

Stress tests, ESG and other innovations

Client Conference 2023



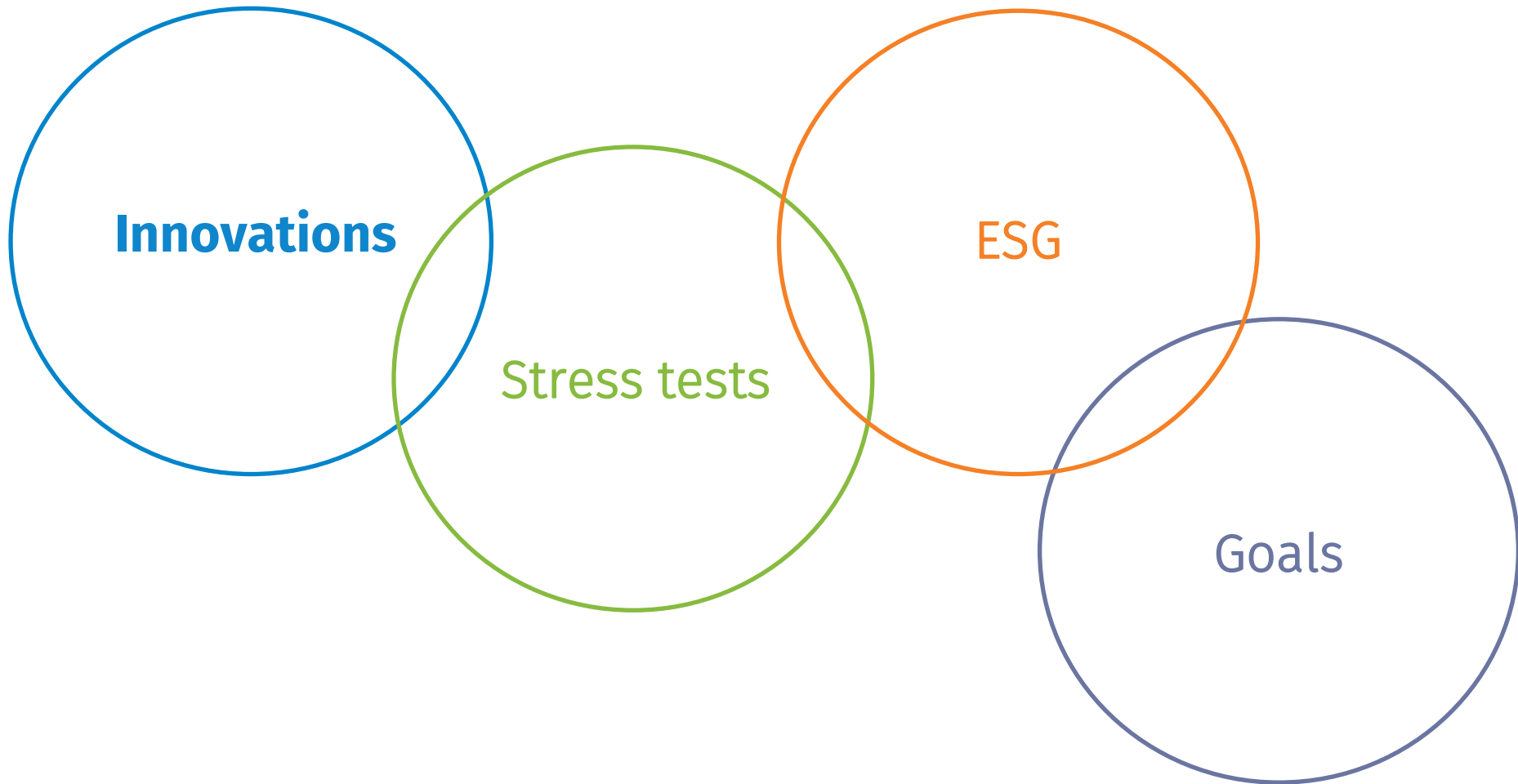
ABOUT US



Ronald Janssen



Arnoud Brons



How to handle stress tests in OPAL?

But first: why?

Decision support

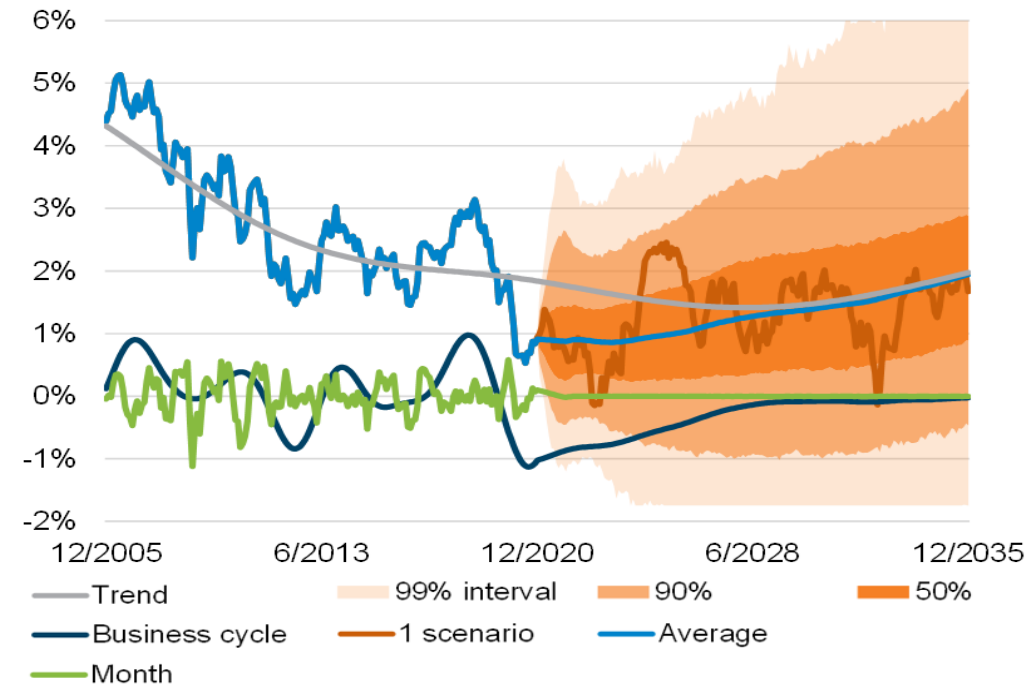
Through scenario analysis

- **Insights into risk and return**

→ input for informed decisions on how to reach investment goals

- Methodology based on historical data, patterns, trends, business cycles, expert opinions and the current market situation

→ realistic **economic scenarios**



Our mission and core values





We enable people to
manage the **complexity**
of investment decision
making



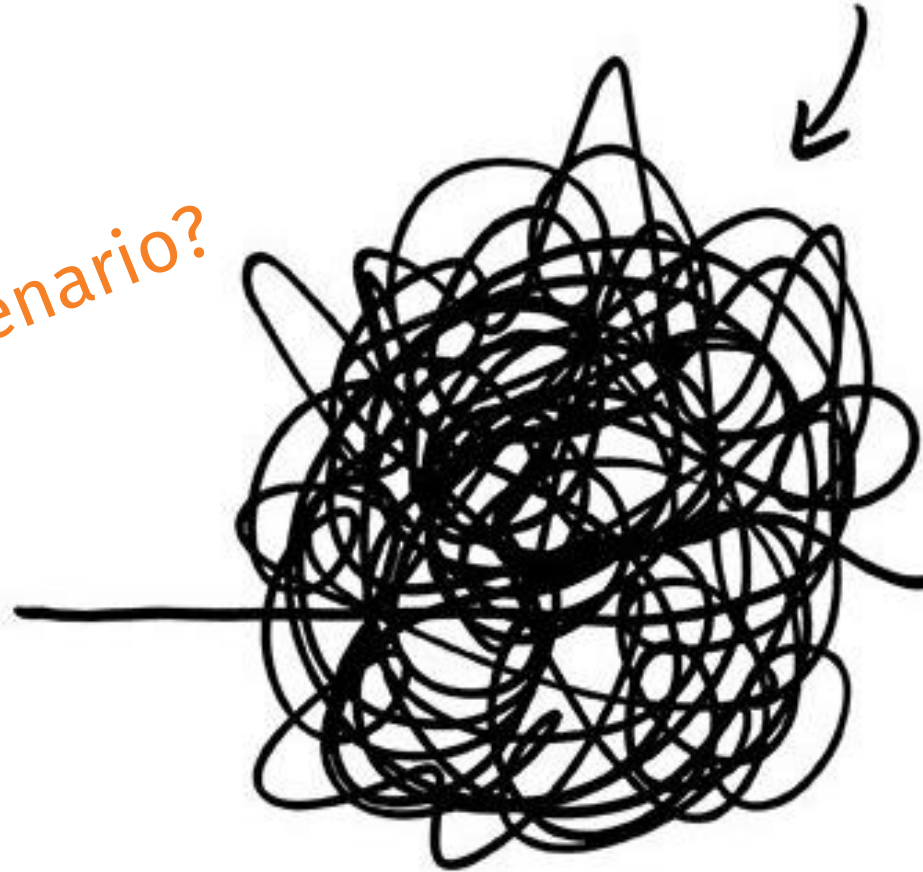
Current state?

COMPLEXITY



Just 1 fixed return scenario?

SIMPLISTIC



ELEGANT
SIMPLICITY





How can we help financial advisors who are no scenario experts?

A scenario graph only is not always enough to
'tell the story' ...



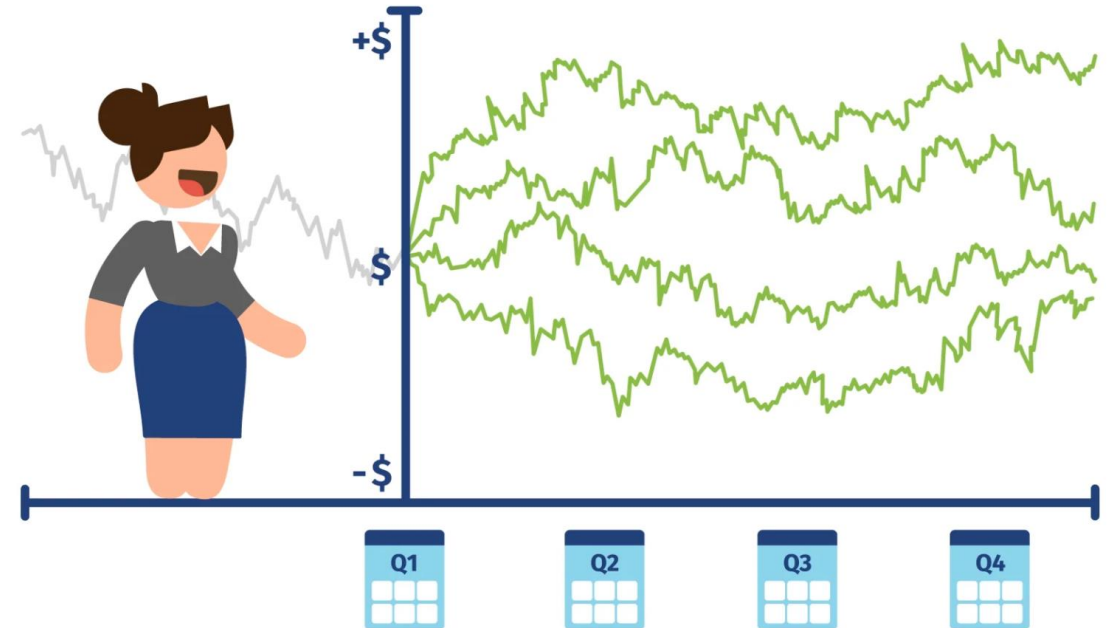
Scenarios to support 'story telling'

- Helping to tell the story via our economic scenarios, including:
 - specific scenarios like **specific market conditions**, **stress tests** and **what-ifs**
 - **simple stories** about what's happening in the world or might happen
- High-over to more detailed approach
- Key facts & figures
- Easy to use and easy to understand

Scenarios to support 'story telling'

And also...

- Helping advisors to:
 - show **added value**
 - discuss certain market conditions and **impact** on the client situation
 - manage the expectations of clients
- Higher **risk awareness** for clients



In user trainings we use examples like weather forecasts

As an easy way to explain stochastic scenario simulation



Projection of client's future financial situation:

All necessary information for financial insights:

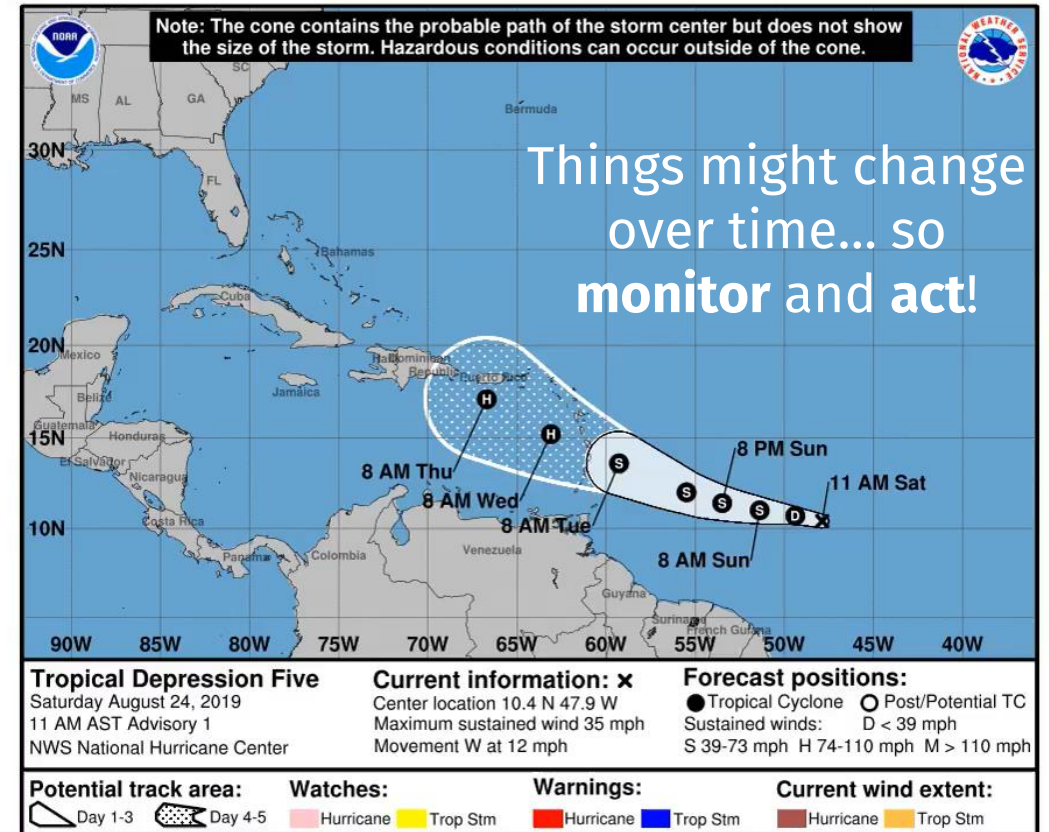
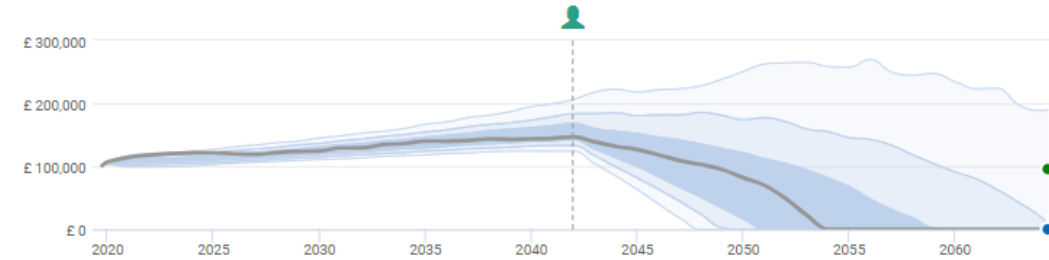
- Economic drivers
- Product information
- Client information and goals



Weather forecasts:

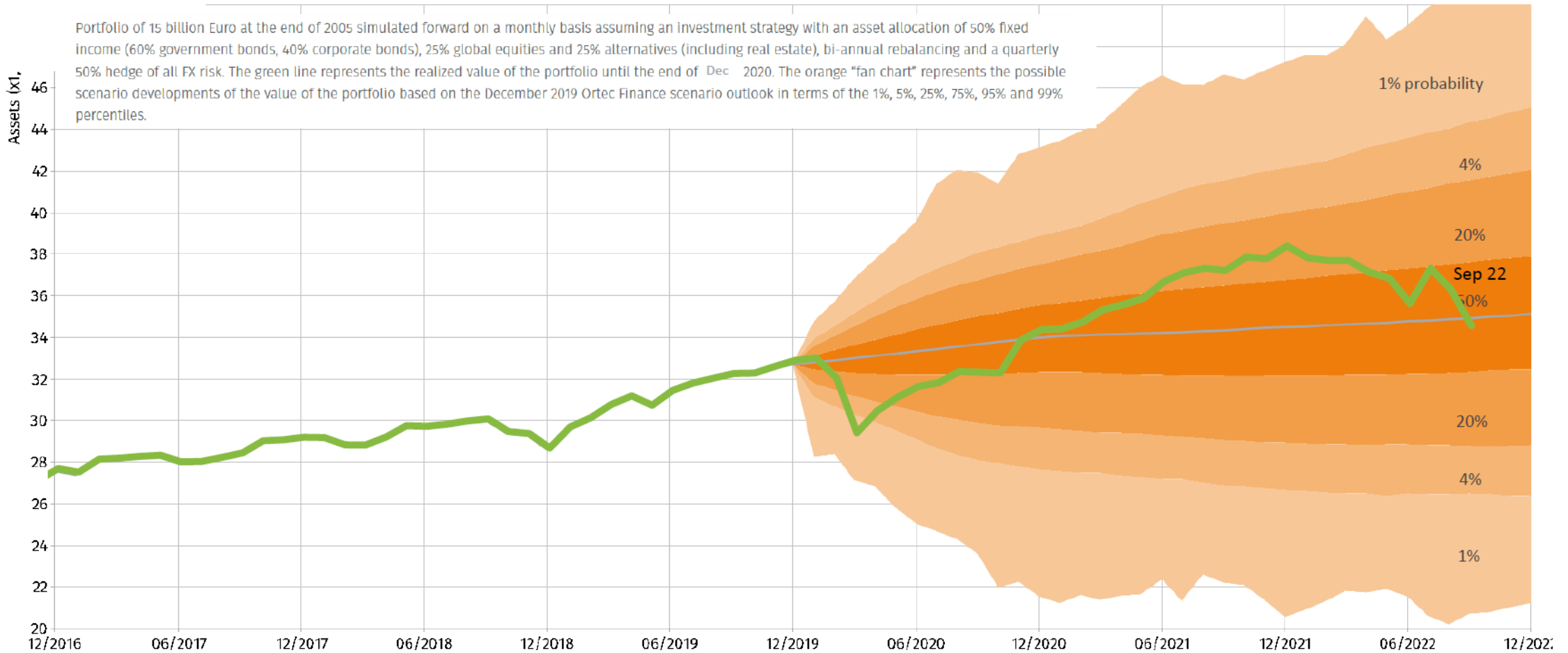
In order to take the right measures, you need to know what could happen, by assessing all drivers that affect conditions:

- Wind and temperature
- Humidity
- Geolocation
- ...



As proof of our methodology we show back testing info

Monthly asset only portfolio value and risk according to a typical investment strategy of a European pension fund
December 2019 scenario outlook



Extra scenarios based on specific market conditions

Narratives (what-ifs) → ‘deterministic scenarios’

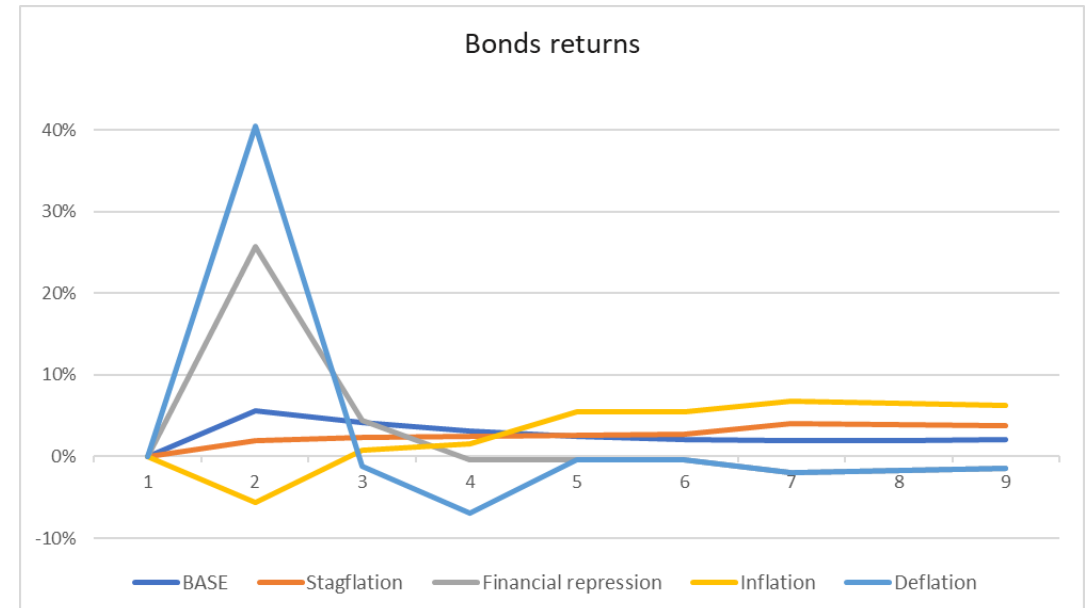
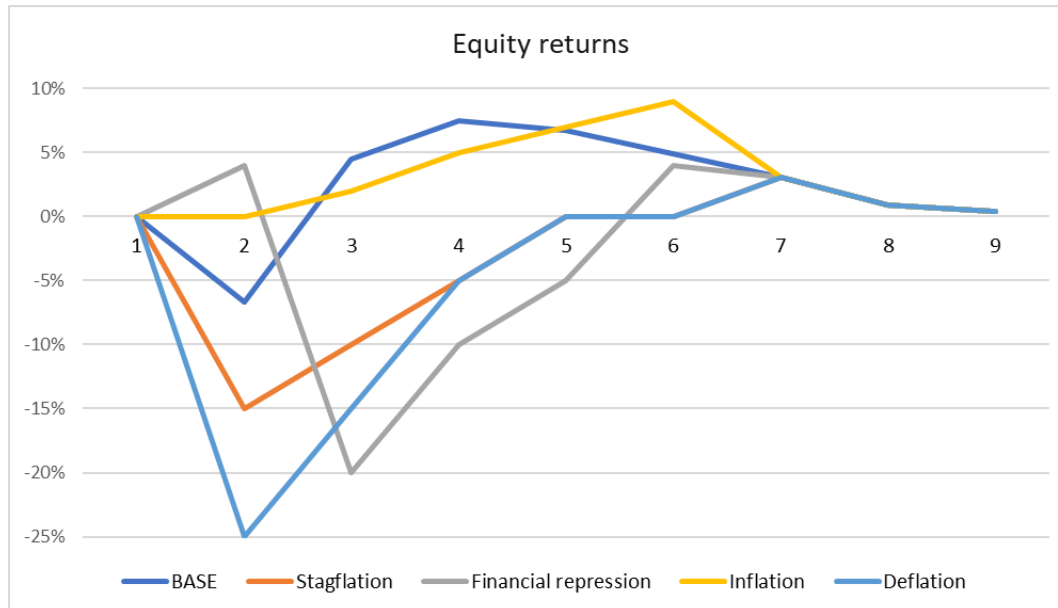
Still in our innovation thinking process, so not developed (yet)

Stagflation

Financial repression

Inflation

Deflation



Scenario selector (example in OPAL GUI)

Select scenario

Inflation Scenario

- Planning Scenario
- Economic Scenario Leading to Good Result
- Economic Scenario Leading to Average Result
- Economic Scenario Leading to Poor Result
- Random Economic Scenario
- Inflation Scenario** ✓
- Depression Scenario
- Deflation Scenario
- Stagflation Scenario
- Failed Climate Scenario

Current scenarios

Suggested scenarios

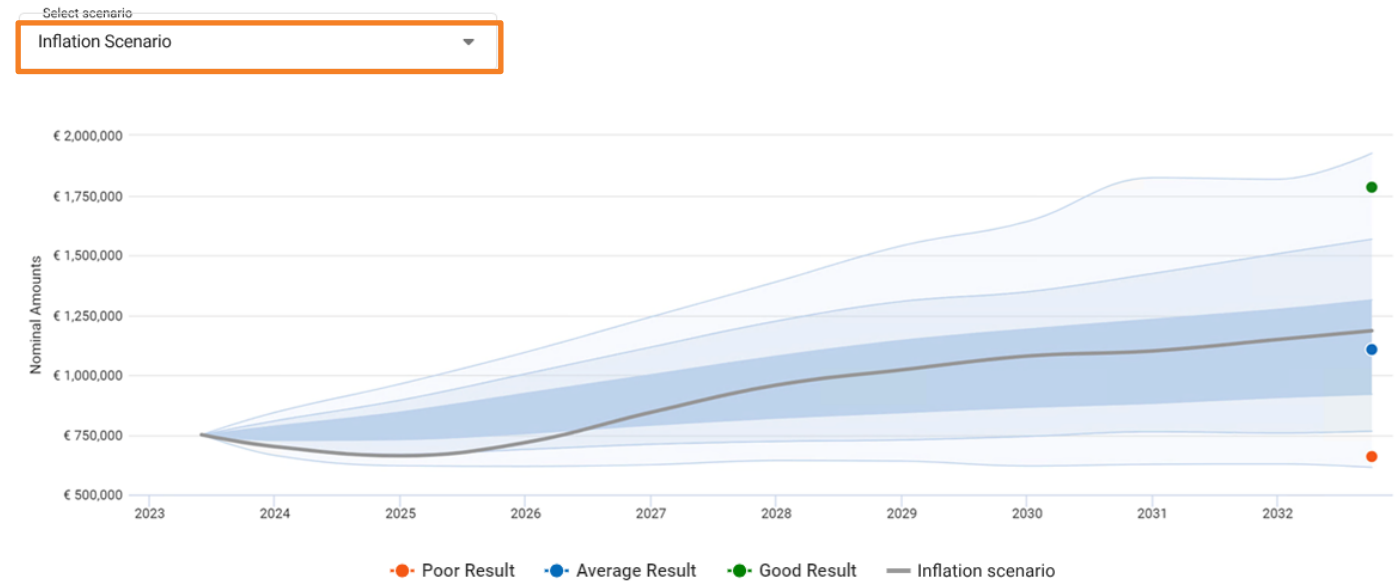
Inflation

Facts:

- revolutionary innovations → higher than expected growth
- higher wages, tightness labour market → wage-price spiral
- central banks fighting against interest rate hikes → bonds more attractive, equity down on short term
- in the end: inflation in control
- interest rate term flatter

Capital projection based on economic scenarios

example



Inflation scenario explanation

In the inflation scenario, revolutionary global innovations, for example OpenAI, lead to higher-than-expected productivity growth. As productivity growth, the wages increase. Businesses become more profitable, which enables them to invest and hire more employees, thereby leading to a lower unemployment rate. Since more people work at higher wages, the demand is increasing. Tightness in the labor market fuels wage growth and inflation through the wage-price spiral even further.

Central banks are responding to higher inflation by fighting it with interest rate hikes. This makes bonds more attractive and has a depressing effect on equity markets in the short term. The market expects the higher inflation to be temporary and that central banks will get it under control in the foreseeable future. As a result, long-term interest rates rise less quickly than short-term interest rates and the interest rate term structure is flatter.

In such a world view, it is interesting to see to what extent the indexation ambition can be achieved.

Fact sheet

Close

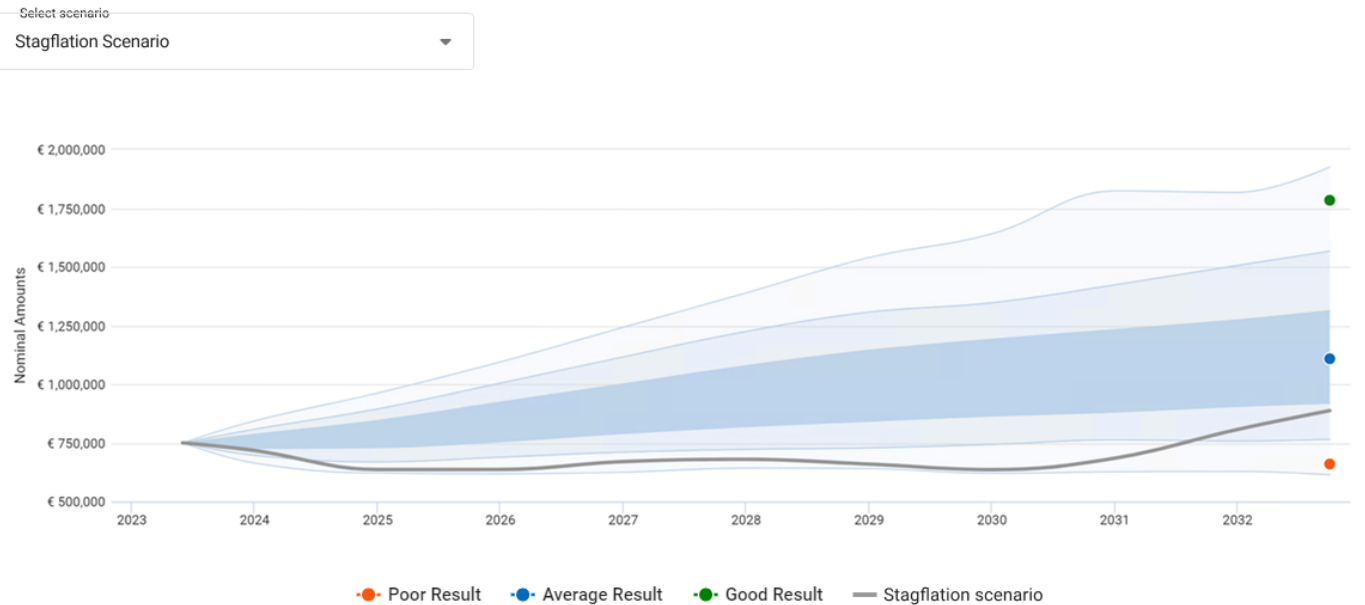
Stagflation

Facts:

- extraordinary monetary support (war/pandemic)
- labour market shortages / supply chains / energy transition → higher price levels
- sharp increase inflation
- productivity lower
- confidence crisis → sharp correction equity markets and widen yield spreads
- reluctance to increase interest rates further

Capital projection based on economic scenarios

example



Stagflation scenario explanation

A perfect storm represented by a decade of extraordinary monetary policy support, unprecedented pandemic-related fiscal stimulus, the war in Ukraine, and persistent labor market shortages trigger a sharp increase in inflation. Also, medium-term inflation remains elevated due to the reorientation of global supply chains as well as the energy transition. The pandemic outbreak as well as the war in Ukraine made countries increasingly realize that they need to reduce external dependencies in important sectors by reshoring important activities and reduce geopolitical risks. The decoupling of global supply chains causes sustained upward price pressures as it will take years to adjust. Moreover, productivity is likely to be lower as countries increasingly prefer self-sufficiency over efficiency. Additionally, the energy transition has led countries to underinvest in traditional energy sources, which amplify upward energy price pressures. Moreover, the switch to green technologies requires much more intensive use of metals and minerals as well as significant up-front investments, which causes medium-term inflation as well.

In the stagflation scenario, the cocktail of inflationary forces mentioned above, and the perceived lack of price stability triggers a confidence crisis represented by a sharp correction in equity markets. Also, high-yield credit spreads start to significantly widen as default risks increase. In response, central banks are reluctant to raise interest rates much further as signs of financial stress start to emerge and economic activity plummets as consumers cut back on spending and companies trim their investments. Nevertheless, the persistence of the inflationary shock in absence of more forceful central bank intervention leads to an initial increase in break-even inflation expectations and an initial decline in real interest rates. The economy slowly recovers, and central banks gradually employ a more restrictive policy stance with real interest rates slowly rising while entering (close-to) positive territory in year 5 of the scenario horizon.

In this scenario, there are negative returns on risk-bearing investments such as equities that go through a sharp repricing episode as fundamentals adjust to low prospective earnings as well as high interest rates. At the same time, a specific set of commodities and real estate may likely represent outperformers as they prove to be historically strong inflation hedges.

Fact sheet

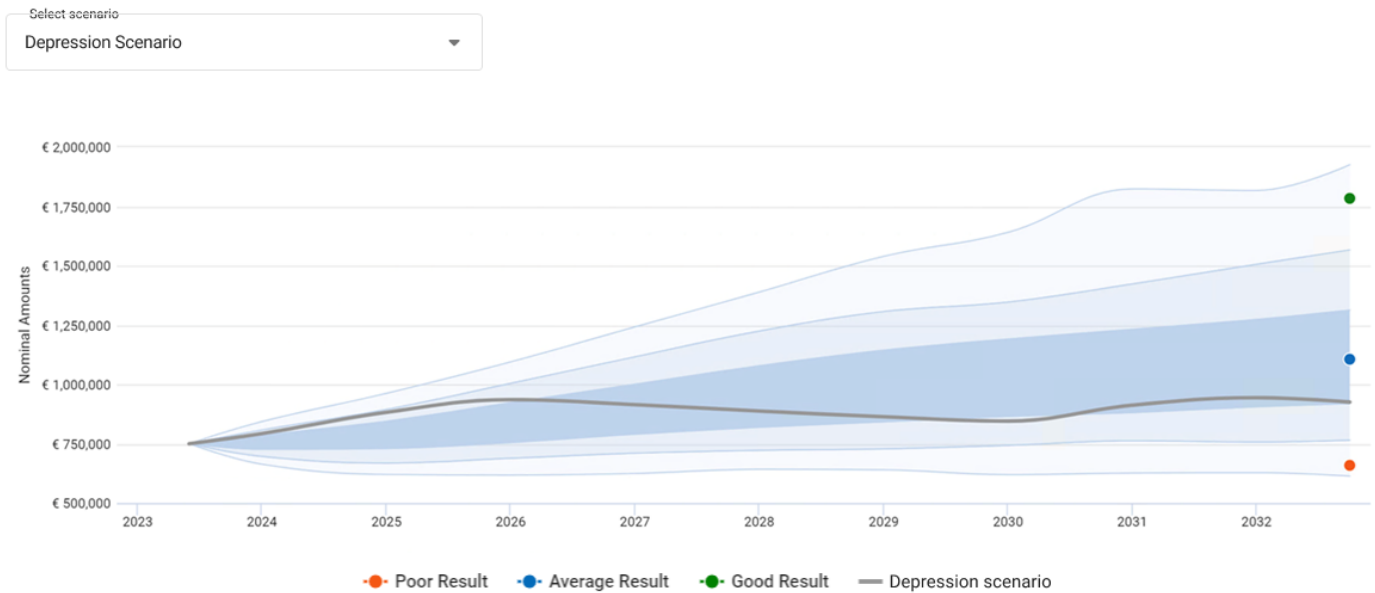
Financial repression

Facts:

- unprecedented fiscal support
- rising interest rates to stimulate not an option
- rates lower than rising inflation
- over heating; in the end: deflation
- collapse consumer spending
- deflation asset price bubbles

Capital projection based on economic scenarios

example



Depression scenario explanation

Unprecedented fiscal support during the pandemic increased public debt substantially. At the same time, governments want to keep their debt levels sustainable and have employed different methods to do this: growth, fiscal adjustment, default, inflation – and financial repression. Growth, the least intrusive outcome, will be difficult to achieve with the existing economic headwinds from inflation as well as more structural forces such as low productivity growth and a shrinking working age population. Instead, central banks could collaborate with the government to repress nominal rates, which would result in a financial repression scenario as set out below.

Despite rapidly rising inflation, central banks cannot significantly raise interest rates as this would trigger public debt sustainability issues. For example, in Europe the public debt overhang of southern European countries could limit the ECB's ability to raise interest much further as this would lead to severe contagion risk and jeopardize the financial stability in the European Monetary Union (EMU). More specifically, Italy's public debt load exceeding 150% of GDP could increasingly pose a systemic risk for the EMU preventing the ECB to significantly raise interest rates.

In the financial repression scenario, there is increasing government control, regulation, and market intervention, and continued accommodative monetary policy by central banks, which leads to an overheated global economy. The underlying strategy of policy makers is to inflate elevated debt levels away, but in practice this leads to the collapse of consumer spending and the eventual deflation of asset price bubbles.

Central banks keep nominal interest rates low while inflation rises so that the real value of government debt and the real cost of financing decrease. These measures are financially repressive as savers and pensioners lose out in real terms. Moreover, the unorthodox fiscal and monetary policy strategy in combination with rising government interventionism leads to a market-disrupting effect as well as a deterioration in consumer sentiment. In the first year of the scenario horizon, economic activity falls as consumers sharply cut back on their spending in response to lower real disposable income and weak confidence. Although financial conditions remain accommodative, investors lose trust in the fiscal and monetary policy response, which, in combination with falling economic activity, leads to the deflation of an equity price bubble and a global financial crisis in year 1 of the scenario horizon. In the following years, interest rates remain low, while inflation slowly declines, the stock market slowly recovers, and credit spreads narrow again.

Fact sheet

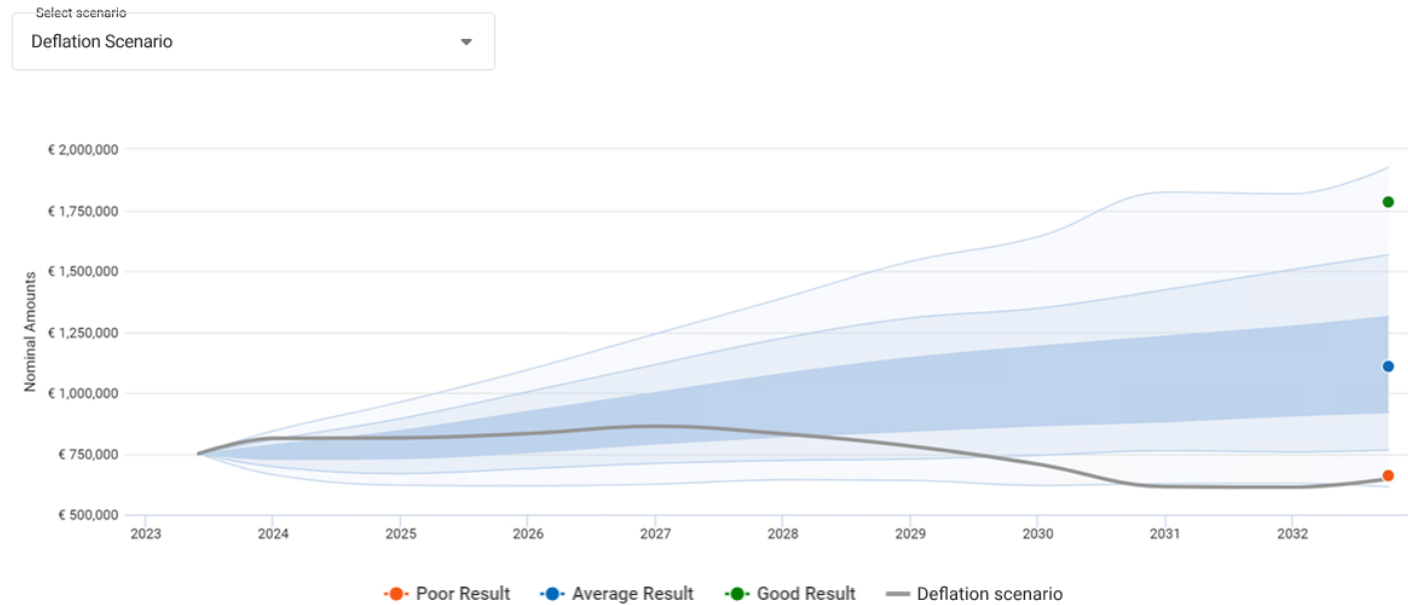
Deflation

Facts:

- commodity shock due to Ukraine war
- contraction monetary policy to fight inflation → new financial crisis globally
- economy shrinking, confidence falling → lower prices and demand
- cutting interest rates, negative rates and equity returns

Capital projection based on economic scenarios

example



Deflation scenario explanation

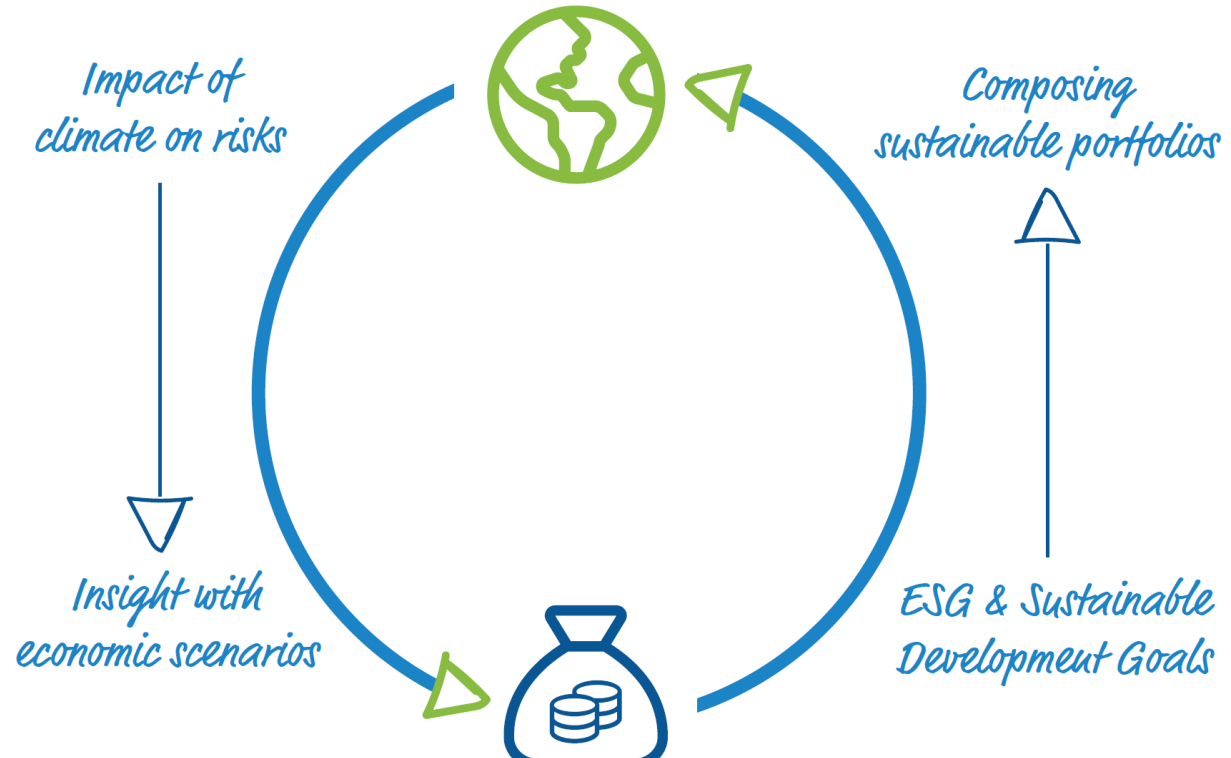
In the deflation stress scenario, the commodity shock due to the war in Ukraine deflates and the contraction monetary policy to fight inflation leads a substantial negative economic shock occurs triggered by a renewed financial crisis. The crisis is not just a local problem but attains global proportions. The economy is shrinking, and producer and consumer confidence are falling sharply. Companies and consumers are reluctant to invest, the demand for goods and services is declining and prices are falling. Unemployment is increasing rapidly, which also puts wages under pressure.

Central banks are cutting interest rates, but are limited to do so, due to the legacy of the Quantitative Easing programs in the recent past and accommodative policies to support the economy during the Covid-19 pandemic. Governments fail to reach consensus and are unwilling or unable to allow budget deficits to rise further. In such a situation, interest rates will become negative, while equities show strongly negative returns. Credit spreads rise in this situation.

Fact sheet

Close

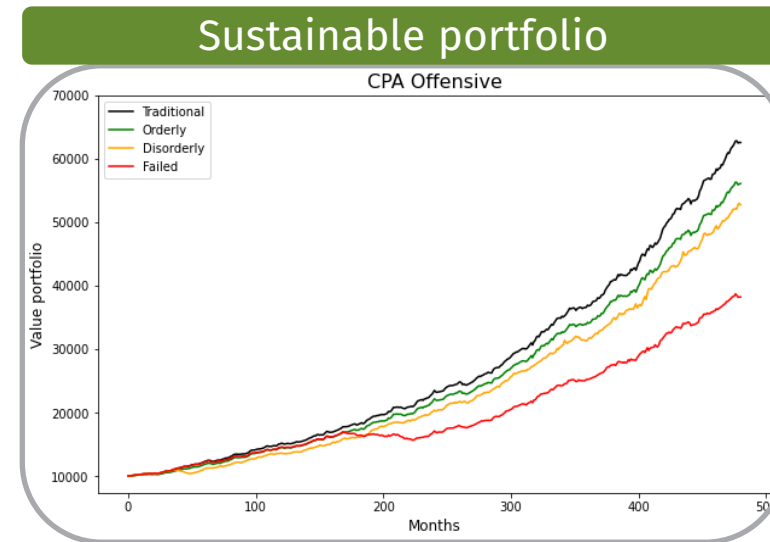
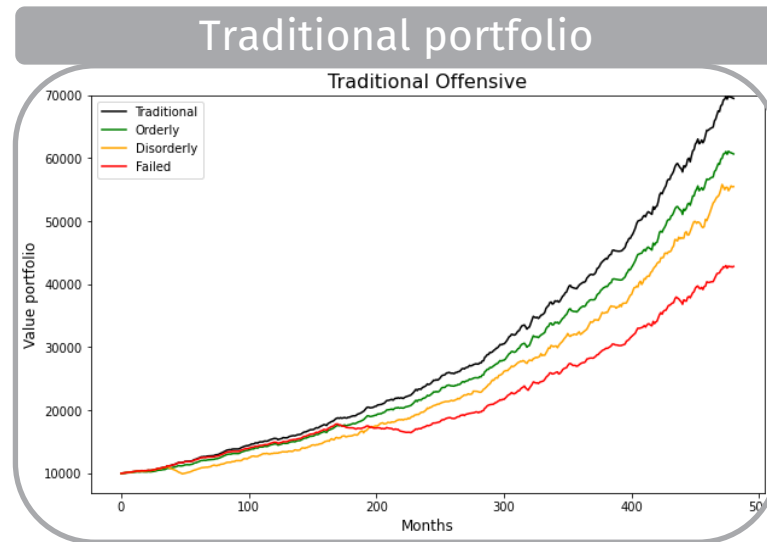
Climate risk scenarios



Climate risk scenarios

Costs of climate could impact portfolio returns

- The Ortec Finance Scenarioset (OFS) doesn't include a specific climate paths (no 'view')
- Adding specific scenarios based on IPCC climate scenarios could visualize that **climate impacts** future return prospects



- With the climate scenario data, we can test the **differences** between portfolios, given climate risk



Climate change and investment decisions

We defined three Climate scenarios



Paris Orderly Transition



Paris Disorderly Transition



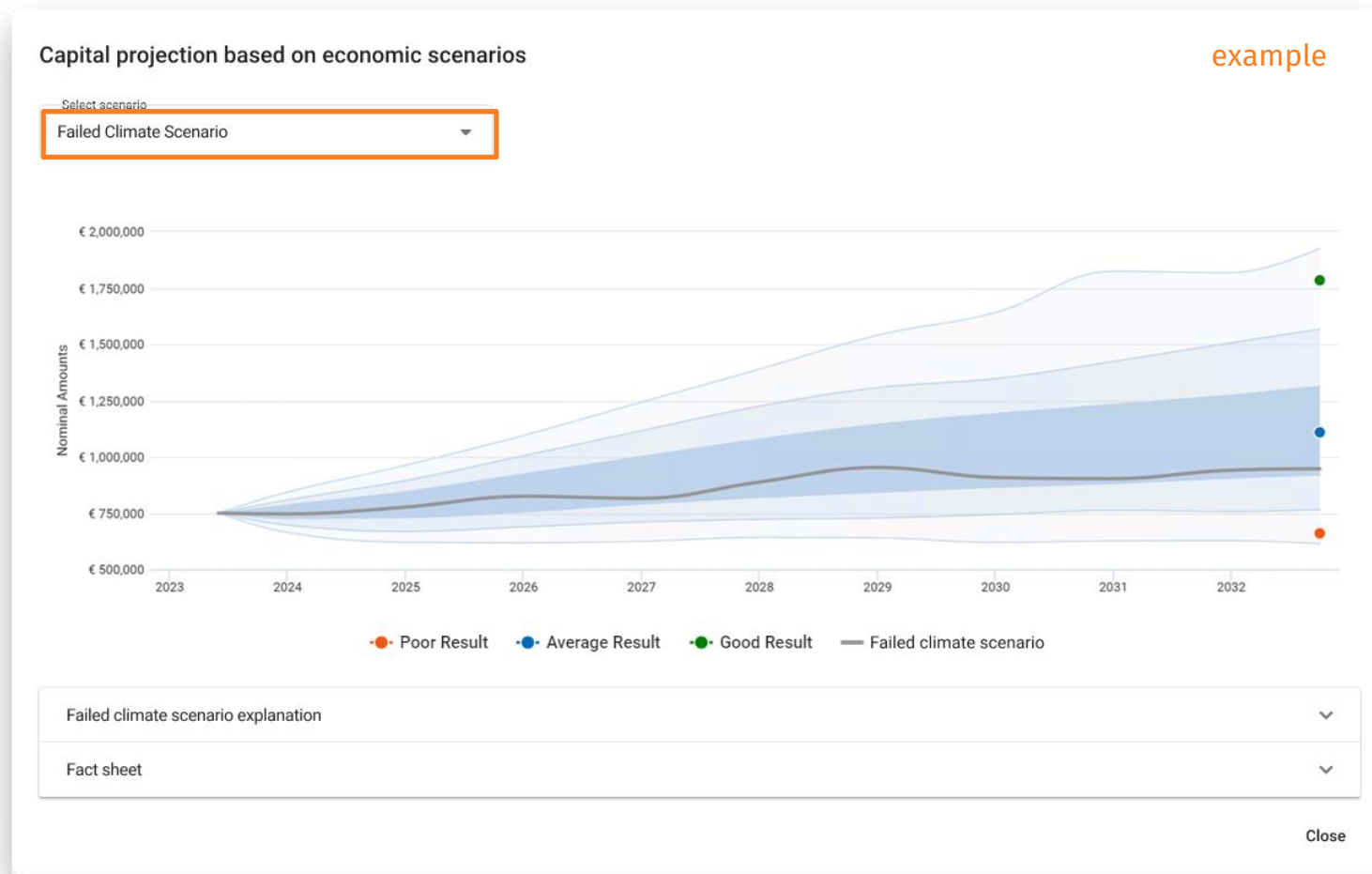
Failed Transition



Climate risk

“How could climate change affect my portfolio?”

“What is the difference between portfolio A and B in terms of transition risk?”



How to check clients' ESG preferences on both client level and product level?

Intake ESG-preferences

Do you already do an intake of ESG?

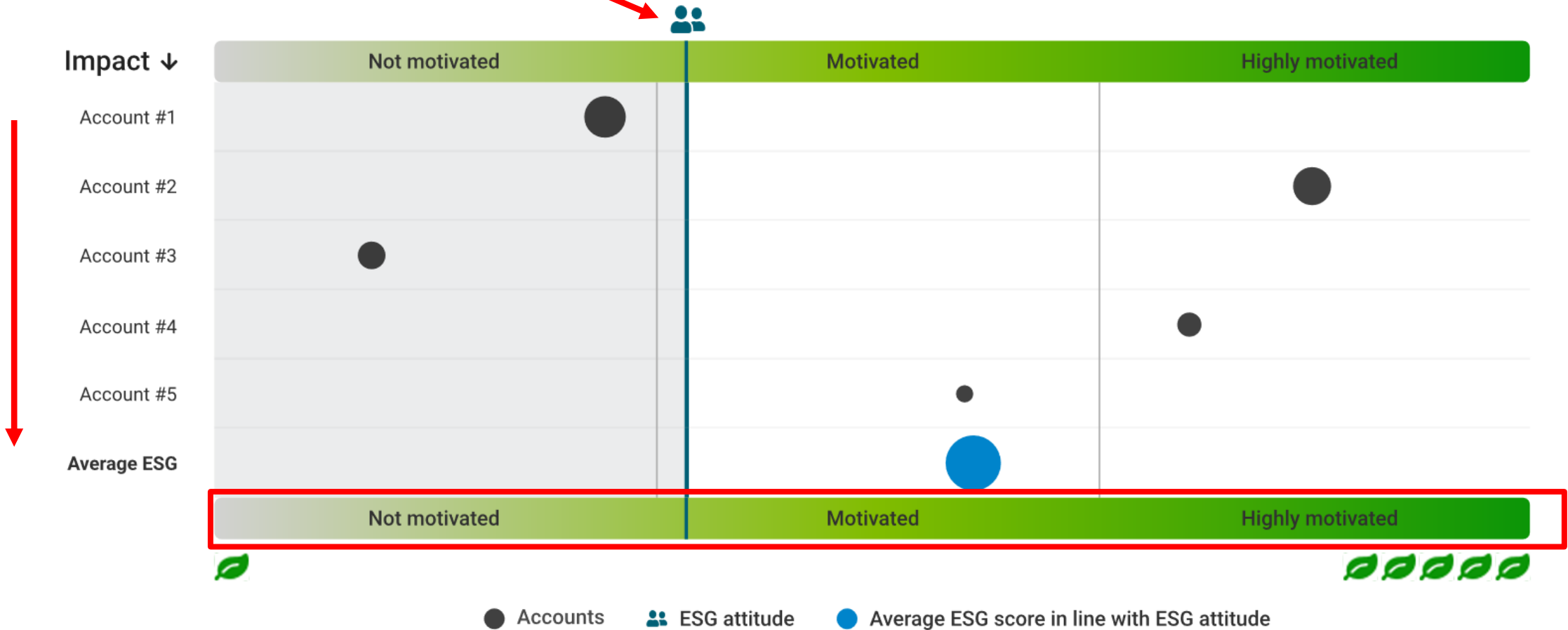
- How do you map the result to a product?
- Is this on product level or on clientlevel?



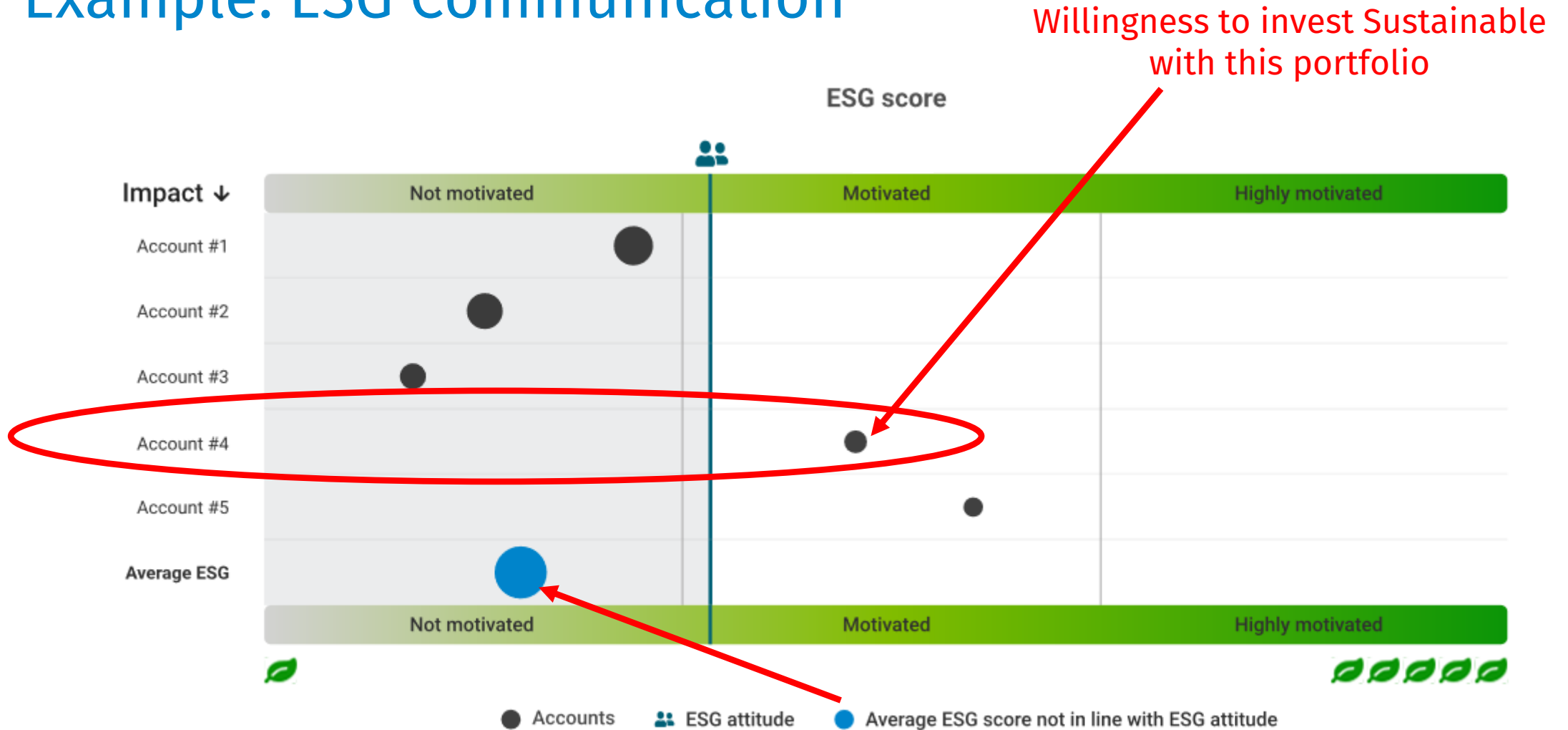
Example: ESG Communication

ESG Preferences indication

ESG score



Example: ESG Communication



Example: ESG Communication

ESG score



- Not motivated
- Motivated
- Highly motivated
- Accounts
- ESG attitude
- Average ESG score in line with ESG attitude

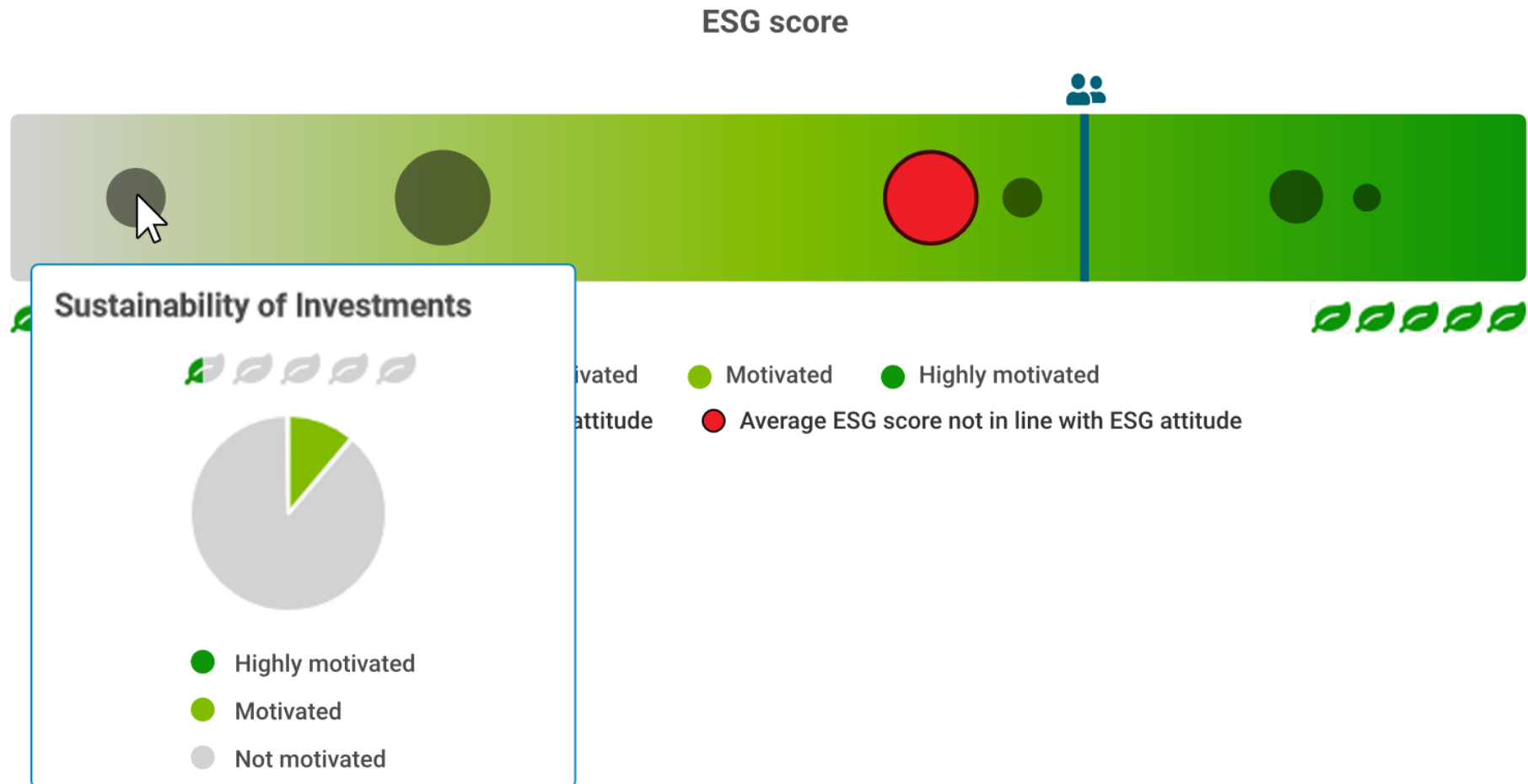
Example: ESG Communication

ESG score



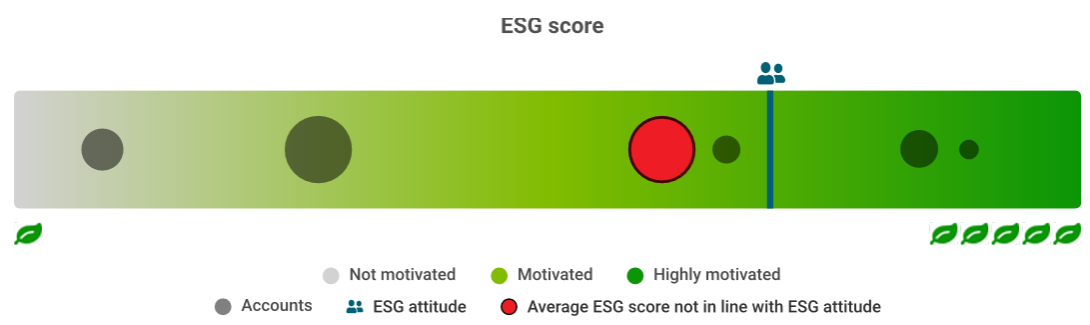
- Not motivated
- Motivated
- Highly motivated
- Accounts
- ESG attitude
- Average ESG score not in line with ESG attitude

Example: ESG Communication

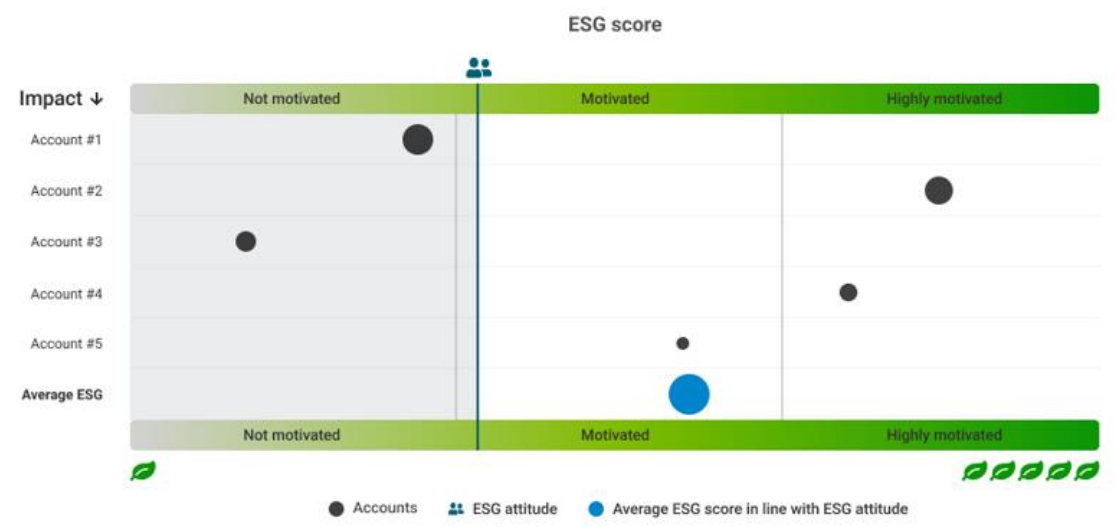


Which communication do you prefer and why?

1.



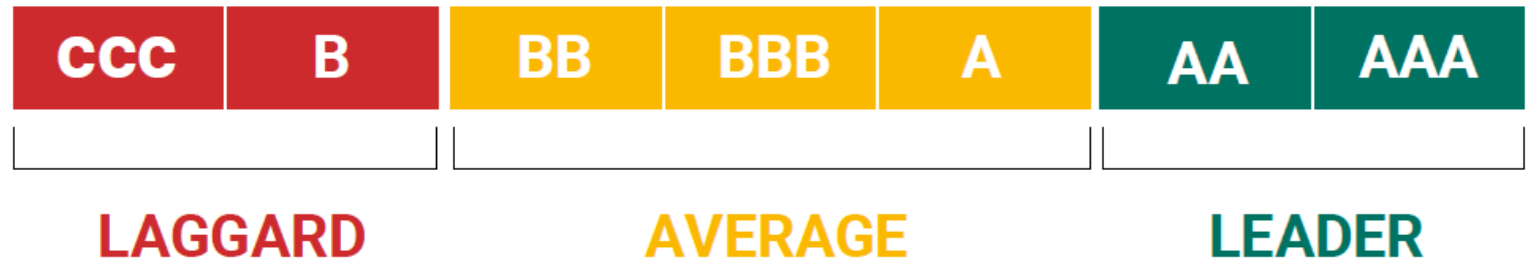
2.



Different rating structures

MSCI ESG RATINGS

combine Key Issues and weights and normalize relative to industry peers to derive the ESG Rating





Different rating structures

Article 6: all remaining financial products (None)



Article 8: products that promote ESG (Promote)



Article 9: products with sustainable objective (Comitted)



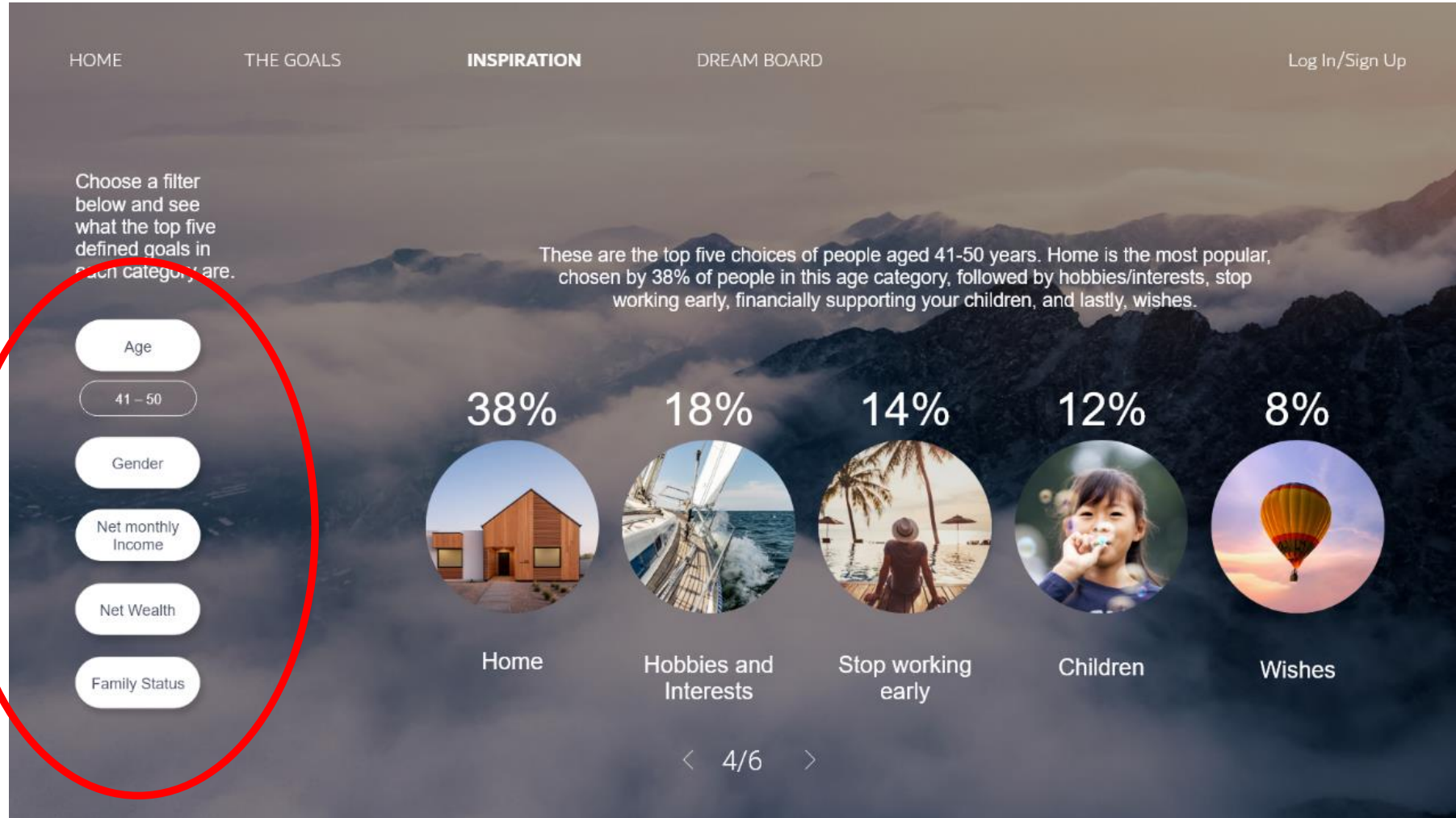
How to define goals together with your clients?

Scenarios to support 'story telling'

- Research with the University of Maastricht on Automated Advice
 - Goal Definition (consumors and advisors)
- Pilots with clients



Research Peer-to-Peer



Goal Intake

Introduction

My personal dreamboard



ORTEC
FINANCE



Early retirement



A good pension



Add your own
dream



Wealth preservation



Prepared for
unexpected events



Living



Own business





Other innovations

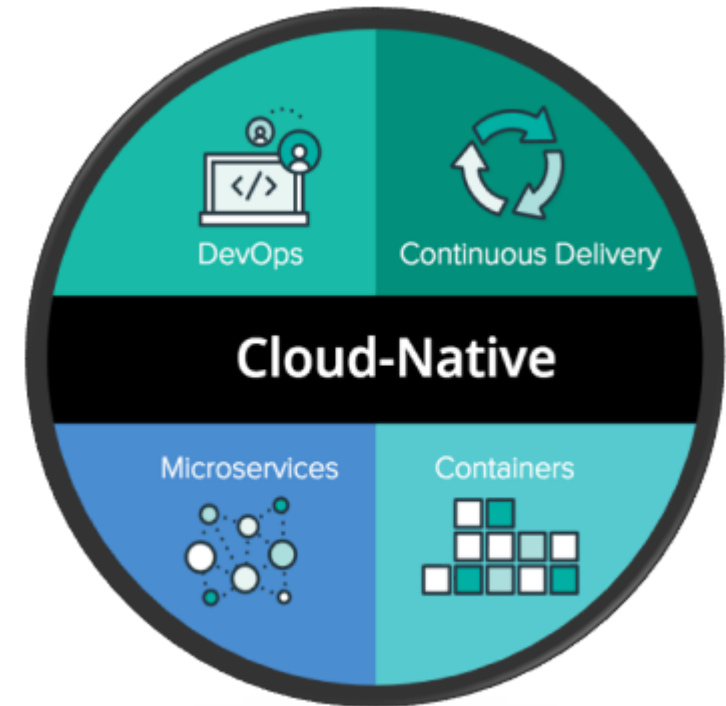
To stay future proof

In development: Cloud Native

2023-2024

- future-proof technical platform
- scalability improvement
- quality and performance assurance

→ More info follows through our consultants



Do you like these innovations?

Which one do you prefer?

Go to menti.com and use the code 1580 0558

Which innovation do you like the most (put the innovations in order of priority)?



Content

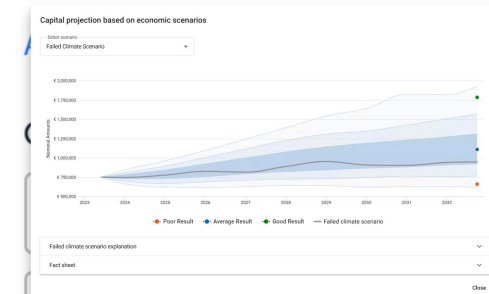


This Menti has results ?

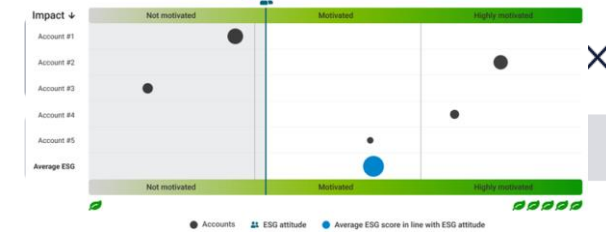
Manage results

Your question ?

Which innovation do you like the most (put



ESG on client level vs product level



Remove question

Introduction

My personal dashboard

OSTEC

Add your own content

Early retirement | A good pension | Health preservation | Protected by investment products | Living | Don't hesitate

OF

Account



Content



Design



Settings



Got feedback?

Do you have other suggestions regarding stress tests?

great depression
example for customers
cyberwar
interest rates boom
dotcom bubble



Content



This Menti has results

[Manage results](#)

Your question

Do you have other suggestions regarding :

[Add longer description](#)

Entries per participant

8

Extras

Let participants submit multiple times



[Remove question](#)

OF

Account



Content



Design



Settings



Got feedback?


Do you have other suggestions regarding ESG insights?

easy customer view
background colour
how much can esg cost




Content




 This Menti has results 

Manage results

Your question 


Do you have other suggestions regarding I

[Add longer description](#)

Entries per participant 

8

Extras

Let participants submit multiple times 



[Remove question](#)

OF

Account



Content



Design



Settings



Got feedback?



Which other innovations could we pick up?

tax calculation
easier integration
real prio setting
portfolio data feed
easy customer view
adjust goal optimize
ui gamification



Content



 This Menti has results 

[Manage results](#)

Your question 

Which other innovations could we pick up?

[Add longer description](#)

Entries per participant 

8

Extras

Let participants submit multiple times 



[Remove question](#)

OF

Account



Content



Design



Settings



Got feedback?



Thanks!



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