

Climate Risk to Investors

Workshop: Indicators for climate extremes and socio-economic impacts under different emission targets

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Kristina Alnes
Senior Advisor Climate Finance

CICERO Climate Finance Center

BRIDGING THE GAP

Meeting place for climate scientists and financial decision-makers

Estimating climate-related material risks (scenarios, Shades of Risk, detailed analysis)

Translating climate science for the financial community



Key Questions

- How do investors currently understand climate risk?
- What information do investors need and what are the barriers to enhancing investor knowledge?
- How can the research community work with investors?

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Large investors want to understand the climate risk in their portfolios

Blackrock (managing **7,5 trillion USD**) Vanguard (managing **4,4 trillion USD**) and State Street (managing **2,5 trillion USD**) have all made public statements on climate risk in 2016 and voted for more climate-related disclosure

ExxonMobil

In 2017 ExxonMobil and Occidental Petroleum were among companies targeted by “shareholder activism”.



Data from Proxy Insight shows that for seven of the largest US energy companies this year, the 30 largest investors switched their votes to support disclosure on climate risk (1).

And many investors support widespread climate-related disclosure

The **FSB Task Force on Climate-related Financial Disclosures (TCFD)** was tasked with developing a **framework for voluntary climate-related financial risk disclosures** with financial end users in mind. **400 global investors, managing over 22 trillion USD**, have signed statements of support for the TCFD-recommendations.

Core Elements of Recommended Climate-Related Financial Disclosures



Governance

The organization's governance around climate-related risks and opportunities

Strategy

The actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning

Risk Management

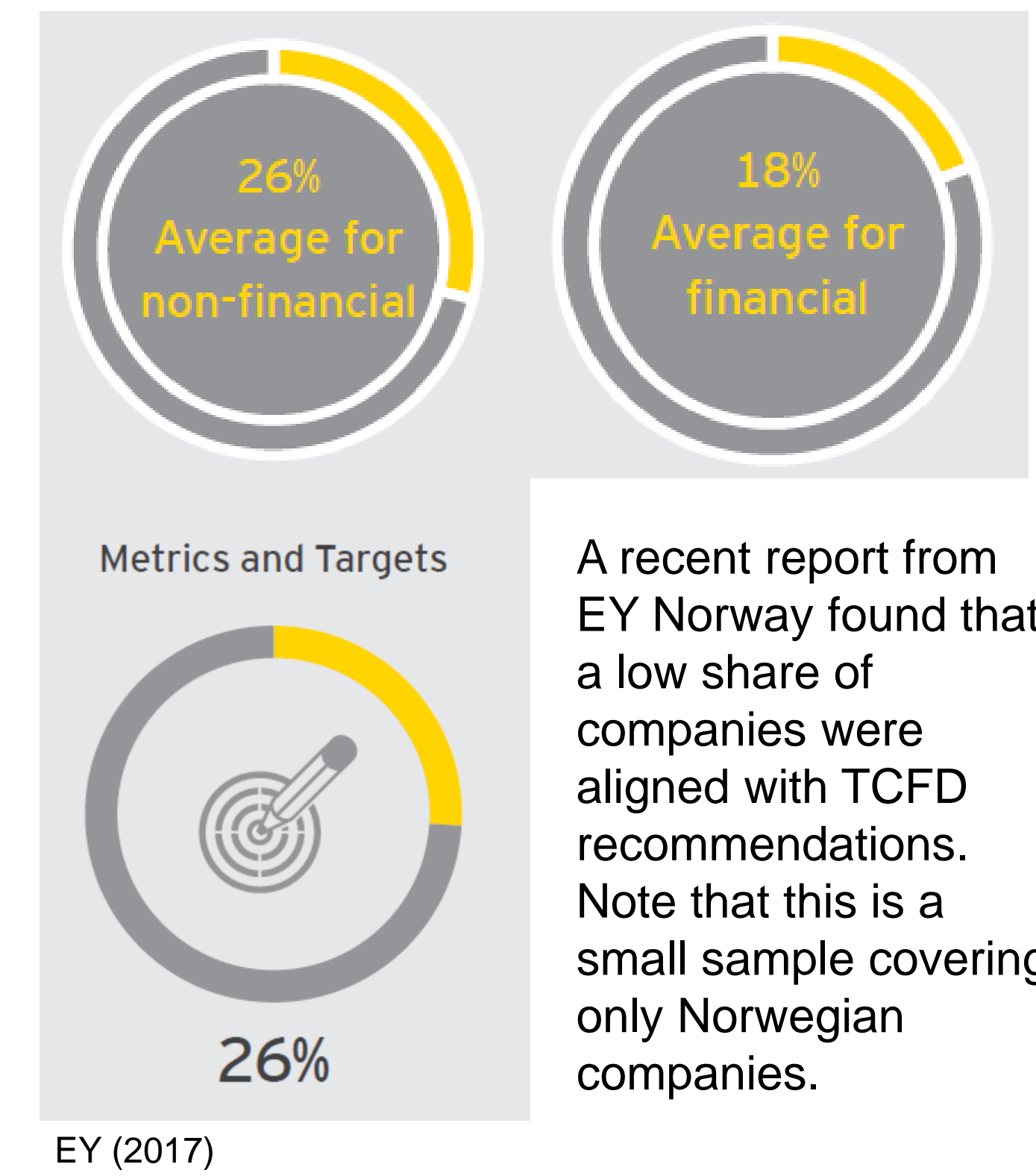
The processes used by the organization to identify, assess, and manage climate-related risks

Metrics and Targets

The metrics and targets used to assess and manage relevant climate-related risks and opportunities

TCFD: <https://www.fsb-tcfd.org>

But actual disclosure lagging



Enhancing investors' understanding

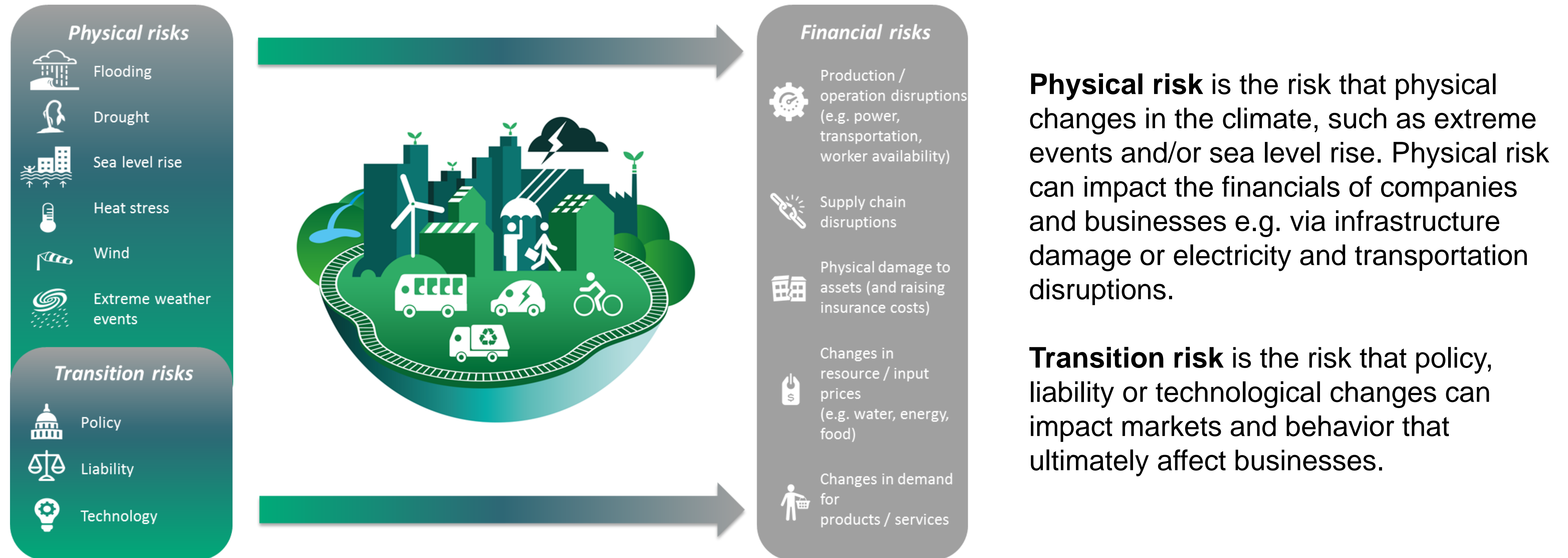
Current State

- IPCC assessment reports (AR) often too coarse, too broad or too disciplinary to directly inform decision-making (e.g., Howarth and Painter 2016).
 - Financial decision-makers use tools for climate risk analysis that are offered by commercial entities, but few of these climate services are available publically
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Key Challenges

- Creating public information that is flexible to be adapted by a range of users.
 - Combining qualitative and quantitative information
 - The literature and information sources differ in approach. Investors tend to focus on sector-level information, whereas physical impacts are often organized by geography. In addition, policies are often regional or country specific.
 - Working across scientific disciplines and between scientists and investors
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Scope of climate risk for investors



Notes

These climate risk categories are compatible with the categories used by the TCFD. Physical risk is broken out into extreme events and other sub-categories, all of which could have either abrupt and/or chronic impacts. The risk of catastrophic social impacts are not fully captured in the currently available suite of models, however the Shared Socio-economic Pathways (SSP) being developed in collaboration with the IPCC are an attempt to capture more social impacts.

CICERO Shades of Risk



Immediate attention required: impacts are already observed with a significant probability to increase



Some attention is required: impacts are expected in the next few years

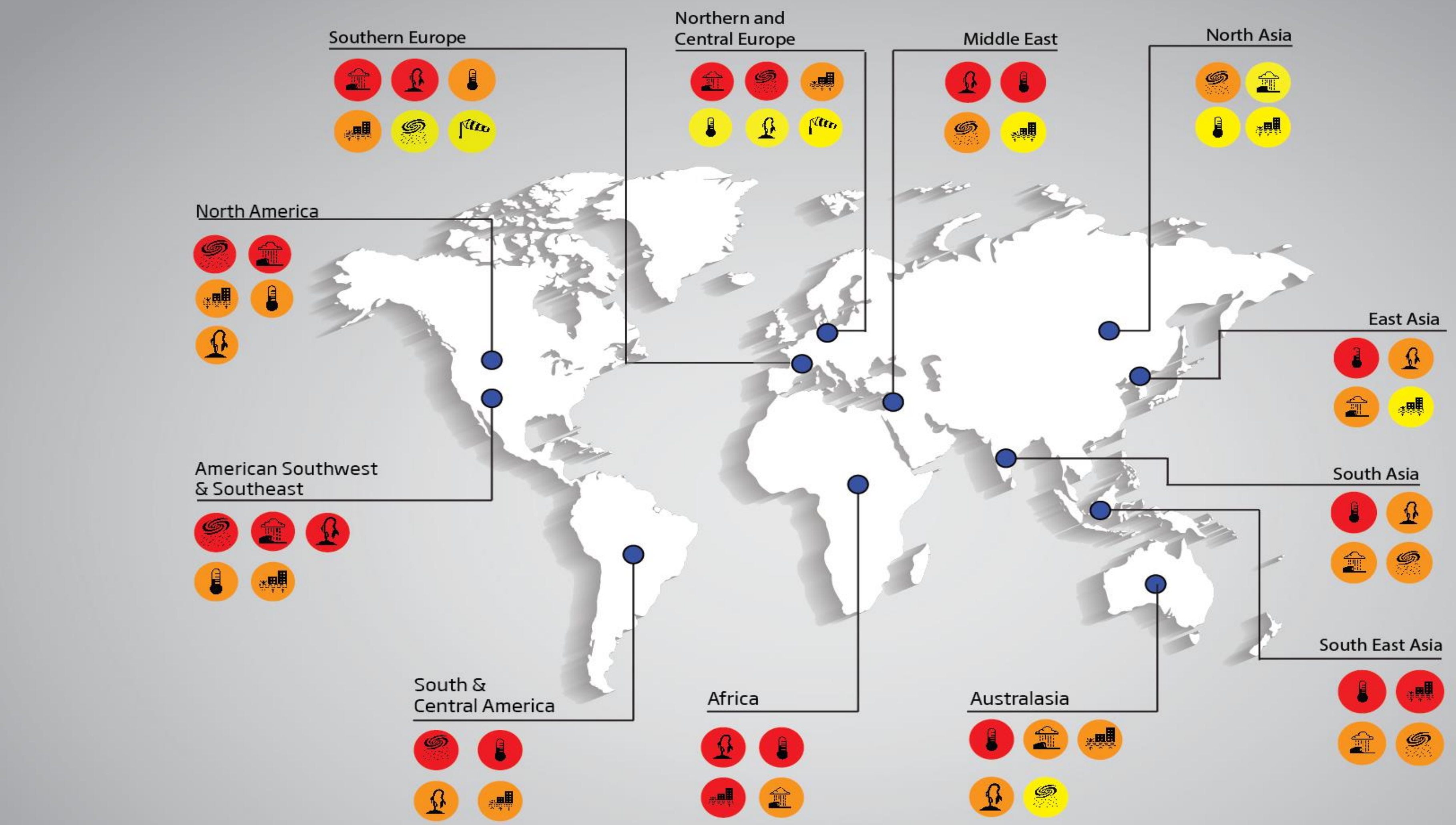


Caution: impacts could manifest towards mid-century

CICERO RISK MATRIX

High probability	Immediate attention required	Immediate attention required	Attention required in next few years
Medium probability	Immediate attention required	Attention required in next few years	Caution over the long term
Low probability	Attention required in next few years	Caution over the long term	Caution over the long term
	Impacts observed now	Impacts expected in next 10 years	Impacts expected mid-century

CICERO Shades of Risk



WIND

HEAT STRESS

FLOODING

EXTREME WEATHER EVENTS

SEA LEVEL RISE

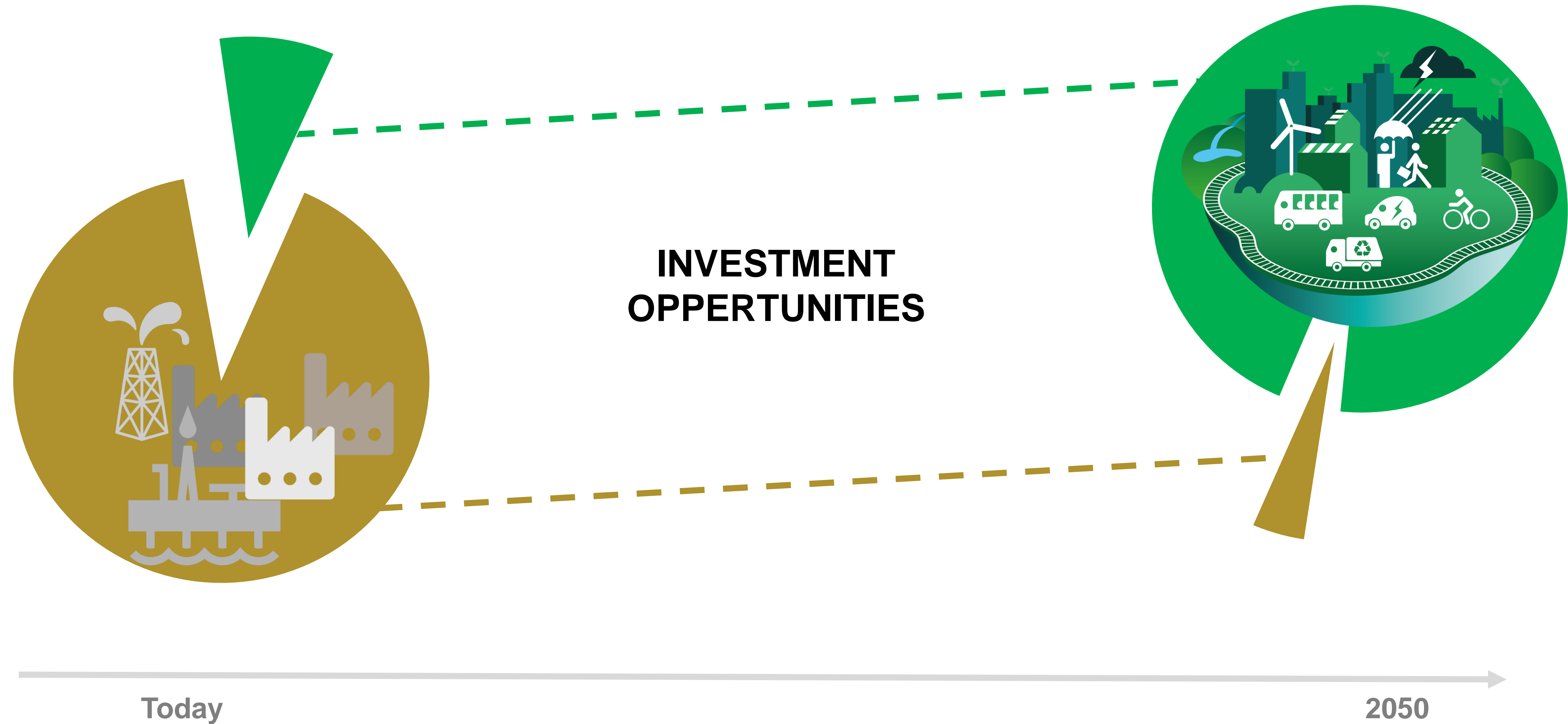
DROUGHT

Immediate attention is required: Impacts are already observed with a significant probability to increase.

Some attention is required: Impacts are expected in the next few years.

Caution: Impacts could manifest towards mid-century

Flipside of Climate Risk



CICERO Green Bond Rating System

SHADES OF GREEN

EXAMPLES



Dark green is allocated to projects and solutions that correspond to the long-term vision of a low carbon and climate resilient future.



Wind energy projects with a governance structure that integrates environmental concerns



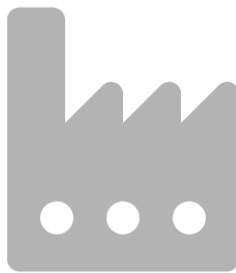
Medium green is allocated to projects and solutions that represent steps towards the long-term vision, but are not quite there yet.



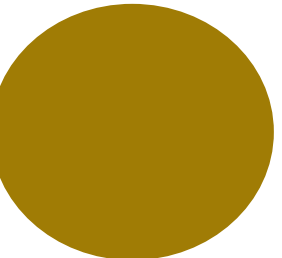
Plug-in hybrid busses



Light green is allocated to projects and solutions that are environmentally friendly but do not by themselves represent or contribute to the long-term vision.



Efficiency in fossil fuel infrastructure that decreases cumulative emissions



Brown for projects that are in opposition to the long-term vision of a low carbon and climate resilient future.



New infrastructure for coal

Lessons from bridging the gap

Time horizons differ: Investment horizons range from extremely short-term to long-term. Historic bias towards short-term analysis, but that is changing.

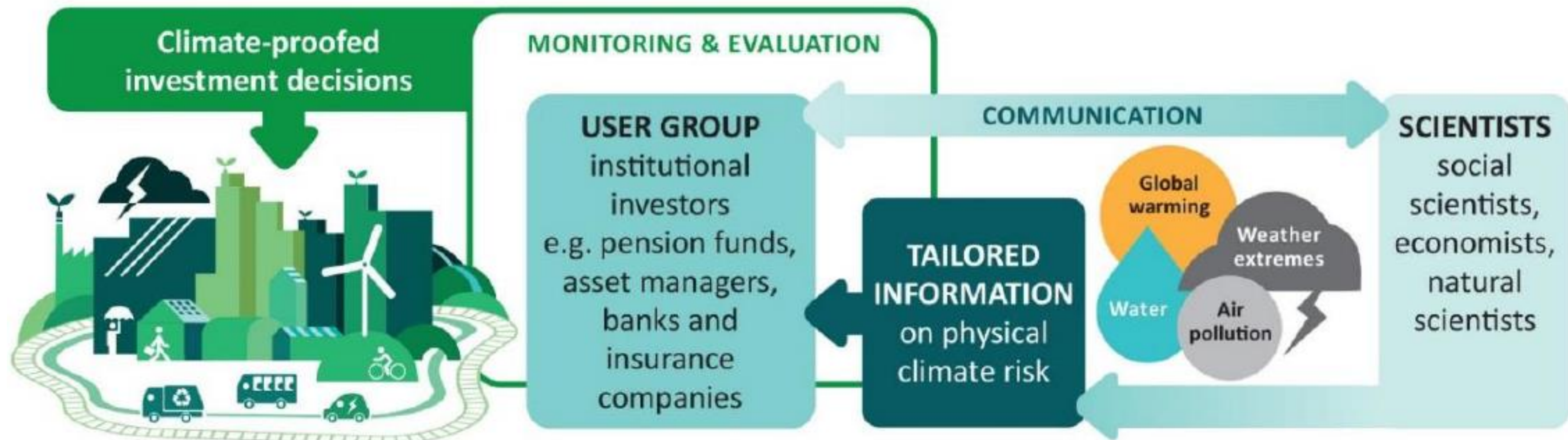
Creative framing: In lieu of metrics, grouping or color coding can be a useful

Different languages: both climate scientists and investors have their own language, capacity building is needed on both sides

Building blocks: financial community may not be used to scientific processes, it is important to manage stakeholder expectations

Next building block: ClimINVEST

Climate change is increasingly affecting financial assets across the globe. The ClimINVEST project brings scientists and investors together to develop tailored tools for assessing physical climate risk and identifying climate-resilient investment opportunities.



Points for discussion

- Are there existing tools and indicators developed for other user groups that could be adapted to investors?
- Can we reframe existing indicators for these stakeholders?
- Can we create more spaces for dialogue and capacity building between scientist and investors?

www.cicero.oslo.no/climateriskreport

<http://www.cicero.oslo.no/en/climinvest>

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