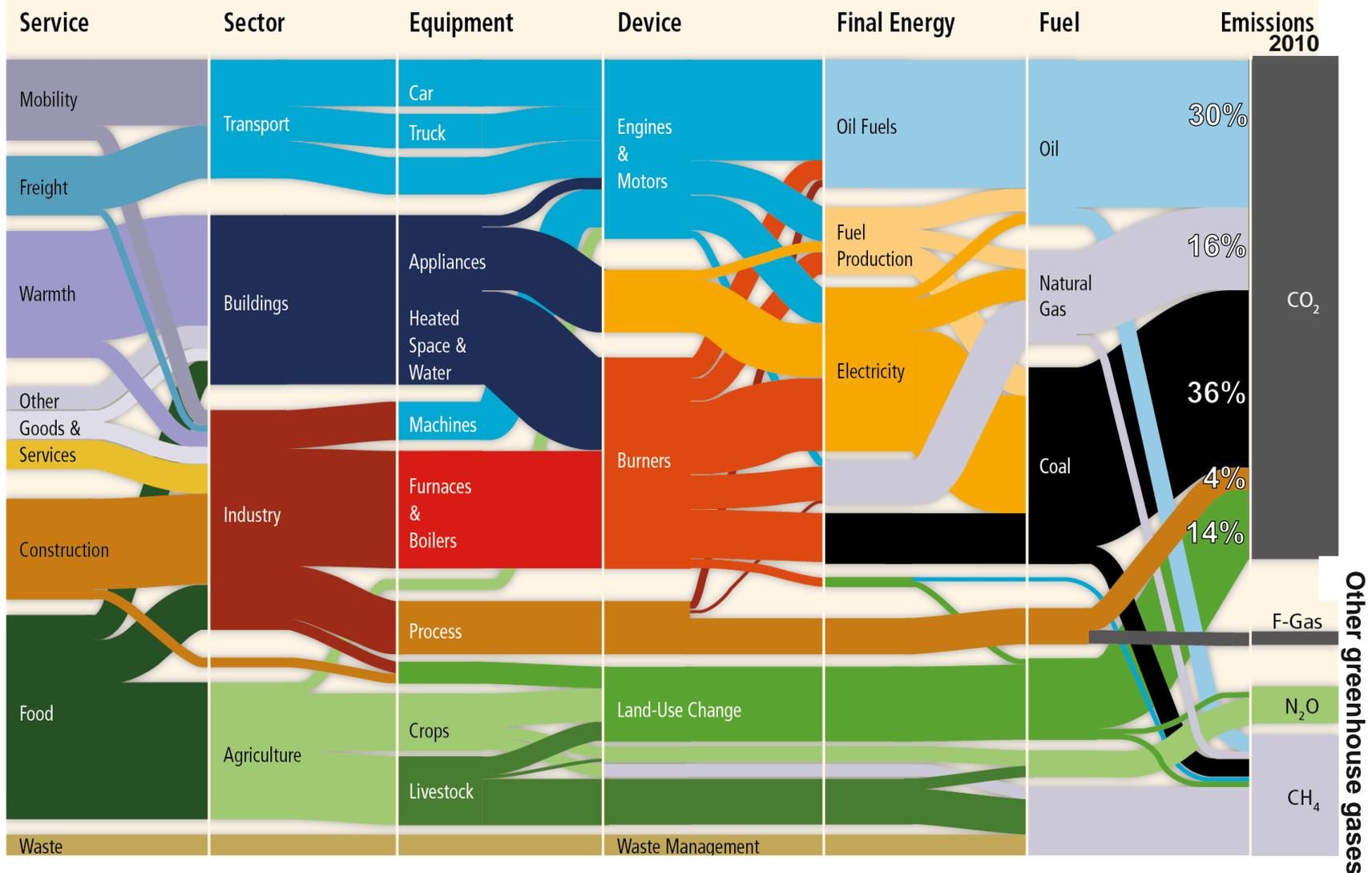
Dinitrogen monoxide (1 kg = 300 kg CO<sub>2</sub> eq.)

Methane (1 kg = 25 kg CO<sub>2</sub> eq.)



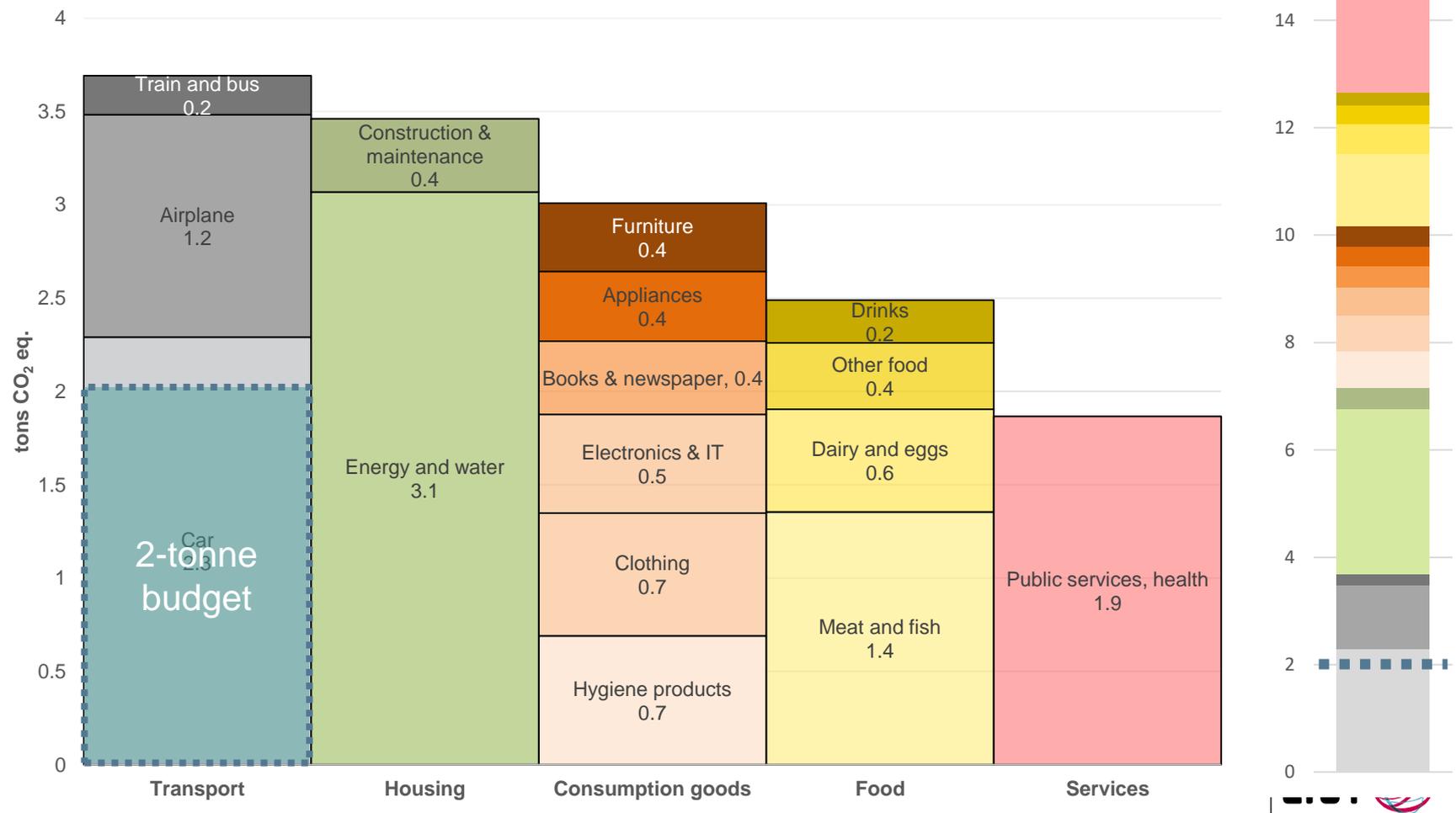
Other greenhouse gases

# Carbon footprint



# Carbon footprint

14.5 tons



# Outline



1. CARBON FOOTPRINT
2. WEALTH AND IMPACT
3. PURCHASING OPTIONS
4. INVESTMENTS

1. CARBON FOOTPRINT

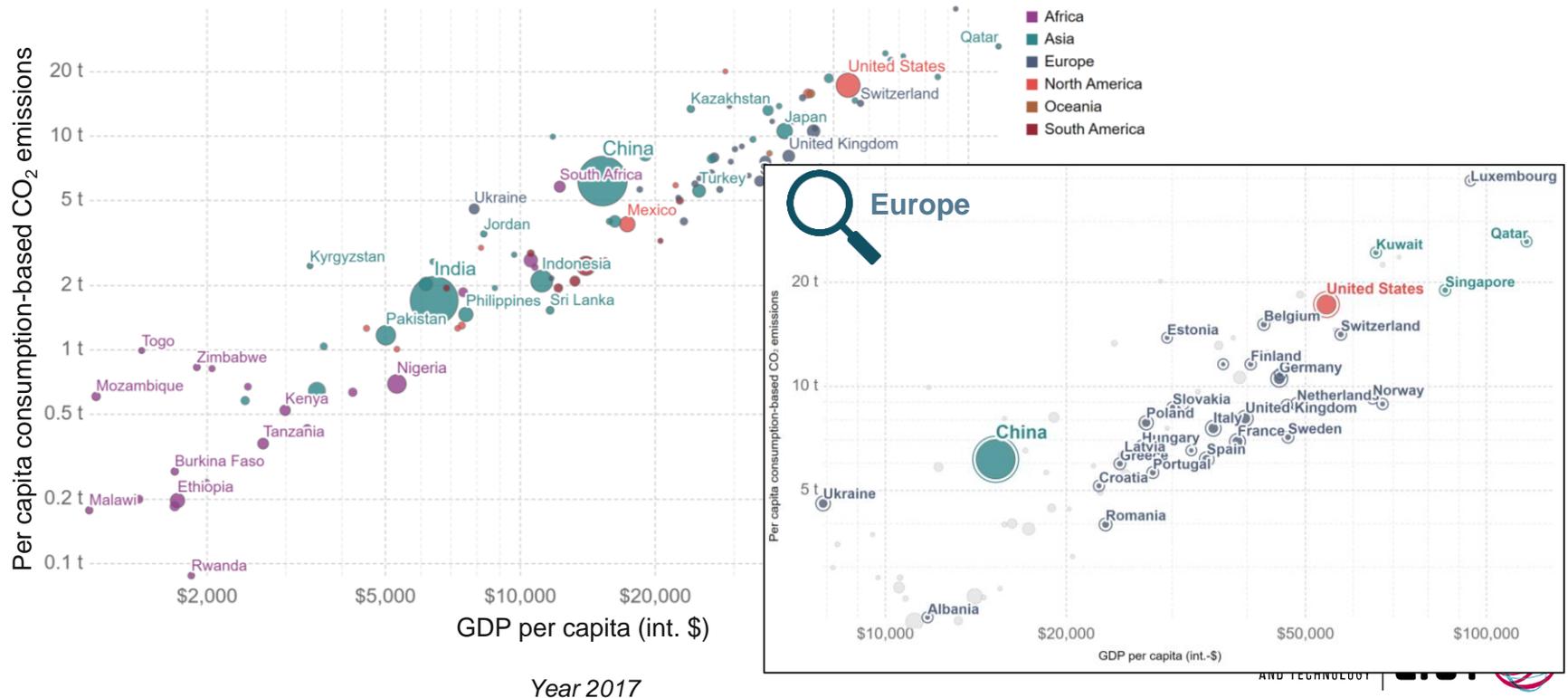
2. WEALTH AND IMPACT

SCIENCE TO  
be green



# GDP and environmental footprint

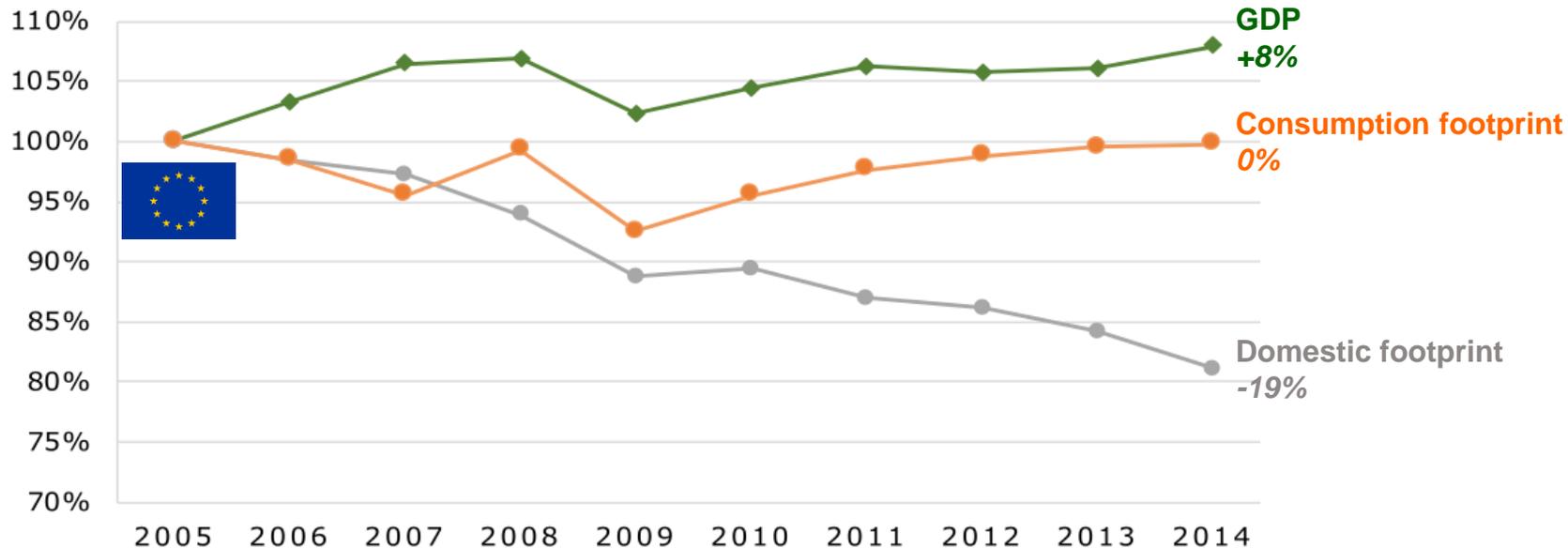
## A positive correlation at global scale



# GDP and environmental footprint

## Can we decouple economic growth from environmental impacts?

Wealth and impact

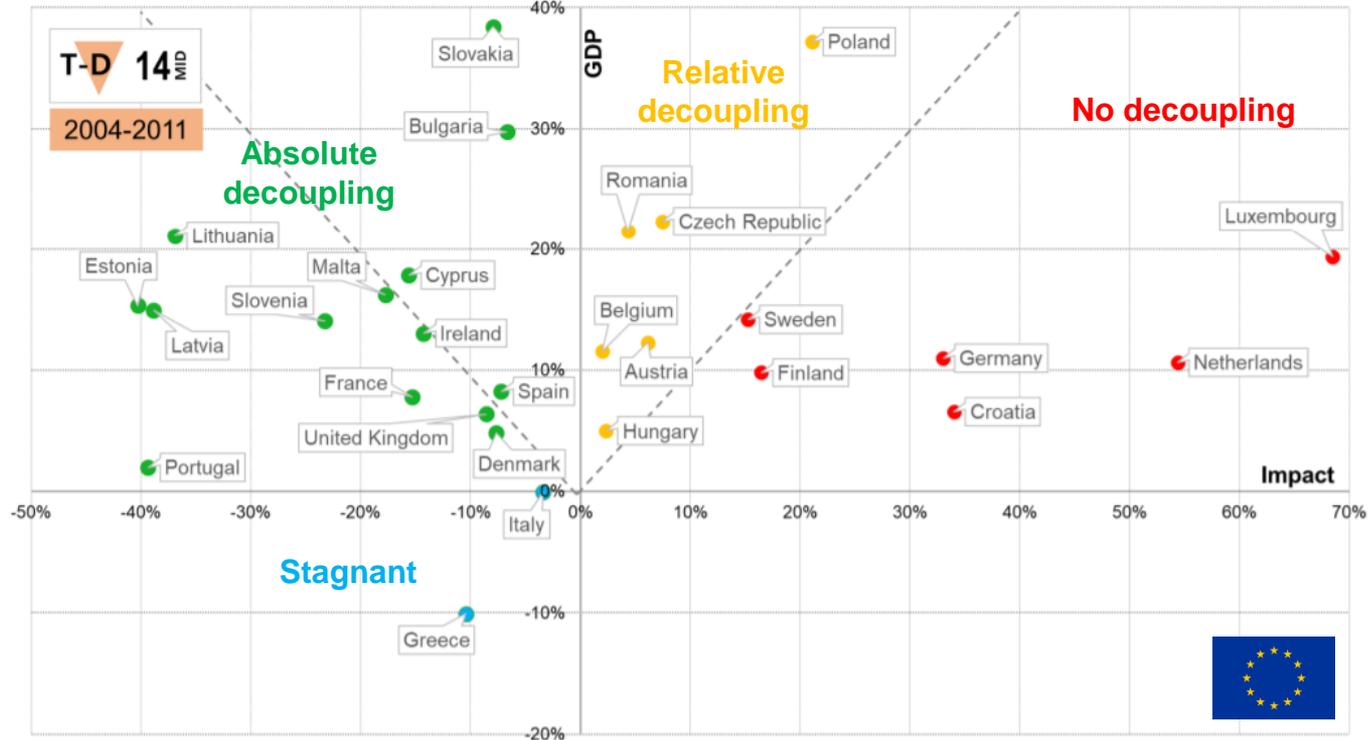


→ The EU apparently succeeded but not if imports are considered (consumption footprint)

# GDP and environmental footprint

Can we decouple economic growth from environmental impacts?  
Focus on individual countries: consumption footprint vs. GDP

Wealth and impact



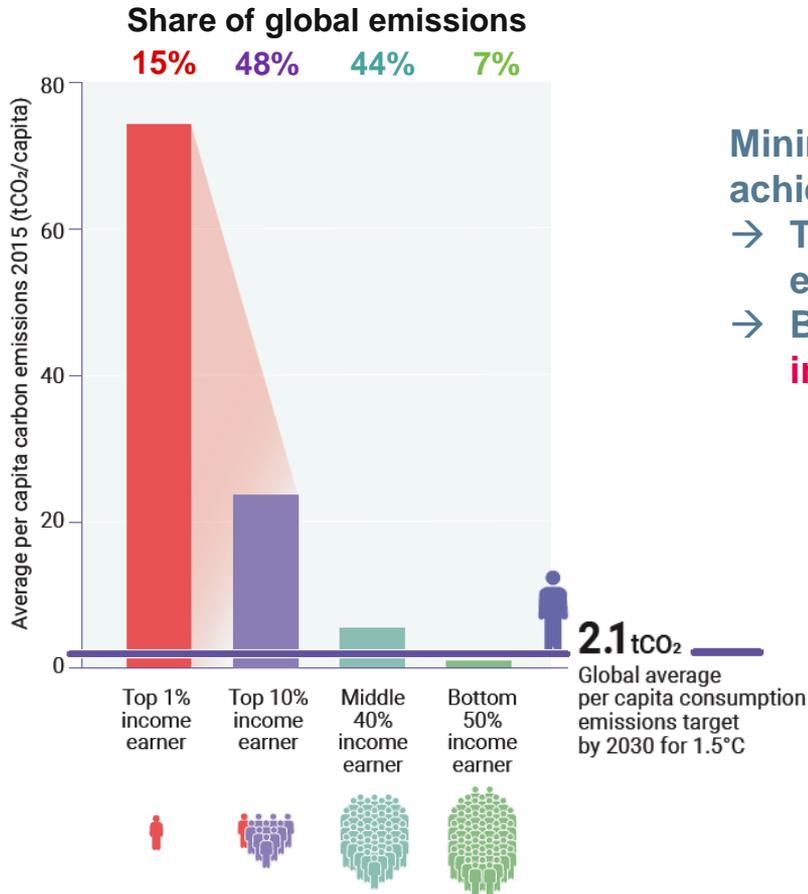
→ Some positive trends that need to be confirmed and followed



**LIVE POLL !**

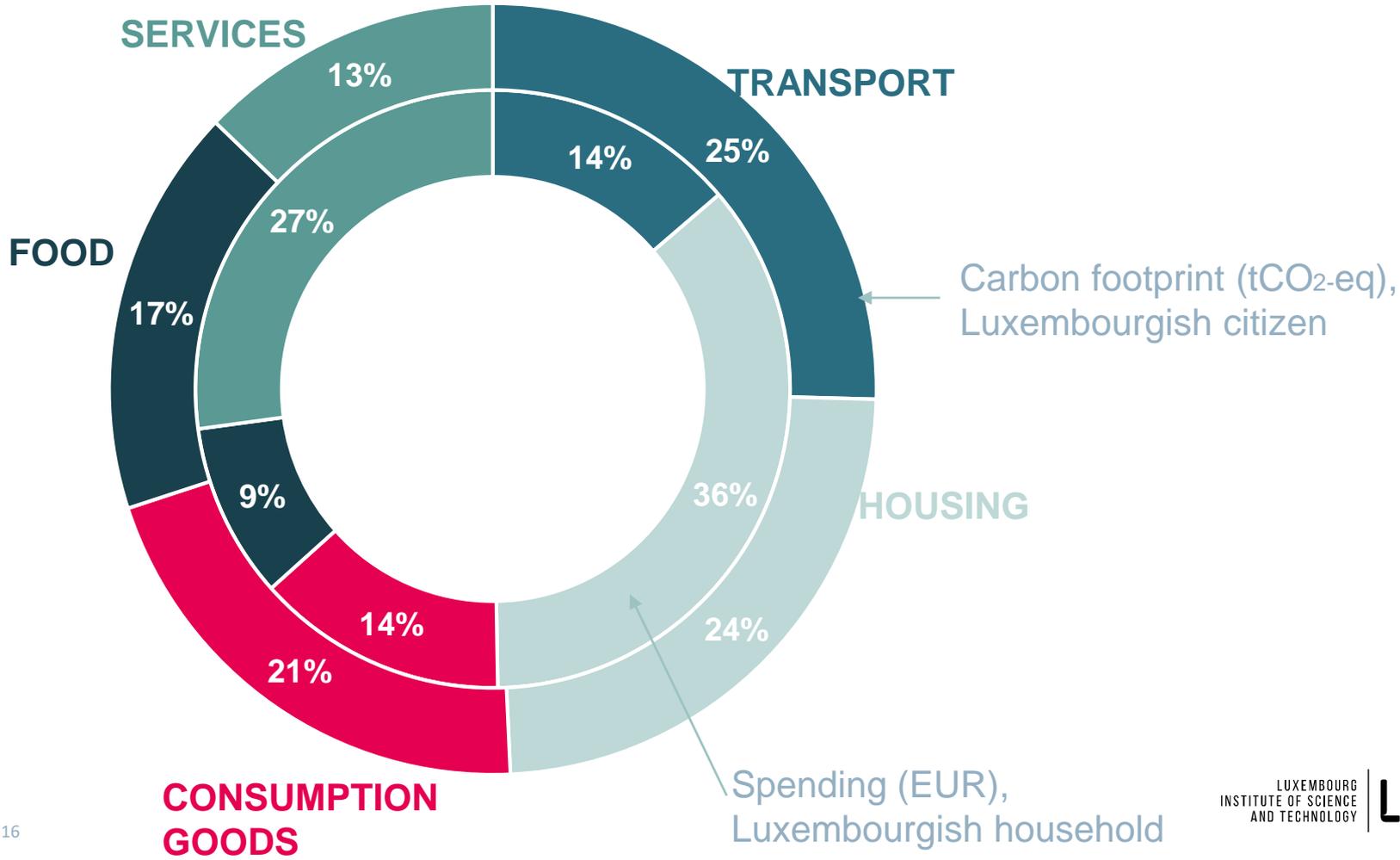


# Income and environmental footprint



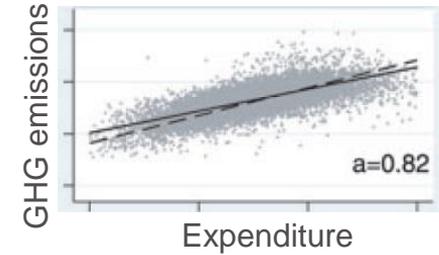
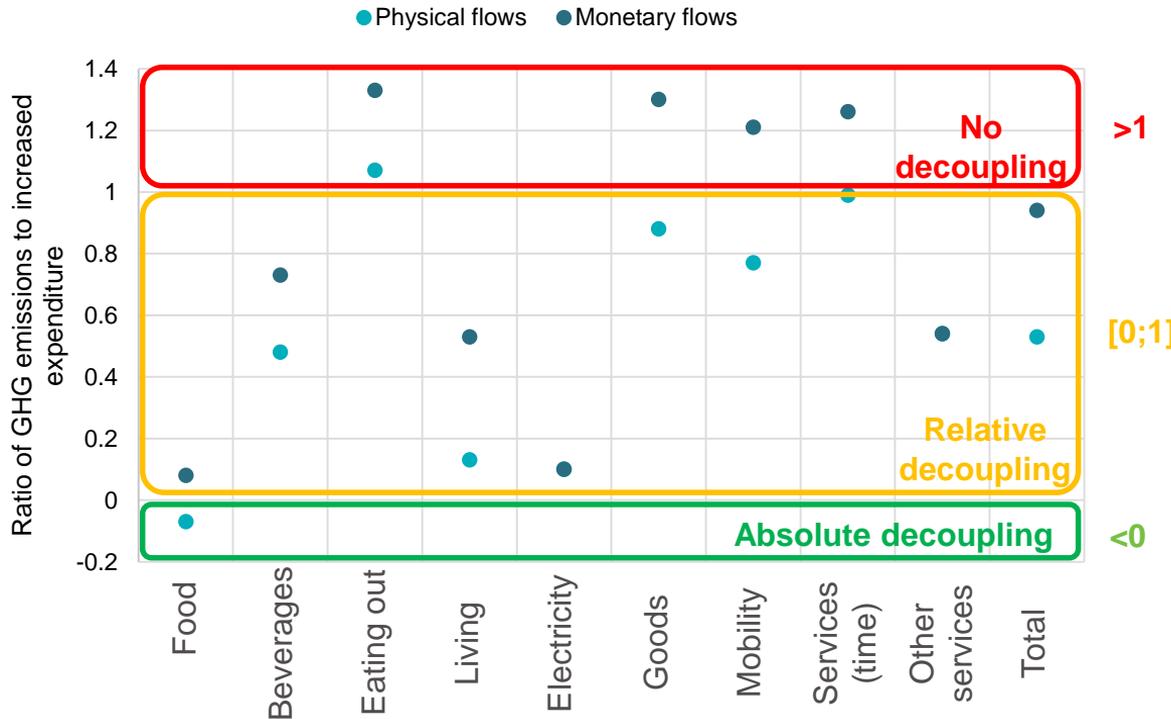
Minimum factor of emissions reduction to achieve 1.5°C target:

- Top 1% income earner need to **reduce** emissions by at least a **factor of 30**
- Bottom 50% income earner can still **increase** by **~3 times** their emissions



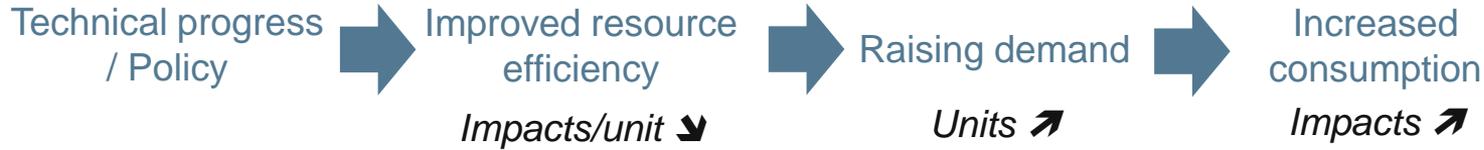
# Income and environmental footprint

Correlation between GHG emissions and increased expenditure?



$$\frac{\text{Change of GHG emissions}}{\text{Increased expenditure}}$$

# The rebound effect



**Example: I bought a car with lower fuel consumption rate**

- I use my car more because of lower fuel costs (**direct effect**)
- I use the savings to buy a flight ticket (**indirect effect**)
- I move further away from my work thanks to lower fuel budget (**systemic effect**)

**Can we avoid rebound effects?**

- ✓ Use savings into low-impact products / services (e.g. train travel instead of plane travel)
- ✓ Combination of efficiency with frugality (more is not necessarily better)



1. CARBON FOOTPRINT
2. WEALTH AND IMPACT
3. PURCHASING OPTIONS



# Eco-labelled products

## Different environmental communication types

### Ecolabels (type I)

- ISO 14020/24
- Multi-criteria
- Life-cycle approach
- Third-party certified



### Self-declaration (type II)

- ISO 14020/21
- Single criteria
- Not third-party certified but expected to be verifiable



Purchasing options

- Regulation EC 66/2010
- Criteria revised regularly (EC Decisions)
- Lower environmental impacts along the life cycle compared to similar product
- No hazardous substances allowed (except for specific derogations)

### 78071 products in 24 different categories (03/2021)



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# Eco-labelled products

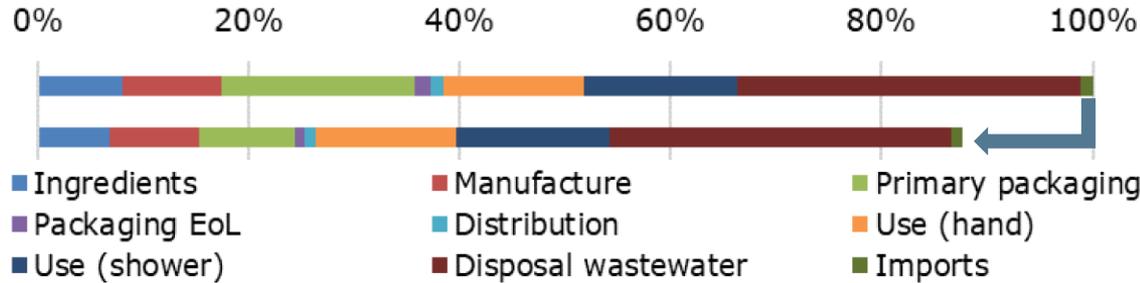
## Is it really better for the environment?

→ Example: liquid soap



EU Ecolabel

- Ingredients with lower impacts
- Lighter packaging (with refilling system) including recycled content
- Dosing system allowing lower dosage for use



### Ecolabel soap

- ✓ -12% of GHG emissions thanks to packaging design and lower dosage
- ✓ -0.1% to -12% on other impacts

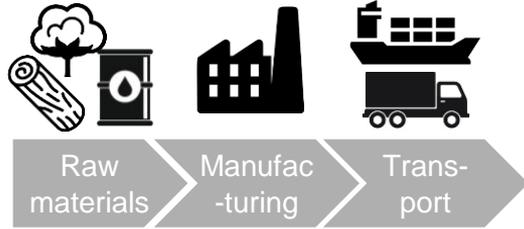


Similar benefits observed for other ecolabelled products (shampoo, detergents, ...)  
No trade-offs observed on any impact category

**LIVE POLL !**

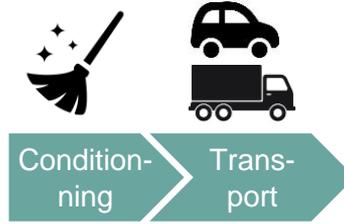


# Second-hand products



Impacts of producing new item

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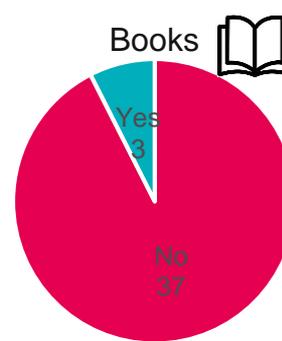
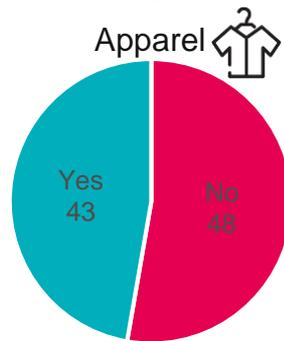
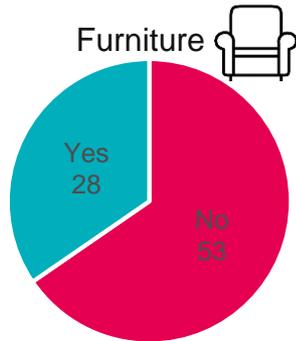


Impacts of reuse



But are we really replacing the production of new items?

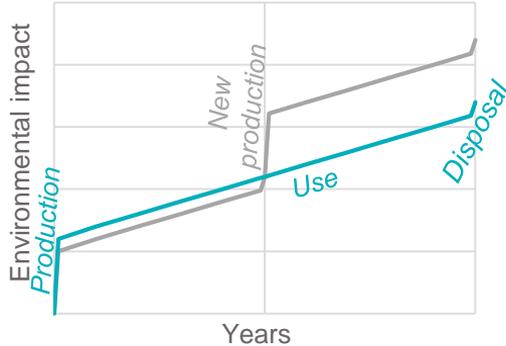
Survey in a second-hand shop in Italy: Are these items replacing the purchase of new products?



→ Favour second-hand products without falling into overconsumption!

# Durability of products

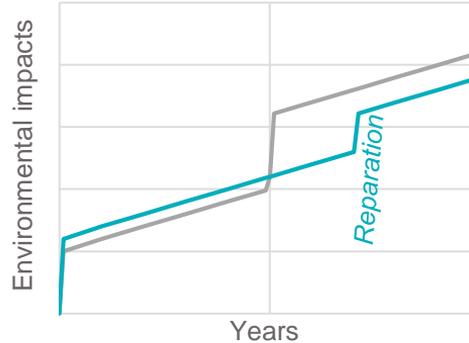
## Durable vs. non-durable products



Production impacts of durable items might be higher but compensated by longer use

Example of a vacuum cleaner  <10% higher production impacts

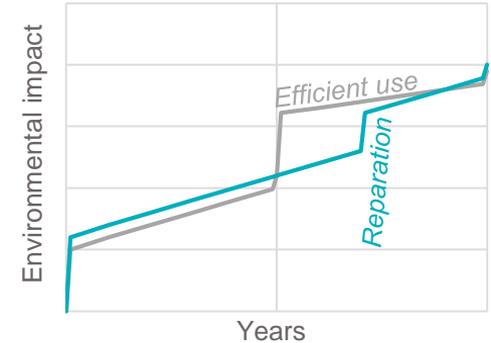
## ...including reparation at year 7



Additional reparation impacts might be compensated by longer use

<10% reparation impacts

## ...and better efficiency of new product



Efficiency gains of new items might compensate their production impacts

Lower GHGs if efficiency gain >25%  
True for impacts mainly influenced by use but not for others (e.g. resources, toxicity)

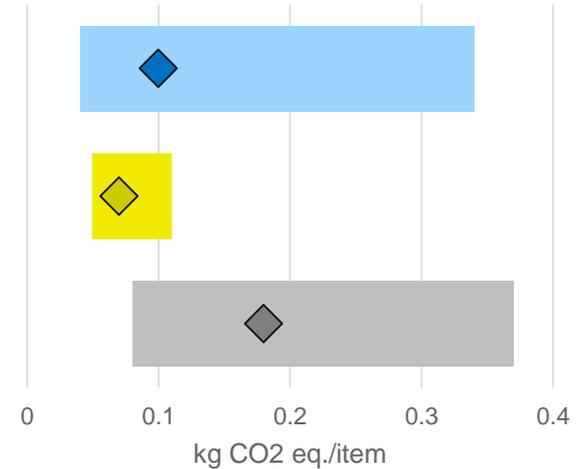
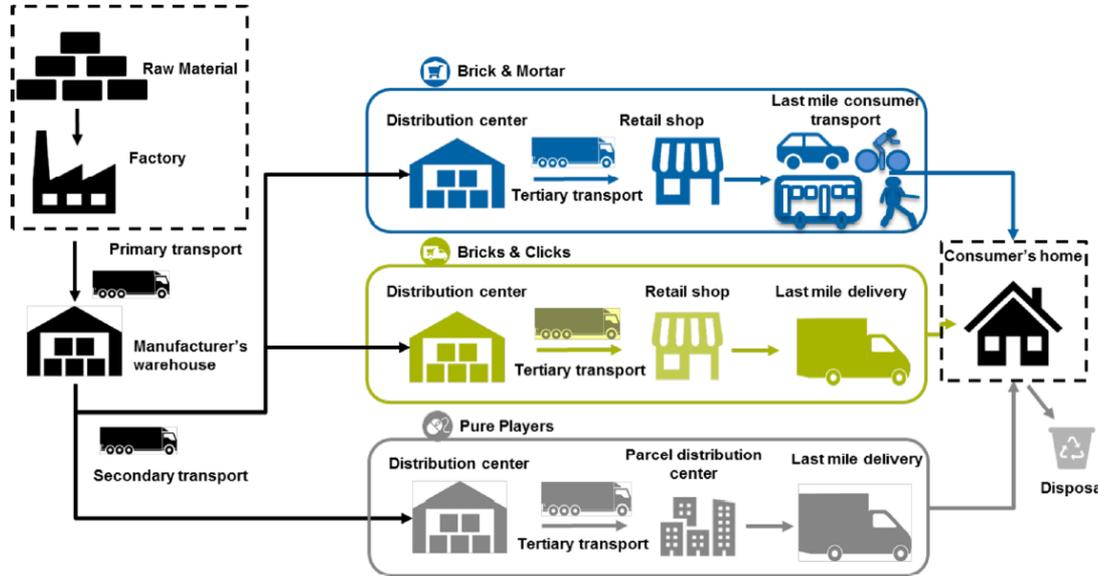
## What to do?

- ✓ **Production-intensive items**  → **extend lifetime** (buy durable/repairable products, maintenance)
- ✓ **Use-intensive items**  → **replace with efficient products** (but possible trade-offs)

# Online shopping

## Example for fast-consuming goods shopping in UK

Purchasing options



- **Pure players more impactful** due to last-mile transport (longer distance, smaller basket size, failed delivery rate) and due to additional packaging
- Traditional shopping better if low-impact transport of consumers   94%  80%  44%  8%
- Uncertain results due to **many variable parameters** (basket size, distances, transport mode, deliveries per tour, failed delivery rate...)

# Online shopping

## How to reduce our footprint:



- Prefer **low-impact transport mode** for last-mile transport, e.g. car used by 80% consumers in UK, but by 8% in China
- Trip chaining (shop when returning from work)

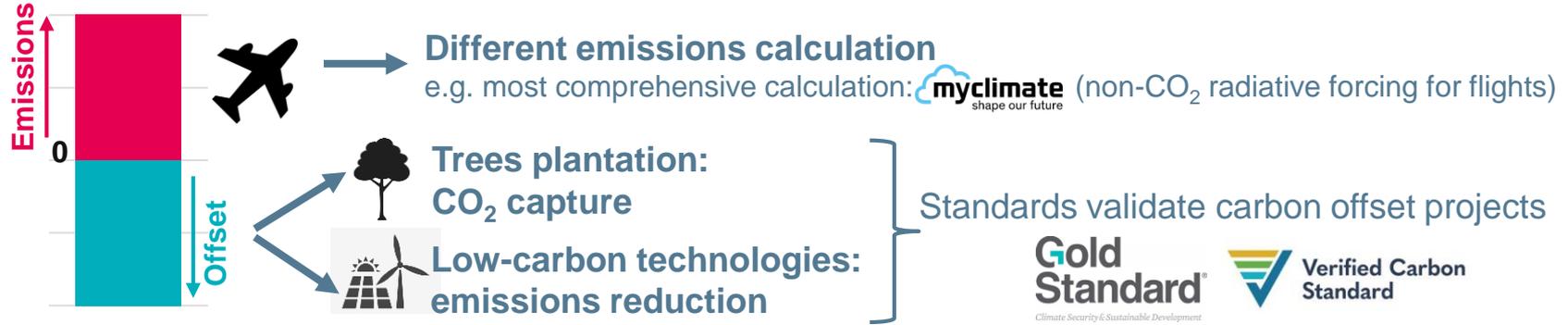


- Multiple products from the same supplier and **bundle items**
- Forego fast deliveries
- For companies: use **electric cargo bikes** instead of vans for last-mile transport

## Effects to be further investigated:

- Product return/losses for online vs. traditional shopping (higher return rate for online channels but more unsold products for traditional retailing)
- Does online shopping substitute trips to traditional shops? e.g. probably not for supermarkets

# Carbon offsetting



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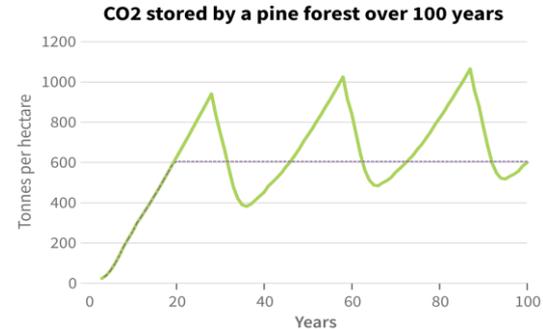


# Carbon offsetting

Carbon offset for the yearly emissions of an average Luxembourg resident:  
100€ to 400€

## Can we really rely on carbon offsets to become carbon-neutral?

- Temporality of emissions: example of CO<sub>2</sub> stored by pines
- Complex and various schemes not always transparent
- (cheap) Incentive to not reduce emissions
- Potential other issues (biodiversity, resources use..)



SOURCE: Parliamentary Commissioner for the Environment



1. CARBON FOOTPRINT
2. WEALTH AND IMPACT
3. PURCHASING OPTIONS
- 4. INVESTMENTS**



**LIVE POLL !**



# Savings and Investments

- 15% of the income of a Luxembourgish, after taxes, is saved
- Where does this money go?

Investments



Currency and bank deposits



Company shares



Pension funds



Mutual funds

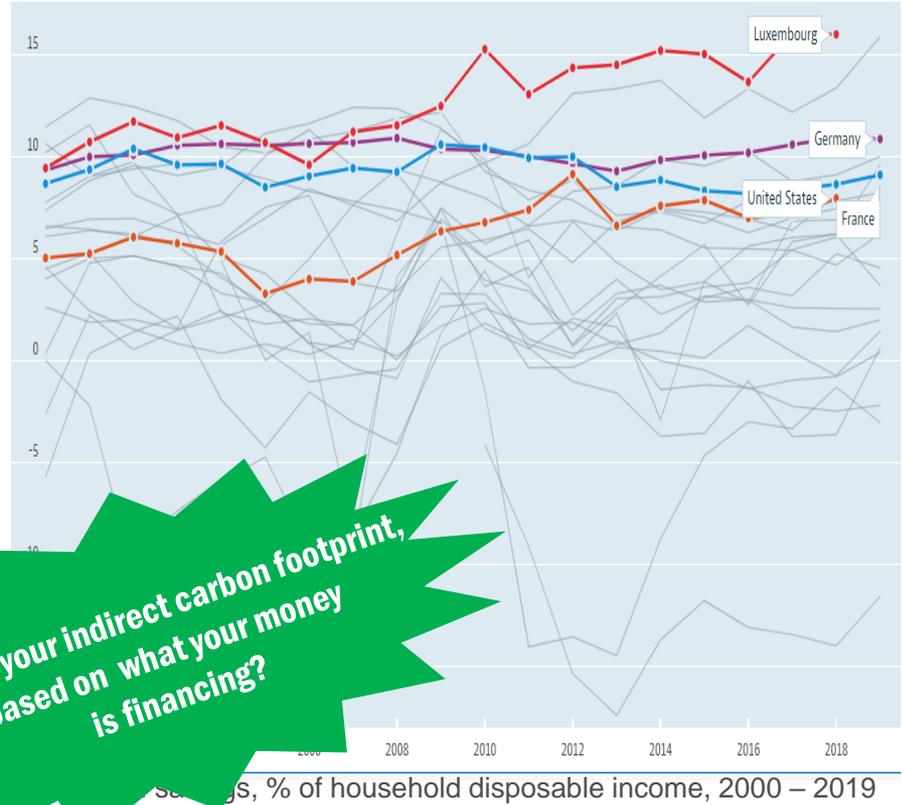


Insurance funds



Bitcoin

**What is your indirect carbon footprint, based on what your money is financing?**



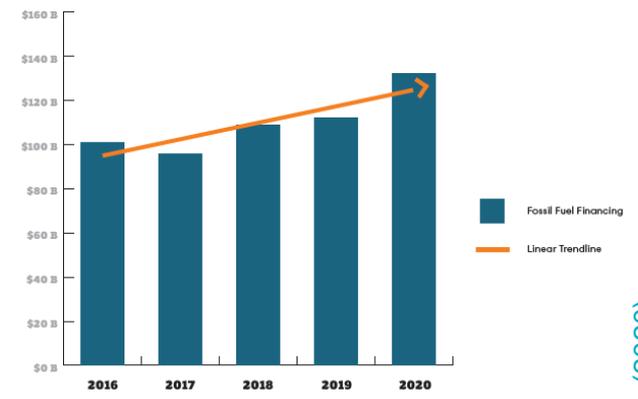
# Savings at the bank

- What does your bank do with the money on your savings account?
- EU SFDR regulation: “financial market participants” must disclose sustainability-related information in their annual reports (Regulation (EU) 2019/2088)
- Banks you may know are actually responsible for the financing of fossil fuel operations of corporations (for the example, USD 62bn in 2019)

Investments



Fossil Fuel Financing of the **16** Largest European Union Banks



- Despite pledges for reducing emissions and achieving net-zero by 2050, the financing of fossil fuel companies shows an upward trend

Ask your bank about how they invest the money in your savings account

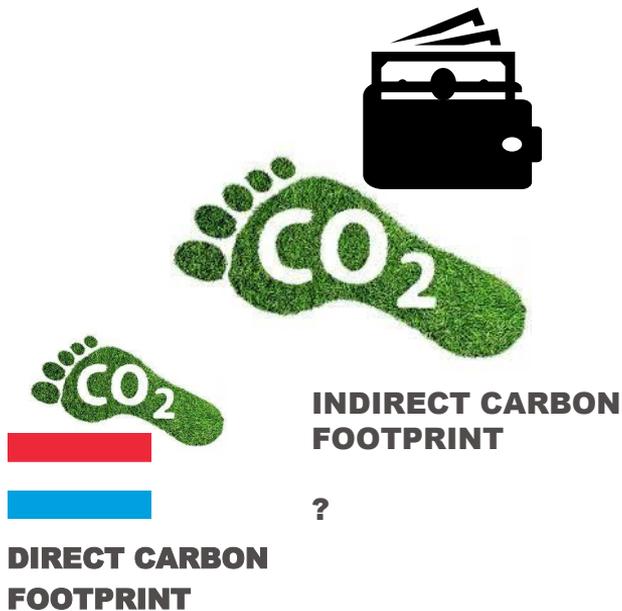
Note: Bank financing in USD billion (financing went to over 2,000 companies active across the fossil fuel life cycle)

# What is the indirect impact of my bank savings?



## CARBON FOOTPRINT (in tons CO<sub>2</sub>eq)

LA BANQUE POSTALE	3,53	4,86 tons on average per 10 000 EUR
CRÉDIT MUTUEL	3,79	
BPCE	3,79	
CRÉDIT AGRICOLE	4,44	
BNP PARIBAS	6,01	
SOCIÉTÉ GÉNÉRALE	6,52	



The methodology accounts for the direct and indirect impact (scope 1, 2, 3 upstream) of the activities financed by the bank (these activities include financing (loans and bonds) and investments made to/in companies from different sectors)

# Greener banking operations

Investments



**SPUERKEESS**

**Subfund LUX-EQUITY GREEN**

SICAV Sector or Thematic Funds

ISIN code (cap.) LU2173353967

LUX-EQUITY Green invests in company that seek to improve their environmental footprint while providing assurance that they comply with into account social criteria.



**BGL  
BNP PARIBAS**

THE FINANCE4GOOD SOCIALLY  
RESPONSIBLE SAVINGS ACCOUNT



The Eco Loan for "green" Home Improvements



**Triodos Bank**

We only finance companies that focus on people, the environment or culture.

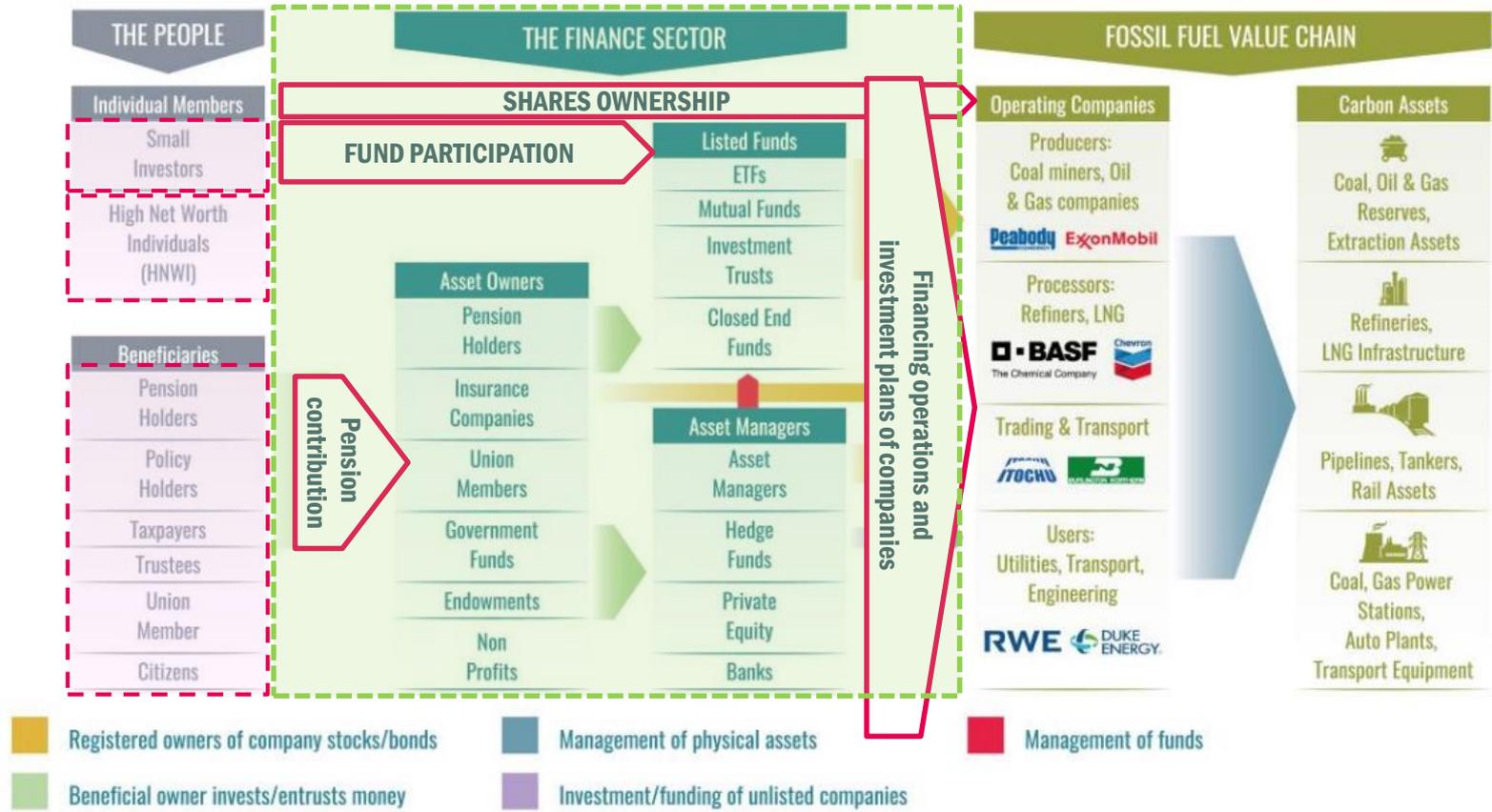
## How to take control over the sustainability of your banking operations ?

- ✓ Inform yourself about the environmental profile of your bank
- ✓ Decide actively how to invest the money you save in your accounts
- ✓ Beware of hidden fees that are not justified
- ✓ Beware of superficial sustainability claims

# Investment options

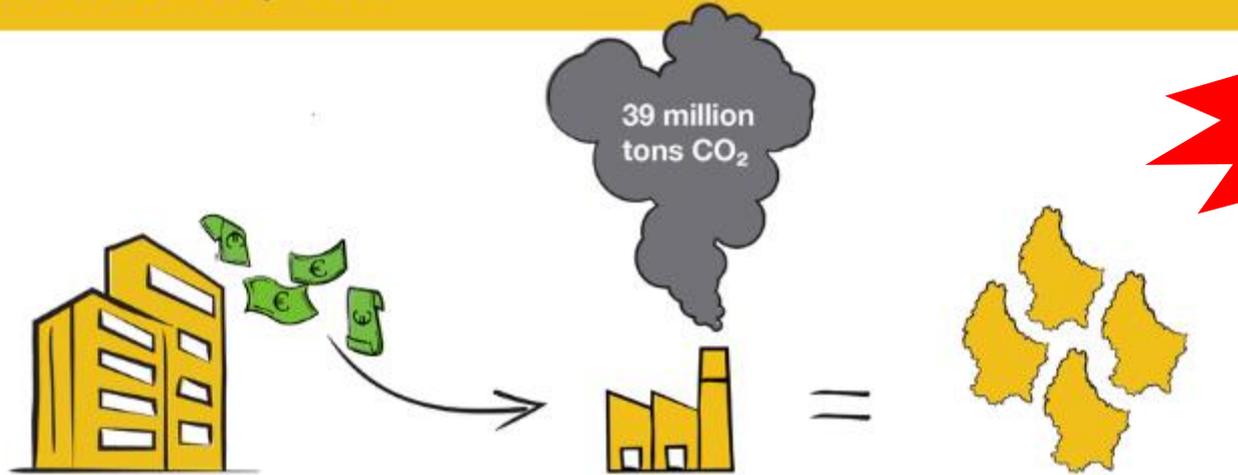
Indirect impact of saving & investment choices

Investments



# How green are investment funds in Luxembourg?

With an average carbon footprint of 72,9 tons for 1 million US\$<sup>invested</sup>, **the 100 largest funds alone are responsible for financing more than 39 million tons CO<sub>2</sub>**, which is approximately 4 times the national emissions of Luxembourg in 2019.



**100 largest funds in Luxembourg**

Ø carbon footprint : 72,9 tons for 1 million US\$ invested  
(scope 1 & 2 emissions only)

**4x Luxembourg's  
national CO<sub>2</sub> emissions**

**+ 4°C of warming  
by 2050**

Source: [Greenpeace \(2020\)](#); [Luxembourg Green Exchange](#)

# Investment styles on scale

...from profit to planet and people



EU SFDR - Regulation (EU) 2019/2088 of the European Parliament and of the Council of 27 November 2019

Investments

**Traditional investments**

- Conventional funds
- Corporate bonds
- Stock investments

Article 8, SFDR

**Sustainable/ESG\* investments**

- Accounting for \*Environmental
- Social
- Governance
- Risks

Article 9, SFDR

**Impact investments**

- Investing with the aim of bringing a positive social/environmental impact

**Philanthropic donations**

- Charity
- Expecting no return



Profit oriented



Impact oriented

# ESG Investing vs Impact Investing

■ Impact Investing ■ ESG Integration Investing

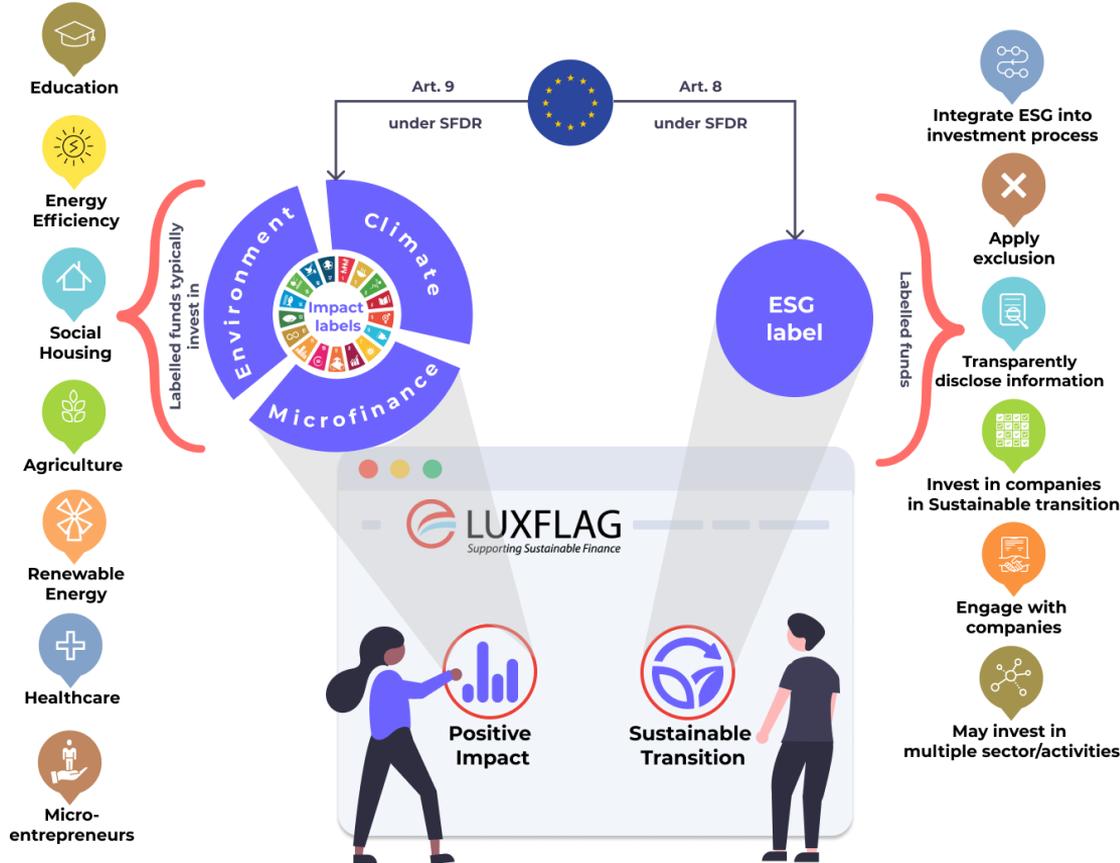
Investments



*2018, SRI investments in Europe*

# Sustainable Finance Labels

Investments



- LuxFlag labelling agency for investment funds
- Large increase in ESG labelled funds, not so much in impact funds
- EU Ecolabel for Financial Products (drafted in 2019)

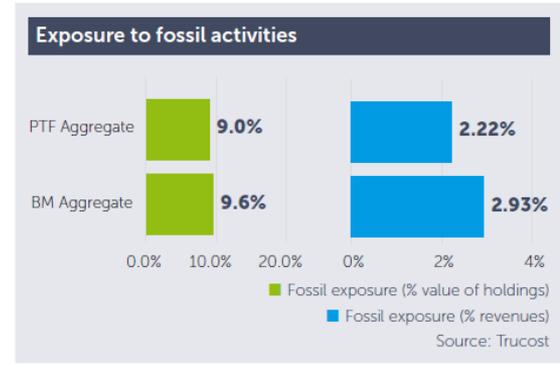
# Pension funds

## Fonds de compensation Luxembourg

- EUR 22 billion managed funds (more than EUR 40 trillion globally)
- 90% of funds take into account ESG
- 1 out of 10 labelled funds has a LuxFlag Environment Label  
*FCD SICAV Global Equities Sustainable Impact – Active 1*

### Eligibility (LuxFlag):

“Have a portfolio of investments in environment-related sectors corresponding to at least 75% of the Applicant Investment Fund’s total assets Environment related sectors”



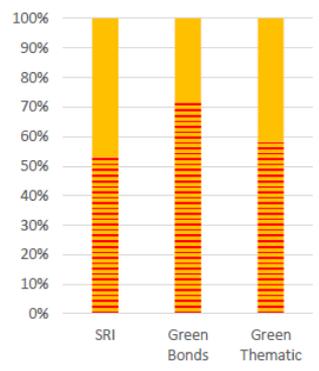
Not fully aligned with the Paris Agreement targets

# Investments in mutual funds

**What to have in mind when verifying a fund's green credentials?**

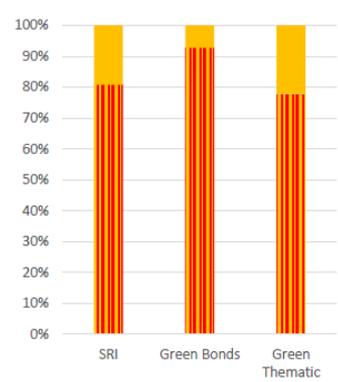
- Study of 230 retail funds in the EU (available to private individuals)
- All fail the “substantiation” test
- Not even the so-called “impact funds” provide convincing measurements of their impact

Fig. 22: Frequency of unclear impact claims



Percentage of funds associated with unclear claims among all funds making impact claims

Fig. 23: Frequency of too broad impact claims



Percentage of funds associated with claims too broad, among all funds making impact claims

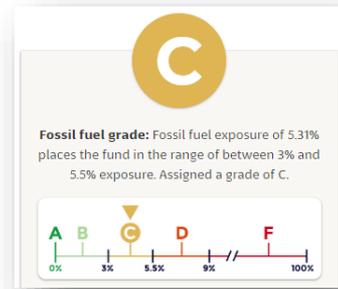


! A good ESG rating does not guarantee a green investment



! Labels have different eligibility criteria, look for the most stringent ones

Mandatory reporting on sustainability indicators



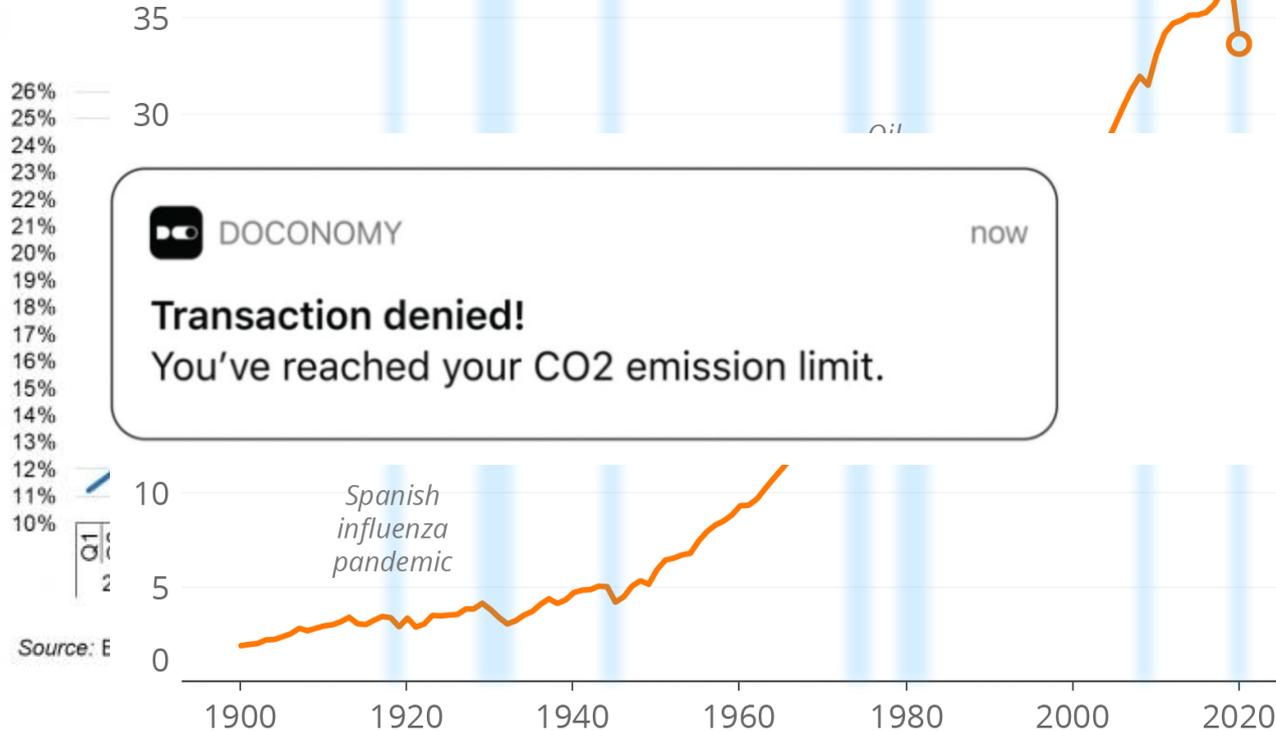
! While some funds may not directly hold climate-relevant sectors, such as fossil fuel exploration, they may invest in companies exposed to it

# Increase A familiar pattern

Annual global fossil emissions, billion metric tons of CO<sub>2</sub>

period

House



Source: Global Carbon Project

grist

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LIST

Source: Riff App; Eurostat (2020); <https://grist.org/climate/was-2020-the-year-we-reached-peak-carbon-emissions/>

Investments

1. CARBON FOOTPRINT
2. WEALTH AND IMPACT
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# 5. TAKE-AWAY MESSAGES



## Having more money generally leads to higher environmental impacts... But a decoupling (at least relative) is possible



- Durable and repairable goods
- Second-hand products to avoid new
- Eco-labelled products
- Order online to avoid high-impact individual transport
- Consider carbon offsets but as last option

- Get informed about the environmental credentials of your bank (e.g. check ESG / sustainability claims)
- Actively choose where your money goes (e.g. environmental performance in addition to financial return) to send a strong message to the market

**REFUSE**  
**REDUCE**  
**REUSE**  
**REPAIR**  
**RECYCLE**