Jakob Thomä – Director – 2° Investing Initiative

CLIMATE CHANGE AND CAPITAL MARKETS

EUROPEAN UNION
H2020 - Grant agreement No 696004

ET RISK PROJECT

EUROPEAN UNION
H2020 - Grant agreement No 649982

SEI METRICS PROJECT

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WHY DO FINANCIAL INSTITUTIONS CARE?

The 3 "M"s motivating financial institutions

Management

Marketing

Moral

Transparency Initiatives

Portfolio Decarbonization

Green investment

Influencing companies

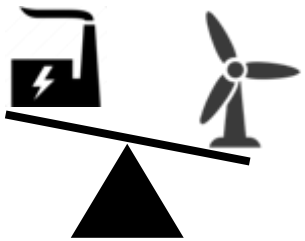
Three types of of assessments

3 **BETTER VALUATION**

Better pricing of ET risks (assuming baseline scenario)

2 **'2D STRESS TEST'**

Resilience of portfolios and financial institutions to accelerated Energy Transition (2D stress test)



1 **2D ALIGNMENT**

Misalignment of investments and assets in the real economy with climate goals

PRIMARY USERS & USE CASE

LONG TERM INVESTORS

Improving long-term returns of Institutional investors (e.g. pension funds, Insurance companies)

PRUDENTIAL AUTHORITIES

Anticipating the impact of climate action on financial stability and financial institutions

POLICY MAKERS / REGULATORS

Monitoring progress on Paris agreement and potential build-up of financial risks / economic inefficiencies that may translate into risks for financial markets

CONNECTING 2 DIFFERENT WORLDS…

ET Risk project report

Vs.

SEI metrics project report

carbon
data
may
based
green
gas
listed
fuel
use
capital
risk
level
oil
real
Gas
coal
report
industry
ESG
Data
key
three
class
estate
fuels
capital
project
focus
share
fund
box
set
thus
well
global
reserves
Coal
Real
issue
lead
part
score
less
One
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risk
share
real
Gas
gas
listed
use
fuel
reserves
Power
3me
South
Low
Score
relates
years
decision
sold
either
private
risks
oil
set
fund
box
global
well
share
real
Gas
gas
use
reserves
listed
fuel

Working with partners

13 advocacy NGOs

6 international organizations

5 countries with policy partnerships

3 equity / credit research analysts

+100 investors

5 investor associations

11 data providers

6 universities

1 law firm

6 research organizations

8 consultancies

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Investing Initiative

WWF

Universität Zürich[UZH]

Frankfurt School of Finance & Management Bankakademie | HfB

CDP

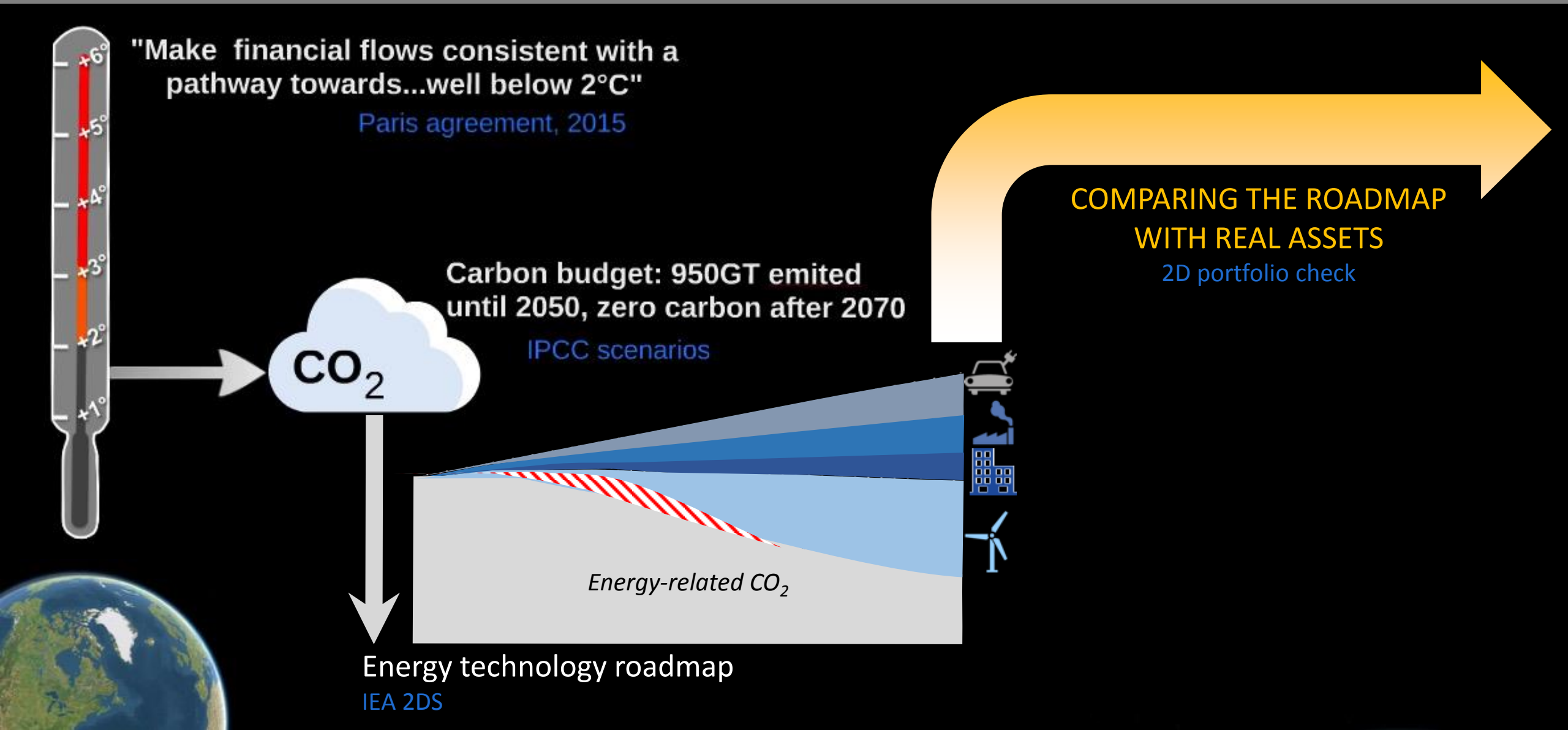
Kepler Cheuvreux

CIRED

EY

Climate Bond

TESTING 2D ALIGNMENT OF REAL ASSETS



Linking real assets to financial portfolios

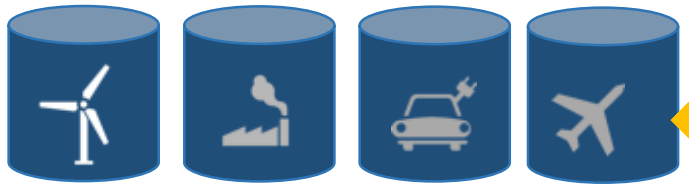
SCENARIOS

FINANCIAL PORFOLIOS

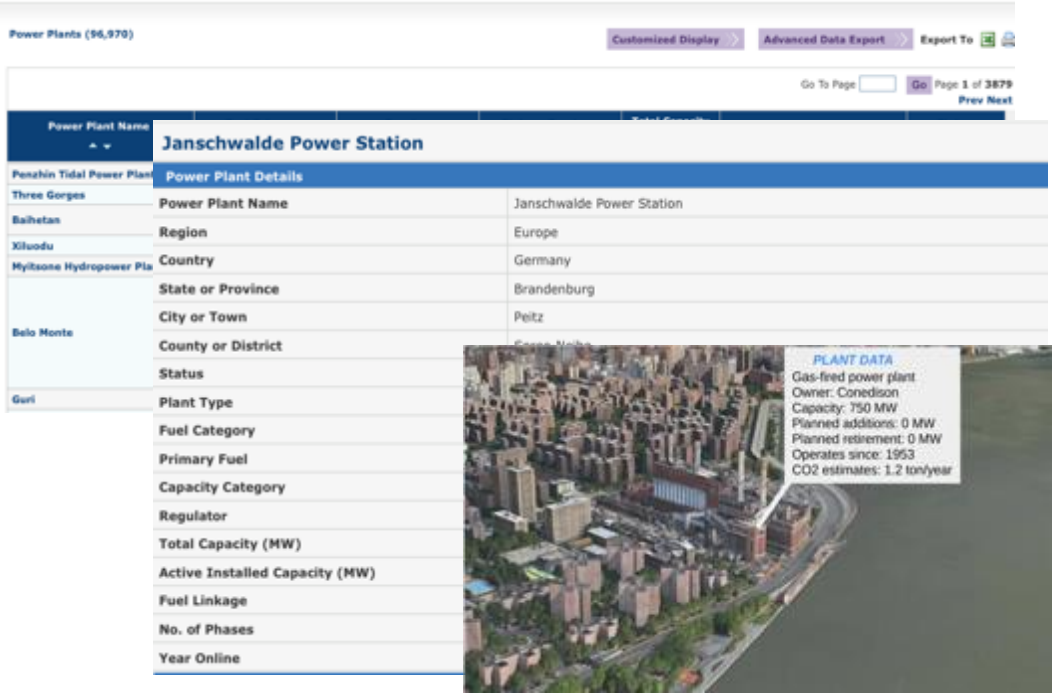
STOCK TICKERS

LISTED PARENT COMPANIES

OWNERS



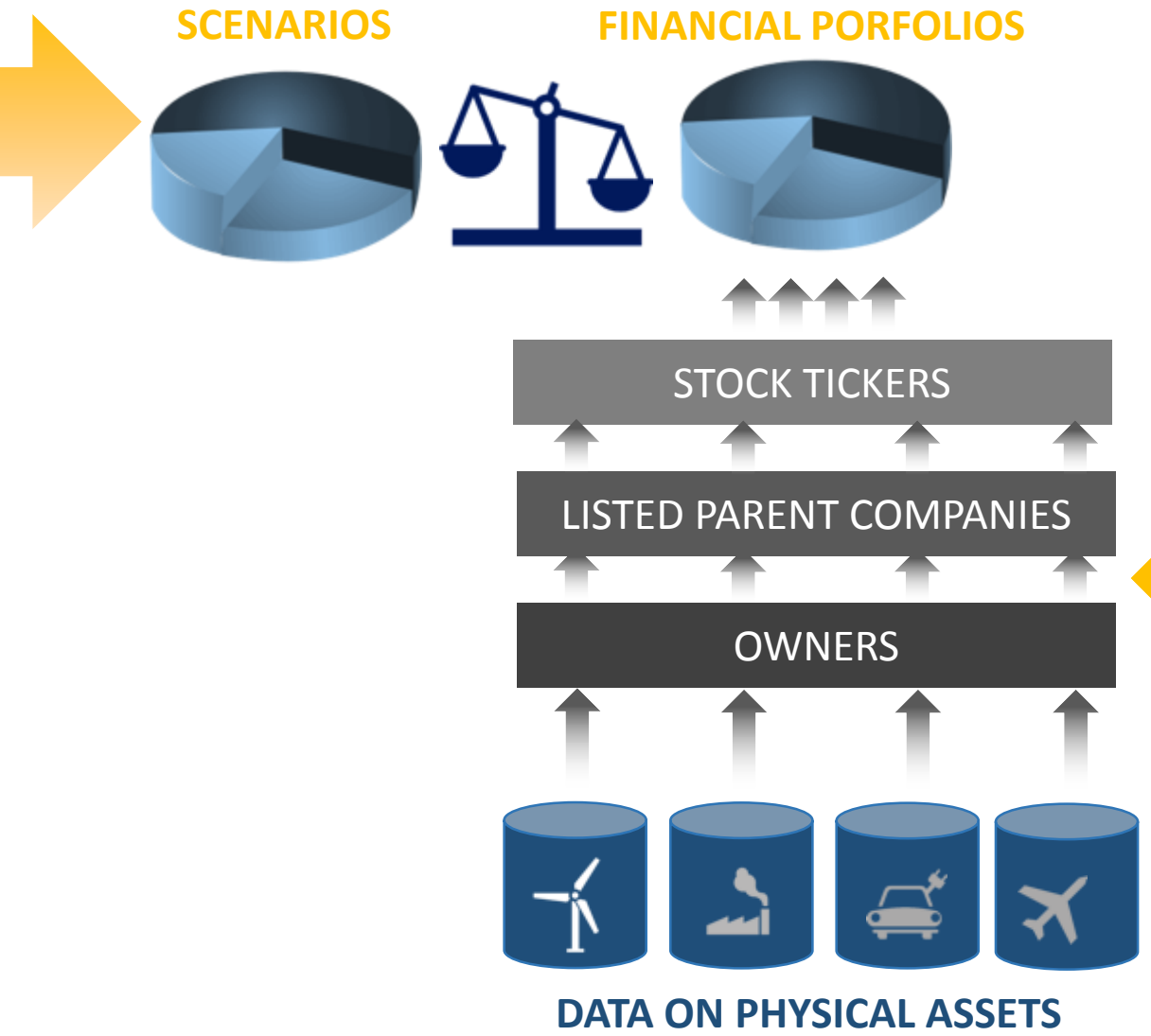
DATA ON PHYSICAL ASSETS

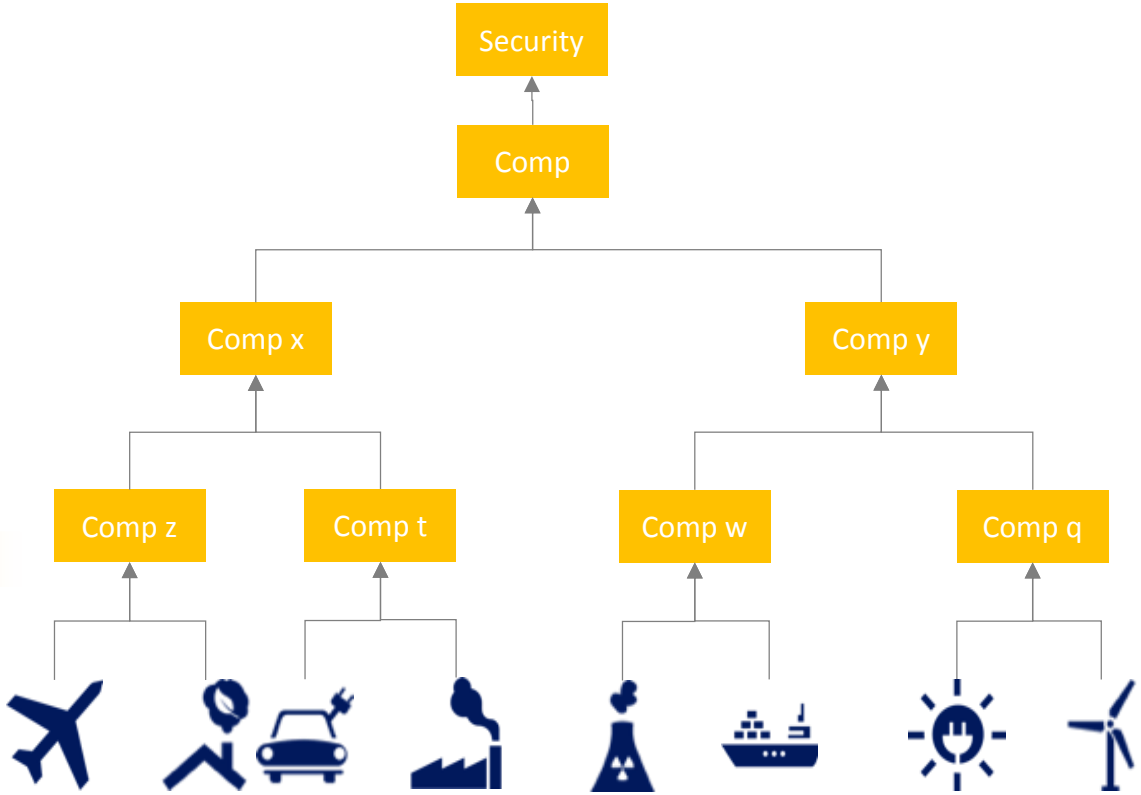


Asset level data:

- 97,000 power plants
- 22,000 Oil- and Gas fields
- 95 million produced cars
- *36,000 Airplanes*
- *10,000 Ships*
- *2,200 Cement factories*
- *13,000 Steel plants*

Linking real assets to financial portfolios





S&P Cross-reference services / Orbis database

Linking real assets to financial portfolios

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FINANCIAL PORFOLIOS

STOCK TICKERS

LISTED PARENT COMPANIES

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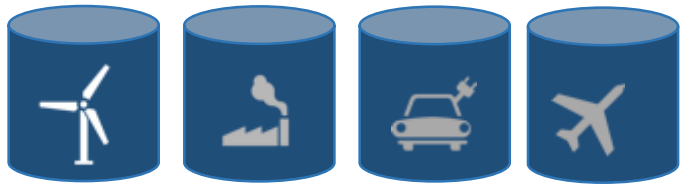
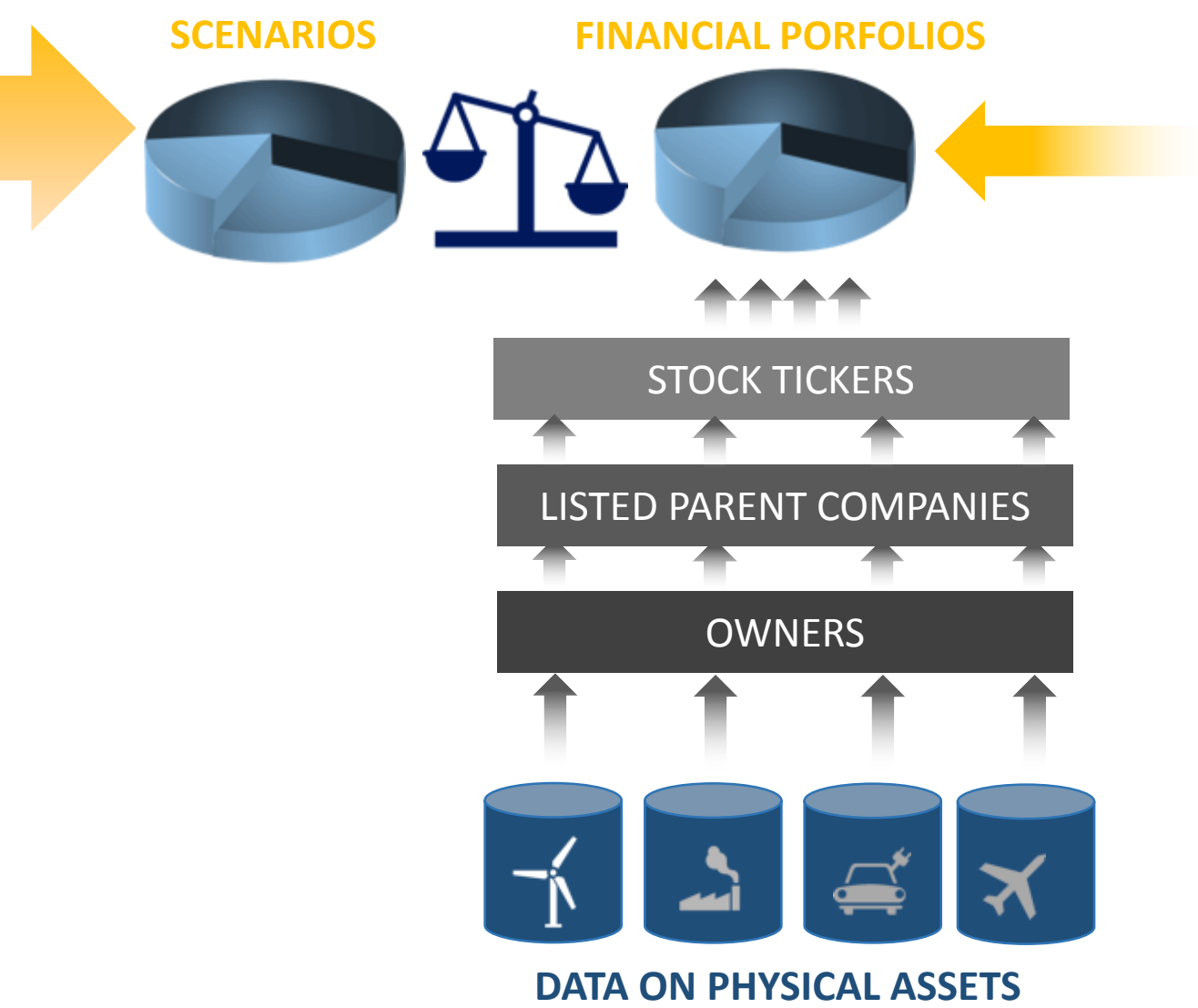


DATA ON PHYSICAL ASSETS

Bloomberg, S&P….

Linking real assets to financial portfolios



Choice of scenarios

Ambition

Speed

Scope

Technologies

Time horizon

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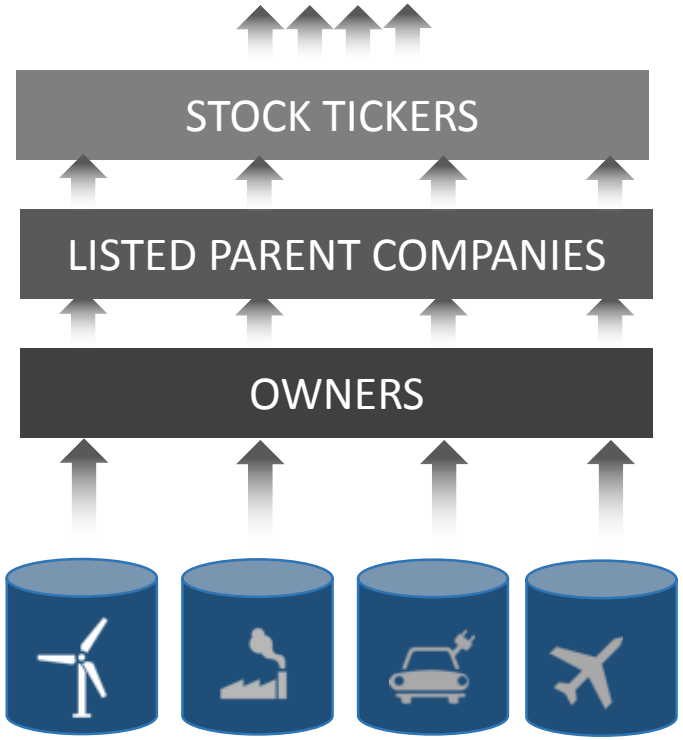
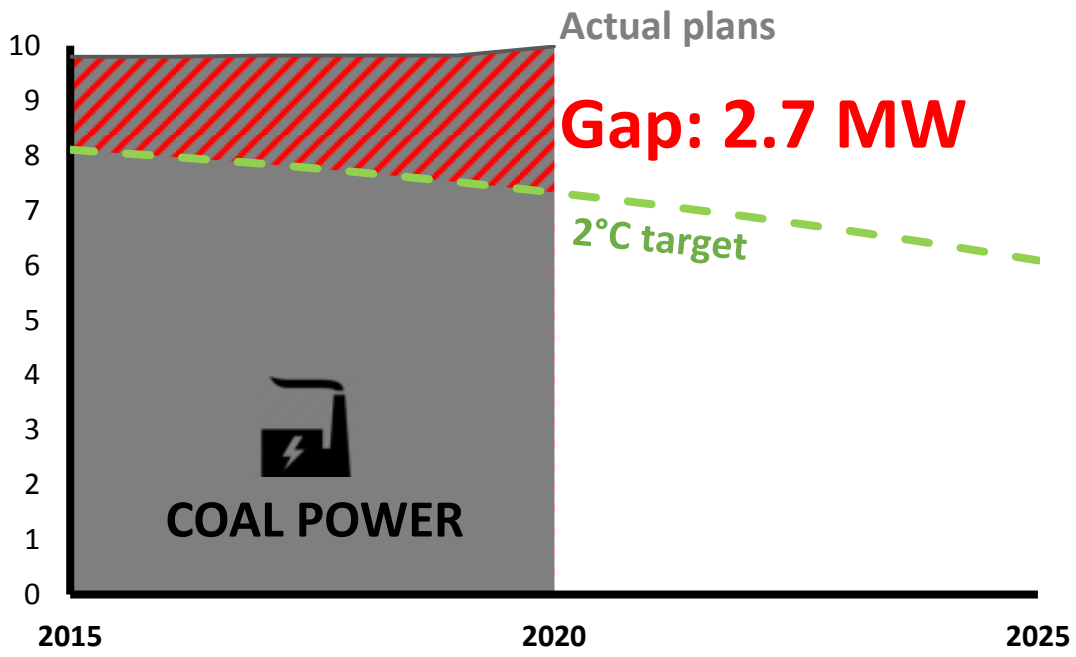
SCENARIOS

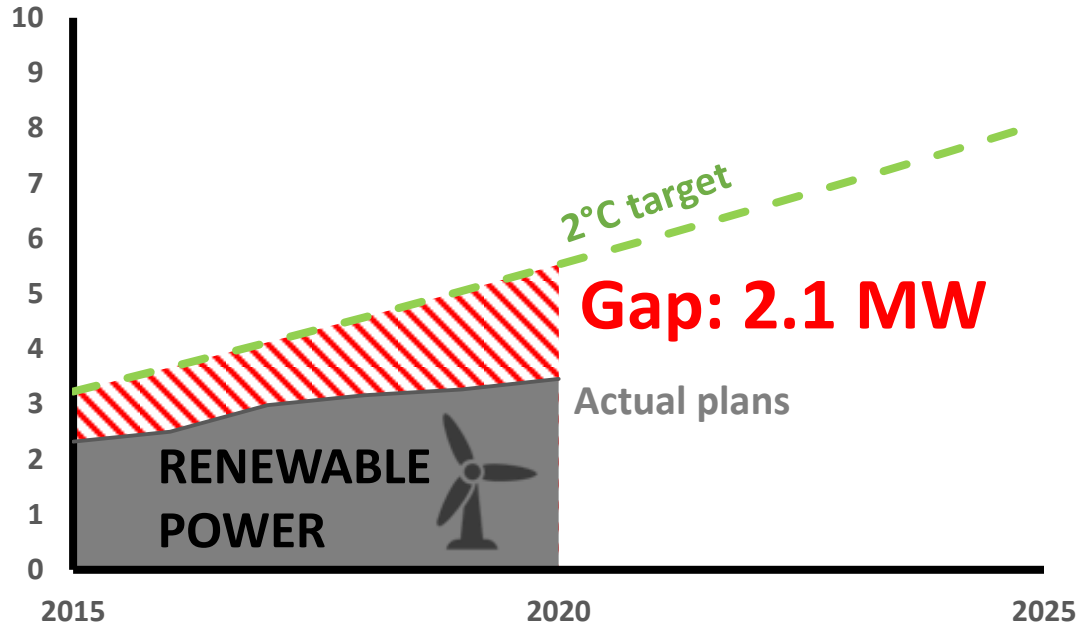
FINANCIAL PORFOLIOS



DATA ON PHYSICAL ASSETS

Testing 2°C alignment for a sample portfolio





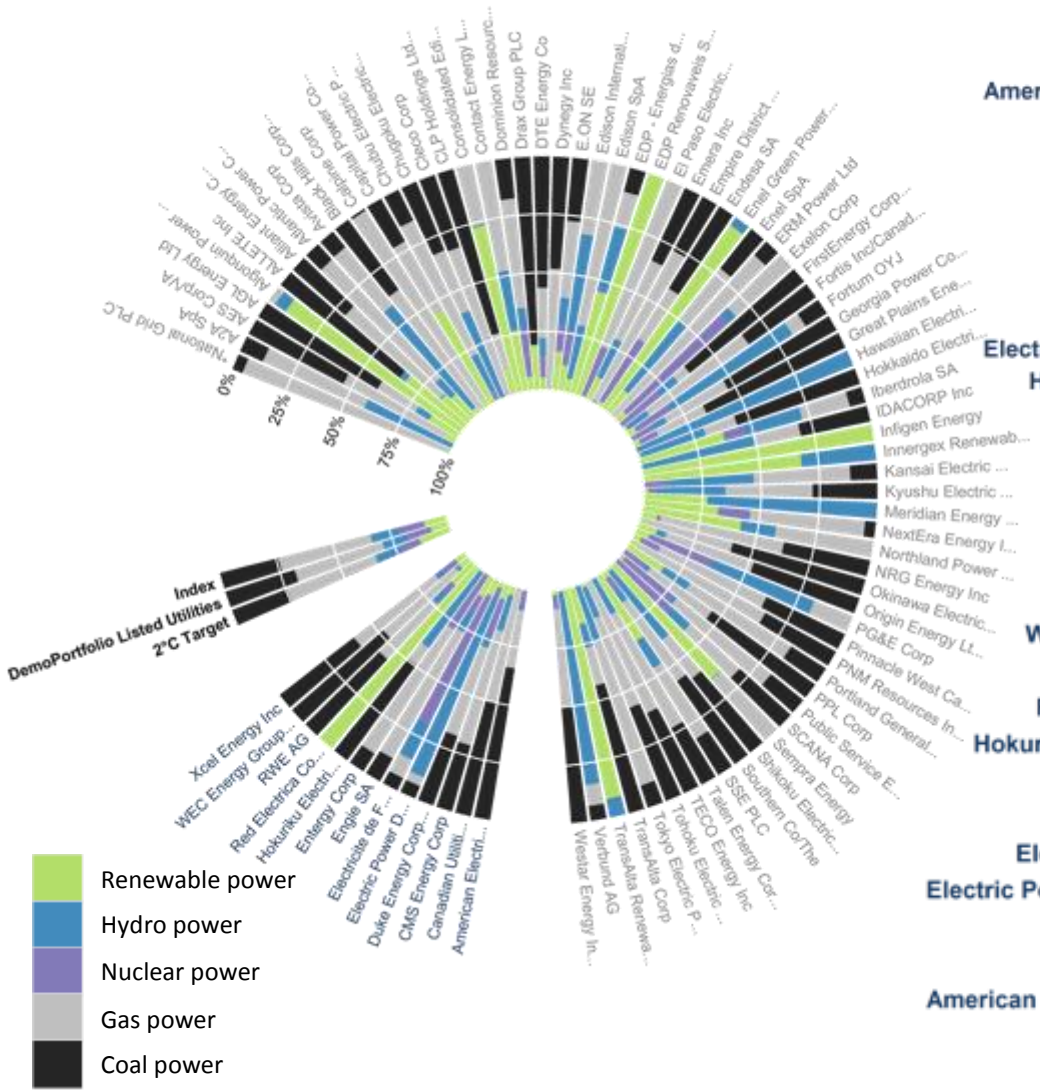
CHANGES IN CAPACITY (MW)

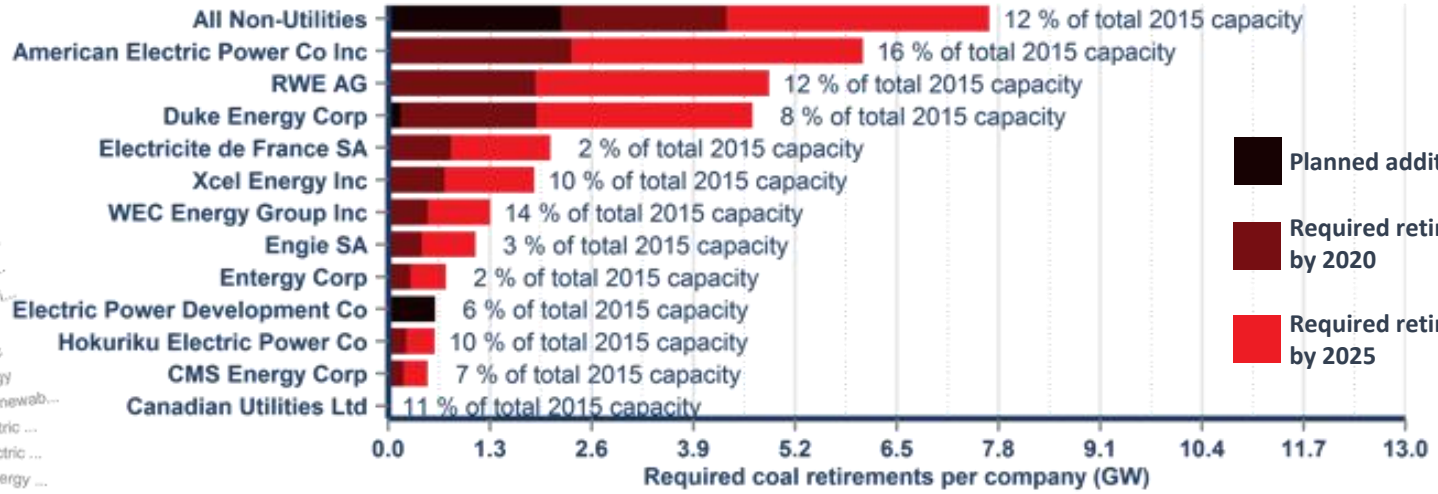
EMISSIONS BEYOND BUDGET (Kt of CO_2e next 5 years)

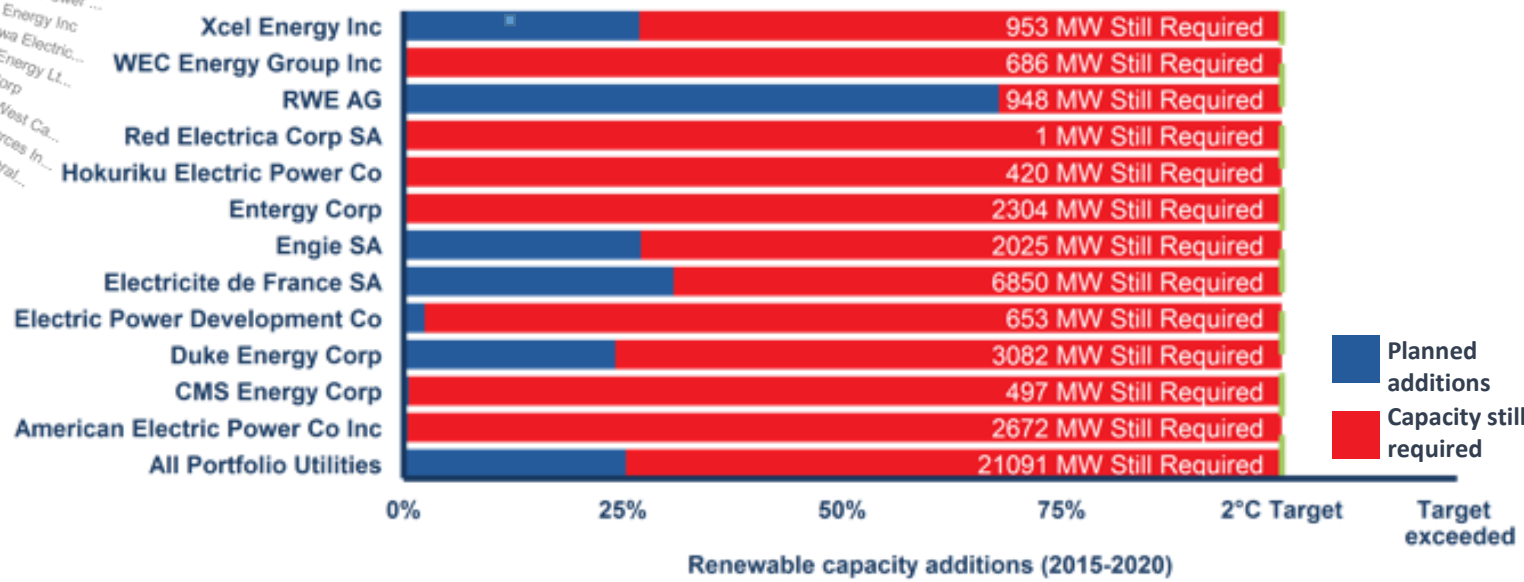
CAPEX vs. NEEDS ($M next 5 years)

REVENUE GAP ($M next 5 years)

Company capex and retirement targets







Source: 2ii, IEA, GlobalData

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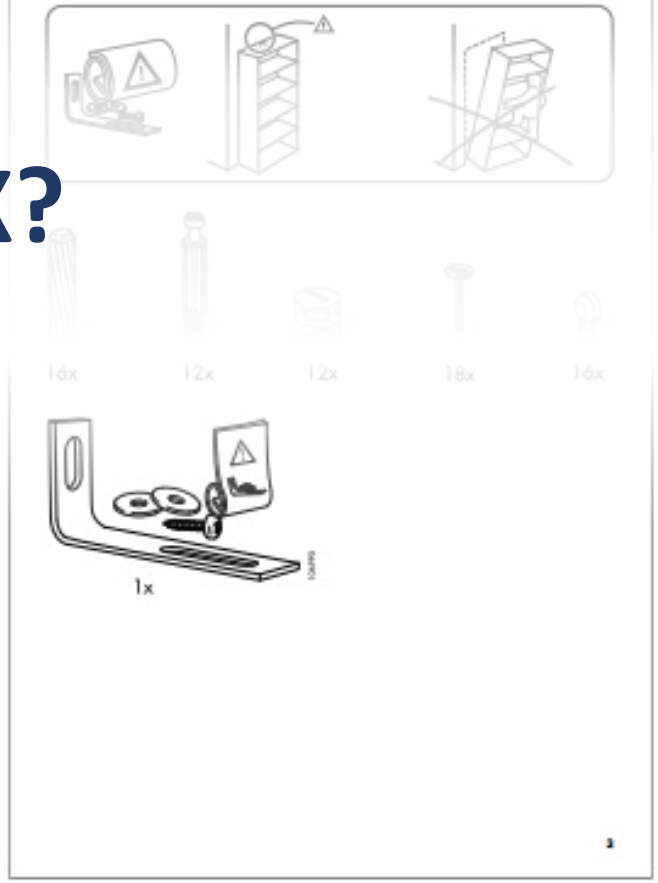
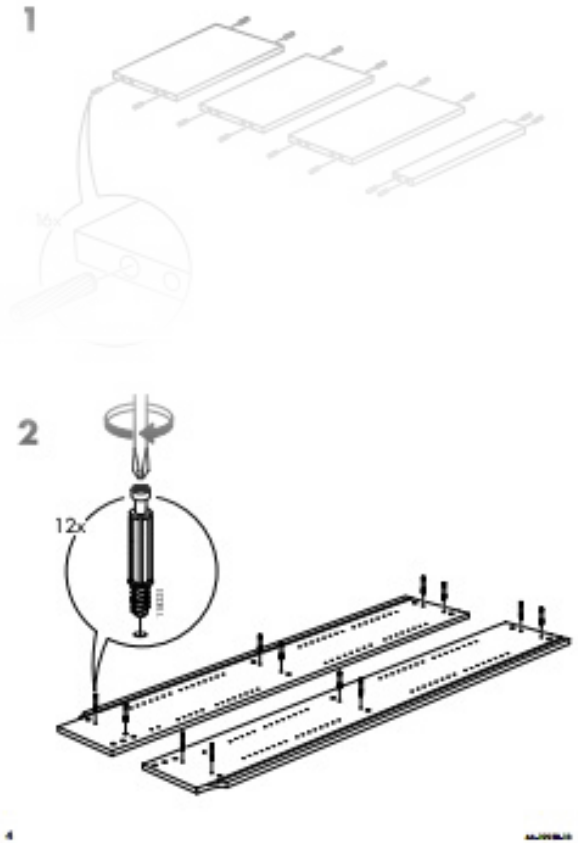
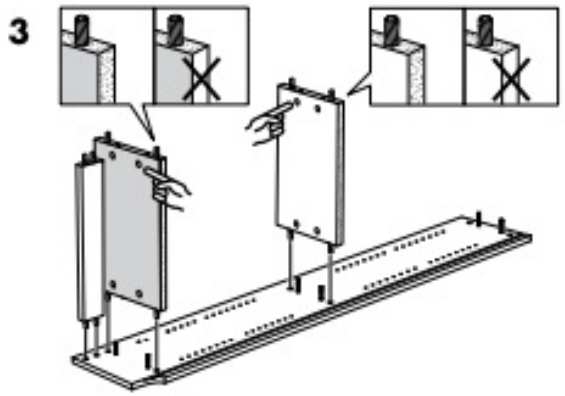
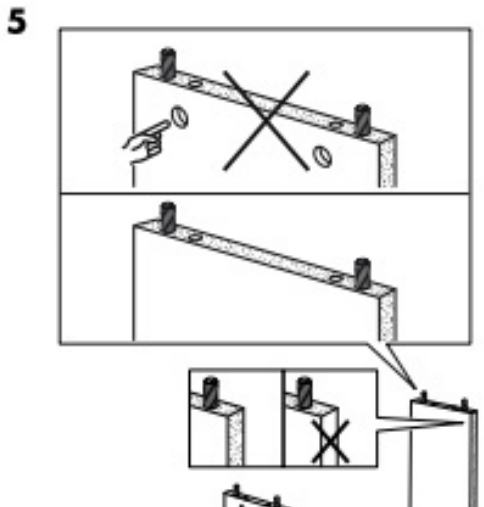
BILLY

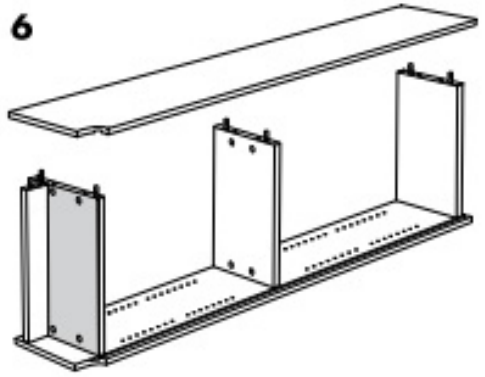
WHAT IS IN THE TOOLBOX?

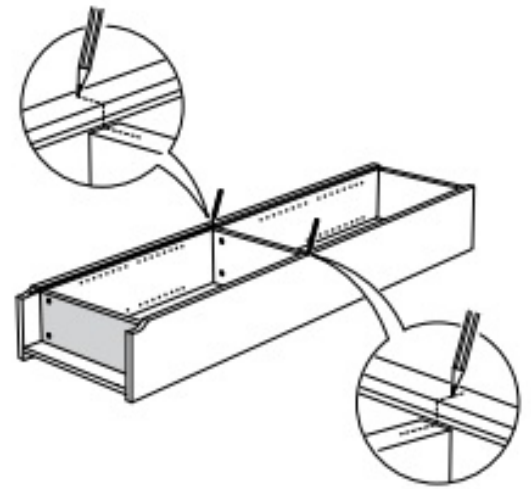












TRANSITION RISK SCENARIOS

TRANSITION & FINANCIAL DATA

TRANSITION RISK MODELS

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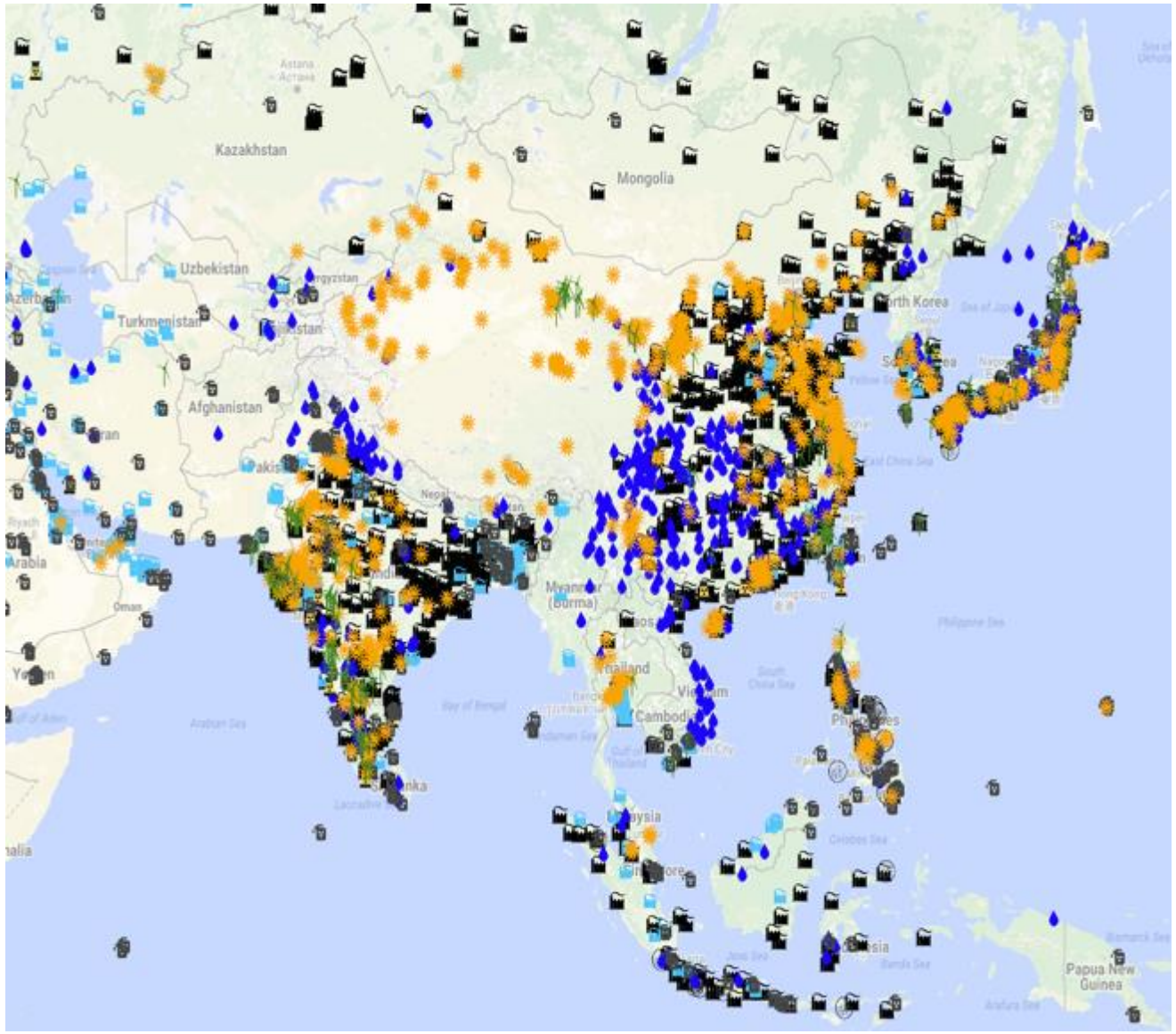
TRANSITION RISK SCENARIOS

TRANSITION & FINANCIAL DATA

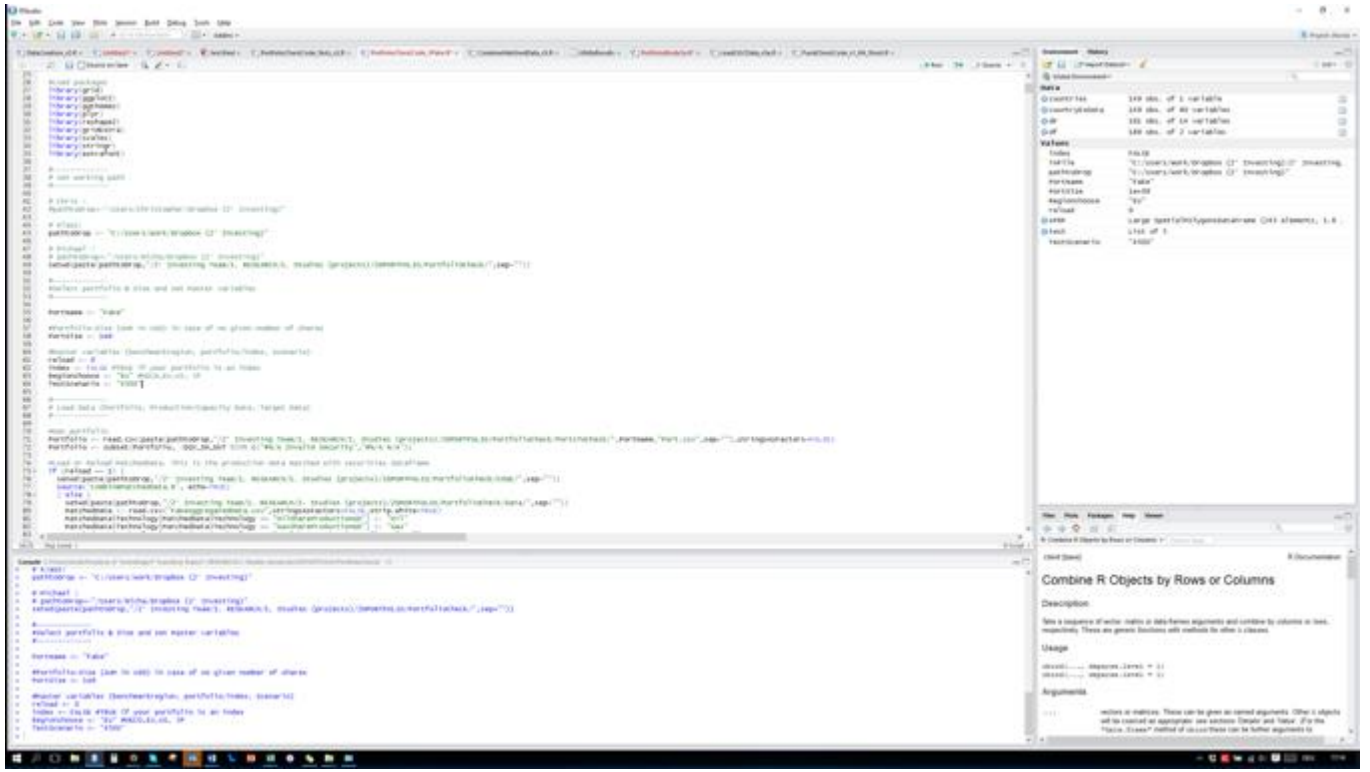
TRANSITION RISK MODELS



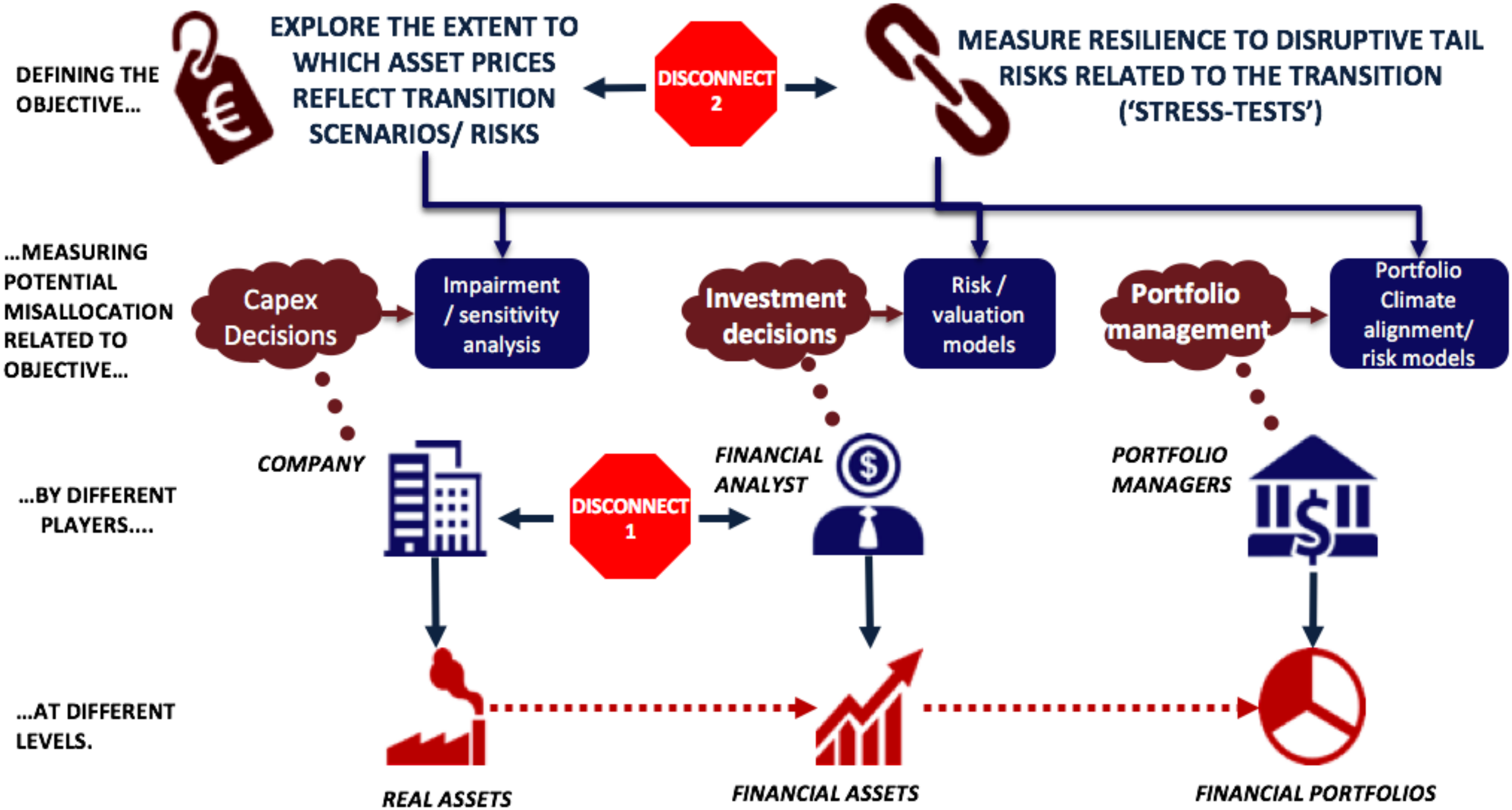
TRANSITION RISK SCENARIOS

TRANSITION & FINANCIAL DATA

TRANSITION RISK MODELS



MISTAKES TO AVOID…


DEFINING THE OBJECTIVE…
EXPLORE THE EXTENT TO WHICH ASSET PRICES REFLECT TRANSITION SCENARIOS/ RISKS
DISCONNECT 2
MEASURE RESILIENCE TO DISRUPTIVE TAIL RISKS RELATED TO THE TRANSITION ('STRESS-TESTS')
…MEASURING POTENTIAL MISALLOCATION RELATED TO OBJECTIVE…
Capex Decisions
Impairment / sensitivity analysis
Investment decisions
Risk / valuation models
Portfolio management
Portfolio Climate alignment/ risk models
…BY DIFFERENT PLAYERS….
COMPANY
DISCONNECT 1
FINANCIAL ANALYST
PORTFOLIO MANAGERS
…AT DIFFERENT LEVELS.
REAL ASSETS
FINANCIAL ASSETS
FINANCIAL PORTFOLIOS

...DATA...

Requirements for risk data

- By Product / Service
- At country level
- Disaggregated by technology
- Covering a large universe
- Forward-looking
- Linked to revenues / capex
- Standardized accounting

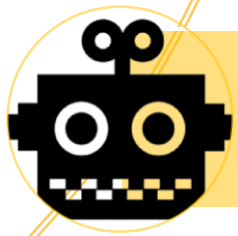
…SCENARIOS…

Policy costs & incentives

Market pricing

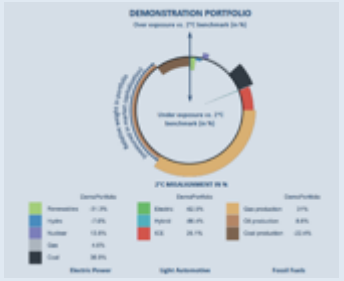
Production & technology

Non-conventional



Macro trends

…MODELS…



2°C ALIGNMENT & CAPITAL MISALLOCATION MODEL

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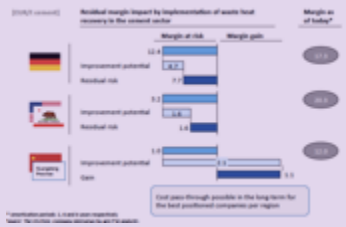

CLIMATEXCELLENCE MODEL

VALUATION MODELS

CREDIT RISK MODELS

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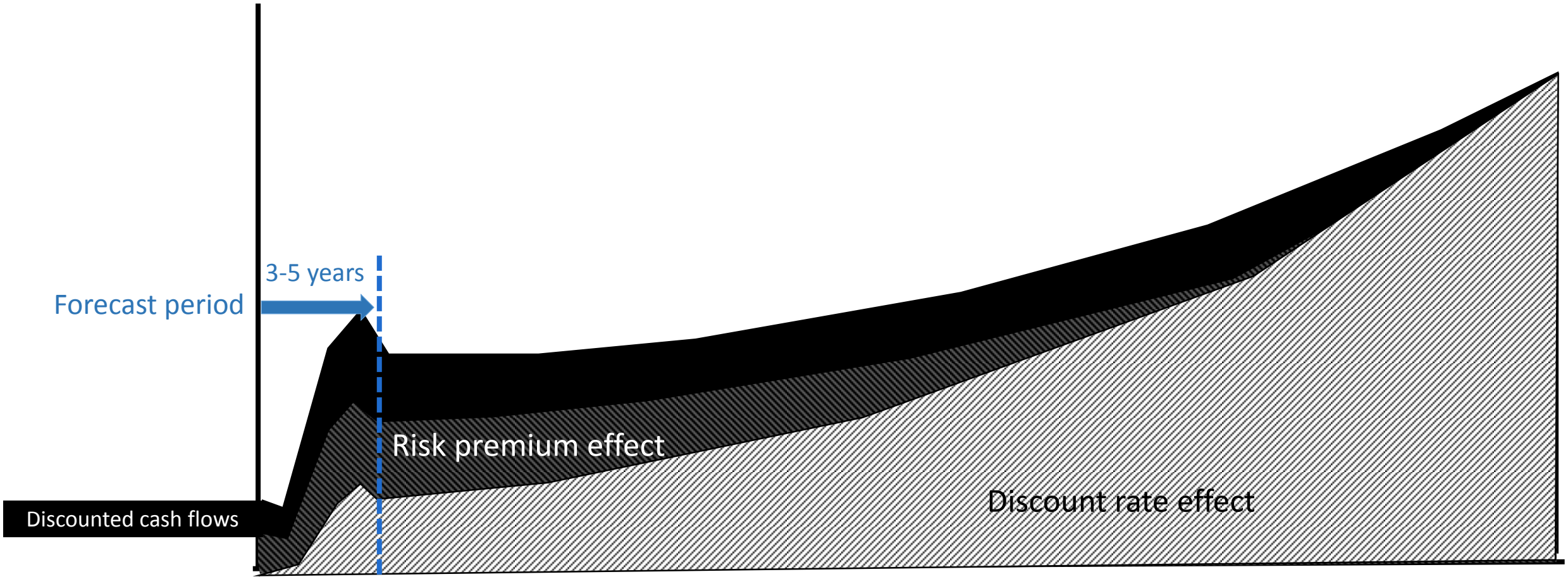
Allocating macro impacts to micro actors

FAIR SHARE APPROACH

COST APPROACH

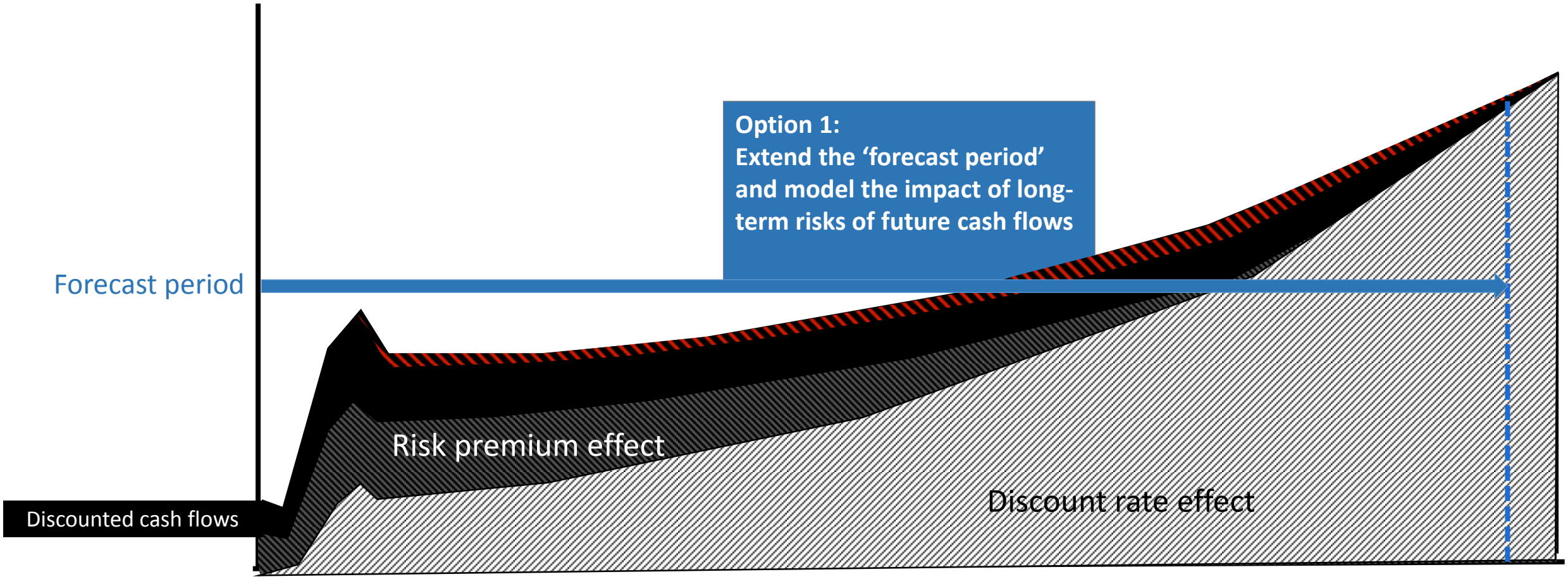
BOTTOM-UP APPROACH

Challenge of mapping risk impacts to companies



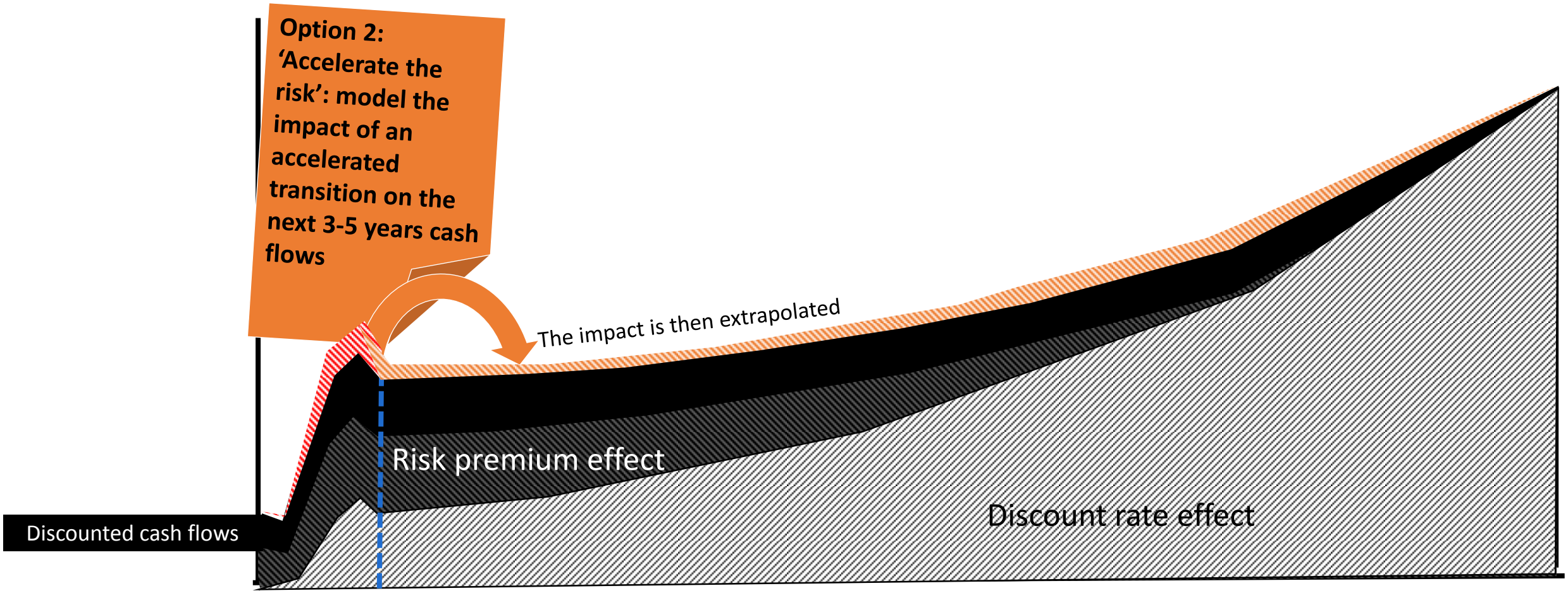
Source: 2dii from sample Morningstar industrials company DCF Model, 2014: Data will be updated pending further industry engagement

Option 1: Extending the forecast period



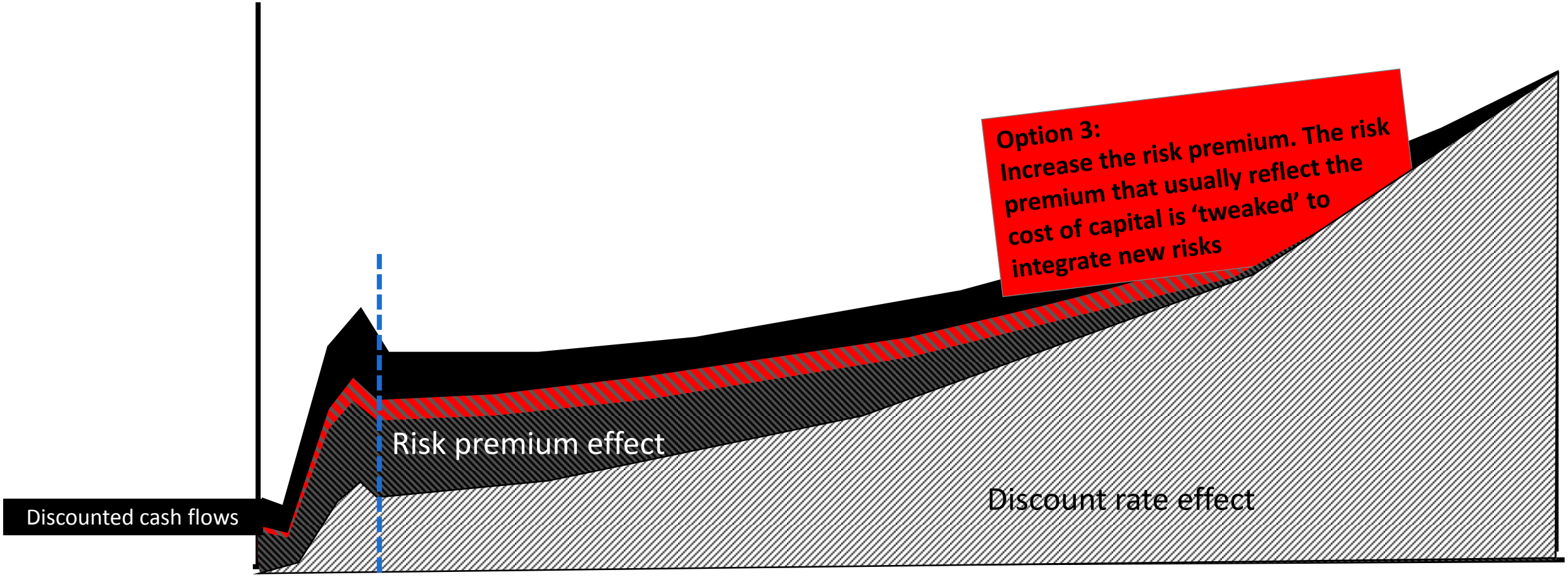
Source: 2dii from sample Morningstar industrials company DCF Model, 2014: Data will be updated pending further industry engagement

Option 2: Accelerate the risk



Source: 2dii from sample Morningstar industrials company DCF Model, 2014: Data will be updated pending further industry engagement

Option 3: Increase the risk premium



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Jakob@2degrees-investing.org

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