

# ESG, a sustainable investment for a young actuaries



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## SUMMARY

### 1 Sustainability risk, a challenge for young actuaries

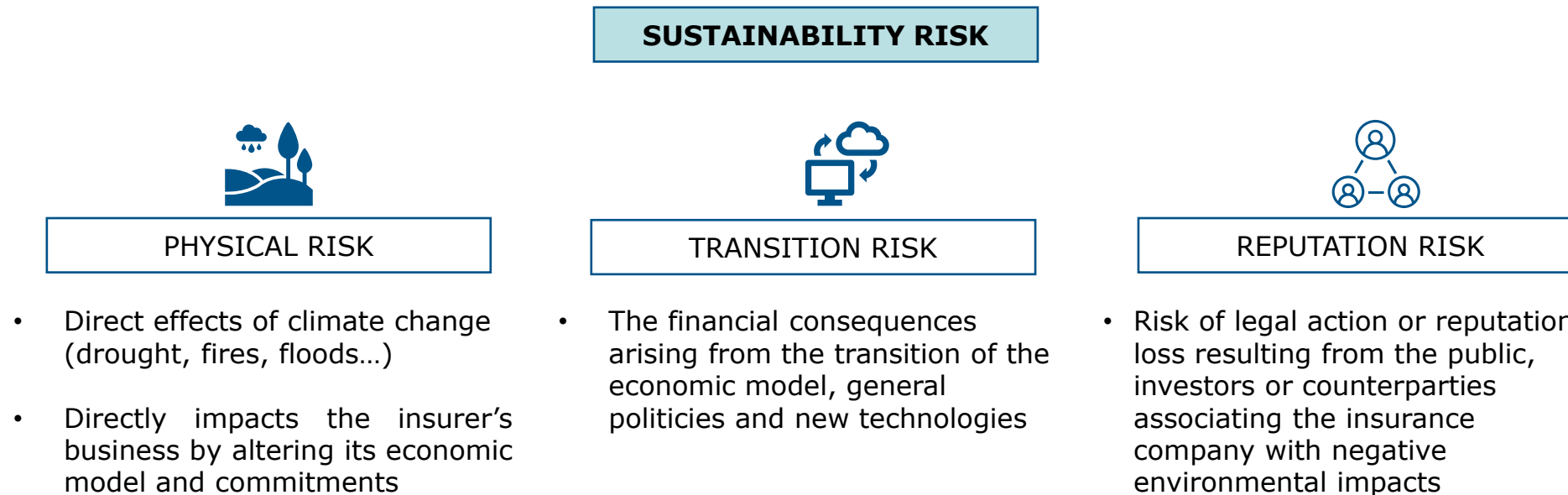
- A Identifying climate risk as seen by an insurer
- B Insurers on the front line
- C The role of actuaries

### 2 Example : the carbon impact of vehicle portfolio

- A Context of the study
- B Study on a portfolio of a million vehicle
- C What could be your impact ?

## 1.A – Identifying climate risk as seen by an insurer

**Sustainability** : The process of living within **the limits** of available physical, natural and social resources to enable living systems, including humans, to thrive **indefinitely**.



**Climate risk is not necessarily a risk which allows for consequences to be observed on a short-term basis, however the insurance sector is and will continue to be heavily impacted.**

## 1.B – Insurers on the front line

Insurers are under increasing regulatory and competitive pressure. They need to manage their sustainability risk and maintain financial stability.

### Impact on the insurance sector

- Regulatory changes (UE Taxonomy, SFDR, CSDR) : need for training,
- Increase in frequency and intensity of climate-related claims: financial stability at risk,
- Introduction of an ESG dimension in investments choices
- New diseases or natural disasters may emerge, leading to an increase in mortality or disability,
- Reinsurance treaties become more demanding
- Rising demands from insured for transparency and accountability from investments,
- Impact on Life, Non-Life, Reinsurance, Health...

Max (Risk, Performance)

*Integration of a new  
parameter*



Max (Risk, Performance, **ESG profile**)

### Sustainability risk can no longer be ignored

As **actuaries**, we are trained to assess and manage risk, which now includes sustainability risk.

## 1.C – The role of actuaries

The role and scope of actuaries have expanded over time. The work of actuaries is affected in many ways.



### The role of actuaries

- Assessing the impact of climate on premiums, claims and reserves,
- Developing new products,
- Assessing the impact on the asset portfolio,
- Assessing the impact on solvency requirements, ALM and capital management,
- Participating in the development of climate and sustainability reports, implementing new regulations,
- Ongoing training, professional requirements.



### A challenge for young actuaries

- Sustainability must be a driver of **innovation** and an opportunity for the profession to evolve,
- An issue that mobilises young people :
  - A study commissioned by WWF and « Pour un réveil écologique » shows that **75% of finance students** want more courses on the ecological transition,
  - **Re.boot** : students create a sustainable finance course to fill the gaps in schools.
- Getting involved in new projects in an area not yet fully mastered,
- Lead to concrete actions,
- The opportunity to collaborate with supervisors and international organizations.

## 2 - Example : the impact of vehicle portfolio

### A - Context of the study

Actuary  
+  
Sustainability

Usuel  
talk

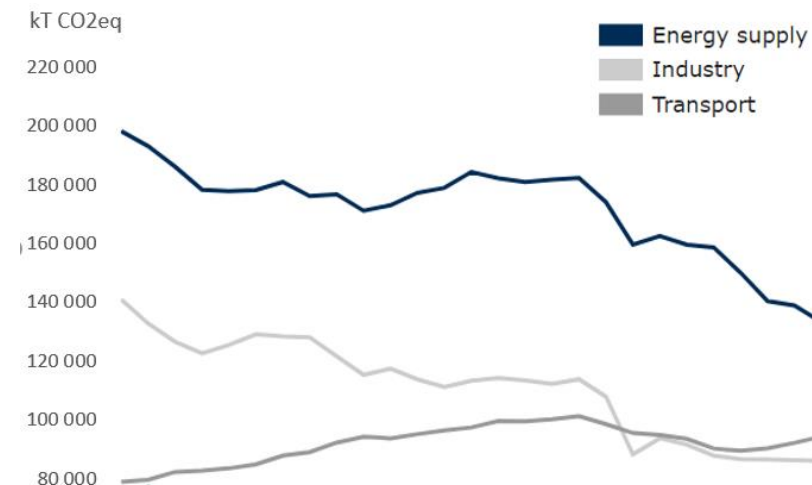
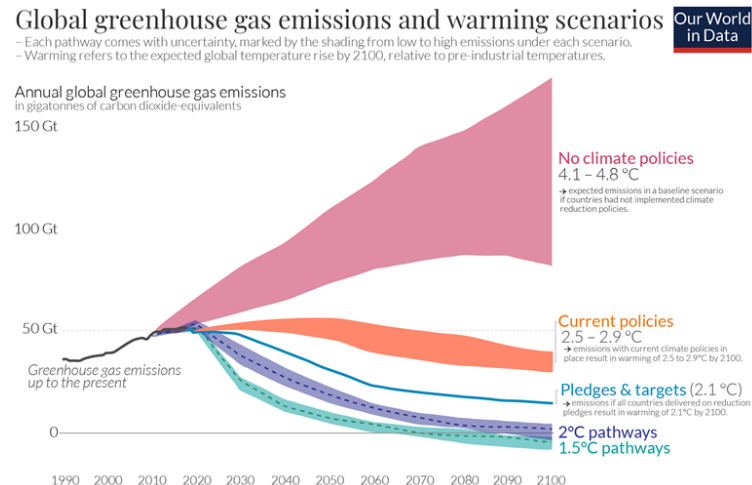


Our choice : The impact of an insurer in the carbon footprint of a vehicle portfolio

Carbon footprint

But why ?

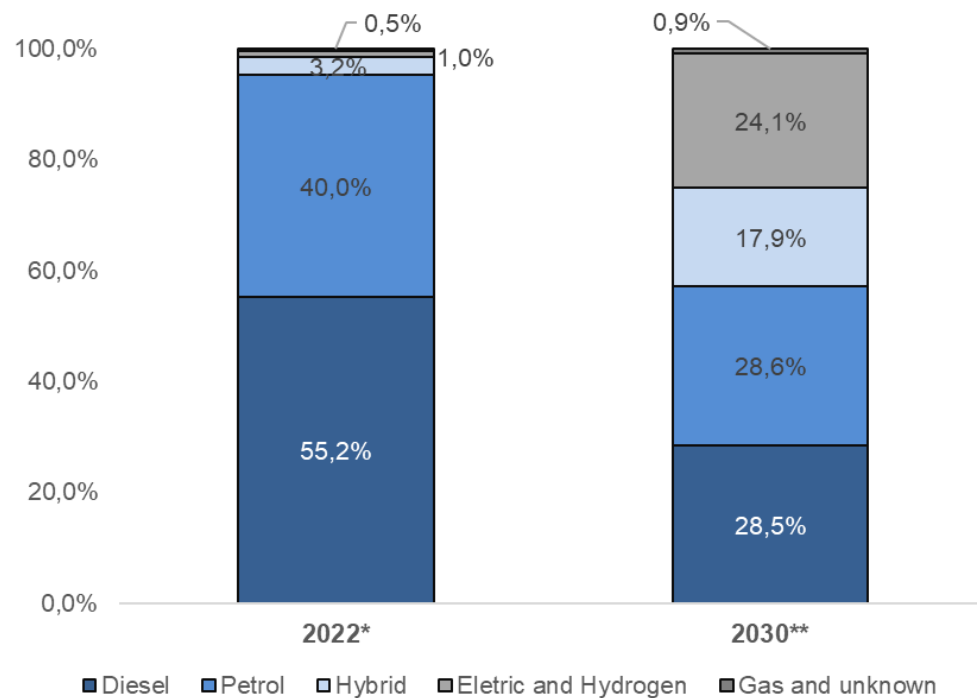
Transport sector



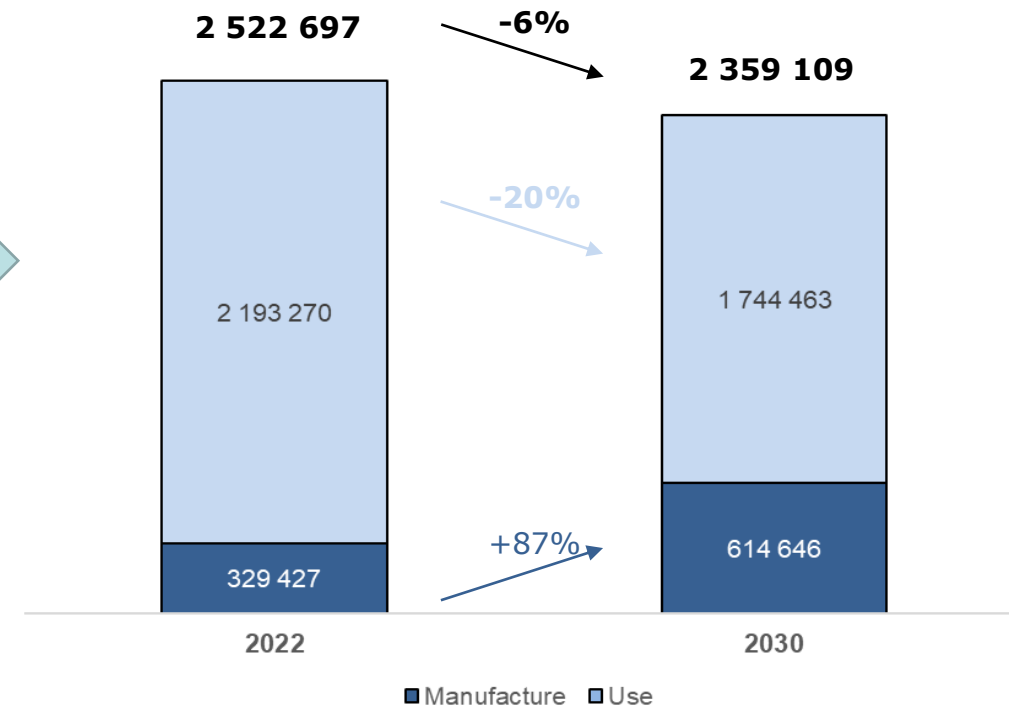
## 2 - Example : the impact of vehicle portfolio

### B - Study on a portfolio of a million vehicle

Evolution of the energy mix  
between 2022 and 2030



Evolution of the carbon foot print  
induced by new energy mix (T CO<sub>2</sub>e)

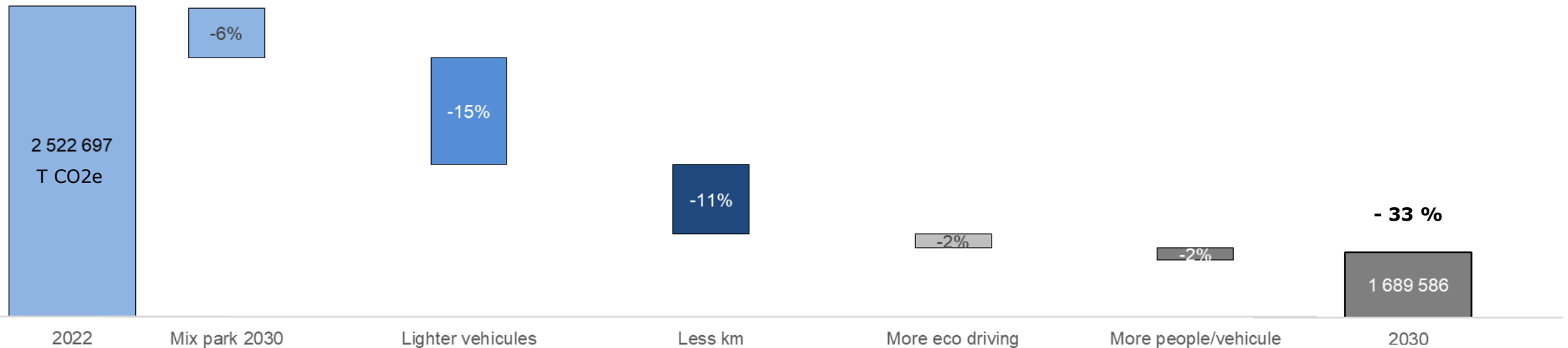


\* French vehicle park (SDES)

\*\* w/ Green Growth ICE BAN 2035 hypothesis

## 2 - Example : the impact of vehicle portfolio

Impact of every lever on  
carbon footprint



*Example of  
concrete  
actions on  
each lever*

Dedicated  
electrical  
insurance  
offer

Weight of  
the  
vehicule  
among the  
pricing

Dedicated  
insurance  
offer for  
infrequent  
traveler

Bonus for  
having an  
eco driving  
monitoring  
box

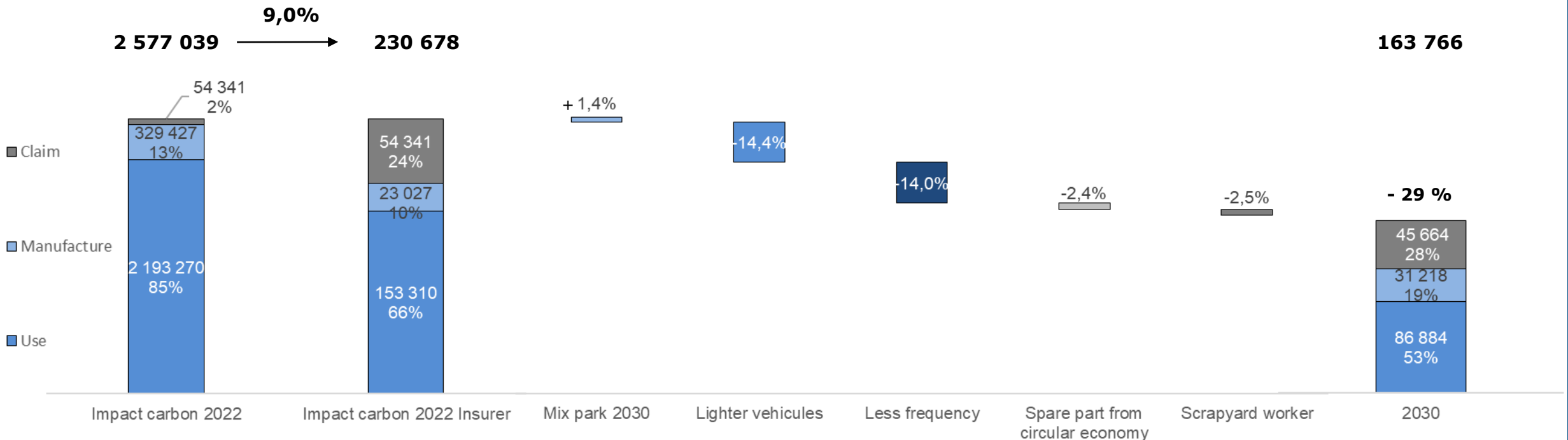
Car sharing  
insurance  
offer



## 2 - Example : the impact of vehicle portfolio

How much is the insurer responsible for ?

Impact of every lever on insurer carbon footprint



*Example of other actions*

Repair car when it is  
« C02 profitable »

After total loss push to buy if necessary an electrical car

Go with the expert or repairer decarbonation

Create business modelisation to prove that environmental can be profitable (ex : franchise reduction in spare parts)

## 2 - Example : the impact of vehicle portfolio

Impact of an insurer in  
his vehicle portfolio  
between 2022 and 2030

Total impact

**66 912**  
**T CO2e**

Impact per year

**8 364**  
**T CO2e**

People working on vehicle  
portfolio

Board member  
Directors  
Managers  
Claims handler  
Subscription workers  
Distribution  
Actuary on pricing  
Actuary on claims

Estimation of the  
impact of actuary

**10%**

If 10 actuary work on this portfolio  
what could be the impact of each one  
per year ?

What could  
be your  
impact ?

**84**  
**T CO2e**

This is more than the carbon footprint of 8  
french people per year

Actuary have a rôle to play on the transition  
and a big one