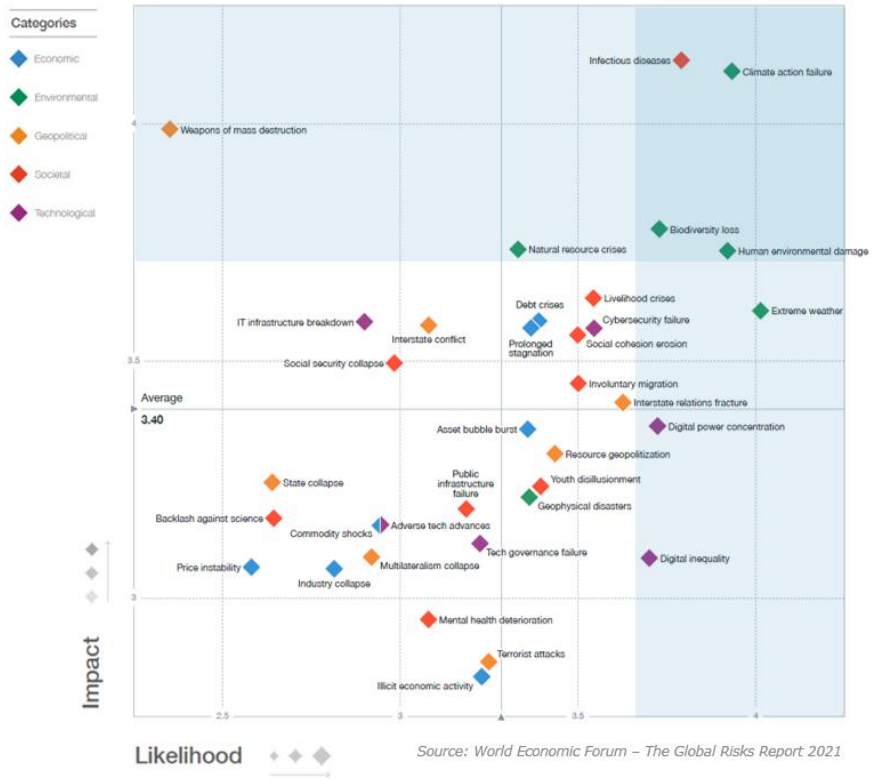
Institut Luxembourgeois des Actuaires

Sustainability: Briefing on latest EIOPA Opinion and practical guide for transition risk integration in ORSA and investment decision making

Background

Environment unambiguous rise to the top of the risk map

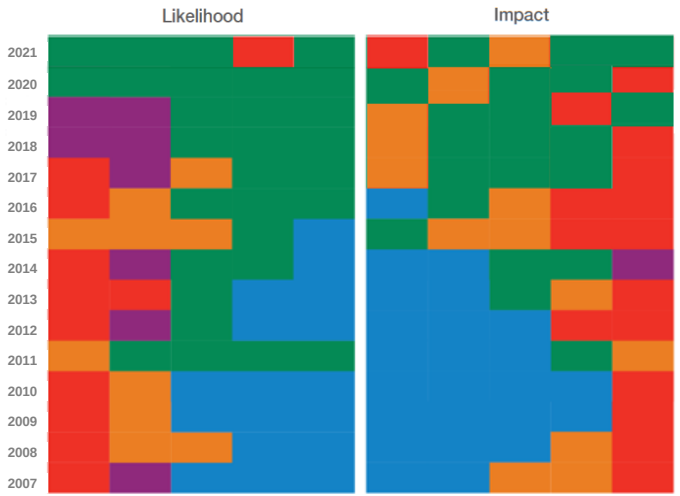


Source: World Economic Forum – The Global Risks Report 2021

WORLD ECONOMIC FORUM

The Global Risks Report

2021 | 16th edition



Climate is on insurer’s agendas

- it matters for all industry stakeholders

Society

Shareholder
Board of Directors

Regulators

Management

Regulatory perspective

Regulators

Climate risks on agenda of EU regulators and supervisors

European Commission

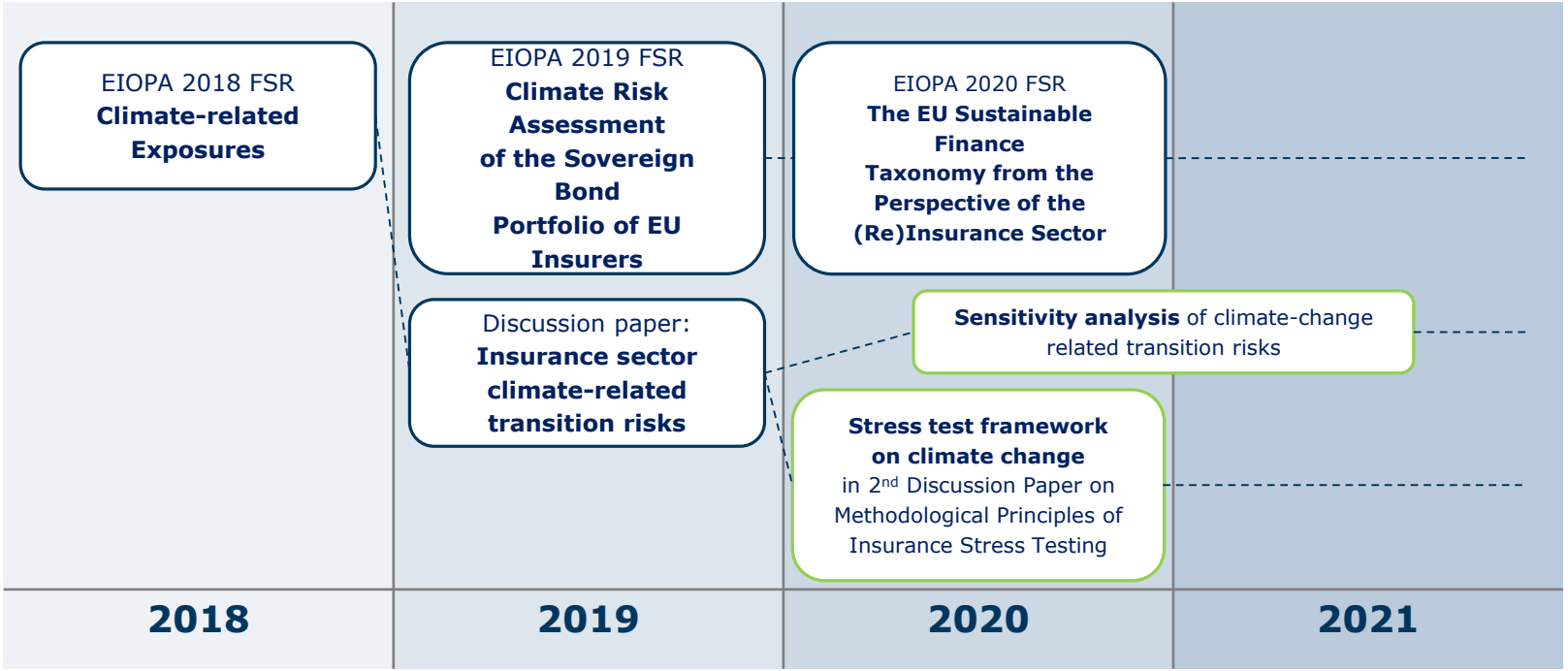
- COM **Action Plan on Financing Sustainable Growth** and **EU Green deal**
  - Setting an **EU strategy on sustainable finance**
  - Highlighting the importance of **involving the finance industry in addressing climate change**

EIOPA

- Objectives for sustainable finance
  - Insurers **manage Environmental Social and Governance Risks** (ESG)
  - **Preferences of policyholders for sustainable investments** are reflected
  - Insurers **adopt a sustainable approach to their investments**
  - Reflects appropriately **sustainable finance in Solvency II**

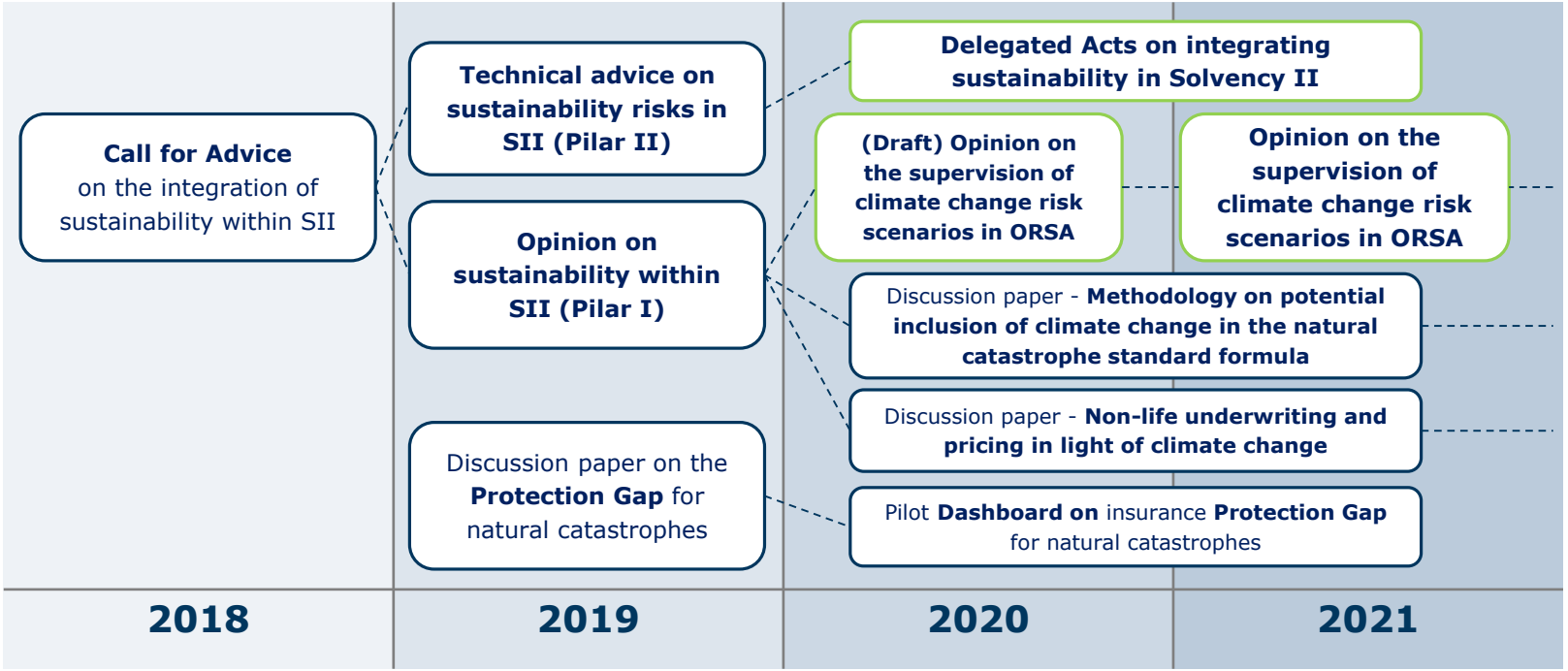
Regulators

EIOPA Financial Stability initiatives



Regulators

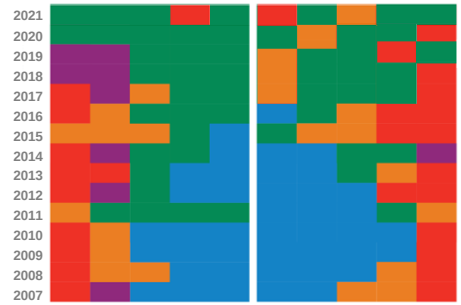
EIOPA Policy initiatives



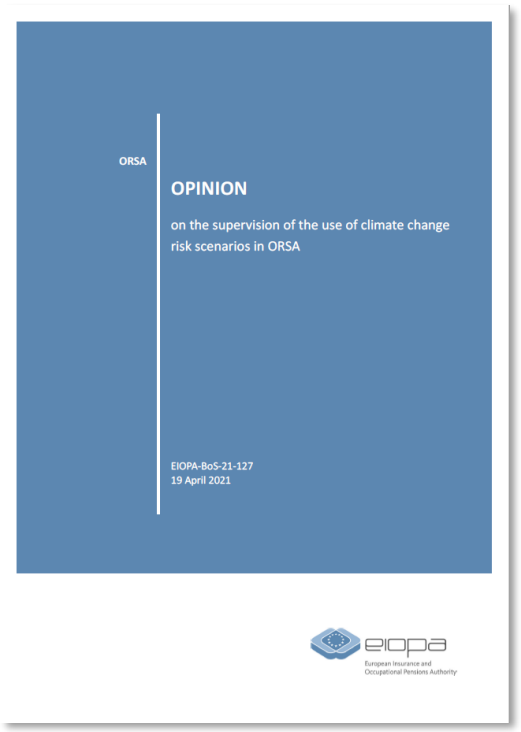
Regulators

Sustainability risks in Solvency II - Pillar II

- **The Solvency II Directive** requires undertakings to consider in their system of governance, risk-management system and own risk and solvency assessment (ORSA) **all risks they face in the short and long term and to which they are or could be exposed**

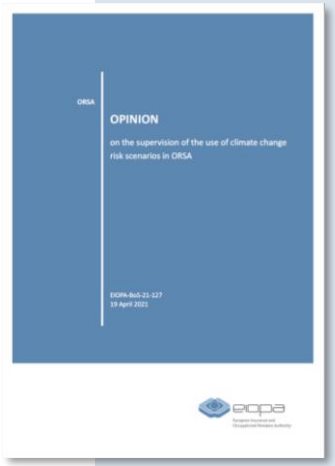
- 

- **Survey result of 2019 ORSA from 1862 EEA undertakings (80% of overall market) indicates**
  - Only **13% of ORSA**'s referring to climate scenarios
  - Of the 13%, **most with only qualitative considerations**
  - **Quantification** mostly focused on non-life physical risks (UW) and **generic**: a weak link to climate scenario and difficulty to distinguish from general natural catastrophe scenarios



Regulators

Sustainability risks in Solvency II - Pillar II



National Competent Authorities should expect ORSAs to include
- Climate risk assessment (physical/transition and short/long term)
- Assessment through both a qualitative and quantitative analysis
- At least 2 climate scenarios

Recognition that
- Climate risks are both new and complex
- Significant modelling expertise and expert judgment is needed
- Proportionality and cost/benefit must be taken into account

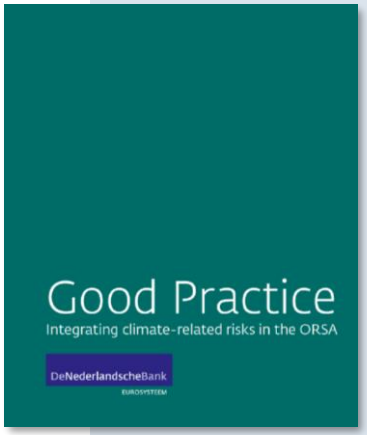
Expectation
- Inclusion on the short term in ORSA by insurance undertakings as risk is already manifesting itself (mostly climate transition risks)

Guidance
- No magic recipe but rather some high level guidelines and information sources provided (scenarios, risk mapping on prudential categories, etc.)

/!\ 2023: EIOPA will start monitoring the application of this Opinion by the CAs

Regulators

Sustainability risks in Solvency II - Pillar II



DNB expects insurers to analyze and describe the influence of climate-related risks on their risk profile

- **If these risks are material**, set out a relevant scenario for them in their ORSA
  - covering both **transition** and **physical risks**
  - considering the asset side as well as the liability side of the balance sheet
- DNB offers a number of **recommendations** on how to consider the impact of climate-related risks on the balance sheet
  - various examples to consider how physical and transition risks can impact the insurers' balance sheet; and
  - development of a scenario framework for climate transition risk

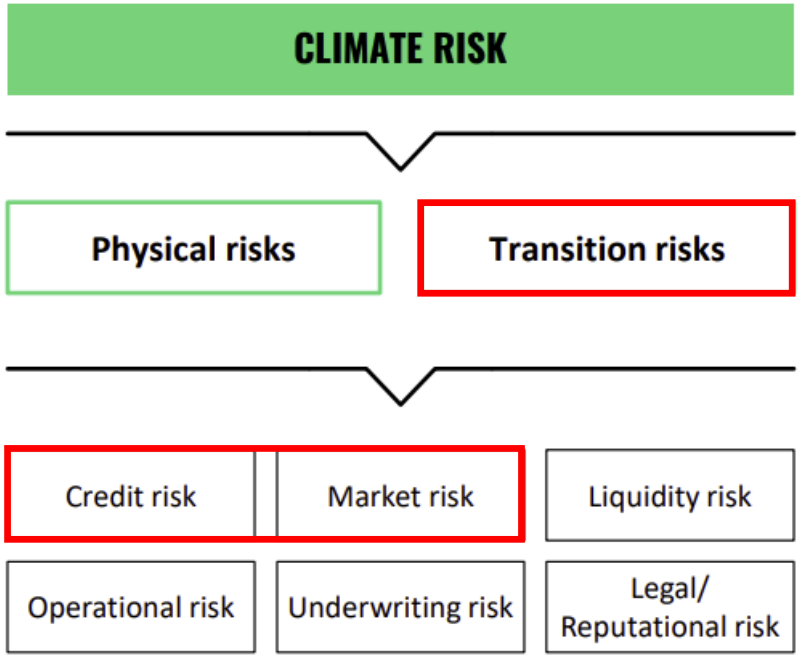
Integrating climate-related transition risks in the ORSA

Forward looking scenario analysis of climate risks poses many challenges, to name a few:

- Historical statistics are missing
- Data is incomplete or fragmented
- (Physical) climate risks mostly outside ALM/ORSA projection
- Translation of transition risks to economic factors

Therefore, a simplified scope should be favored in a first step of ORSA integration

- On **the short to medium term**, it is widely accepted that **transition risks**, materializing in market and credit risks**, are the most important and impactful**
- **In comparison to physical risks** which are already (partly) captured in risk / underwriting models **transition risks are relatively new in quantitative risk assessments**
- Naturally, the specific scope of climate-related risks remains company dependent



And a dedicated process should be followed

1 **Input**

- Industry-level climate change transition research
- External sources for a climate scenario approach, such as DNB study '*An energy transition risk stress test for the financial system of the Netherlands*'
  - Two dimensions for shocks → technological breakthroughs and policy stance

2 **Impact**

- Agent Based Model (ABM)
  - A class of computational models for simulating the actions and interactions of autonomous agents
  - View to assessing their effects on the system as a whole
- Accounts for interaction and correlation between industries
  - Impact analysis of various shocks and developments

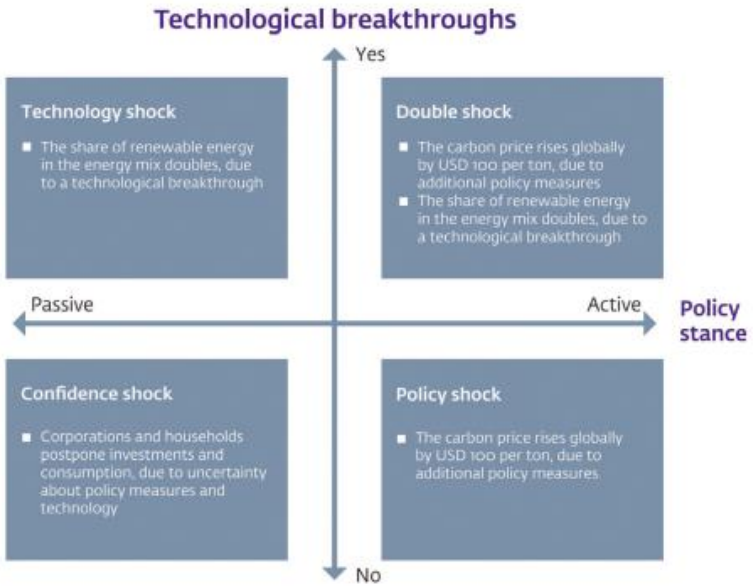
3 **Quantification**

- Aggregation of impacts to risk drivers such as interest rate and asset returns
- Results in specific stress scenarios which can be integrated into ORSA
  - Severity of stress dependent on ambition and speed of transition
  - Testing the resilience of the insurers' balance sheet
  - Determine the impact of possible management actions

Input

Approach for Climate transition scenarios

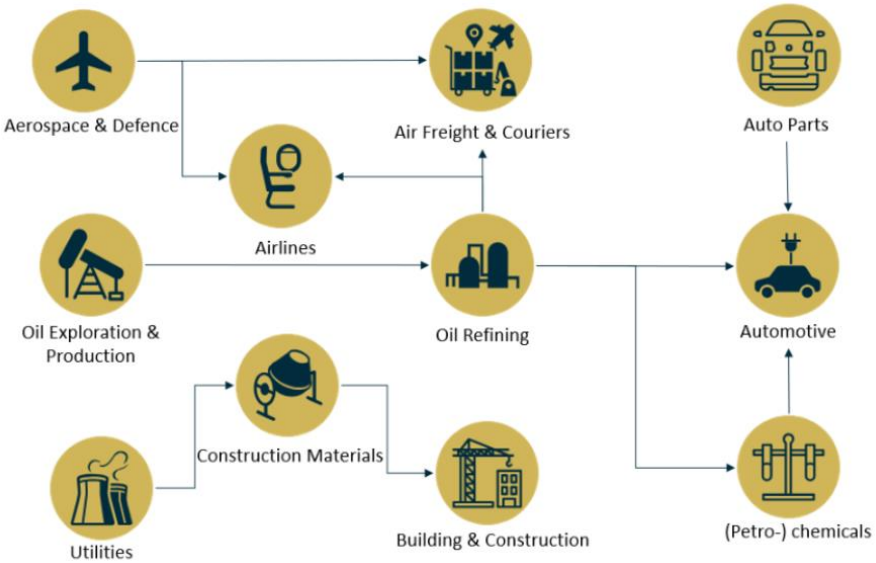
DeNederlandscheBank
EUROSYSTEEM



- We underscore the scenario definitions as laid out by the Dutch Central Bank, but **complement them in two important ways**
  - **Coverage of less-extreme outcomes**: consider various ambition levels and speed of transition; this underlines the importance of treating the transition as a long-lasting trend rather than an extreme scenario
  - **Bottom-up business-driven methodology**: consider industry-level consequences of technology or policy shocks and the impact on the value chain as a whole

Impact of transition scenarios across industries

Industries at the center of the climate change transition



- **Bottom-up business-driven methodology**: A broad technological impact on supply chains has to be considered, rather than CO_2 or GHG emissions alone
  - Current and expected regulations
  - Available commercially viable technological alternatives for the industry
  - Implications for the profitability of the industry
    - Stranded assets
    - Potential revenue from new technologies and business models
    - Sustainable ROE's going forward

Resulting in significant industry-specific assumptions and settings

Sample of industry-specific assumptions and settings (out of 63 GICS industries)

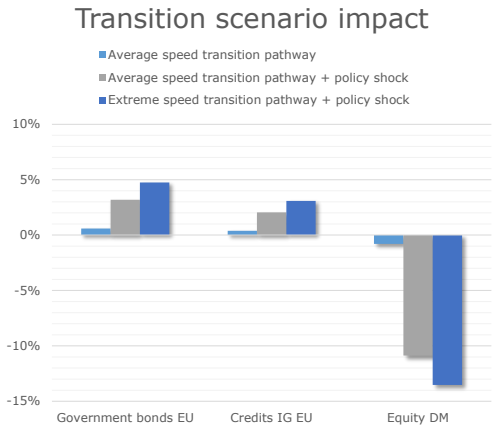
Industry	Minimal	Moderate	Extreme
Aerospace & Defence	VAT on air tickets: 6% Aircraft fuel tax: 10% Short-haul traffic decline: 6%	VAT on air tickets: 10% Aircraft fuel tax: 25% Short-haul traffic decline: 33%	VAT on air tickets: 20% Aircraft fuel tax: 100% Short-haul traffic decline: 100%
Airlines	Low-cost ROE: 16% Traditional ROE: 10% Low-cost volume decline: -22%	Low-cost ROE: 16% Traditional ROE: 10% Low-cost volume decline: -49%	Low-cost ROE: 16% Traditional ROE: 10% Low-cost volume decline: -100%
Air Freight & Couriers	Volume impact of fuel/VAT: -5%	Volume impact of fuel/VAT: -11%	Volume impact of fuel/VAT: -42%
Automotive	Vehicle weight reduction: 0% Electric cars % of fleet: 24% Battery price: 180 EUR/kwh Total extra cost per vehicle: EUR 4700	Vehicle weight reduction: -5% Electric cars % of fleet: 27% Battery price: 200 EUR/kwh Total extra cost per vehicle: EUR 5500	Vehicle weight reduction: -14% Electric cars % of fleet: 84% Battery price: 220 EUR/kwh Total extra cost per vehicle: EUR 6300
Auto Parts	Cost absorbtion by component makers: 50%	Cost absorbtion by component makers: 50%	Cost absorbtion by component makers: 50%

Industry	Minimal	Moderate	Extreme
Oil Refining	Demand for diesel & petrol: 24% Average oil/gas split: 50%	Demand for diesel & petrol: 27% Average oil/gas split: 50%	Demand for diesel & petrol: 84% Average oil/gas split: 50%
Oil Exploration & Production	Demand for crude oil down: 24%	Demand for crude oil down: 27%	Demand for crude oil down: 84%
(Petro-) chemicals	Availability of naphtha: -24% Ethylene/naphtha spread: 60% Price impact: +50%	Availability of naphtha: -27% Ethylene/naphtha spread: 60% Price impact: +54%	Availability of naphtha: -84% Ethylene/naphtha spread: 60% Price impact: +168%
Utilities	Coal generation ($/MWh): 46.3 Solar/wind (mostly onshore): 60/55.9 Additional ren. capacity: 20% Total cost intermittence & distribution (EUR/MWh): 7 Total cost combined: 8 Absorbtion of cost, utilities: 50%	Coal generation ($/MWh): 46.3 Solar/wind (mostly onshore): 60/55.9 Additional ren. capacity: 23% Total cost intermittence & distribution (EUR/MWh): 11.5 Total cost combined: 13 Absorbtion of cost, utilities: 50%	Coal generation ($/MWh): 46.3 Solar/wind (mostly onshore): 60/55.9 Additional ren. capacity: 48% Total cost intermittence & distribution (EUR/MWh): 17 Total cost combined: 23 Absorbtion of cost, utilities: 100%

Translated into impact on economic risk drivers for different transition speeds

Impact on economic risk drivers translated into forward looking scenarios

Impact by
* industry
* various ambition levels and speed of transition



Aggregation by asset class

Gov. bonds

Corp. bonds

Equity

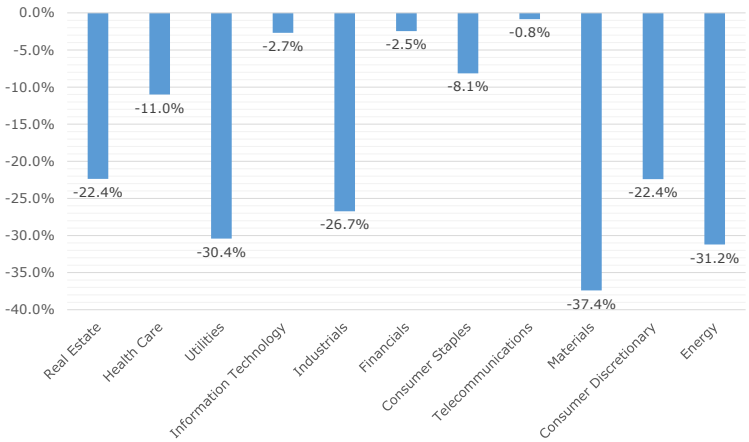
Etc.

ORSA → Impact on the investment portfolio as a whole

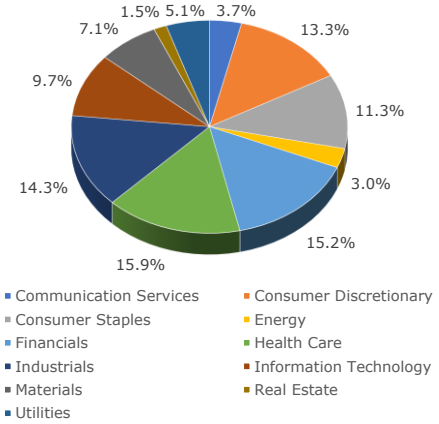
ORSA → Impact on balance sheet and Solvency Ratio

Client case: Impact of extreme transition pathway on equity portfolio

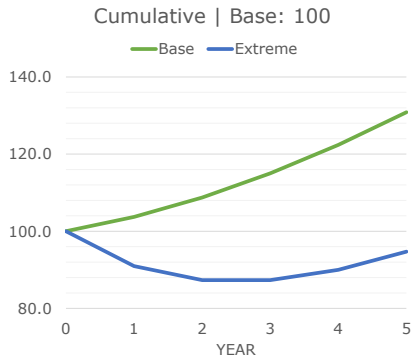
Equity portfolio impact per sector



Sector weights



Performance



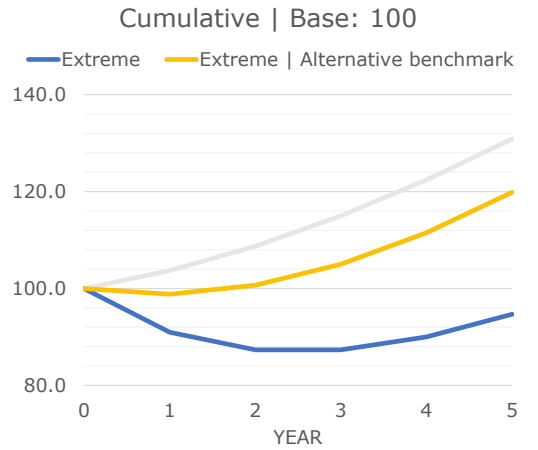
Client case: Impact of extreme transition pathway on equity portfolio

ORSA Management action to mitigate risk

- Implement ‘climate neutral’ benchmark

Possibilities	Remarks
Take no action	A ‘free ride’ on the development of financial markets
Climate Transition Benchmark (CTB)	According to EU standard: implies 30% CO_2 reduction now and an annual reduction in CO_2 emissions of 7% until 2050
Paris Aligned Benchmark (PAB)	In line with Paris Agreement (2015): implies 50% CO_2 reduction now an annual reduction in CO_2 emissions of 7% until 2050
Custom benchmark	Tailored to the specific objectives of the insurer

Performance with ‘climate neutral’ benchmark implemented



Integrating climate and more broadly SDG in the investment decision making

SDG much broader than Climate

ESG includes more than just climate risks

- Only focusing on the reduction of CO_2 emissions within the portfolio is insufficient

Sustainable Development Goals

- Integration: from strategic investment decisions to evaluation & monitoring

Source: United Nations

Integration of SDG into investment Cycle

6 Evaluation of ESG profile

5 Monitoring and reporting

4 ESG portfolio construction

1 Investment beliefs

2 Indices and benchmarks

3 Forward looking scenarios

Source: Dutch Central Bank (DNB)

Client case: Investment beliefs

Where to start with SDGs?

- Determine the importance of ESG to your organization
- Determine what stakeholders think with regard to ESG
- Take legislative & regulatory requirements into account
- Anchor ESG in investment beliefs and evaluate regularly
- Set priorities and goals

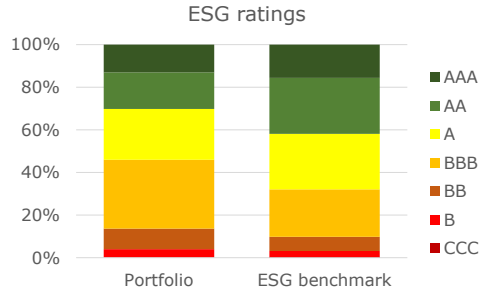
Sustainability

Client case: Benchmarks and portfolio construction

Equity portfolio

			Company				Industry average			Industry maximum		
			ESG score	E	S	G	E	S	G	E	S	G
1	NESTLE SA-REG	4.6%	72	78	60	78	17	15	17	90	85	89
2	ROCHE HOLDING AG-GENUSSC	3.3%	89	97	91	87	16	10	19	97	91	87
3	NOVARTIS AG-REG	2.8%	73	94	86	60	16	10	19	97	91	87
4	ASML HOLDING NV	2.8%	81	91	77	76	15	12	15	94	93	85
5	LVMH MOET HENNESSY LOUIS	2.3%	69	95	60	63	17	13	16	96	91	84
6	SAP SE	1.8%	74	87	81	65	6	7	17	87	81	69
7	NOVO NORDISK A/S	1.6%	40	65	34	41	16	10	19	97	91	97
8	SIEMENS AG-REG	1.5%	81	92	76	78	22	20	22	93	87	78
9	SANOFI	1.5%	84	95	84	82	16	10	19	97	91	87
10	TOTAL SE	1.5%	75	90	73	66	21	21	32	92	96	80
11	ALLIANZ SE-REG	1.4%	87	98	89	83	27	23	32	98	91	88
12	L'OREAL	1.3%	45	72	45	41	21	17	19	96	89	89
13	IBERDROLA SA	1.2%	86	91	88	79	28	25	27	98	93	89
14	ENEL SPA	1.1%	89	90	89	87	28	25	27	98	93	89
15	SCHNEIDER ELECTRIC SE	1.1%	88	97	88	83	16	13	15	97	88	85
16	AIR LIQUIDE SA	1.0%	39	48	36	33	17	15	19	95	94	85
17	BASF SE	1.0%	37	56	23	32	17	15	19	95	84	85
18	ADIDAS AG	0.9%	82	96	80	77	17	13	16	96	91	84
19	ZURICH INSURANCE GROUP AG	0.8%	90	93	91	88	27	23	32	98	91	88
20	DEUTSCHE TELEKOM AG-REG	0.8%	89	98	95	81	32	25	26	99	97	87
								28	28	86	85	79
								20	26	99	93	86
								10	19	97	91	87
								13	16	96	91	84
								10	15	97	80	74
								20	26	99	93	86
								23	24	98	92	90
								12	17	91	87	79
								12	21	98	93	77
								13	15	97	88	85
								12	15	94	93	85
								15	20	95	88	82
								10	22	98	87	84
								8	17	80	53	67
								13	16	96	91	84
								23	32	98	91	88
								12	16	99	87	88
								13	16	96	91	84
								15	21	98	87	84
								23	32	98	91	88

- Consider ESG implications during benchmark selection
- Analyze ESG profile of individual holdings during portfolio construction and monitoring, reporting & evaluation of the portfolio



CLOSING REMARKS

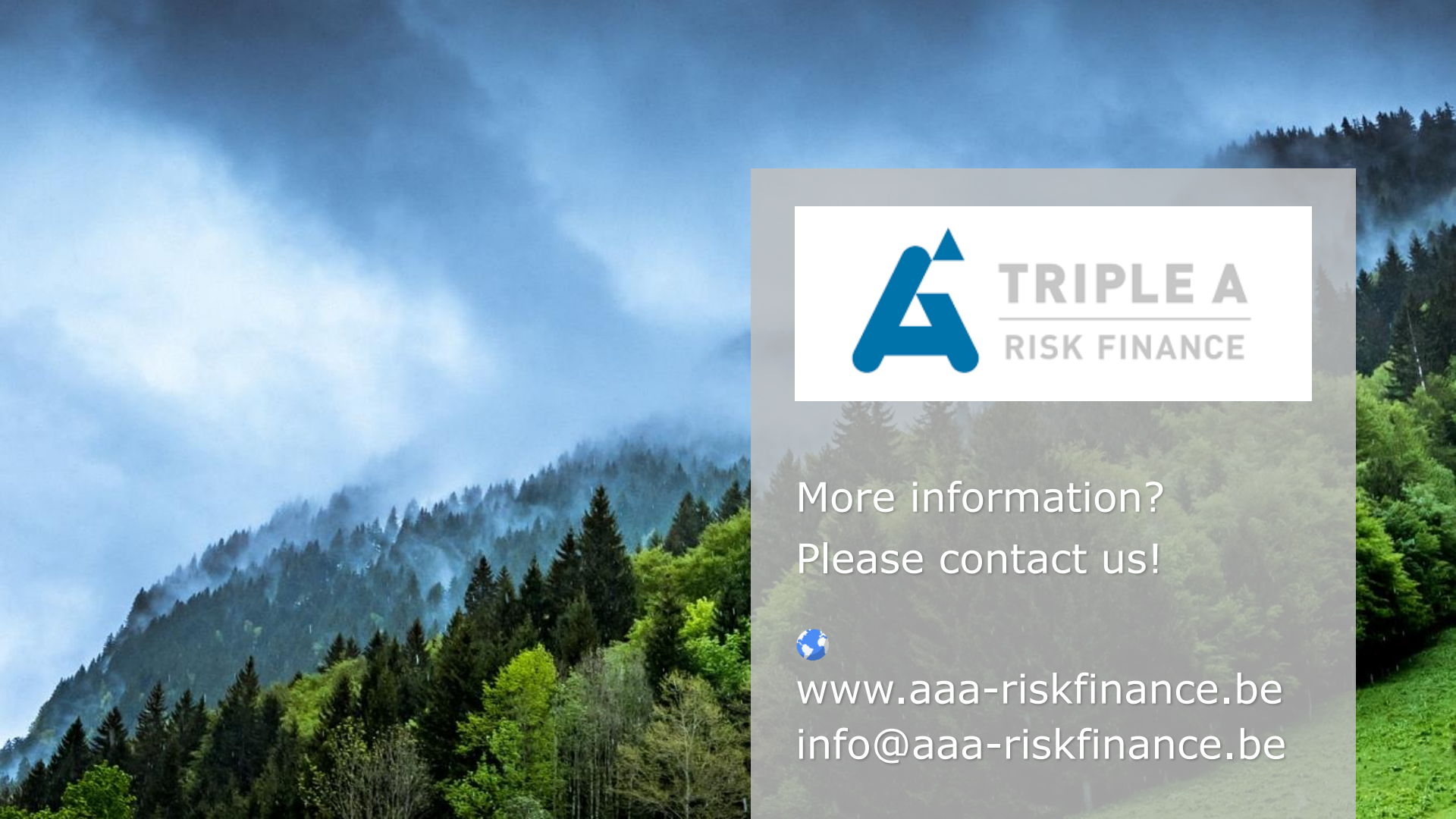
Integrating *climate risks* into *ORSA* and *strategic investment decisions*

Physical versus transition risks

- Risks manifest over different time horizons
- Urgency to at least act on transition risks

Forward looking scenario analysis

- Start out with a dedicated focus
- Gain insight into the impact climate related risks will have on your organization and investment portfolio
- Embed SDG within your organization and fully integrate into the investment cycle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