Insurance and financial instruments for risk management and climate-related hazards – Insights and perspectives

Felipe Ortega Schlingmann, Head of Division, Projects Directorate, European Investment Bank

Miguel Pérez Cimas, Director, Entidad Estatal de Seguros Agrarios (ENESA), Spain

Sébastien Gauthier, Marketing Project Manager, Crédit Agricole, France

Ana González Peláez, Head of Adaptation and Loss & Damage, Howden Group

#10EAFRDconf

European Commission

European Investment Bank

Insurance and financial instruments for risk management and climate-related hazards – Insights and perspectives

Felipe Ortega Schlingmann, Head of Division,
Projects Directorate, European Investment Bank

#10EAFRDconf

European Commission

European Investment Bank

A COMPLEX BALANCE

The needs and challenges of modern agriculture

Feeding a growing population

- **Food security:** affordability, diversity and distribution
- **Poverty, health** and hunger

Providing a **livelihood** for farmers

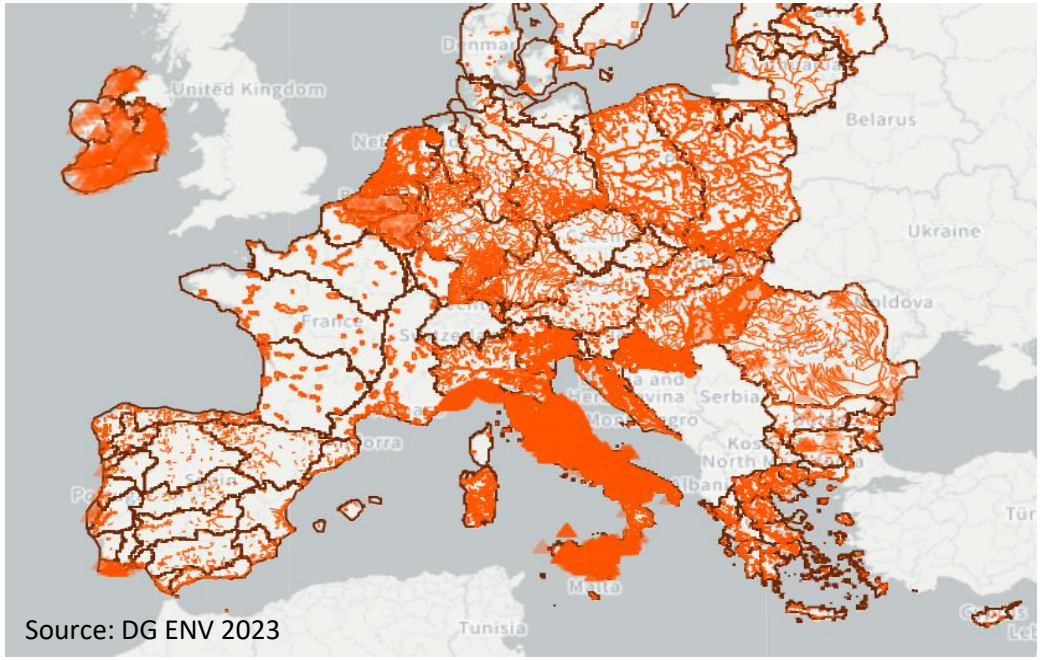
- **Equity:** fair distribution of revenues and costs
- **Trade,** economic interests and welfare
- **Social fabric**: relaunch of **rural economies** and resilience of **rural populations; youth** and **gender**

Protecting the **environment**

- **Planet boundaries:** climate, pollution, water, biodiversity
- Increasing demand of **natural resources**
- Biomaterials and bioenergy

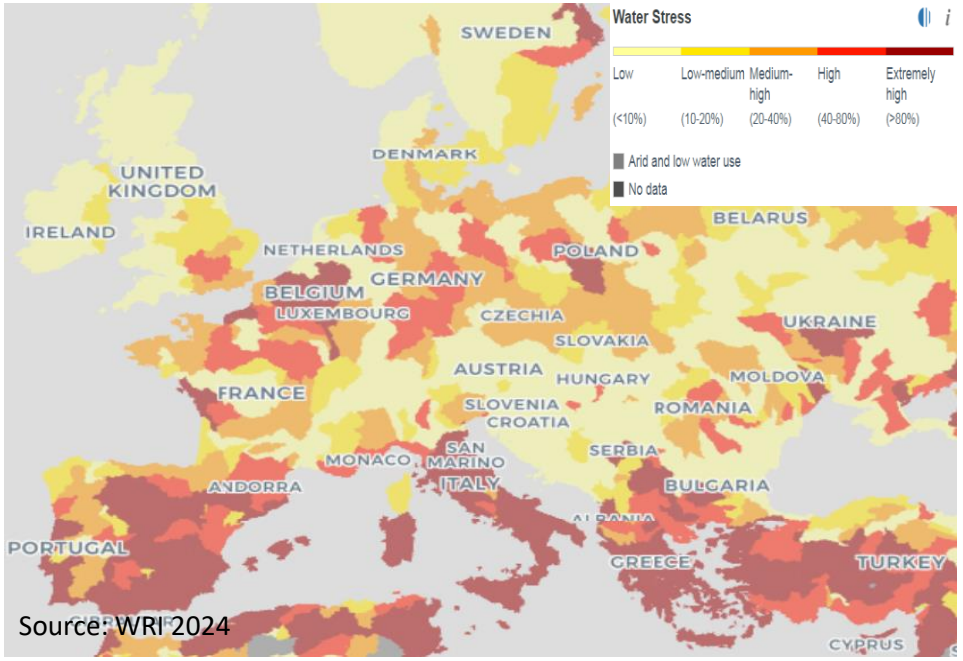
AGRICULTURE, CLIMATE CHANGE AND ENVIRONMENT

Higher vulnerabilities in flood risk areas,



Source: DG ENV 2023

…or water stress by 2030.



Source: WRI 2024

- **Damage resulting from climate change and natural disasters add uncertainty to the farming business……**
- **Only for drought, an expected +EUR 65 bn per year losses in agriculture by 2100 compared with EUR 9 bn per year currently (EU and UK)***
- **Only 25-30% damage is insured in EEA (All sectors).**

European Investment Bank

*) Nauman et al. - Nat. Clim. Chang. 11, 485–491 (2021): Total economic cost of damages because of global natural disasters from drought, floods, extreme weather and temperature, landslides, dry mass movements, wildfires, volcanic activity and earthquakes - constant 2023 US$ bn.

AGRICULTURE AND ADAPTATION

"Every euro invested in prevention and resilience can save between five to seven euros in damage repair costs"

Key focus areas - examples

RDI

- Breeding programs for abiotic or biotic stresses
- Development of climate-smart agricultural practices

Climate-resilient supply chains infrastructure

- Cold storage, post-harvest handling infrastructure
- Technologies for forecast or monitoring climate-related risks

Risk management products

- Insurance products tailored to bioeconomy value chains
- Fire management and intervention
- Use of different species (forest; agriculture)

Capacity building and training programs

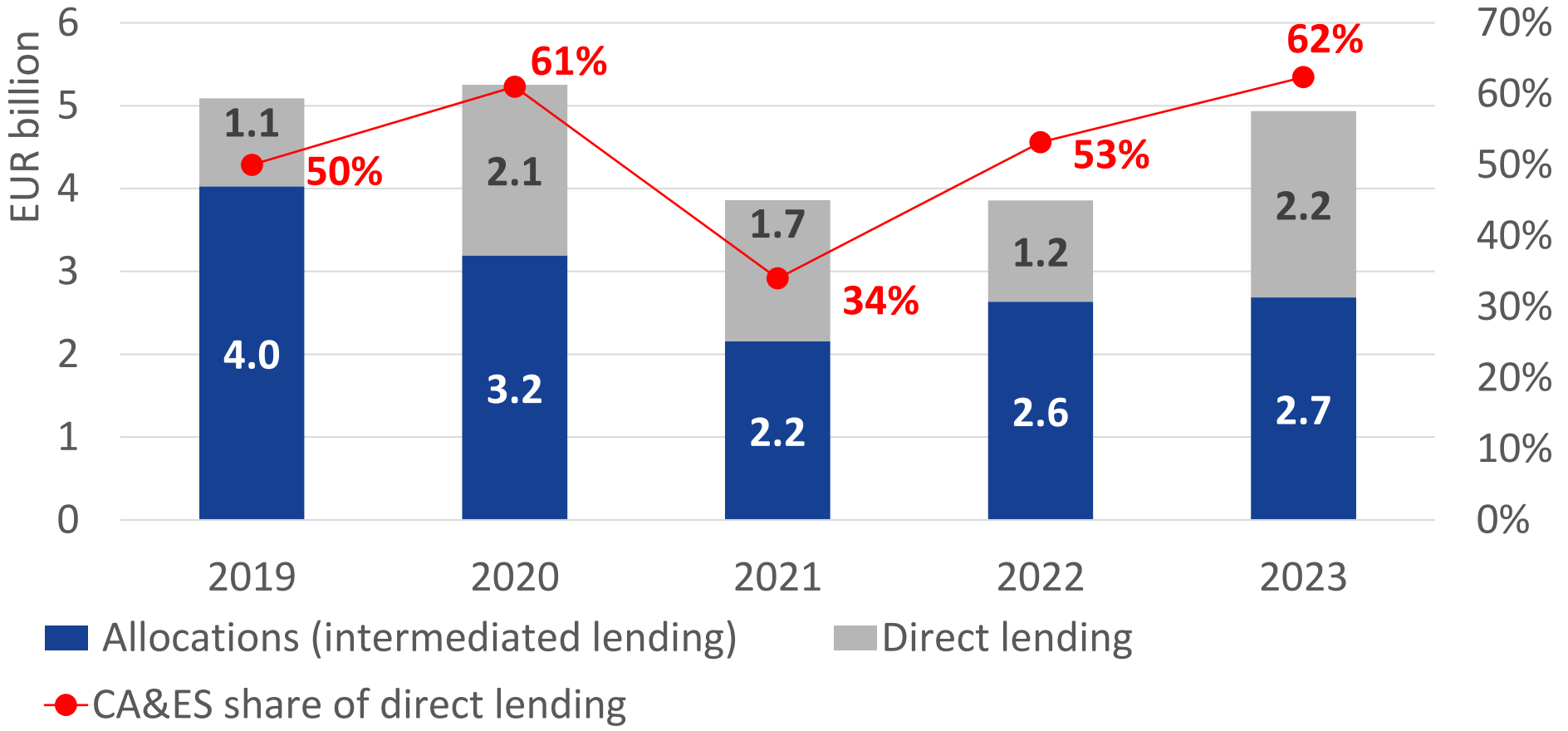
- Extension services for climate-resilient cropping and technologies

Agriculture Practices and Resource efficiency

- Enhancement of carbon sequestration in soils
- Precision agriculture technologies
- Efficient irrigation methods, recycle or reuse water

AT A GLANCE: EIB ACTIVITIES IN THE BIOECONOMY

EUR 5 bn per annum (2019-2023), 20% on average outside EU



EIF complements EIB with investment of similar size, through its specific focus on SMEs and dedicated financial instruments.

Project example:
RDI IN NEW SEED VARIETIES

Support in research and innovation in breeding activities in agriculture for climate action adaptation.

EUR 464 m

4 projects in EU

- Preventing **yield decline** as productivity increasingly threatened by more **frequent** and **harmful stresses.**
- Accelerating **agroecology transition** Enhancing **Biodiversity** in a pool of germplasm.
- **Resource efficient** crops mitigating the forthcoming **scarcity** of natural resources and **increasing demand** of crop products.
- **2 800 RDI jobs sustained per year** in rural economy.

European Investment Bank

Project example:
EAFRD CO-FINANCING CASTILLA Y LEON 2023-27

- **Infrastructure and equipment for climate adaptation:**
  - **irrigation modernisation, improved water storage,**
  - **insulation of farm buildings...**
- **Improved biodiversity**
- **afforestation** and **fire prevention**

EUR 245 m loan
EUR 727 m project

Country: Spain

GHG emissions reduction:
- **energy efficiency**
- **irrigation efficiency**
- **forest fire prevention**

Ca. 12 600 ha of forests and habitat protection, **56 240 farmers** benefiting, **3 182 businesses** supported

Securing jobs in rural economy:
Construction: **3 937 person/year**
Operation: **56 FTE**

European Investment Bank

Project example:
PARTIALLY DEDICATED MBIL FOR IRRIGATION ASSOCIATIONS (SPAIN)

- **Financing small and medium-sized projects.**
- **SMEs, Midcaps and comunidades de regantes.**
- **Upgrade of existing infrastructure to improve efficiency in both water and energy usage.**

Regional: Europe

Presence of SABADELL

EUR 100 m loan to CCRR/ EUR 1400 m project

Change in water demand for Agriculture (2050)

20% Adaptation

GHG emissions reduction: **from less electricity consumption and renewable energies adoption**

ca. 2 000 000 ha potential market mainly in the Mediterranean arch

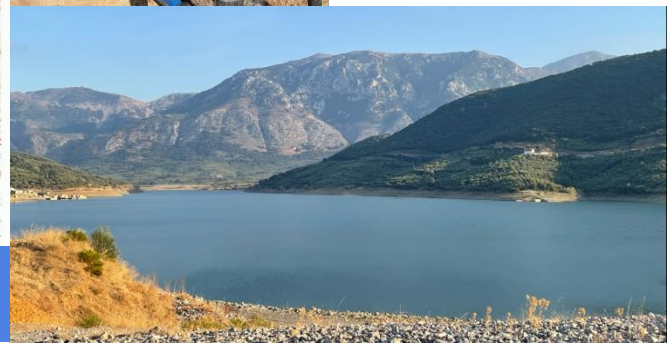
Significant **positive externalities:**

- water improvements in efficiency of networks and equipment,
- adoption of more efficient equipment and renewable energies, enabling adaptation.

Project example:

PLATYS IRRIGATION INFRASTRUCTURE AND FLOOD PROTECTION

1. New reservoir (21 Mm3) to swap current unsustainable groundwater abstraction from the Messara plain in south Crete, through an 18.6 km transfer.
2. Improved irrigation in the surrounding area of the infrastructure (4 350 ha).
3. Protection of downstream villages from flood, while implementing infrastructure to adapt to climate change.



EUR 80M loan/ EUR 160M project

Regional: Europe

GHG emissions reduction:

- **less electricity consumption and carbon capture in olive trees,**
- **ca. 10 000 ha** without underwater pumping **4 350 ha** of enhanced irrigation services.

GHG mitigation, groundwater protection, flood control, socio-economic development.

Securing jobs in rural economy:
Construction: **1 590 person/year**
Operation and farm level: **242 FTE**

European Investment Bank

Project example:

PROJECT PREPARATION: TECHNICAL ASSISTANCE ON ADAPTATION IN EGYPT

Adapting the agriculture sector to the impacts of sea level rise and climate change in the Northern Delta:

- Enhance smallholders and rural communities' capacity to respond to sea- level rise and other impacts of climate change.
- Promote agricultural production practices and diversification for food and income security resilient to rise in temperatures, sea levels and salinity, and other climate change impacts.
- Identify financing options and sources for the proposed investments.

Thank you!

Co-funded by the European Union

#10EAFRDconf

Instrumento Financiero de Gestión Centralizada

The Spanish Agricultural Insurance System: Characteristics, achievements and challenges

Miguel Pérez Cimas, Director, Entidad Estatal de Seguros Agrarios (ENESA), Spain

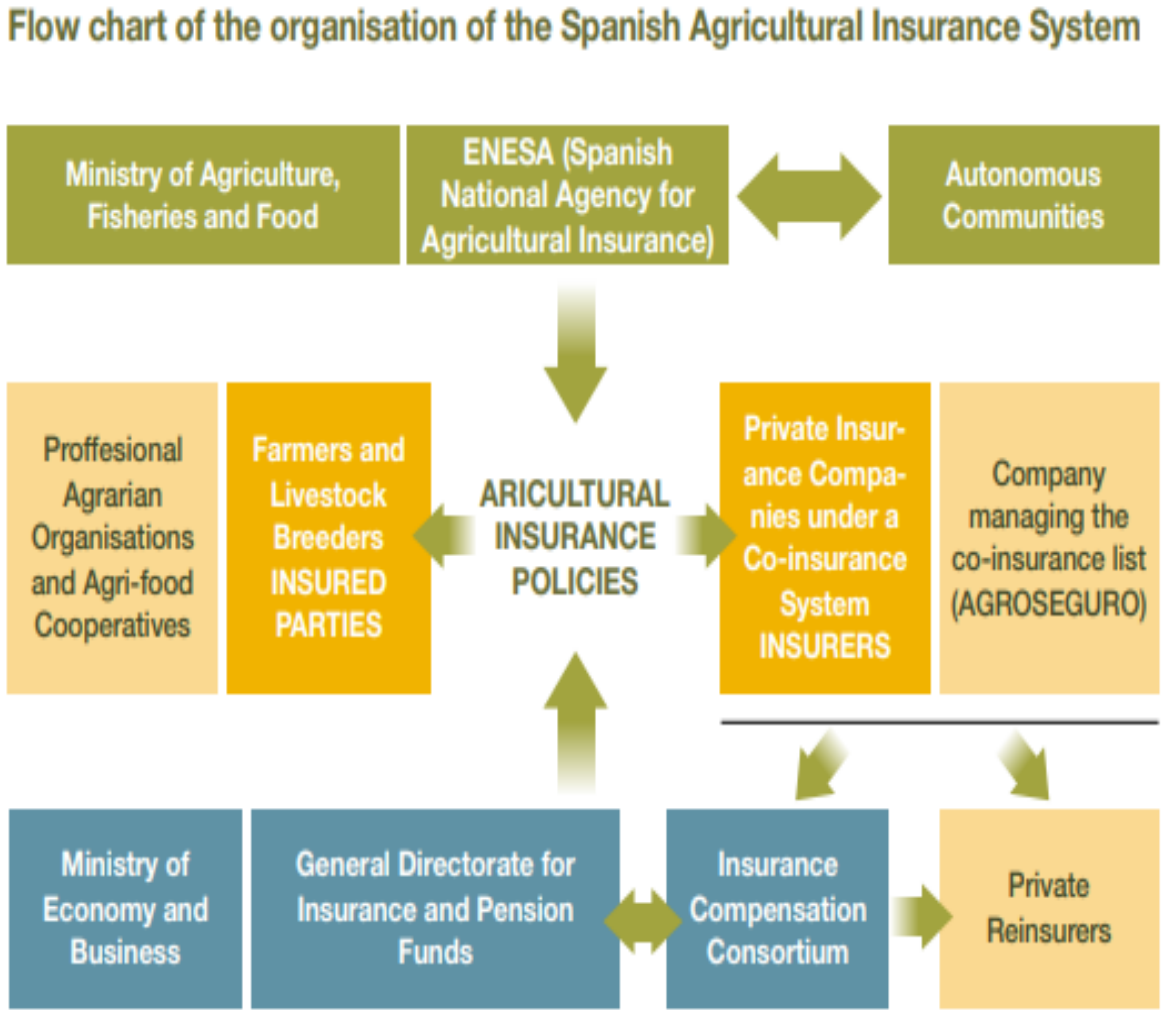
#10EAFRDconf

European Commission

European Investment Bank

1. Main characteristics

- **Law nº 87/1978**, of 28 December, of Agricultural Insurance and regulation for its application.
- **Public/private** system.
- **Main actors of the System**: Ministry of Agriculture, Fisheries and Food & the State Agency for Agricultural Insurance (ENESA), Insurance Compensation Consortium (CCS), Directorate-General for Insurance and Pension Funds, Regional governments, the Spanish Association of Combined Agricultural Insurance Companies (AGROSEGURO), Farm sector representative organizations (Professional organizations and Cooperatives).



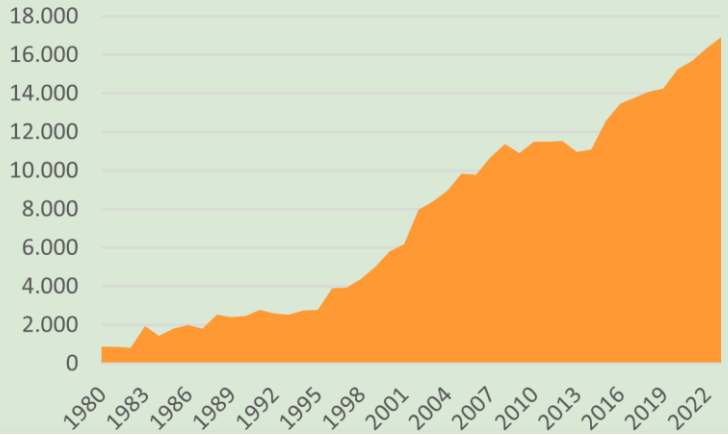
1. Main characteristics (2)

- **Production insurance,** that covers the **relevant climatic risks** and some pests and animal diseases.
- **National funding,** compatible with the internal market under the UE Guidelines for State Aid.
- **Public reinsurance** by the Insurance Compensation Consortium (CCS).
- Approval of **Annual Plans.**
- **Participatory system. Coordinated by ENESA . Permanently Under-reviewed.**

2. Achievements over more than four decades of development

Currently, the Spanish Agricultural Insurance System covers most of the agricultural and livestock productions (45 different lines).

- 6 millions ha.
- 418 millions animals
- 17.000 million euros insured capital.



The level of implantation is variable. These are the most popular lines (% insured/insurable)

- Bananas/Tomate in Canary Islands (100%)
- Persimmon (78%)
- Garlic (76%)
- Fruit trees (70%)
- Arable crops (69%)
- Wine grapes (56%)

- Egg poultry (86%)
- Meat poultry (51%)
- Beef cattle for breeding and production (35%)

3. Current and future challenges of the system

1. Maintaining the system,
under two necessary and simultaneous conditions:

- **Ensuring sustainability**
- **Guaranteeing the tool's usefulness for farmers and livestock producers.**

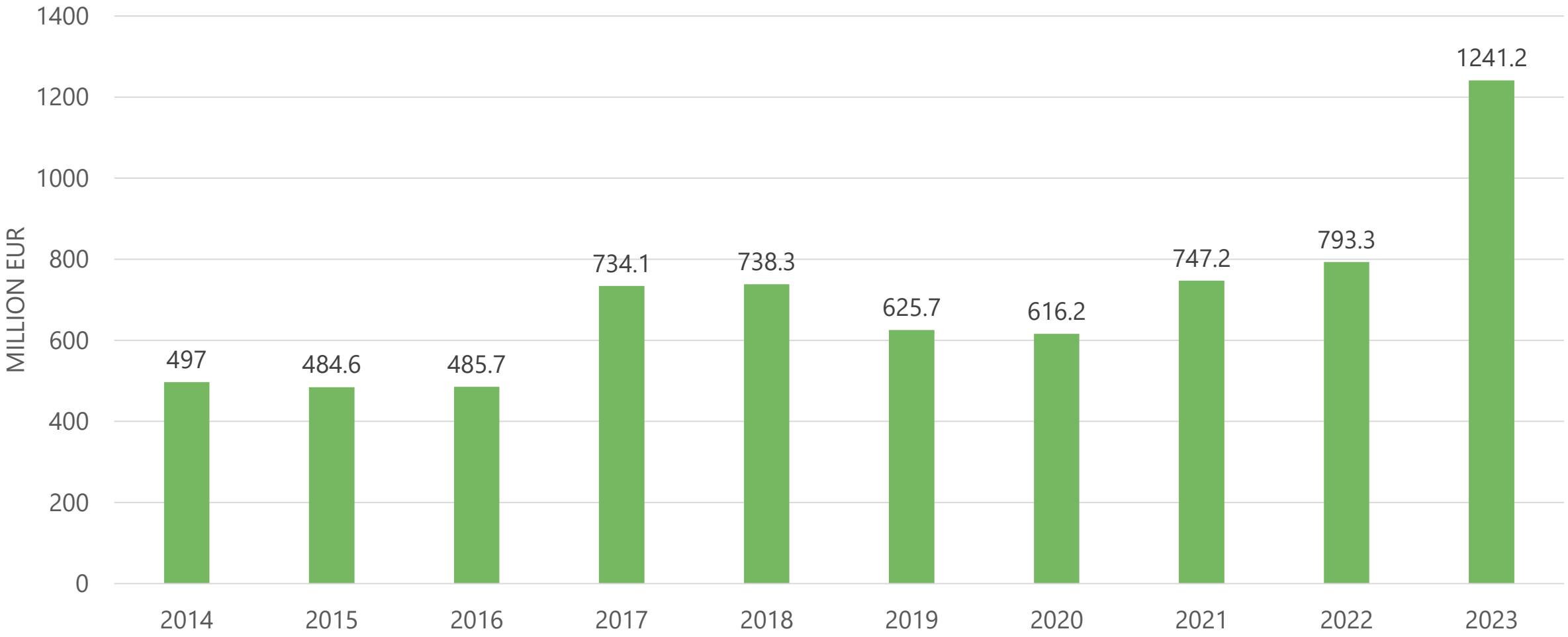
2. Increasing the adoption of agricultural insurance.

Especially in those lines with lower % of implementation.

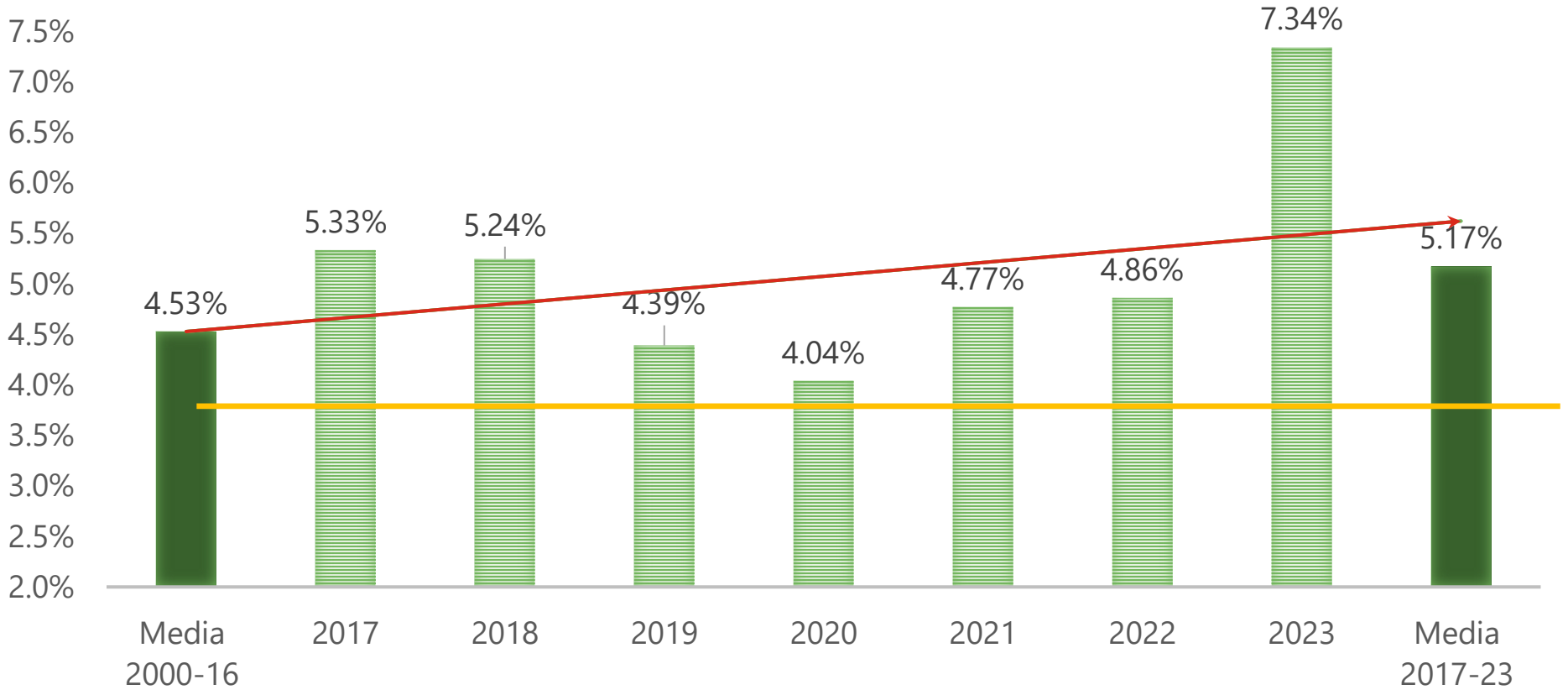
3. Facing up to the impact of climate change.

- **Increase in claims.**
- **System imbalance.**
- **Need to adapt the system and farms.**

4. Evolution of claims in the past decade



5. Evolution of the media ratio ‘claims/insured capital’



Thank you!

ENESA

Entidad Estatal de Seguros Agrarios O.A.

ENESA@MAPA.ES

Integrating climate risks into the funding of agricultural projects

Sébastien Gauthier, Marketing Project Manager,
Crédit Agricole, France

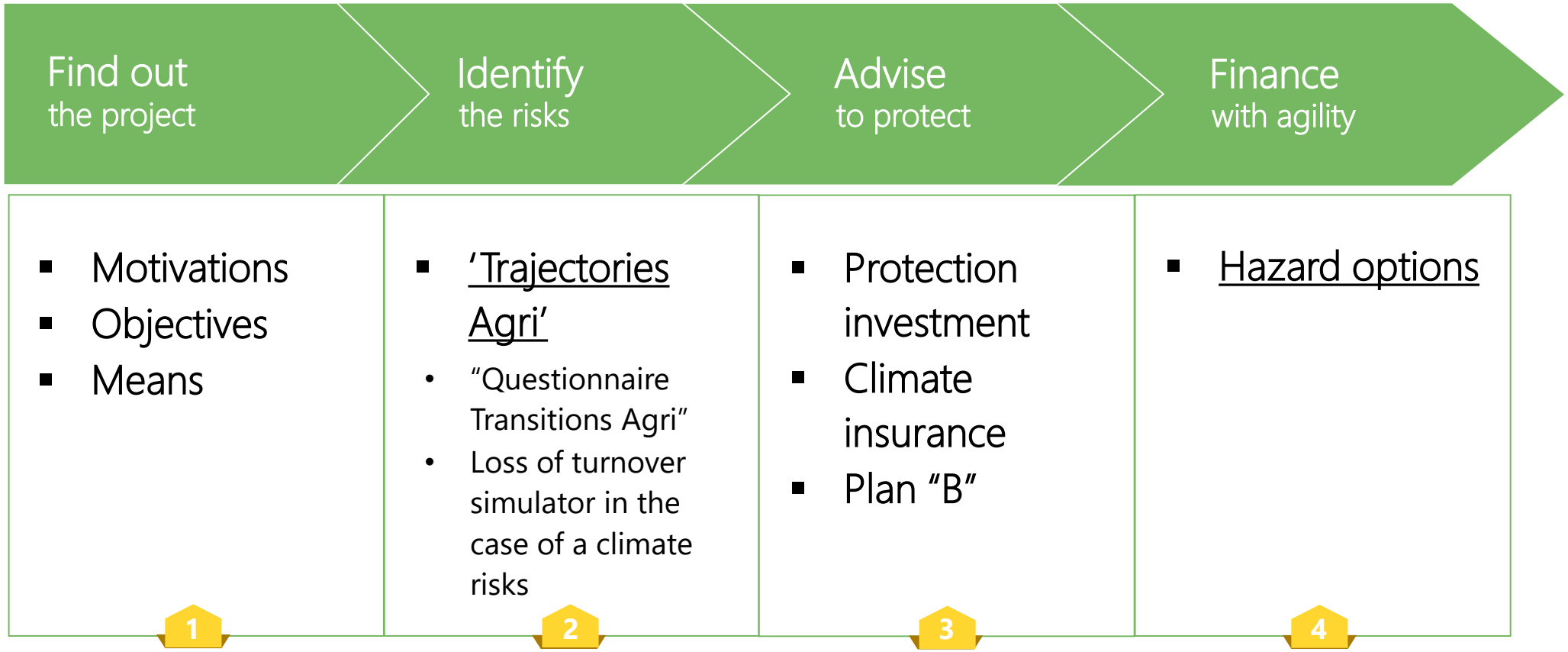
#10EAFRDconf

European Commission

European Investment Bank

Project Planning

How to integrate climate risk management into a project?



During project execution

In the case of a claim, how do you preserve your farm's cash flow?

1

Mobilising savings

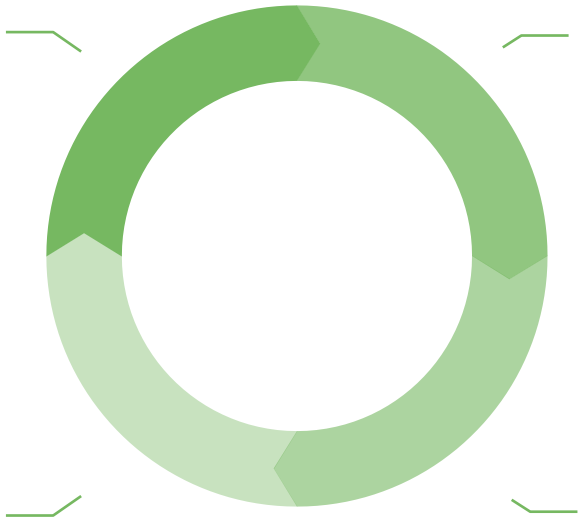
Including the Precautionary Savings Plan (DEP)

2

Acting on outstanding loans

Activate the **hazard options** of our "direct loans" :

- ✓ pause
- ✓ modulation of maturities(-30% or -50%) maximum loan extension (+3 yr or +5 yr)



3

Financing the need in the medium term

Medium-term financing with 'EIF' guarantee

4

Financing short-term needs

Short-term amortizing loss

Thank you!

sebastien.gauthier@credit-agricole-sa.fr

Insurance and financial instruments for risk management and climate-related hazards – Insights and perspectives

Ana González Peláez, Head of Adaptation and Loss & Damage, Howden Group

#10EAFRDconf

European Commission

European Investment Bank

Our collaboration with the EIB

A climate risk analysis of EU agricultural insurance systems and other pre-arranged sources of public funds for agriculture, now and into the future

Why Howden? Two capabilities required to carry out this task:

1) Neutral market access

(insurers, reinsurers and other risk capital markets entities)

- We are risk management advisors & brokers
- We do not underwrite ourselves: We manage and transact on behalf of our clients near USD 40 billion of annual premium
- Our fiduciary duty is to protect and represent our clients in the (re)insurance & risk capital markets.
  e.g. we are transparent in our risk modelling
- We work with corporates, governments, NGOs and public and private sector financial institutions

2) Analytics:

- To quantify current and future risk with the metrics used in the risk capital markets.
- Many methodologies to understand risk, but only these can translate into financial protection instruments for all types of stakeholders (farmers, lenders aggregators, supply chains…)
- This alignment is crucial to unlock credit

EIB Project Objectives

- Map existing insurance schemes across the EU
- Assess their role, performance, strengths and weaknesses, to protect agri-food systems against increased climate change
- Explore the role of financial instruments to support the resilience of agriculture risk management systems

HOW DO WE ACHIEVE THIS

1. Risk modelling: climate risk trends to agriculture across Europe now and in 2050.

- Inform our understanding of what perils, at what intensity, affect which crops and in which locations, now and into 2050
- Produce estimates of the protection gap (difference between what is protected and the actual financial loss incurred)
- Aim: To have a quantified strategic understanding (with metrics of risk capital markets) for drawing recommendations at EU level

2. Risk-based assessments and stress-testing current climate risk and agricultural yields in relation to insurance systems and other public support mechanisms in a sample of countries.

Case example: France

European Commission

European Investment Bank

Pre-2024 France

Yield loss and causes

Challenges:

1. Variability in yield definitions

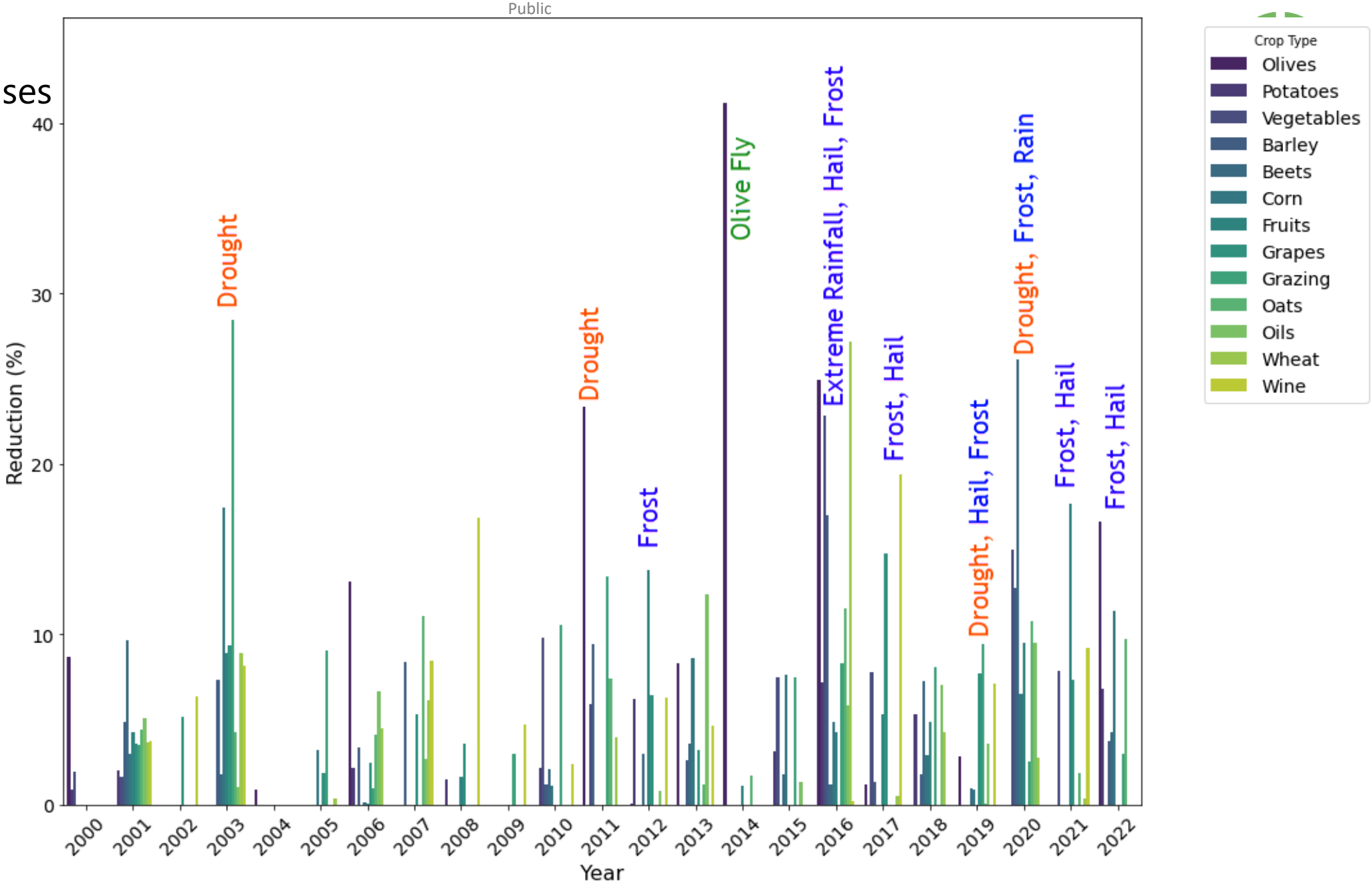
2. Differences in yield loss estimates

3. Variability by crop type

Metrics in risk capital Markets:

- Hazard
- Exposure
- Vulnerability

- Annual Average Loss
- Probable Maximum Loss

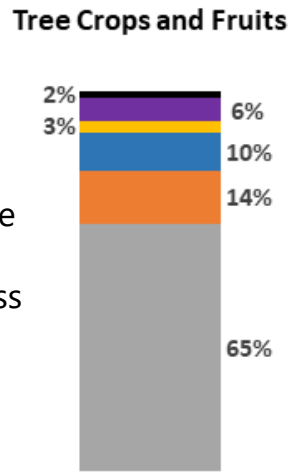


European Commission

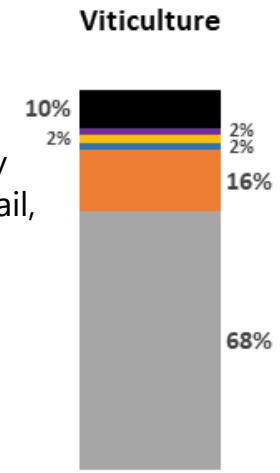
European Investment Bank

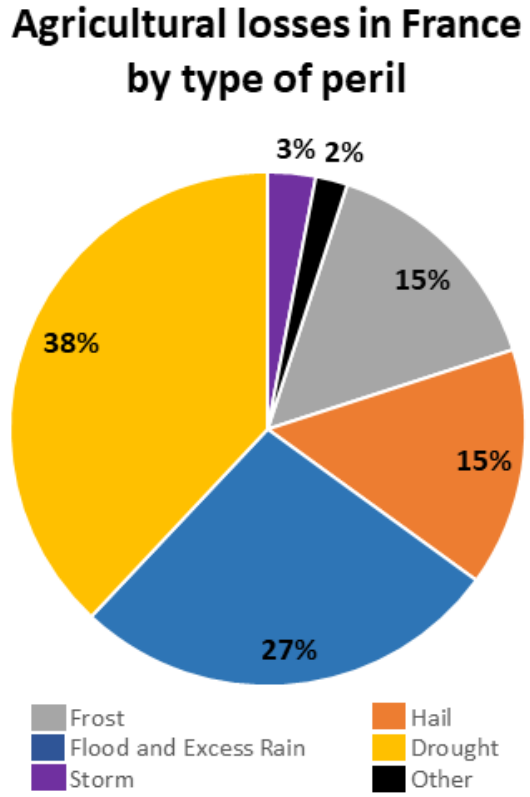
The key drivers behind losses to agriculture in France

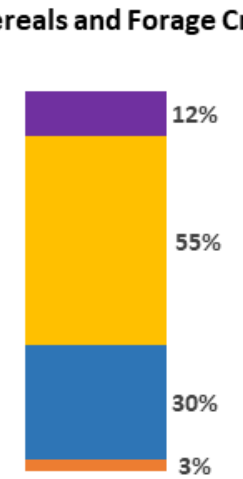
- Tree crops, fruits are mostly affected by frost, hail and excess rainfall



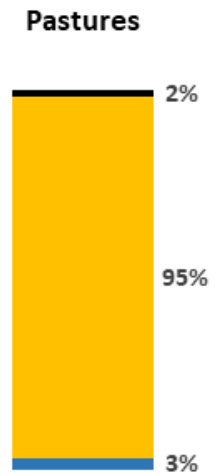
- Viticulture is mainly affected by frost, hail, extreme rain and mildew







- Main Cereals and Forage Crops are most affected by **Drought and excess Rainfall**



- Pastures mostly drought

European Investment Bank

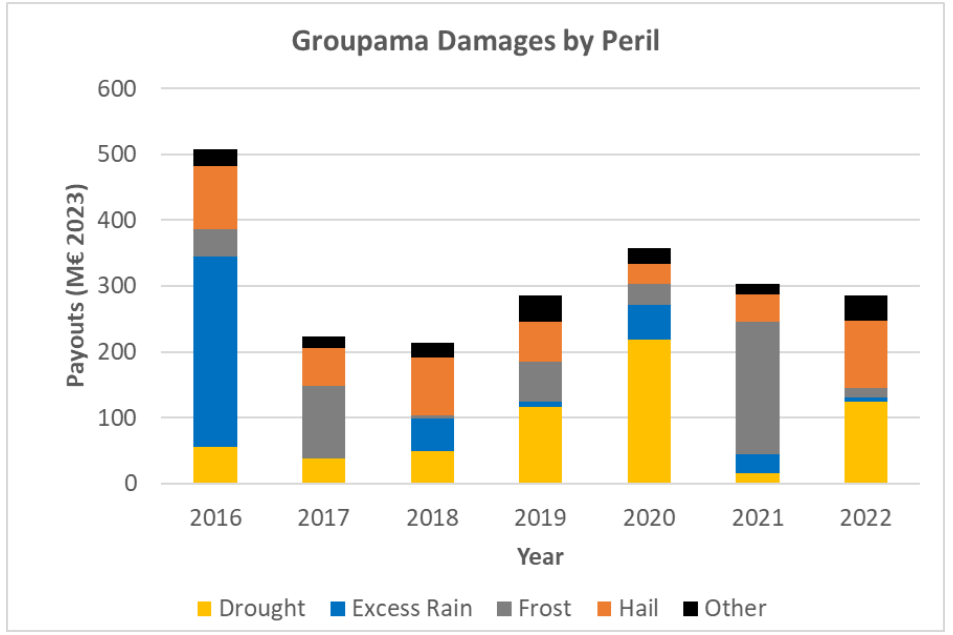
Interim Findings, France

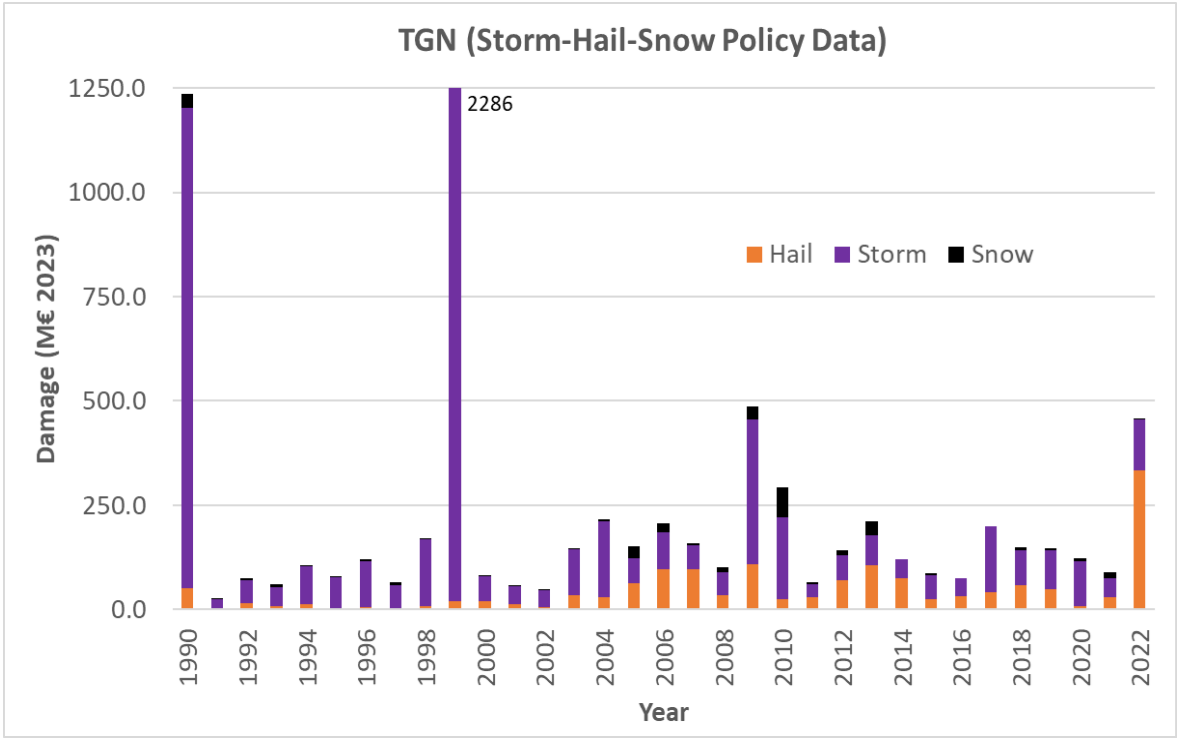
Analysis of payouts

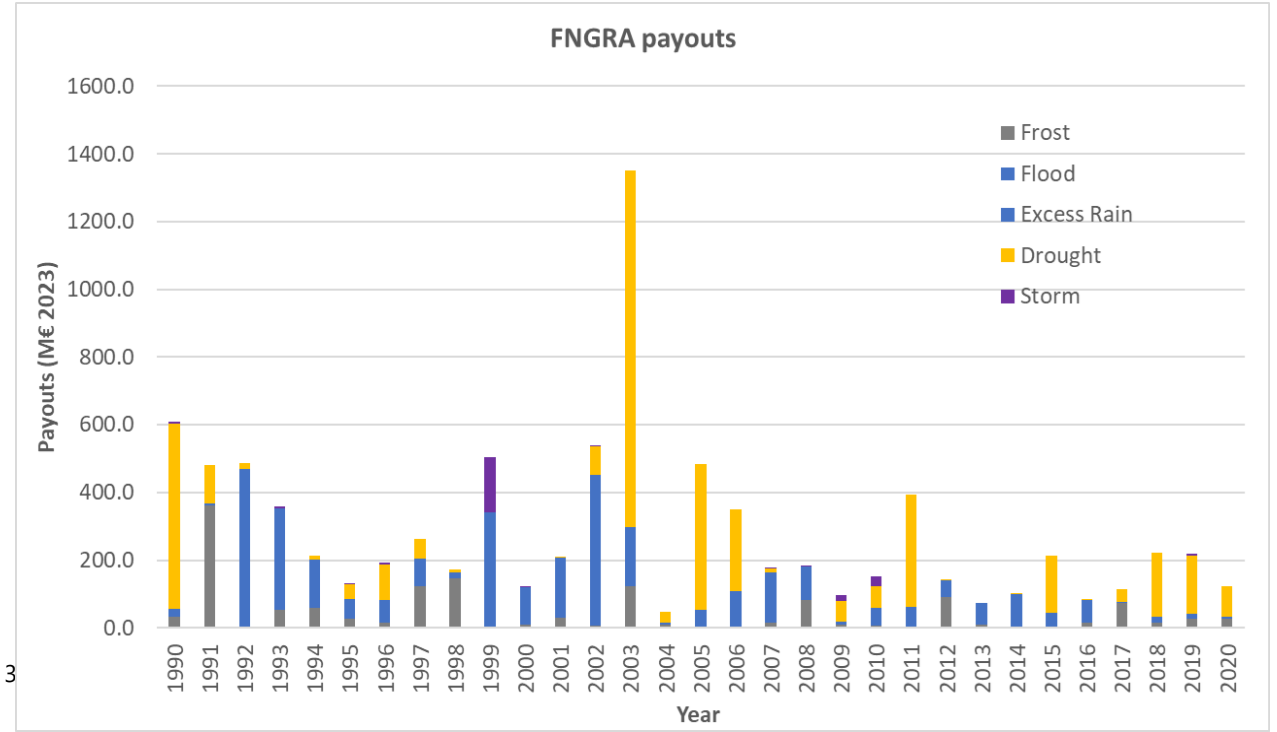
Insurance system / other payouts have shaped the development of the market

Many different rules over the years as to what has been paid out (i.e. field crops not in FNGRA after 2009 etc. - difficult to ascertain the full extent of damage payouts)

Private and public schemes.







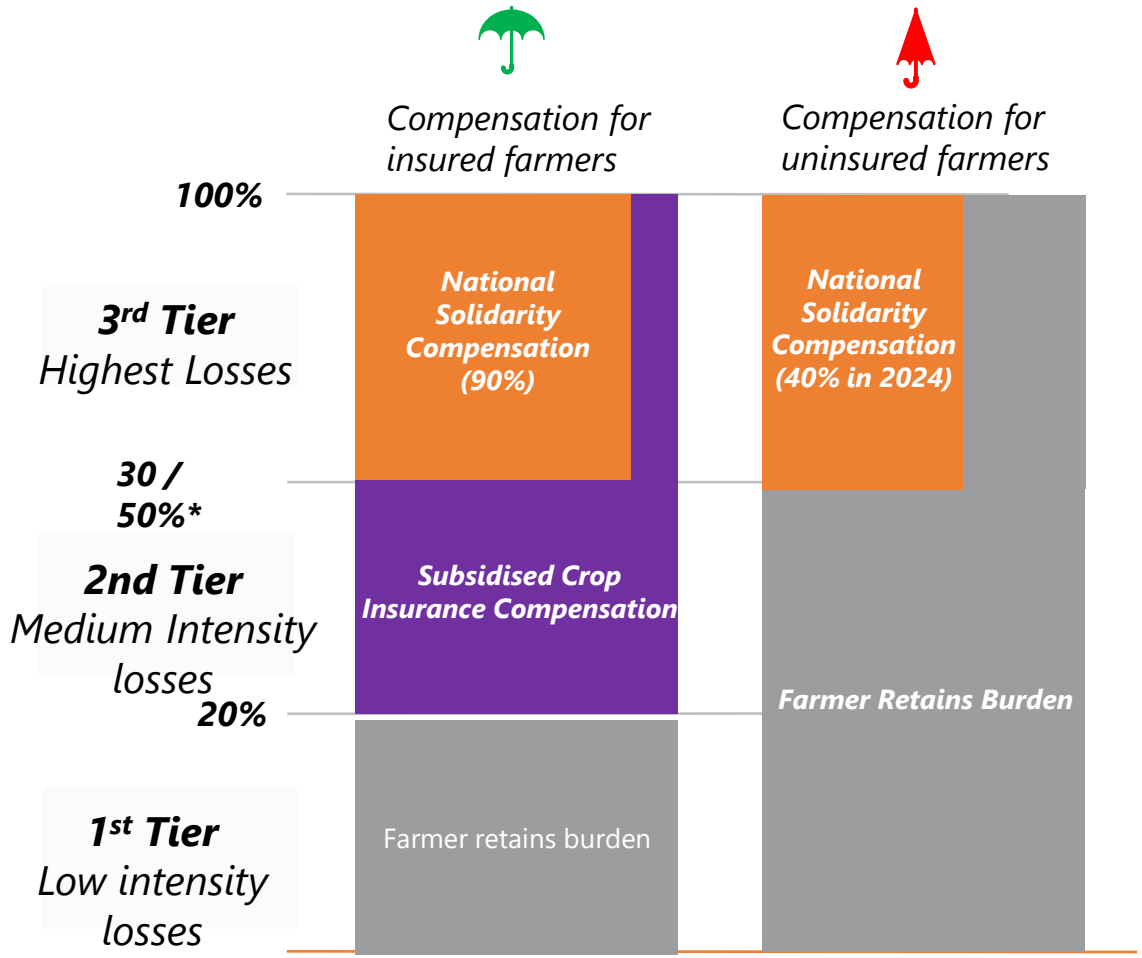
How the current insurance system is set up

A new law (March 2022) established the basis to create a new system based on risk sharing between farmers, insurers and the government.

- The basic idea is to bring "insurable" risks under an insurance system.
- On the one hand, **no more ex-post payments** will be made from the Agriculture Disaster Fund in the future. This is to be taken over by the insurance system.
- For major events for which pure private insurance does not apply, the risk is transferred to the public and shouldered by the *Fonds national de solidarité* (FNS).

Tier 1	For **low-intensity risks**, the farmer takes responsibility
Tier 2	For **medium-intensity risks**, compensation by the subsidized multi-peril crop insurance (if subscribed)
Tier 3	For risks of **exceptional magnitude**, national solidarity compensation (FNS). • If the farmer is insured → the state compensates 90% of Tier 3 and insurer 10% • If the farmer is not insured → the state compensates 45%, rest borne by farmer.

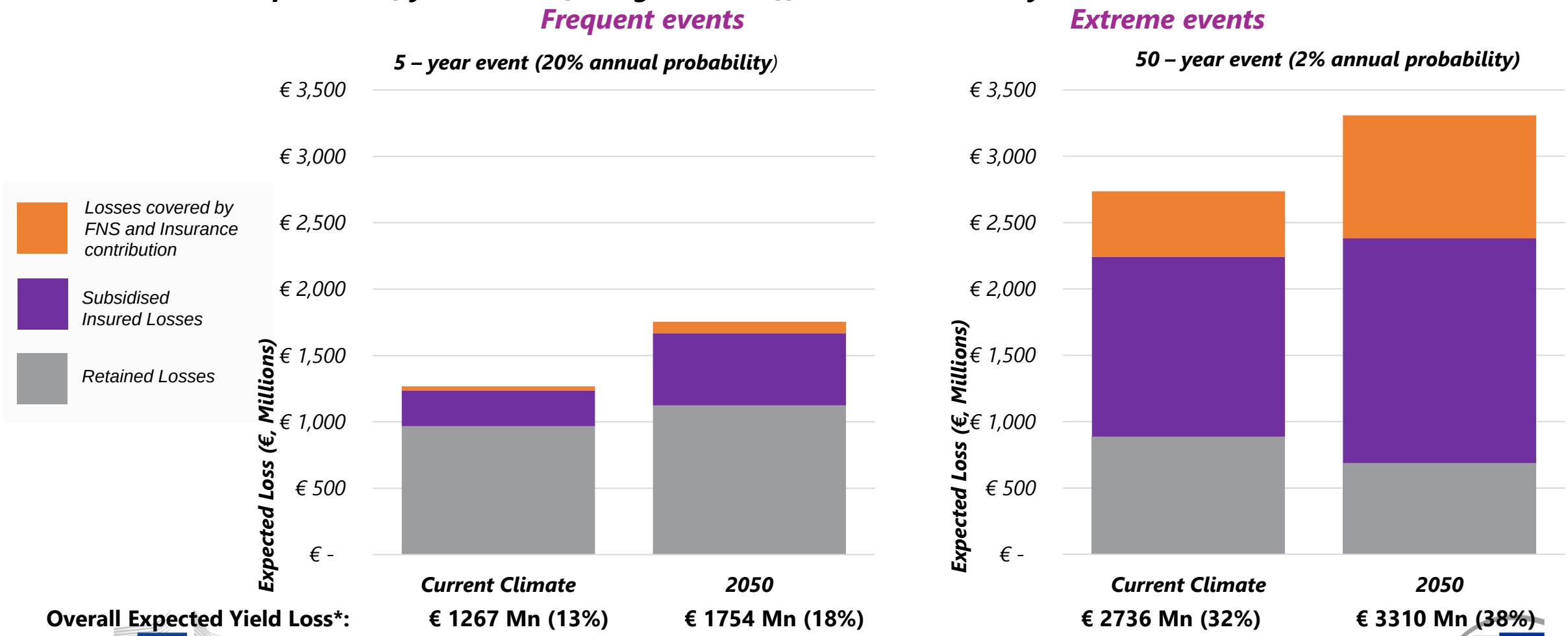
- **Progressive reduction** of the **compensation rate for uninsured** is foreseen to incentivise insurance and to consolidate the financing of insurance subsidies.



*There are different threshold levels to trigger national solidarity for different products: 30% (meadows, orchards, horticulture) and 50% (field crops, vineyards)

France: stress test of the new insurance system
Current levels of risk & 2050/ Pastures vs. Drought

Proportion of yield losses falling within different insurance layers



Overall Expected Yield Loss*:

Current Climate	2050
€ 1267 Mn (13%)	€ 1754 Mn (18%)
€ 2736 Mn (32%)	€ 3310 Mn (38%)

*2-2.5ºC warming scenario by 2050***

Thank you!

www.fi-compass.eu

Follow us:

events@fi-compass.eu I www.fi-compass.eu