Climate Risk Integration in Risk Models

March 2024

EY
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1 Introduction

Regulatory Timeline

The below timeline provides an overview of select key regulations related to the integration of climate risks into credit risk management practices and capital frameworks, with an increasing focus on the integration into IRB and IFRS 9 calculations.

Apr 2019
Supervisory Statement 3/19
PRA expectations for banks and insurers regarding management of financial risks from climate change

Jun 2020
BCBS Principles for the effective management and supervision of climate-related financial risks
Guidance for banks and prudential supervisors

Nov 2020
ECB Guidance on climate-related and environmental risks
Supervisory expectations relating to risk management and disclosure

20
22

May 2022
EBA Role of environmental risks in the prudential framework
Discussion paper with an overview of framework elements and how they interact with env. risks

Jul 2022
ECB Climate Risk Stress Test
Conducted as a constrained bottom-up stress test for significant EU institutions

Dec 2022
BCBS Frequently asked questions on climate-related financial risks
FAQs on how climate-related financial risks may be captured in existing Pillar 1 standards

20
23

Mar 2023
BoE report on climate-related risks and the regulatory capital frameworks
The report includes updates on: capability and regime gaps; capitalisation timelines; and areas for future research and analysis

Sep 2023
Thematic feedback from the 2022/ 2023 round of written auditor reporting
Thematic findings related to accounting of climate risks in IFRS 9 ECL

Oct 2023
EBA Report on the role of environmental and social risks in the prudential framework
Recommendations for targeted enhancements to the current Pillar 1 framework

Nov 2023
BCBS Disclosure of climate-related financial risks
Public consultation paper on a pillar 3 disclosure framework for climate-related financial risks

20
24

Jan 2024
PRA Dear CEO International banks Supervision: 2024 priorities
Dear CEO letter including expectations for climate risk management in 2024

Feb 2024
ECB guide to internal models
Published Finalised version of revised guide to internal models, including requirement to include material climate risk drivers

YE 2024
ECB full alignment with C&E guide
Banks required to be fully aligned with all supervisory expectations on C&E risks

20
25+

Q1 2025
Fit-for-55 climate risk scenario analysis
Results from one-off climate risk scenario analysis by the ESAS, ECB and ESRB

ISSB

Q1 2025
IFRS S1 & S2
General Requirements for Disclosure of Sustainability-related Financial Information and Climate-related Disclosures come through 2024 reporting cycle

2023 year-end observations on climate impacts to ECL – UK perspective

2023 annual report excerpts

Barclays: "A credit risk assessment of physical and transition risk due to climate change…did not result in a separately identifiable impairment charge." p. 310

HSBC: "Internal climate scenario analysis results are used to assess whether additional short-term climate-specific ECL are required [of which none disclosed]." p. 239

Standard Chartered: "A quantitative assessment of the impact of climate risk….resulted in a marginal ECL increase…which will not be recorded as an overlay for…2023 year-end." p. 368

Nordea: "Climate-related transition and physical risks are already material and expected to increase over the long term." p. 49

Danske Bank: "Both transition and physical risks are either managed through risk tolerances or strategic targets, or already have post model adjustments/management overlays allocated covering the climate related risks." p. 118

Observed approaches

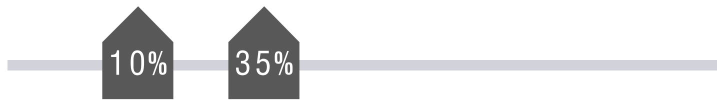
The majority of banks used short-term climate specific scenarios to estimate ECL impact and assess materiality

One bank has integrated climate risk into its BAU baseline IFRS 9 scenario

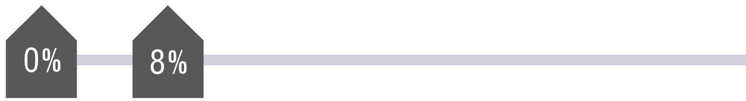
Most banks are still using a combination of bottom-up and top-down methods, estimating a climate-specific overlay and disclosing where material

Range of climate ECL impacts

High emitting sectors tend to see a higher range of potential ECL impact



Impacts on overall portfolio level ECL are more limited



2 Integrating climate into credit models

Roadmap for integration of climate risk into credit risk models

Current state

IRB Journey

Key reg. (EU): Full alignment with C&E guide + Guide to internal models

Key focus
- Climate risk data gathering, leveraging client questionnaires
- Design decisions and roadmap development for integration of climate risk into ratings systems

Observed Practice
- Most firms: expert judgement/policy driven credit rating climate overrides
- Some firms: starting to incorporate climate into IRB models

2024 · 2025 · 2026 · 2027

Soft turning point

IFRS 9 Journey

Key focus
- Ensuring coverage for all portfolios with material climate risk

Observed Practice
- Most firms: Overall aggregate ECL level overrides
- Some firms: Credit metric level (PD and LGD) overrides for high-emitting sectors

Key reg. (UK): Thematic feedback from... written auditor reporting | ISSB: IFRS S1 + S2

Future state

IRB Journey

Key reg. (EU): Report on the role E&S risk in the prudential framework | (UK): Supervisory Statement 3/19*

Key focus
- Incorporation of climate risk into IRB models through qualitative modules or direct incorporation of factors
- Strong model monitoring capacity will be critical due to challenges anticipated with demonstrating significant links between climate drivers and credit outcomes
- Further regulatory guidance expected on pillar 1 climate risk requirements

2028 · 2029 · 2030+

IFRS 9 Journey

Key focus
- Redevelopment of IFRS 9 models to capture climate risk through in-model adjustments to direct incorporation of factors
- Scenario capabilities expected to evolve with expanded climate risk variables across all scenarios and climate specific stress scenarios
- Expect to see significant credit deterioration triggers being reviewed and breached, as companies fail to delivery on transition plan

Key reg. (UK): Supervisory Statement 3/19* + Dear DCEO International banks Supervision: 2024 priorities

*SS 3/19 anticipated to be updated this year.

IRB current state observations

1. Roadmap for data and models

Due to the nescient nature of requirements and data challenges, most firms are not planning to change IRB models to incorporate climate in the next 2 years

Instead, firms are working on developing a roadmap for climate integration post 2026

Roadmap schematic

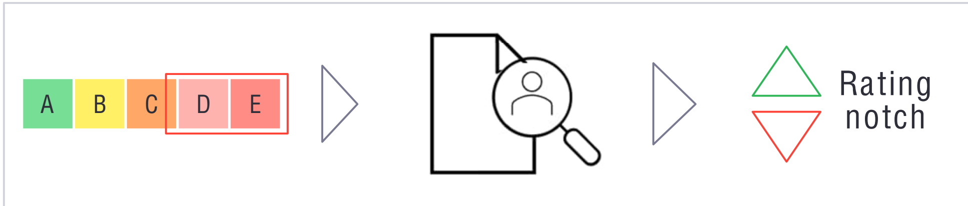
2024	2025	2026	2027	2028
Data collection			IRB climate integration	

2. Interim climate credit adjustment frameworks

In the mean time, banks are developing and implementing a structured framework for consistent review of climate risk for potential overrides supported by quantitative tools and analysis

Override workflow schematic

Climate score → Additional due diligence → Qualitative override or other credit outcome



3. Qualitative module

Some firms have also been observed to integrate climate-related questions into their IRB PD qualitative modules or enhancing guidance on how to score qualitative factors to consider climate

Qualitative component schematic

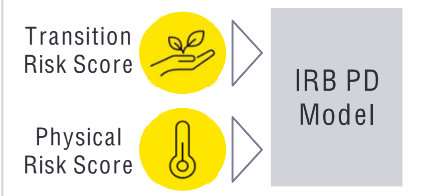
Model	Weight	Qualitative component	Climate considerations
Corporates	10%	Competitive Position	• Local government policies • Transition plans and targets
	4%	Information Quality	• Availability and timeliness of scope 1 and 2 emissions • Availability and timeliness of emission targets (SBT and non-SBT)

4. Direct incorporation of climate factors into models

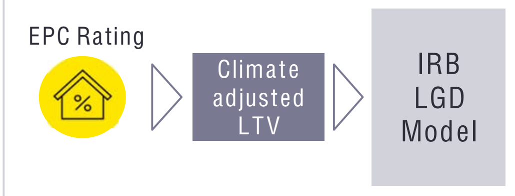
There are few observed examples of direct integration of climate risk variables into IRB models

Some examples include direct integration of climate factors into conventional IRB model development, including climate risk scores and energy efficiency ratings for CRE / Residential Mortgages.

PD schematic



LGD schematic



IRB hot topics

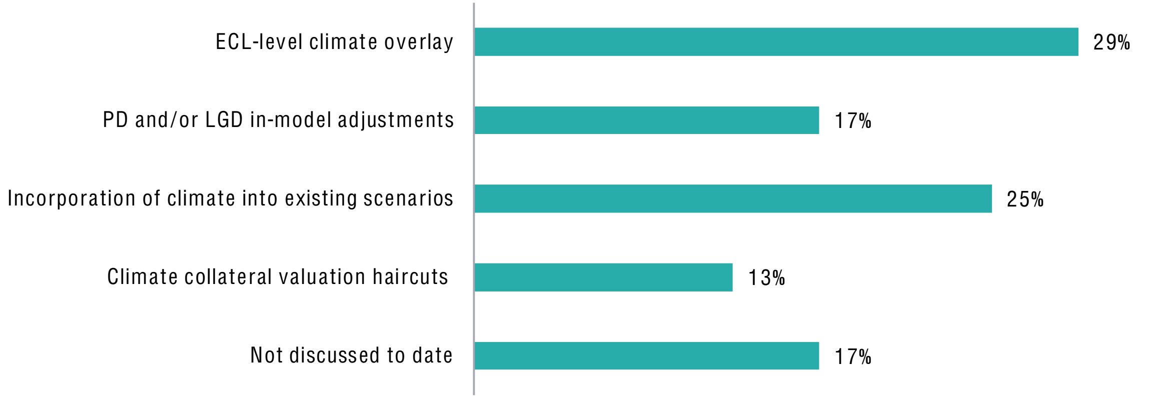
Topic	Observations
Impact	• Minimal impacts on PD and LGD have been observed through climate stress testing exercises and IFRS 9 calculations • This is primarily driven by the short term time horizon used for capital • However we expect this to change as government policy evolves and the low-carbon transition accelerates
Margins of conservatism	• We do expect MoCs to capture some uncertainty either through data or model estimation • However, anecdotal evidence suggests that supervisors will be lenient in the short term regarding application MoCs for climate risk – with greater emphasis on ensuring banks begin the journey of incorporating climate risk into capital models • MoCs may also serve as a means to area to start capturing climate impacts – where climate is not directly incorporated into the model, a climate data limitation MoC can act as a backstop and then trigger data collection and monitoring for integrating climate factors at a later stage
Data	• Customer behaviour and market trends will change slowly, and therefore we do not expect to have observable data in the next 3-5 years • However, here is general consensus amongst industry specialists of what are the key transition drivers, and banks are now collecting this data

Integration of climate risk in the IFRS 9 models – survey insights

Current level of incorporation of climate considerations into IFRS 9 ECL calculations varies between regions, with most progress being observed in regions with greater regulatory expectation and focus. Most banks have started to implement interim frameworks to incorporate climate into their IFRS 9 ECL, however most are still in the design phase for their longer-term strategic approach.

IFRS 9

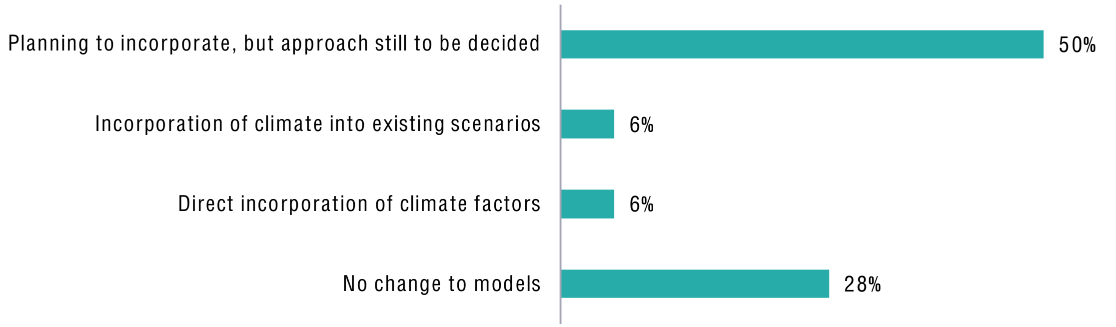
Integration of climate over the short term
(e.g. in next 2 years)



While there is some variation in maturity, most UK and EU banks have started to integrate climate into their IFRS 9 ECL calculations.

IFRS 9

Integration of climate over the longer term
(e.g. in 3+ years)



Most firms are still in the design phase for their strategic approach to integrate climate considerations into IFRS 9 models, and a number not currently planning long-term integration.

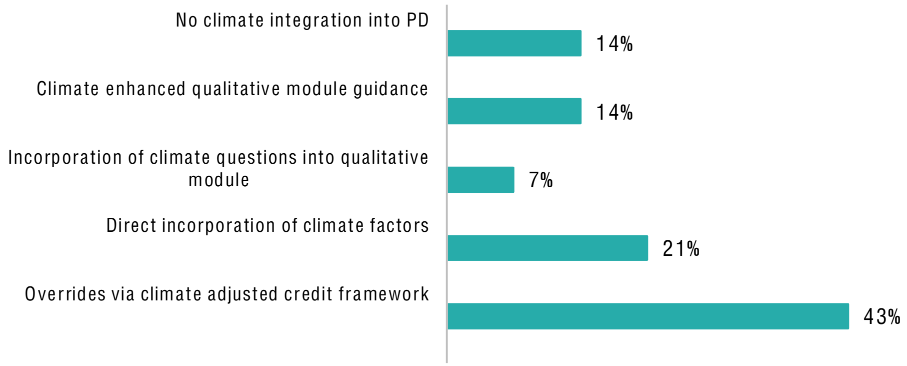
Survey: This survey represent observations from 23 Banks across a number of different regions around the globe.
Regions of participants: EU: 57%, UK: 17%, USA: 13%, APAC: 13%

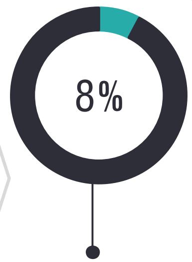
Integration of climate risk in the IRB models - survey insights

Banks have started to tackle integrate climate considerations into their IRB PD outcomes through mostly tactical approaches such as questionnaire driven climate-adjusted credit frameworks and incorporation of qualitative climate considerations into PD scorecards. Most banks are still in the design phase for the strategic integration approach, however a few have started to directly incorporate climate factors into PD models, given challenges around availability of historic data.

IRB

Integration of climate over the short term
(e.g. in next 3 years)





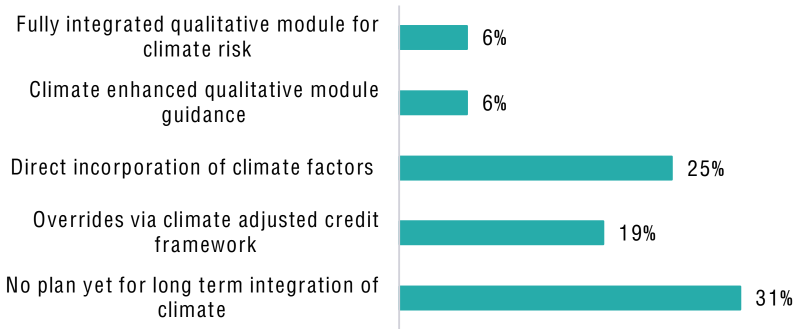
Integrating climate into LGD

Banks have started to integrate climate considerations into their IRB PD outcomes through mostly tactical approaches.

Respondents are yet to integrate climate considerations into their IRB LGD outcomes, however some indicated that they are exploring the application of climate collateral adjustments.

IRB

Integration of climate over the longer term
(e.g. in 3+ years)



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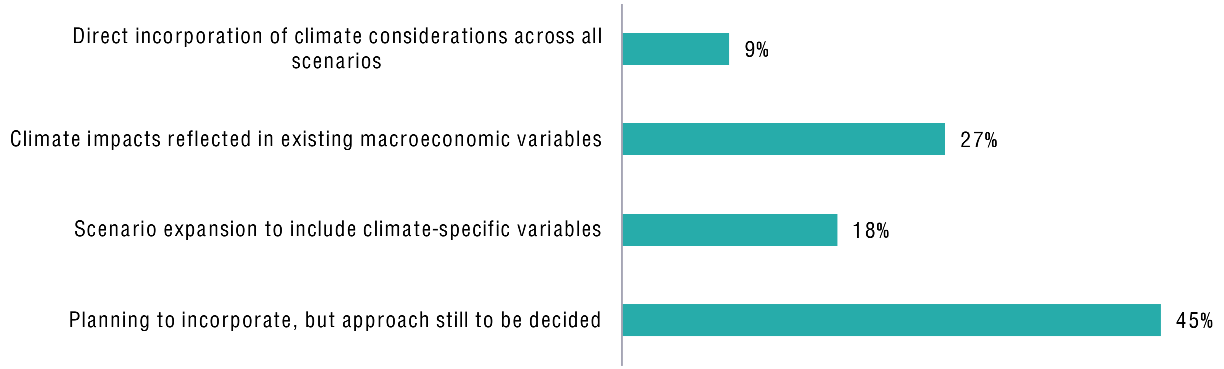
EY

Integration of climate risk in the IFRS 9 models – survey insights

IFRS 9

Climate considerations in IFRS 9 scenarios



Most banks have not incorporated climate into their IFRS 9 scenarios, and many are still developing a view of their long term plan to do so.

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