



HOW TRANSITION RISK TOOLS CAN HELP IN ASSESSING GEOPOLITICAL RISKS



Part of the "Make or Break series"

DISCLAIMER (*PLEASE READ, IT'S ACTUALLY IMPORTANT!*)

This note is part of “MAKE OR BREAK”, a briefing series from Theia Finance Labs exploring novel perspectives about key initiatives in the sustainable finance space and how to improve them. Previous reports in this series have focused on [GFANZ](#), [NGFS scenarios](#), [temperature assessments](#), [the “tripling renewable energy” goal](#), and [reducing EU disclosure costs](#).

Make or Break series notes are opinion pieces, authored by Theia Finance Lab staff members. They are not technical research reports, even where they cite research, and do not go through the same editorial or peer review process as other Theia Finance Lab research products. The goal of these notes is to surface key issues, discuss their ramifications, and outline potential resolutions. The ideas and recommendations presented here are attempts at inputs to discussion and debate. We hope this sometimes changes other people’s minds and sometimes spurs responses that change ours.

Where the documents focus on specific initiatives, we ensure that they are shared and discussed with the relevant initiatives prior to publication. However, for the avoidance of doubt, the research presented here is not affiliated with the initiatives discussed, nor subject to their editorial control, nor in any way implicitly or explicitly endorsed by them.



About Theia Finance Labs

Theia Finance Labs (formerly 2° Investing Initiative Germany) is an independent, non-profit think tank incubating research solutions for the financial sector that help solve the twin climate-social crisis. The Theia Finance Labs name is inspired by the Greek goddess of sight, the light of the blue sky, and the value of gold, Theia, and by the Greek word Aletheia, which means “disclosure” or “truth”, literally “the state of not being hidden”. The brand mirrors our goal to develop evidence-based research and tools that shed light on the intersection of finance, climate change, and long-term risks. Theia operates as a 100% non-profit organization.

Author:

Jakob Thomä, jakob@theiafinance.org, CEO & Co-Founder

FUNDING: Avid readers, especially those that bother to read about the funding source and by extension this little text will know that unfortunately for us, the MAKE OR BREAK series is typically funded by our unpaid overtime. So, too, here. This is because the appetite for funding *thought leadership* (however pretentious the term appears when writing it about your own work) is close to zero. This is unfortunate, but likely a reflection of the information environment in which we operate. If we lament it further here, non-avid readers simply looking at the length of this text will think there are multiple funders and get the wrong impression. If you think in turn, this is an unsustainable state of affairs, you are welcome to rectify it, should your means permit it.

Photo credits: Crown Copyright 2011, NZ Defence force

Who needs transition risk models during a geopolitical crisis?

When geopolitical risks explode, how useful are transition risk exercises?

This question was posed at a workshop with a research partner last week.

In theory of course, transition risk assessments are uniquely suited for assessing geopolitical risks & impacts.

They provide risk intelligence beyond ‘historical data’. They operate on the basis of scenario inputs. And they reflect secular shocks to the economy.

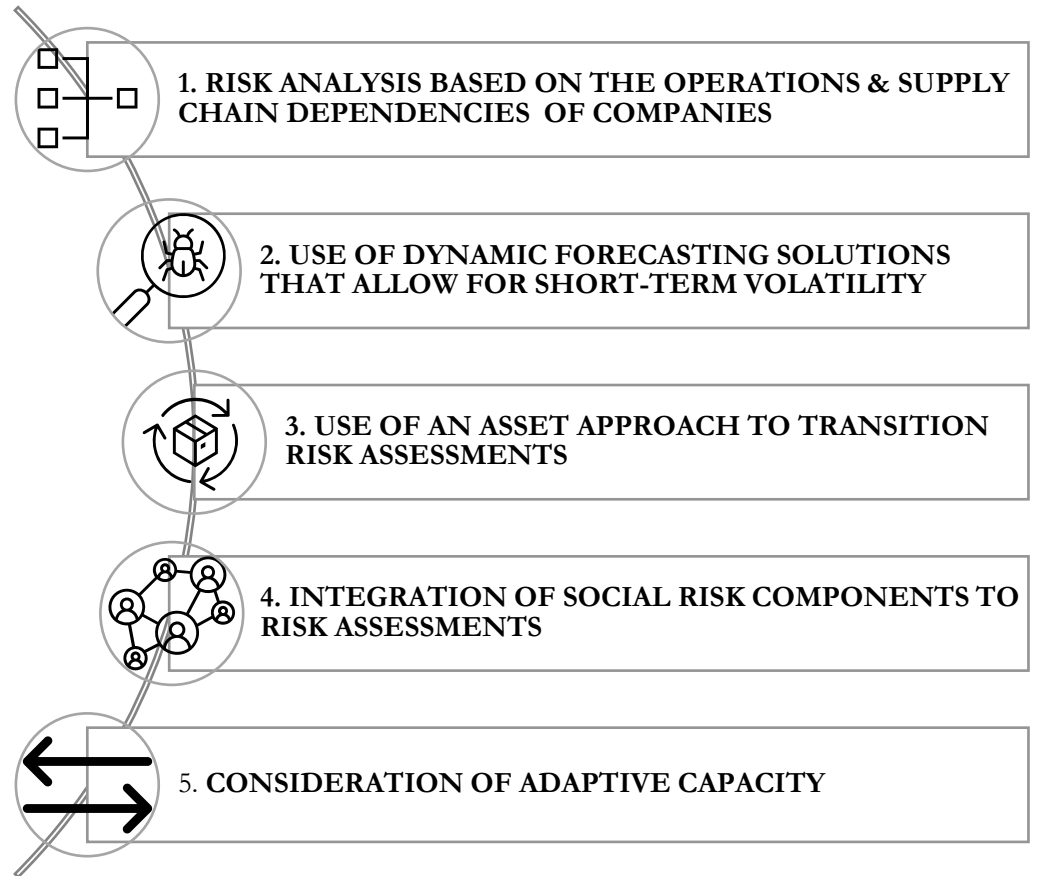
In practice unfortunately, most transition risk assessments in the market do not capitalize on this advantage.

They often focus exclusively on emissions, an ‘abstraction’ from the real economy risks. They use long-term IAM transition scenarios like those of the NGFS. Even short-term scenarios like the ones published recently fail to capture the kind of disruption that geopolitical risks can generate. They also often do not capture adaptive capacity or supply chain inputs.

This note highlights examples on the basis of current and previous Theia Finance Labs research that show how transition risk models can serve both transition and geopolitical risk assessment and thus enhance their integration into financial decision-making.

OUR THESIS: IF YOU WANT TO DO GEOPOLITICAL RISK ASSESSMENT, TRANSITION RISK DATA & TOOLING IS A GREAT PLACE TO START!

FIG 1: FEATURES OF TRANSITION RISK ASSESSMENT THAT CAN BE MOBILIZED FOR GEOPOLITICAL RISK (SOURCE: AUTHORS)



#1: Risk analysis based on the operations & supply chain dependencies of companies (*tilt* SMEs)

Theia Finance Labs' incubated risk models build risk analytics on the basis of the actual business of the company – the products & services it sells, the inputs and supply chain dependencies linked to those products and the downstream application of these products.

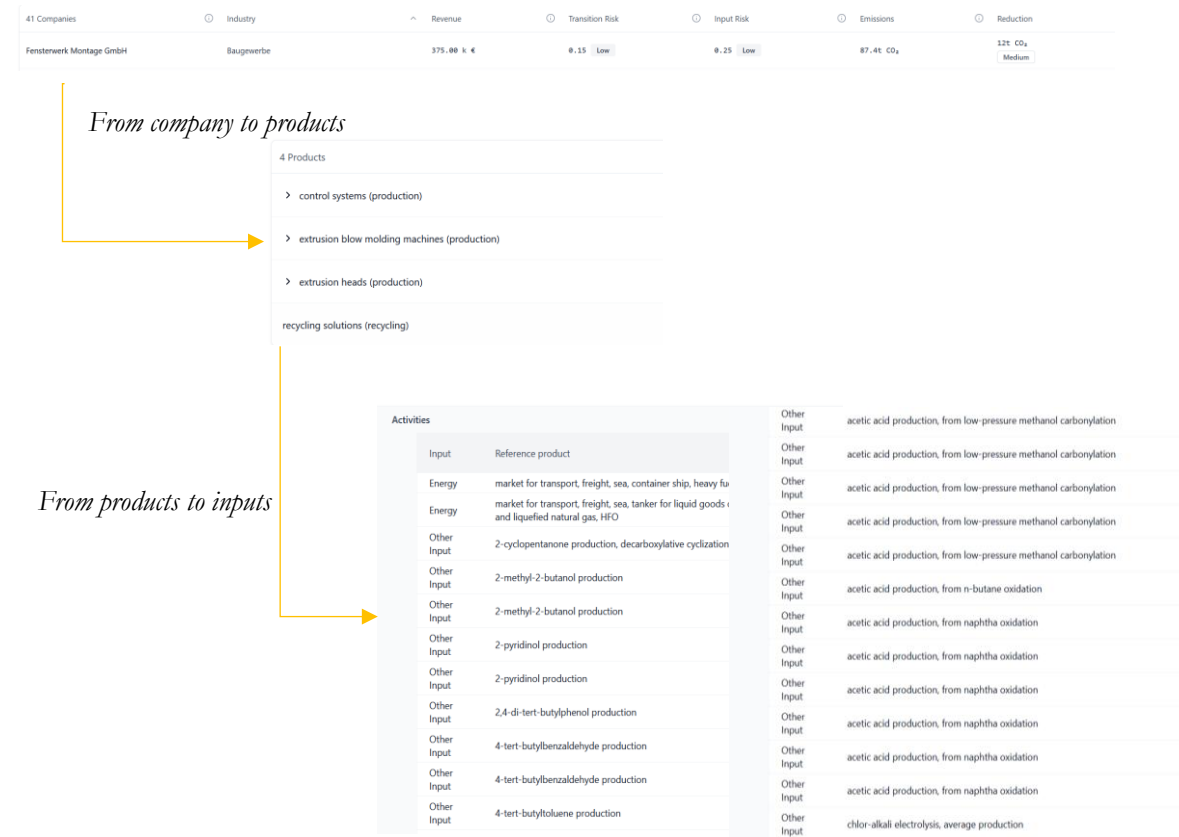
The most comprehensive example of this approach relates to the tilt SMEs initiative, a data & risk analytics framework, incubated by Theia Finance Labs in 2021 and spun off in 2025.

Tilt SMEs provides a product and product input look-through for a universe of +30 million companies around the world.

Perhaps the largest climate data of its kind, tilt has applied a product and product input lens to understand transition risks both in the production and supply chain of companies (Fig. 2). This allows it to understand for each company the suite of inputs it needs to operate at a highly granular level and the potential risks associated with these inputs from both a climate and broader geopolitical risk perspective.

Application to geopolitical risks: By assessing product inputs, the tilt database can be used by financial institutions to understand the extent to which companies are reliant on “Maritime Chokepoint Exposure” (e.g. Strait of Hormuz, Strait of Malaca), trade barriers & restrictions, and inputs exposed to domestic or regional conflicts (e.g. “Conflict minerals”). Rather than relying on high-level sector codes, this company-specific analysis allows for actual risk management across the client base.

FIG. 2: A FULLY INTEGRATED 'TRANSITION RISK ASSESSMENT' ACROSS THE SUPPLY CHAIN (SOURCE: tilt SMEs GMBh)





#2: Use of dynamic forecasting solutions that allow for short-term volatility (*Inevitable Policy Response*)

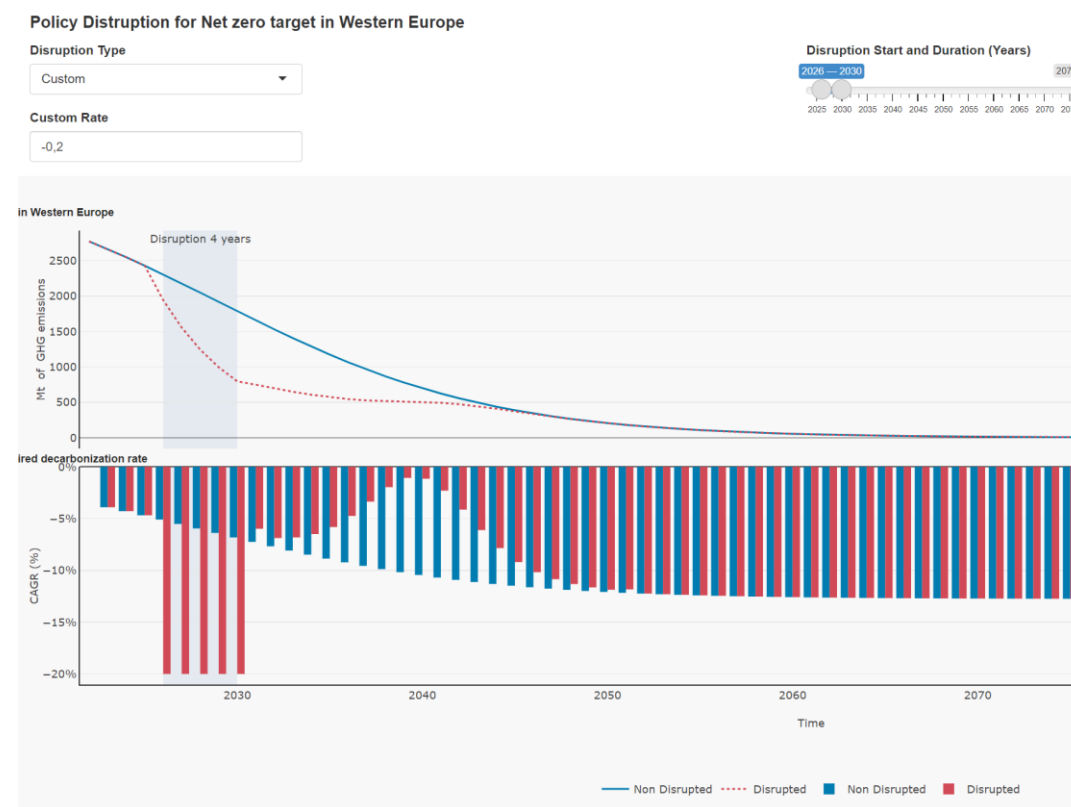
The **Inevitable Policy Response (IPR)** programme has developed a ‘live’ climate transition forecasting solution that allows for dynamic ‘disruption factors’ in traditional climate transition scenarios.

The IPR “STAND” model allows for the kind of short-term disruption and non-linearity that rarely is provided for in traditional scenario models (Fig. 3). Transition risk assessment can thus hew as close as possible to real world expectations about a ‘fragmented transition’ (Lazard 2025).

This model can be directly integrated into the Theia Finance Labs suite of transition risk (TRISK) and related models. Unlike traditional exercises that rely on climate transition scenarios developed over several months and then is applied on financial models over months, this exercise can allow for a ‘live wargaming’ of geopolitical and transition dynamics within days or even hours.

Application to geopolitical risks: By allowing for live risk assessments, the IPR risk model approach can reflect short-term geopolitical volatility and disruption. Typically designed from the vantage point of transition dynamics (e.g. policy disruption related to the transition, technology breakthrough related to low-carbon solutions), such modelling however can also be used to reflect other drivers (e.g. oil price at \$200 a barrel).

FIG. 3: EXAMPLE OF CUSTOM POLICY DISRUPTIONS IN THE INEVITABLE POLICY RESPONSE STAND MODEL (SOURCE: IPR)



#3: USE OF A GEOSPATIAL APPROACH TO TRANSITION RISK DATA (*1in1000 programme*)

From the beginning, the premise of Theia’s risk & alignment analysis was founded on geospatial data.

While the benefits of geospatial data are obvious from the perspective of physical risk analysis, ‘asset-level data’ has also powered tools like the RMI PACTA climate alignment model, the first methodology to measure the alignment of financial portfolios with climate goals (originally incubated by Theia Finance Labs), and the Theia transition risk toolbox operating under the brand 1in1000 (and run in partnership with the Oxford Sustainable Finance Group).

Asset level data can provide for country specific risk assessments reflecting country specific risk profiles.

In the context of a ‘fragmented transition’, understanding which asset with which emissions and operational profile is exposed to which regulatory regime is crucial to correctly identifying transition risk exposure (Fig. 4).

Application to geopolitical risks: Asset-level data allows for a direct assessments of which assets are potentially exposed to which geopolitical risk factors. They also provide core operational intelligence on the trade, conflict, supply chain, and downstream policy risk exposure (e.g. assets dependent on pipelines, oil & gas infrastructure, stable policy environments).

FIG. 4: A MAP OF POWER & STEEL ASSETS LINKED TO A FINANCIAL PORTFOLIO IN THE MIDDLE EAST (SOURCE: 1in1000)



#4: INTEGRATION OF SOCIAL RISK COMPONENTS TO RISK ASSESSMENTS (1in1000)

Transition risks have an economic transformation component but also a social dimension.

In the case of physical risks, our research suggests that they may increase baseline risks by 2-3x (Thomä et al. 2024) (Fig. 5). At the same time, social components also matter for transition risk.

The 1in1000 Just Transition risk model (JT-RISK) assesses the potential socioeconomic implications in terms of labour impacts of stranded assets across industries and sectors. As part of a pilot focused on the steel sector, it was able to identify the labour market implications of different transition scenarios on steel assets (Fig. 6).

Such social risk analysis can also be powered by the tilt data solution. By focusing on small and medium sized enterprises and non-listed companies, tilt provides a comprehensive risk snapshot that captures potential employment & economic impacts beyond the ‘national champions’, as well as potential regional economic ‘cluster risks’ (e.g. a restaurant next to a coal mine).

Application to geopolitical risks: Like with climate, geopolitical risks have a first order economic / political dimension and a second order social dimension. Considering for example the Iran War, the closure of the Strait of Hormuz will likely in the medium-term drive up food prices creating a concrete economic impact, but also likely contribute to social and political dislocation related to higher commodity / food prices. By understanding the potential economic pass through of these ‘dislocations’, transition risk models can better contribute to a holistic understanding of geopolitical risks.

FIG. 5: CUMULATIVE GLOBAL EQUITY MARKET LOSSES UNDER A CLIMATE, ECOSYSTEM, AND SOCIAL STRESS-TEST SCENARIO (SOURCE: THEIA FINANCE LABS 2024)

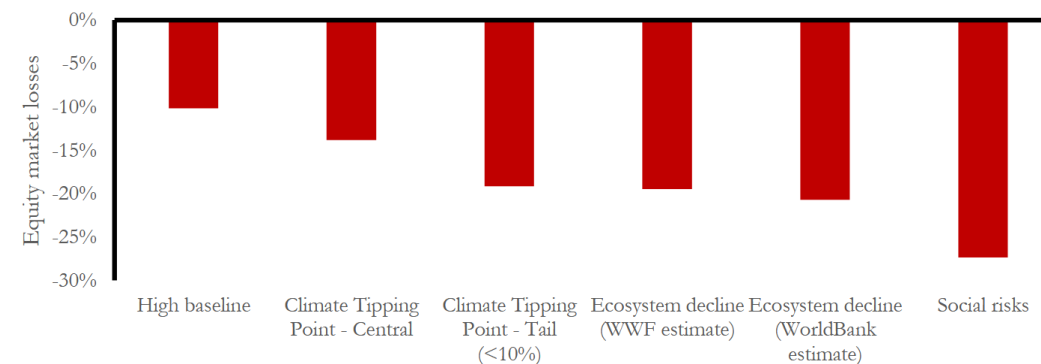
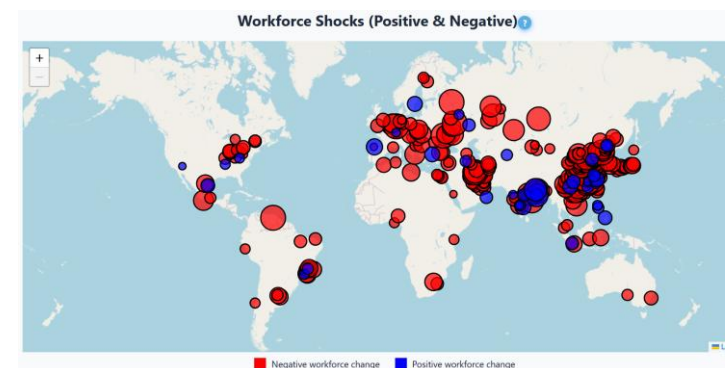


FIG. 6: WORKFORCE SHOCKS UNDER A STEEL SECTOR TRANSITION (SOURCE: 1in1000)



#5: CONSIDERATION OF ADAPTIVE CAPACITY (1in1000, tilt SMEs)

Both transition and geopolitical risks are only really risks for those companies that are not prepared to and / or unable to adapt.

Adaptive capacity is a key feature in the tilt and TRISK modelling frameworks (Thomä et al. 2017). In the case of tilt, it assesses the short-term emissions reduction potential across a set of key potential ‘off the shelf’ actions (e.g. changes to agricultural practice, deployment of heat pumps, renewable energy). While in theory of course emissions reduction potential is 100%, this identifies the types of actions that – at least in theory – should be available to a company today without a significant financial burden. Similarly, in the case of the 1in1000 programme, the risk assessment takes into account the forward-looking production and investment plans of companies based on a bottom-up assessment of assets under construction, permitted, and / or announced.

Application to geopolitical risks: Adaptive capacity assessments can be based on the geopolitical risk under review and may include e.g. the ability to diversify away from certain inputs, regions, and production value chains.

FIG. 7: EMISSIONS REDUCTION POTENTIAL FOR A COMPANY BASED ON ITS PRODUCT & INPUT PROFILE (SOURCE: tilt)

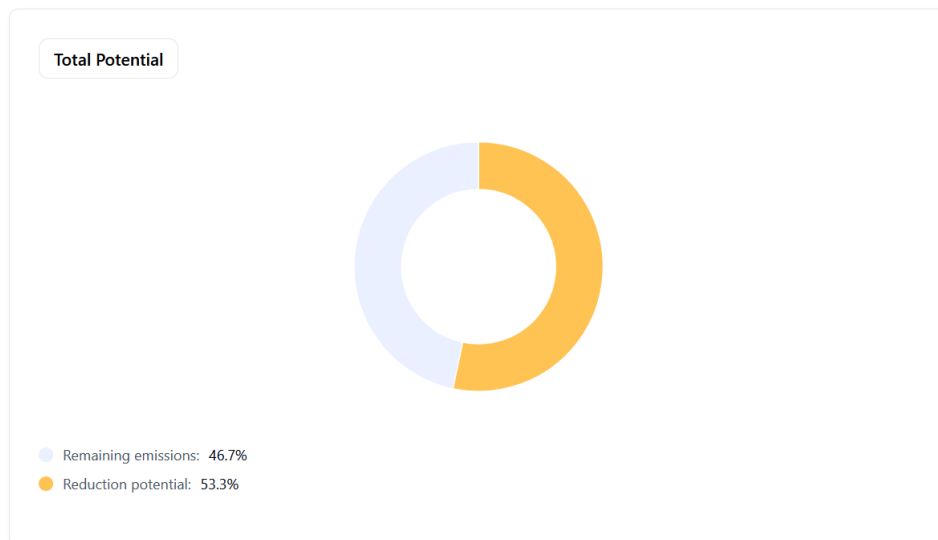
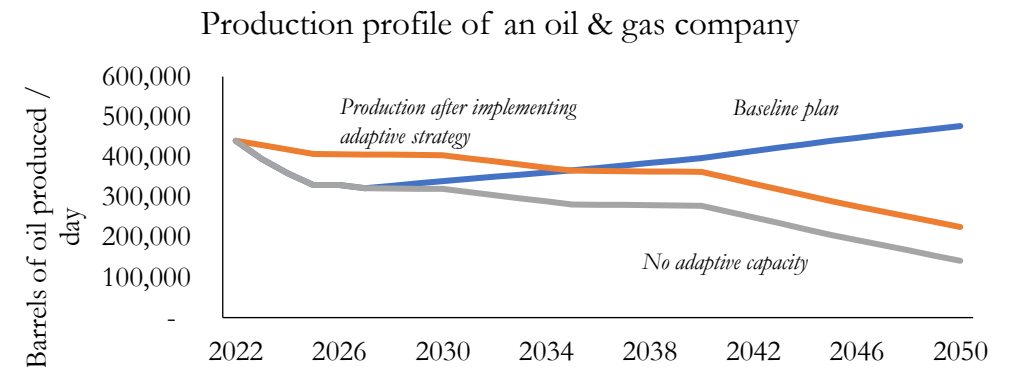


FIG. 8: PRODUCTION PROFILE OF AN OIL & GAS COMPANY TAKING INTO ACCOUNT THEIR FORWARD-LOOKING PRODUCTION & INVESTMENT PLANS (SOURCE: 1IN1000)



About Theia Finance Labs

Theia Finance Labs (Legal name: 2° Investing Initiative Deutschland e.V.) is an independent, non-profit think tank incubating research solutions for the financial sector that help solve the twin climate-social crisis. The Theia Finance Labs name is inspired by the Greek goddess of sight, the light of the blue sky, and the value of gold, Theia, and by the Greek word Aletheia, which means “disclosure” or “truth”, literally “the state of not being hidden”. The new brand thus mirrors our goal to develop evidence-based research and tools that shed light on the intersection of finance, climate change, and long-term risks. Theia operates as a 100% non-profit organization.

Contact:

Theia Finance Labs (2° Investing Initiative Deutschland e.V.)
c/o Wework
Neue Schönhauser Str. 3-5, 10119 Berlin
Germany
Jakob@theiafinance.org

References:

Inevitable Policy Response (2026). STAND Model.

Lazard Asset Management. (2025). *Navigating a fragmented climate transition: Stress-testing investor views on the net zero transition.* [Access report](#)

Thomä, Jakob et al. (2017). *Changing colors: Adaptive capacity of companies in the context of the transition to a low-carbon economy.* [Access report](#)

Theia Finance Labs. (2024). *How climate stress-tests may underestimate financial losses from physical climate risks by a factor of 2-3x.* [Access report](#)

Tilt SMEs (2026). *Climate Data Platform.*

