



Integrating ESG and Climate Risks in Risk Management

Extending the horizon from climate-risk to nature-related risks

November 6th, 2024

AGENDA

1

CLIMATE RISKS AND SUSTAINABLE FINANCE CHALLENGES

2

CLIMATE RISK, TRANSITION & BIODIVERSITY: THE ECB WEAPONS

3

CONCLUSIONS

THE EFFECTS OF CLIMATE CHANGE (AS OF LAST YEAR - 2023)

Emilia Romagna (Italy)



May 2023

Estimated damage: 8.8bln €¹

Thessaly (Greece)



September 2023

Estimated damage: >2bln €²

Valcea County



Yearly

Estimated damage: 1.7 bln €³

¹ Source: Regione Emilia-Romagna

² Source: Governor of Thessaly region

³ Source: World Bank, <https://www.worldbank.org/en/results/2023/03/22/-flood-hazard-and-risk-maps-development-and-use-of-flood-maps-to-strengthen-integrated-flood-risk-management-in-romania>

... BUT 2024 IT HAS ALSO BEEN (UNFORTUNATLY) A SEVERE YEAR



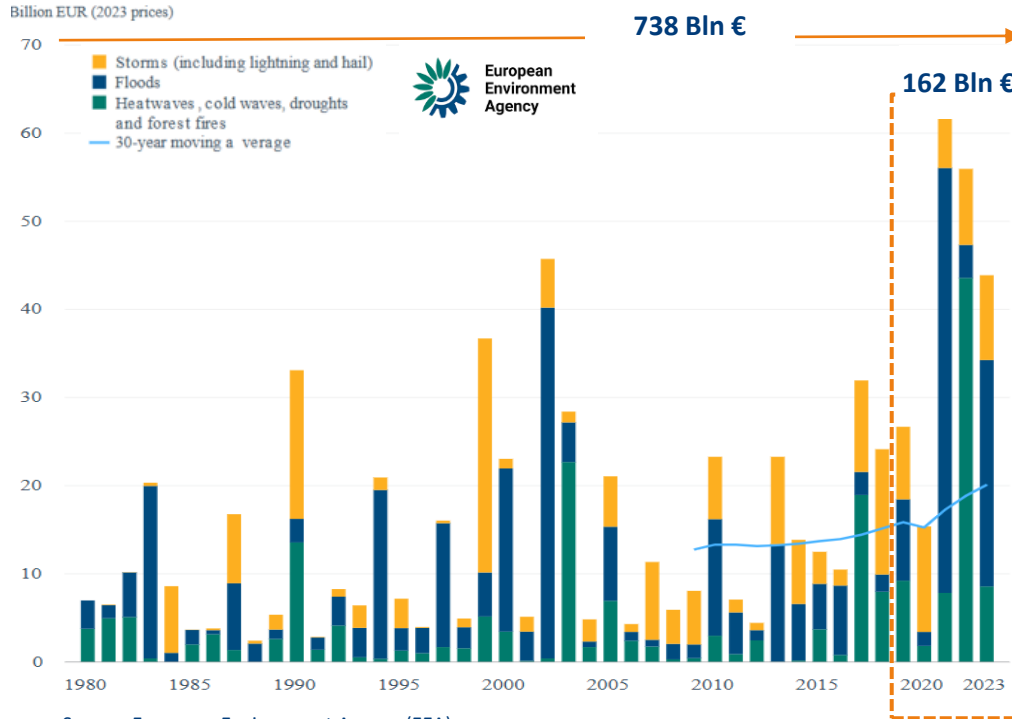
From Reuters – “The worst floods to hit central Europe in at least two decades have left a trail of destruction across central Europe, killing at least 24 people.”



From Reuters – “more than people have been killed in possibly the deadliest flooding to hit Spain in its modern history”.

THE TREND IS VISIBLE: LOSSES FROM CLIMATE RISK ARE SPIKING

Figure 1. Annual economic losses caused by weather- and climate-related extreme events in the EU Member States



Source: European Environment Agency (EEA)

key insights from the European Environment Agency

- Weather- and climate-related extreme events caused economic losses on assets estimated at **EUR 738 bln** during **1980 - 2023** in the **European Union**
- Over **EUR 162 bln (22%)** losses are associated to the **2021-2023 period**
- As **severe events** are **expected to intensify** further, it seems unlikely that associated economic losses will reduce by 2030

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ECB WEAPONS TO DRIVE THE TRANSITIONS



The Risk Assessment to drive the transition

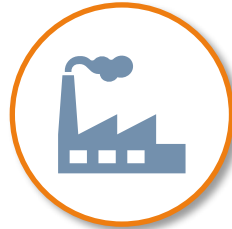
1 Physical risk



Impacts from **increasing extreme natural events** and gradual shifts in **climate conditions**

Companies Losses
Loss Given default

2 Transition risk



Risks related to companies' **adjustments towards a lower-carbon and sustainable economy**

Investments and P&L
Probability of defaults

3 Nature-related (biodiversity) risks



Environmental risks from firms' activities and **impacts** from **depletion of natural capital**

“Double materiality”
[“Dependency” vs. “Impact”]

1. THE PHYSICAL RISK: THE TANGIBLE IMPACTS TO COMPANIES AND BANKS



Companies losses and default



Loss given default



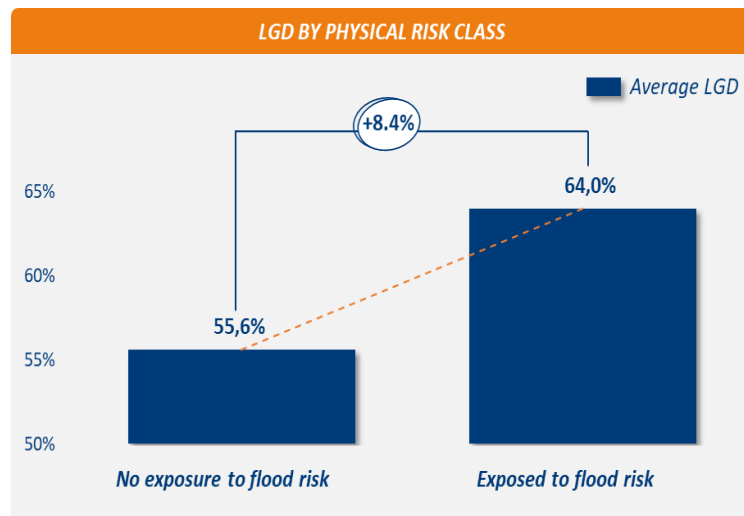
Direct damages:

Damages on **physical assets** such as **buildings/sheds, machinery and inventories**



Indirect damages:

Business interruption (loss of revenues) and **cost increases** (e.g., heating/cooling costs)



1. PHYSICAL RISKS: GRANULARITY AS A KEY FACTOR

Data quality and granularity are pivotal requirements for correctly taking into account the local nature of climate-related risks

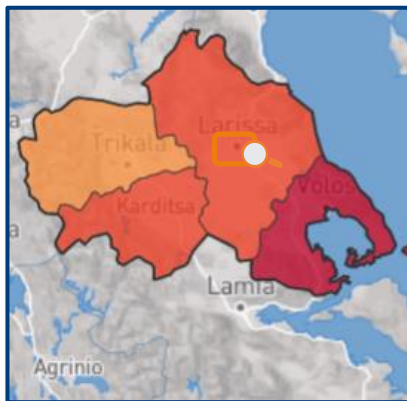
Macro-Regions

12 NUTS2 territories



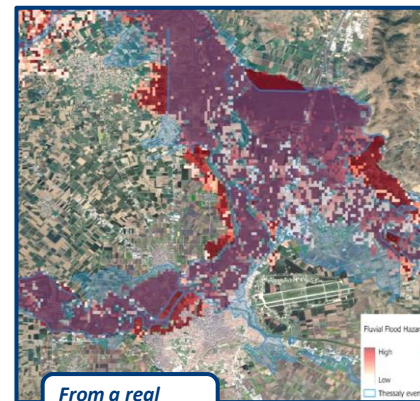
Provinces

52 NUTS3 territories



Single address

All buildings



From a real
CRIF project

Higher granularity

1. PHYSICAL RISKS: A GRANULARITY APPLICATION [CRIF DATA LAKE]



Building information

Low risk collateral

EXAMPLE 1



- **Type:** Apartment
- **Destination:** Residential
- **Surface:** 96 m²
- **Location:** Aigialeia, Achaea
- **Flood probability:** not negligible
- **Floor:** entirely on 2nd floor

High risk collateral

EXAMPLE 2



- **Type:** Hotel
- **Destination:** Touristic usage
- **Surface:** 632 m²
- **Location:** Nestos, Kavallas
- **Flood probability:** not negligible
- **Floor:** between ground and 2nd
- **Material:** reinforced concrete
- **Year:** 2023



Average Annual Losses



Flood Not significant



Wind Not significant



Flood x.xxx€ at 2020s
x.Xxx € at 2040s



Wind Not significant



2. TRANSITION RISK: COMPANY'S P&L - INVESTMENTS DRIVE THE PD

Illustrative



Impact on Revenues:
-54,2% due to demand shifts from fossil fuels to green energy sources

Impact on Operating costs:
+14,1% due to a high forecasted "carbon tax*" to be paid

Impact on Investments:
+5,6% due to a remarkable GHG reduction required by 2050 Net Zero target

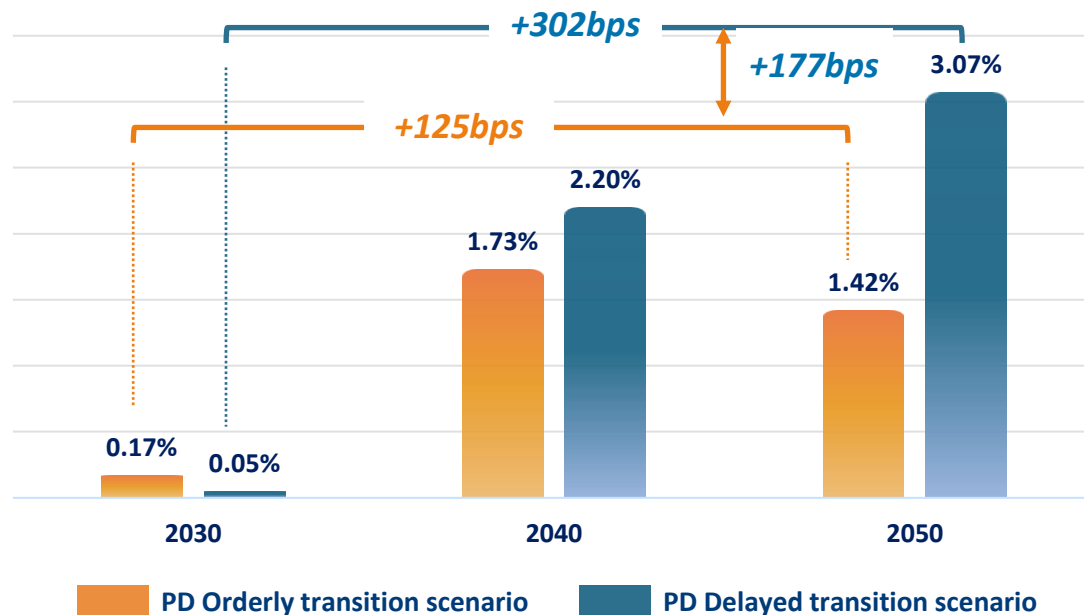
New technologies to enable the transition



Potential impacts on Credit Metrics (PD, LGD)

2. TRANSITION RISKS: DIFFERENT SCENARIOS IMPACTS ON PD

From CRIF evaluation - Average variation of SMEs' probability of default (PD) for two transition scenarios compared to the no transition case.



- **Orderly Transition** scenario implies **immediate but gradual transition initiatives**, with more **contained impacts** on companies' PDs in the long run
- The **Delayed Transition** scenario implies instead **late and abrupt actions** by companies, causing **significant PDs increases** when approaching the **2050 transition deadline** (about 15bps y-o-y).

3. NATURE RELATED RISK **FOUR MAIN QUESTIONS TO APPROACH IT**

1



Are Companies dependent to the ecosystem ...?

72% of companies highly dependent on at least one ecosystem service (i.e. water, forest,..)

2



Are Banks lending to highly dependent Companies...?

75% of all bank lending [euro area] directed to highly dependent companies

3



Degradation of nature is undermining production...?

Undermine production weakening the creditworthiness (PD)

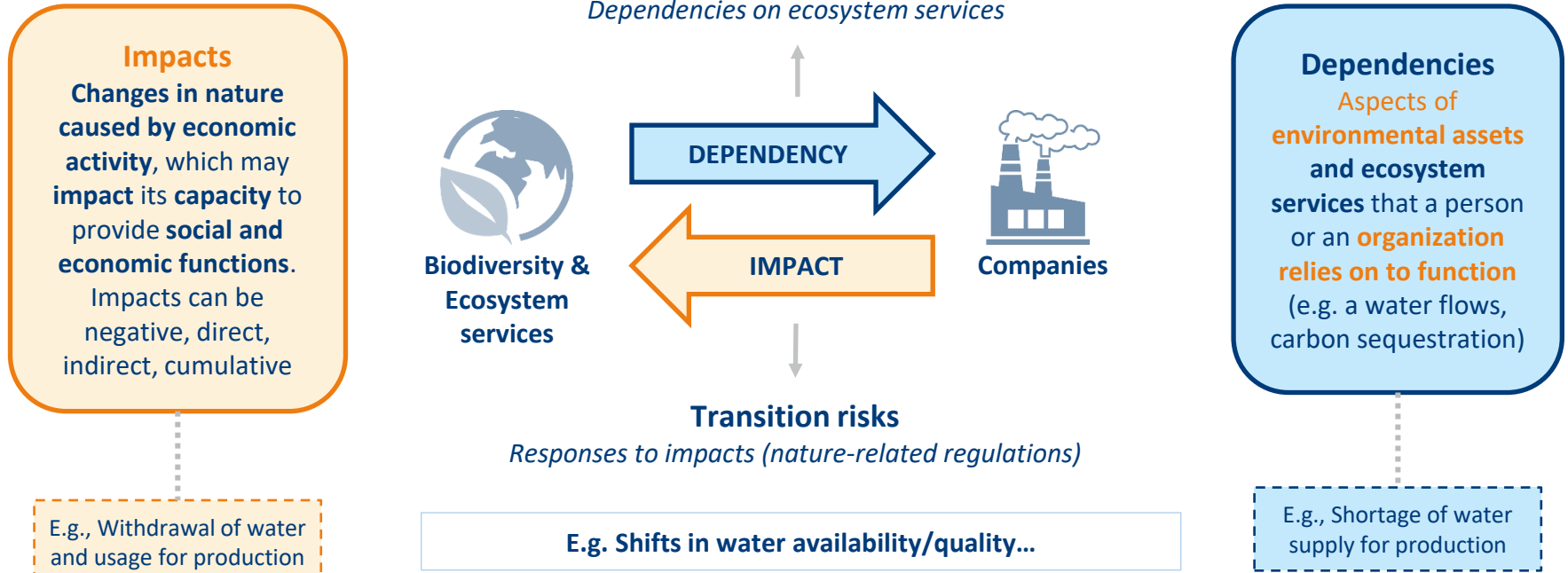
4



How Vulnerable of economy is...?

Goal: to understand overall Economy vulnerability and the related policy responses

3. NATURE RELATED RISKS: THE DOUBLE MATERIALITY [DEPENDENCY VS. IMPACT]



3. NATURE RELATED RISKS: AN EXAMPLE FROM REAL EVALUATION

Illustrative

Evaluation of a real utility company



This company operates in the **distribution of gas, water, energy, and waste management** services in Northern & Central Italy

Results of the analysis

Impact evaluation

Pollution:



No relevant air pollutants (non-GHG)

Water usage:



Significant impact in terms of water consumption levels

Dependency evaluation

Atmosphere:



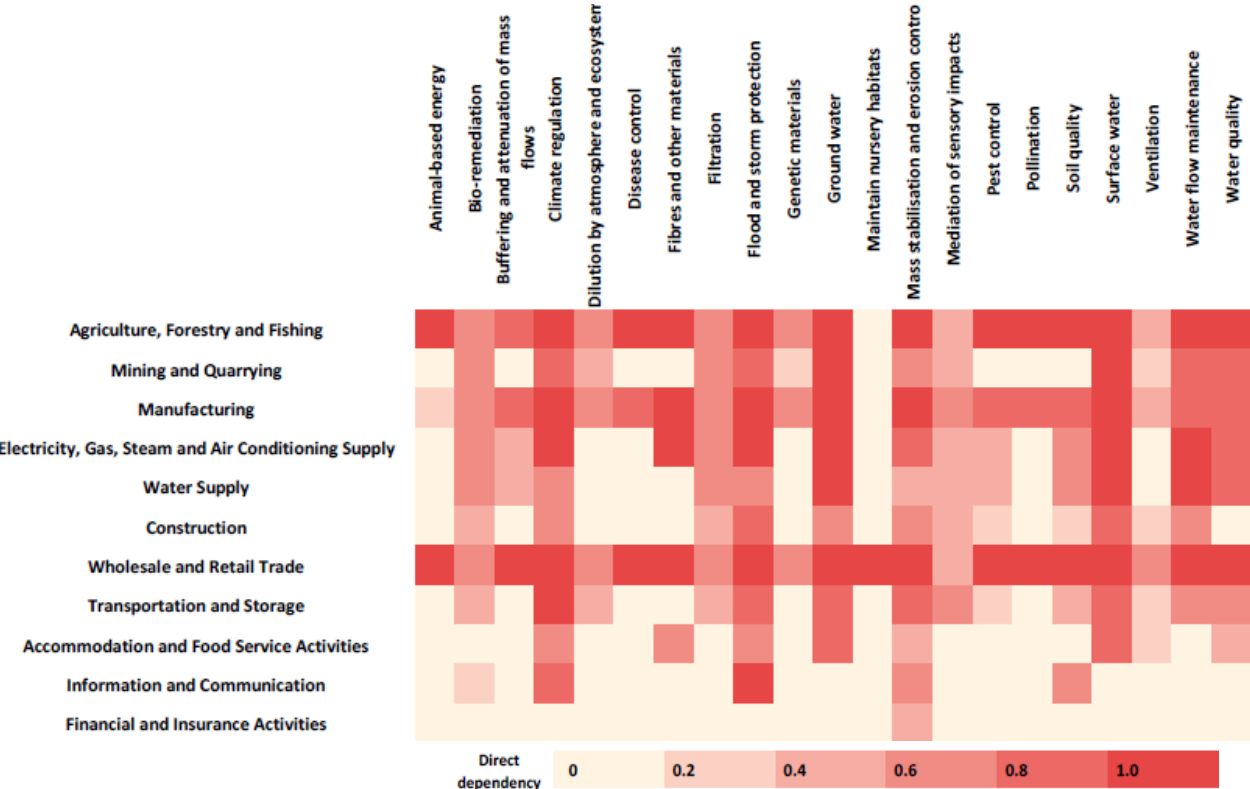
No exposure on climate events

Water resources:



Several phases of production process dependent on water

3. THE STATING POINT FOR THE INTEGRATION : WHICH SECTORS ARE HIGHER DEPENDENCY?



- Wholesale and retail trade: the high dependency on ecosystem services is mainly related with the value chain starting from the raw materials necessary for the production of the goods sold: wood for furniture, water and soil for food and beverage,...
- Agriculture, Forestry and Fishing: this sector has the highest dependency on nature. Such dependency is directly connected with income generation of the business: water availability and quality, soil quality, etc..

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ESG REGULATIONS REQUIRE DATA & ANALYTICS «CONSISTENCY»

7 Main Regulations and requirements

TOPIC	BODY	2024 (UP TO Q3)
CRR3/CRR6 PACKAGE		<ul style="list-style-type: none"> IRB stress test with ESG components ESG elements inclusion in real estate valuation
PILLAR 3		<ul style="list-style-type: none"> Calculation of GAR for FY 2023
ESG RISK GUIDANCES		<ul style="list-style-type: none"> Inclusion C&E risks in internal models ECB Guidance
TAXONOMY		<ul style="list-style-type: none"> Entry into force of the last 4 environmental objectives: water use and protection, circular economy, pollution prevention and control, biodiversity
CSRD		<ul style="list-style-type: none"> 2025 Large Companies PIE: 500+ employees, Tot. Balance sheet > 20 mln €, Net revenues > 50 mln €
CSDD		<ul style="list-style-type: none"> Entry into force
ESG RATING REGULATION		<ul style="list-style-type: none"> Amendments on the proposal by the European Union Bodies Defined list of future Delegated Acts and their timeline by ESMA

- 1 Wide and consistent Data Sources - Lake
- 2 Granular and “single name” KPIs [strong global Business Information Network]
- 3 Solid and proved Methodology (already applied)

THE CRIF EXPERIENCES ON THE GROUND

80+

Financial Institutions
using our ESG Services

4mln+

ESG evaluations in 2023
between counterparties
and properties

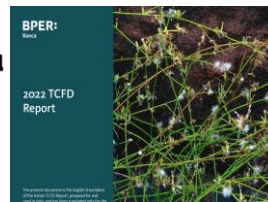
Some of the Banks and Clients leveraging on CRIF's ESG services

ARTEMIS



CREDIT
AGRICOLE

BPER BANCA



UNICREDIT

2 SIGNIFICANT
GREEK BANKS



*CRIF support on Climate +
Nature-related risks*



MULTILATERAL EU
FINANCIAL INSTITUTION

MEDIOLANUM



BANCO BPM

List non exhaustive



“We are putting at risk more than half of global GDP. Around €40 trillion of global income relies on nature.”

“We will closely monitor banks’ progress towards meeting supervisory deadlines.”

“We will use all measures in our toolkit to ensure the sound management of C&E risks. These include imposing periodic penalty payments but also setting Pillar 2 capital requirements [...]”

Frank Elderson

Vice-Chair of the Supervisory Board, European Central Bank
European Central Bank



For further information



THANK YOU!



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