



Come affrontare un mondo che cambia?

Analisi di scenario: istruzioni per l'uso

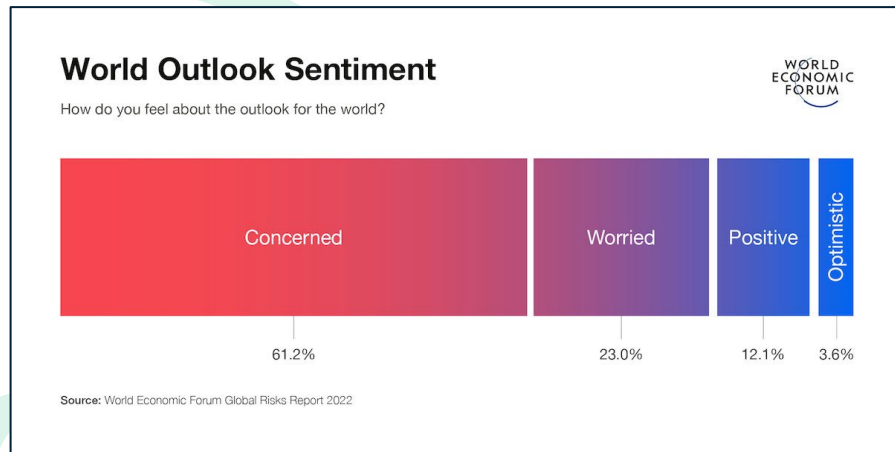
Supervision, Risks & Profitability
22 giugno 2022 – ABIEventi

Giada Scalpelli – Senior Customer
Advisory Risk Management SAS



Qual è la visione sul futuro del mondo?

Il **90%** degli intervistati ha risposto con uno **scenario negativo** alla domanda: *“Quali sono le tue **previsioni globali** nei prossimi tre anni?”*



42%

Constantemente volatile con molteplici sorprese

38%

Traiettorie separate che dividono relative vincitori e vinti

10%

Punti critici progressivi con crescenti risultati catastrofici

Come la tecnologia può aiutare?



Governance & Monitoraggio Sostenibili

Con la creazione di un framework per la **raccolta dei dati**, la **governance** ed il **monitoraggio** di processi interni e controparti secondo la tassonomia ESG



Integrazione dei fattori ESG nelle strategie creditizie

Con un laboratorio di modelli di rischio che permetta una flessibilità sufficiente ad **integrare i fattori ESG** nelle strategie creditizie



Climate Risk Scenario Analysis

Con una piattaforma integrata per **gestire l'imprevedibilità e la complessità del Climate Change Risk**, includendo sia rischi fisici che di transizione

Perchè l'analisi di scenario?

“ ***Banks should make use of scenario analysis, including stress testing, to assess the resilience of their business models and strategies to a range of plausible climate-related pathways [...]. These analyses should consider physical and transition risks as drivers of credit, market, operational and liquidity risks over a range of relevant time horizons.*** ”

Principles for the effective management and supervision of climate-related financial risks – BCBS Consultative Document

Aspettative di vigilanza sui rischi climatici e ambientali

Banca d'Italia ha individuato l'analisi di scenario e gli stress test tra gli strumenti per supportare la regolare misurazione dei rischi climatici



Principles for the effective management and supervision of climate-related risks

BIS ha incluso tra gli obiettivi dell'analisi di scenario quello valutare l'adeguatezza delle strategie bancarie secondo diversi scenari

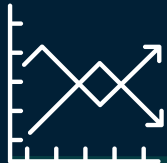


Priorità SSM 2022-2024, fronteggiare i rischi emergenti, inclusi quelli climatici

ECB ha inserito la gestione proattiva di questi rischi tra le priorità di vigilanza, aprendo il biennio con il **Climate Stress Test**



Quali sono le sfide principali?



SCENARI CLIMATICI

L'integrazione degli **scenari climatici** per il rischio fisico e di transizione (es.: NGFS)



LONG RUN

Il **rischio climatico** è un rischio a **lungo termine**, con impatti nel futuro più remoto



DYNAMIC BALANCE SHEET

La dinamicità del portafoglio è centrale per **analizzare l'impatto di una strategia verde o di un cambiamento nelle politiche**



CANALI DI TRASMISSIONE

La flessibilità degli strumenti è la chiave per **integrare i canali di trasmissione** e altri oggetti legati al clima

Qual è l'approccio SAS al Climate Risk?

Rischio Fisico



Rischio di Transizione



Legenda:

Estensione degli attuali ambienti

Oggetti specifici per il Climate Risk

Dati Esterni



Dati Credit Risk



Dati Climatici



Scenari climatici & assunzioni strategiche



sas

Solution for Stress Testing



Integrazione degli **Scenari Climatici**

Integrazione dei **Canali di Trasmissione**

1-year Short Term

Utilizzo di **Scenari Climatici a 30+ anni**

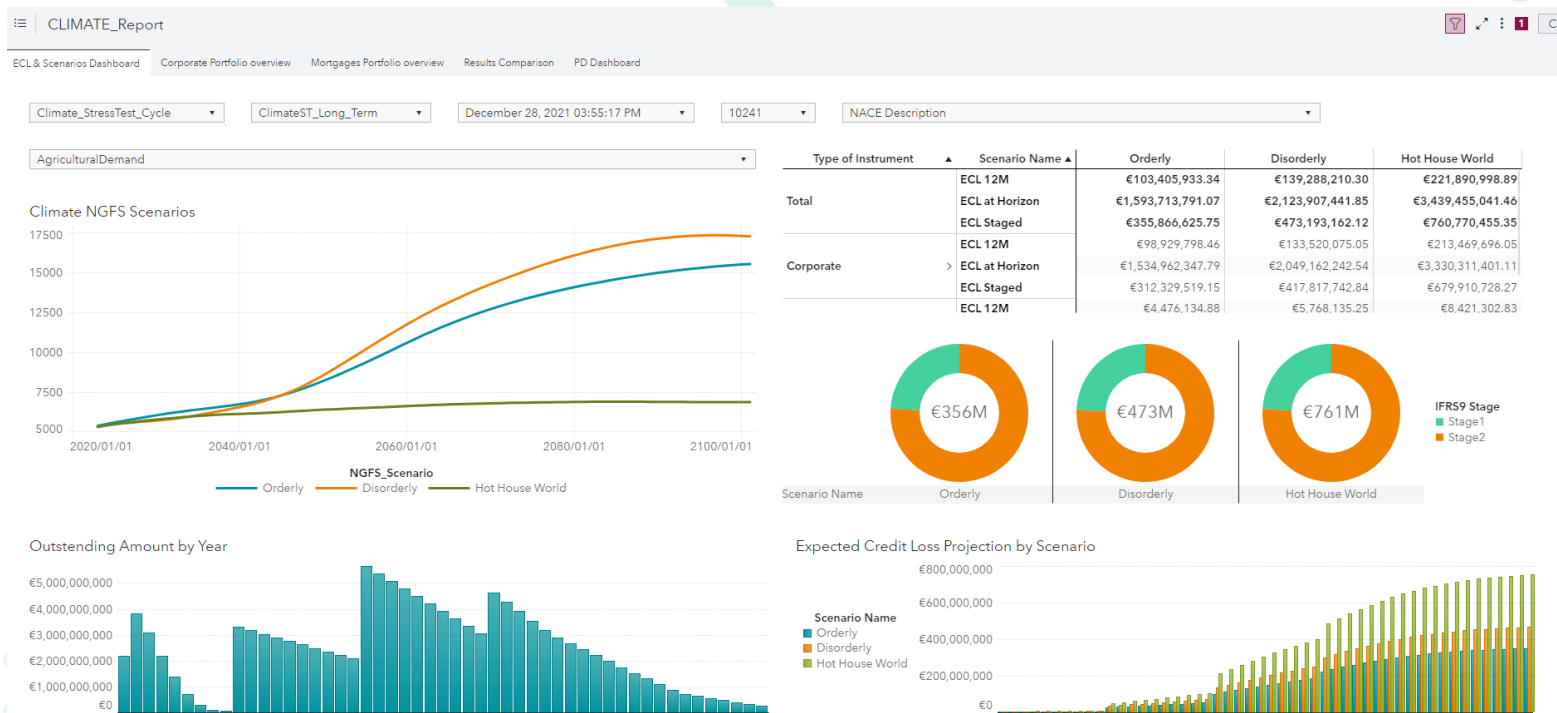
Gestione del **Balance Sheet Dinamico**

Long Term



Esplorazione dei risultati

Qual è l'approccio SAS al Climate Risk?



Climate_StressTest_Cycle

ClimateST_Long_Term

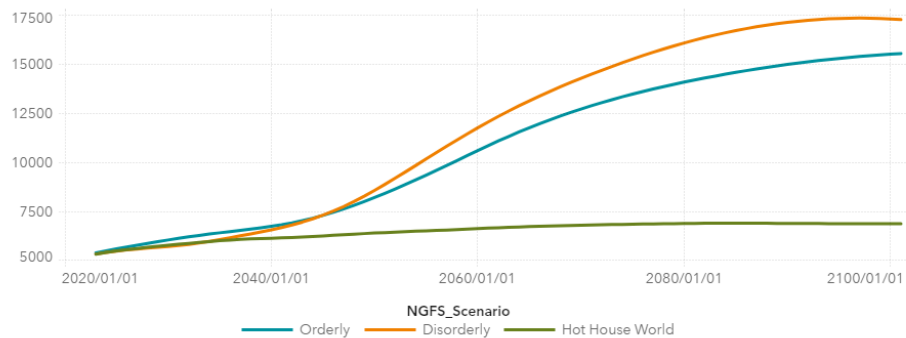
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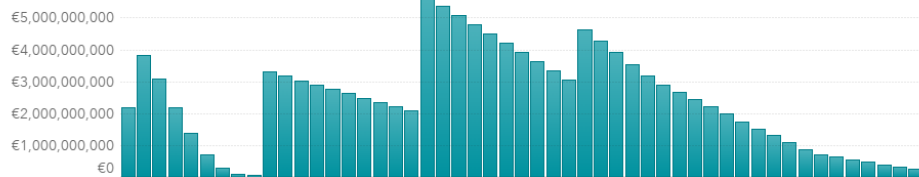
NACE Description

AgriculturalDemand

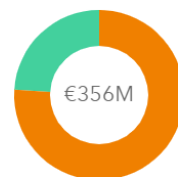
Climate NGFS Scenarios



Outstanding Amount by Year

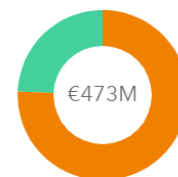


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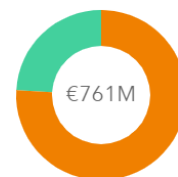


Scenario Name

Orderly



Disorderly



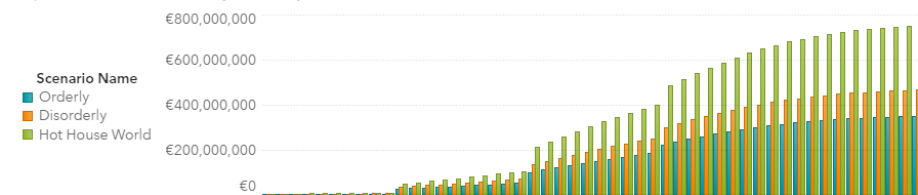
Hot House World

IFRS9 Stage

Stage1

Stage2

Expected Credit Loss Projection by Scenario



Climate_StressTest_Cycle

ClimateST_Long_Term

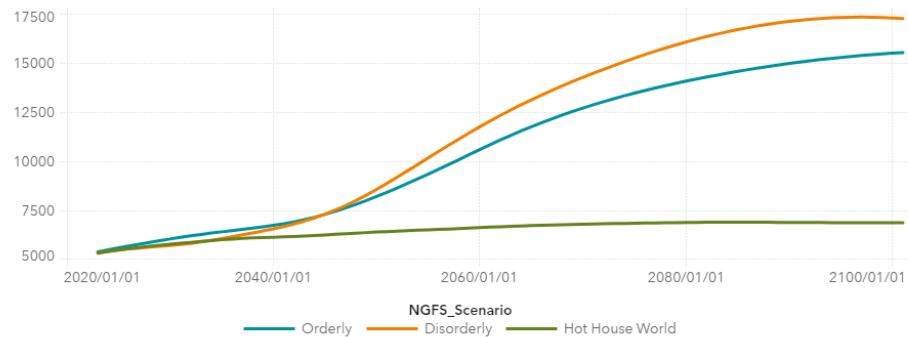
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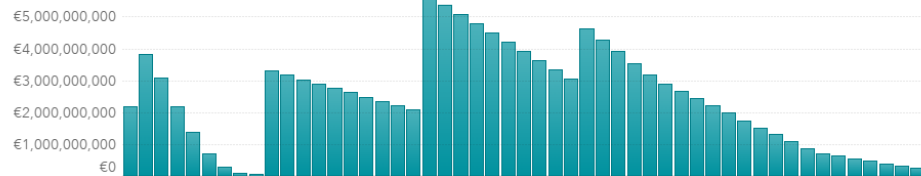
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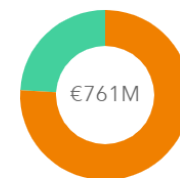
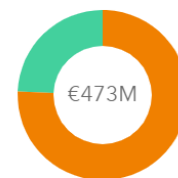
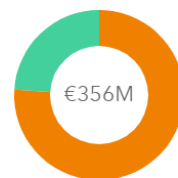
Climate NGFS Scenarios



Outstanding Amount by Year

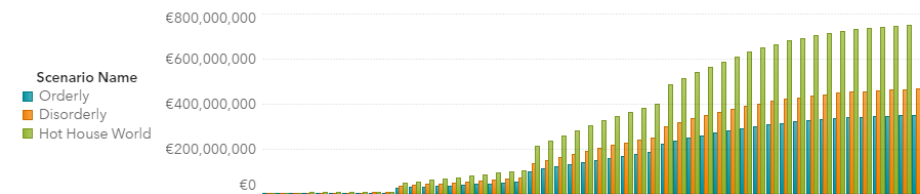


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IFRS9 Stage
Stage1
Stage2

Scenario Name Orderly Disorderly Hot House World

Expected Credit Loss Projection by Scenario



Risk Sources

Search

- ◆ AgriculturalDemand
- ◆ Agricultural_Demand
- ◆ AgriculturalProduction
- ◆ Agricultural_Production
- ◆ analysis_run_id
- ◆ asset_index01
- ◆ asset_index02
- ◆ asset_index03
- ◆ Capacity_Electricity
- ◆ Capacity_Electricity_Biomass
- ◆ Capacity_Electricity_Coal
- ◆ Capacity_Electricity_Gas
- ◆ Capacity_Electricity_Hydro
- ◆ Capacity_Electricity_Nuclear
- ◆ Capacity_Electricity_Oil
- ◆ Capacity_Electricity_Solar
- ◆ Capacity_Electricity_Soil
- ◆ Capacity_Electricity_Wind
- ◆ CapitalCost_Electricity_...
- ◆ CapitalCost_Electricity_...
- ◆ CapitalCost_Electricity_...

No risk source selected

Filter

Risk Source		Base Value	Change Type	Dec 31, 2021	Dec 31, 2022	Dec 31, 2023	Dec 31, 2024	Dec 31, 2025
<input type="checkbox"/>	Risk Factor							
<input type="checkbox"/>	◆ Forecast_time	.	Value		0.0000	0.0000	0.0000	0.0000
<input type="checkbox"/>	◆ AgriculturalDemand	.	Value	5,239.6657	5,333.5536	5,414.2058	5,483.2066	5,542.2891
<input type="checkbox"/>	◆ AgriculturalProduction	.	Value	5,239.6657	5,333.5536	5,414.2058	5,483.2066	5,542.2891
<input type="checkbox"/>	◆ Capacity_Electricity	6,464.1506	Value	6,768.7498	7,054.2665	7,351.2109	7,663.9771	7,997.9032
<input type="checkbox"/>	◆ Capacity_Electricity_Bio...	50.0532	Value	51.6572	52.6513	53.4343	53.9799	54.2624
<input type="checkbox"/>	◆ Capacity_Electricity_Coal	1,524.4828	Value	1,564.0134	1,552.3061	1,533.8495	1,512.8822	1,493.5967
<input type="checkbox"/>	◆ Capacity_Electricity_Gas	1,931.7031	Value	2,082.5150	2,173.9999	2,264.2623	2,353.6318	2,442.6810
<input type="checkbox"/>	◆ Capacity_Electricity_Hy...	1,201.0243	Value	1,237.3035	1,289.0587	1,340.0209	1,389.9613	1,438.7824
<input type="checkbox"/>	◆ Capacity_Electricity_Nu...	373.2249	Value	377.0083	381.0033	385.6296	390.7257	396.1452
<input type="checkbox"/>	◆ Capacity_Electricity_Oil	167.4322	Value	153.2909	139.9070	127.1661	114.9556	103.1315
<input type="checkbox"/>	◆ Capacity_Electricity_Solar	518.4101	Value	579.7437	688.5651	812.7739	953.0985	1,110.7221
<input type="checkbox"/>	◆ Capacity_Electricity_Sol...	4.0656	Value	4.3954	4.5682	4.6798	4.7480	4.7908
<input type="checkbox"/>	◆ Capacity_Electricity_Sol...	514.3444	Value	575.3483	683.9968	808.0938	948.3502	1,105.9309
<input type="checkbox"/>	◆ Capacity_Electricity_Wind	632.0198	Value	657.1438	708.0268	762.6628	820.8475	882.5493
<input type="checkbox"/>	◆ CapitalCost_Electricity_...	.	Value	4,680.8533	4,495.9195	4,333.7900	4,186.1586	4,044.3325
<input type="checkbox"/>	◆ CapitalCost_Electricity_...	.	Value	4,759.8827	5,739.1963	5,834.8862	5,351.3322	4,590.7379
<input type="checkbox"/>	◆ CapitalCost_Electricity_...	.	Value	1,504.4886	1,515.3085	1,526.2088	1,537.7456	1,550.5120

Creazione, modifica e
applicazione, via UI o
Excel, di diversi
scenari climatici ed
economici

Climate_StressTest_Cycle

ClimateST_Long_Term

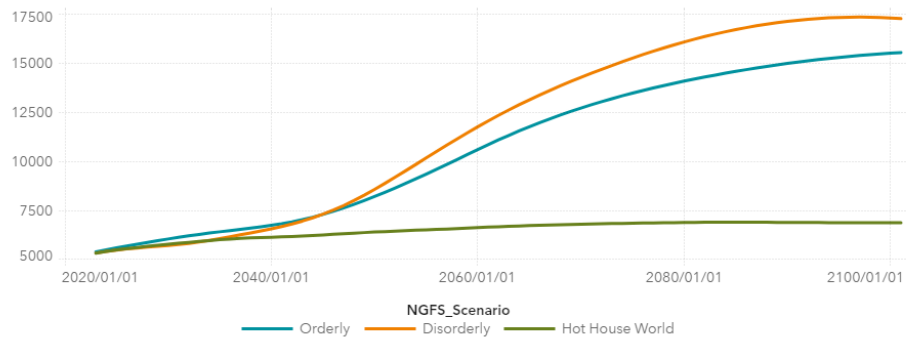
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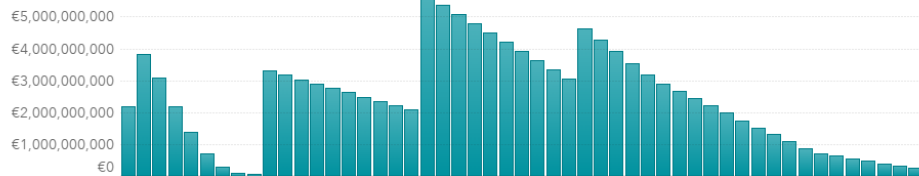
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AgriculturalDemand

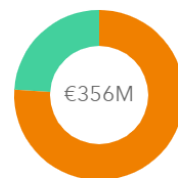
Climate NGFS Scenarios



Outstanding Amount by Year

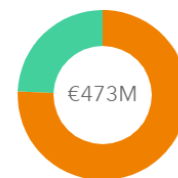


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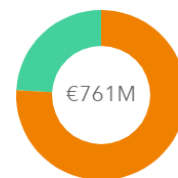


Scenario Name

Orderly



Disorderly



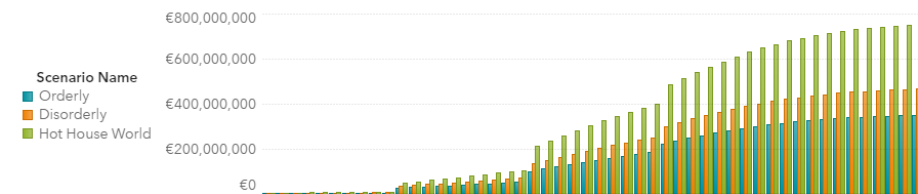
Hot House World

IFRS9 Stage

Stage1

Stage2

Expected Credit Loss Projection by Scenario



Climate_StressTest_Cycle

ClimateST_Long_Term

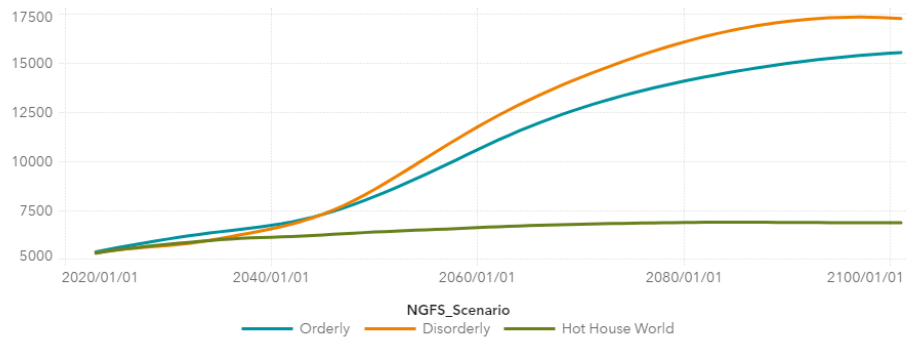
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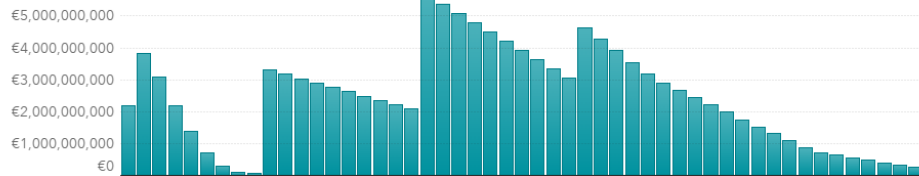
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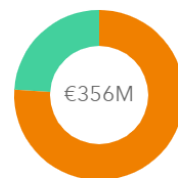
Climate NGFS Scenarios



Outstanding Amount by Year

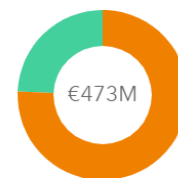


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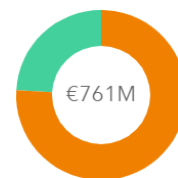


Scenario Name

Orderly



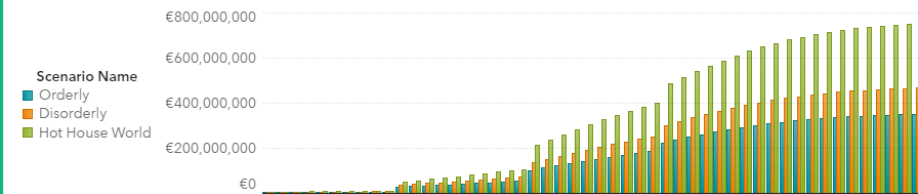
Disorderly



Hot House World

IFRS9 Stage
Stage1
Stage2

Expected Credit Loss Projection by Scenario



Business Evolution Plan: Climate_Growth_Assumptions

Business Evolution Plan Details:

Business evolution plan name: *Climate_Growth_Assumptions

Business evolution plan short name: *ClmtGrwtAssm

Business evolution plan type: *

Portfolio Projection

Financial Statement Projection

Planning data: *Climate Portfolio 2021-12-31

Target Variable: *UNPAID_BALANCE_AMT (UNPAID_BALANCE_AMT)

Business evolution plan description:

Interval: *Year

Interval count: *3

Allocation Scheme: *Climate_Allocation

Definizione ed esecuzione delle
assunzioni di crescita/decrecita su
segmenti di portafoglio
customizzabili secondo la strategia
green della banca

Permissions and visibility:

Evolution Plan

Process Narratives

Related Objects

Documentation

Business Evolution Plan:

NACE_CD	PORTFOLIO	GHG_RANGE	UNPAID_BALANCE_...	Change Type	YEAR 1 0	YEAR 2 0	YEAR 3 0
58	Corporate - non ...	GHG_1	10,263,943.3725	Relative	0%	0%	0%
62	Corporate - non ...	GHG_1	10,481,053.4135	Relative	0%	0%	0%
63	Corporate - non ...	GHG_1	10,839,164.483	Relative	0%	0%	0%
51	Corporate - SME	GHG_1	11,117,670.862	Relative	0%	0%	0%
56	Corporate - SME	GHG_1	11,236,682.66	Relative	0%	0%	0%
79	Retail - SME	GHG_1	116,284.0325	Relative	15%	20%	25%
96	Corporate - SME	GHG_1	118,362.531	Relative	0%	0%	0%
95	Corporate - SME	GHG_1	11,880,253.9975	Relative	0%	0%	0%

Climate_StressTest_Cycle

ClimateST_Long_Term

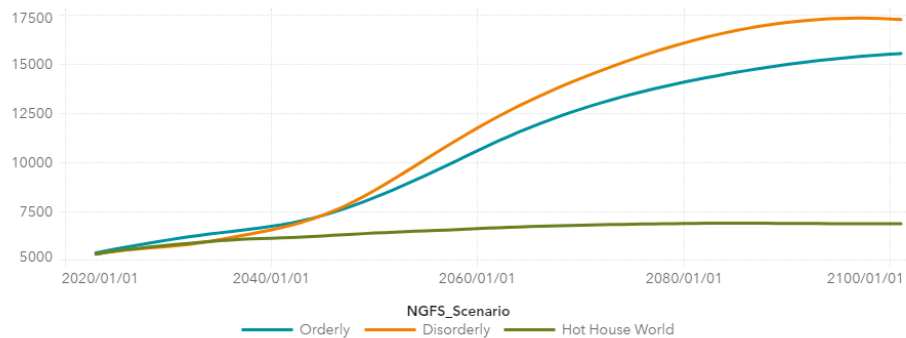
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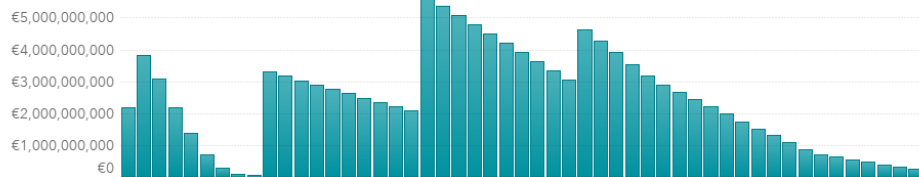
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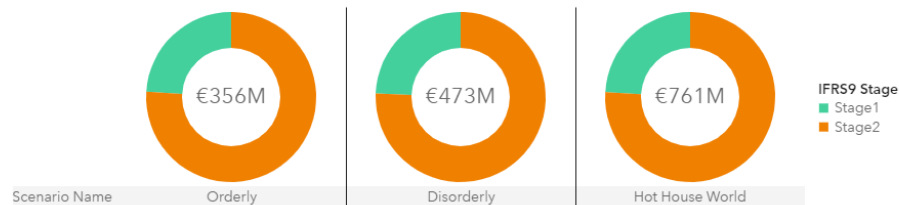
Climate NGFS Scenarios



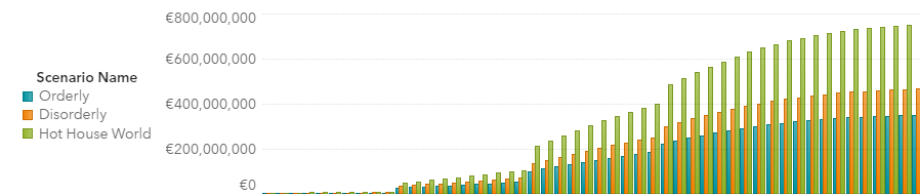
Outstanding Amount by Year



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Expected Credit Loss Projection by Scenario



Climate_StressTest_Cycle

ClimateST_Long_Term

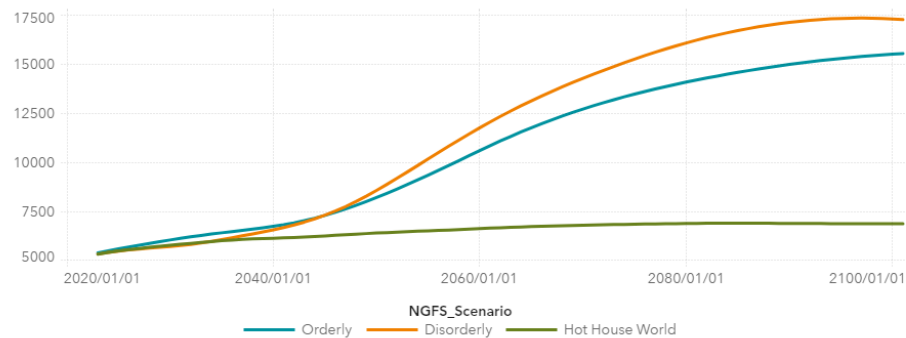
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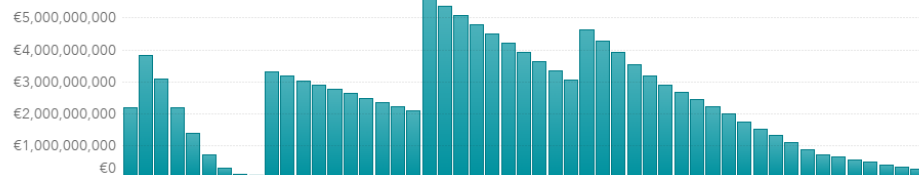
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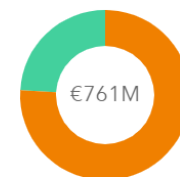
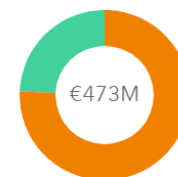
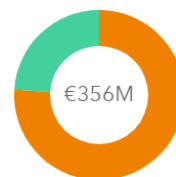
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IFRS9 Stage

- Stage1
- Stage2

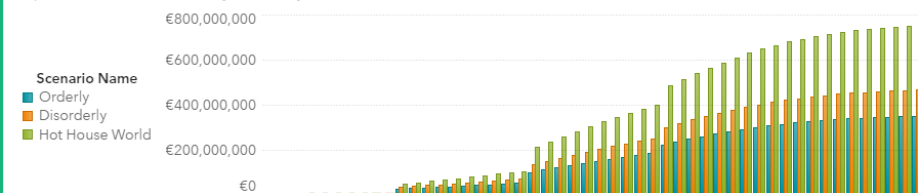
Scenario Name

Orderly

Disorderly

Hot House World

Expected Credit Loss Projection by Scenario



Esplorazione dei risultati della simulazione con scenari climatici ed esecuzioni di what-if analysis in near real-time

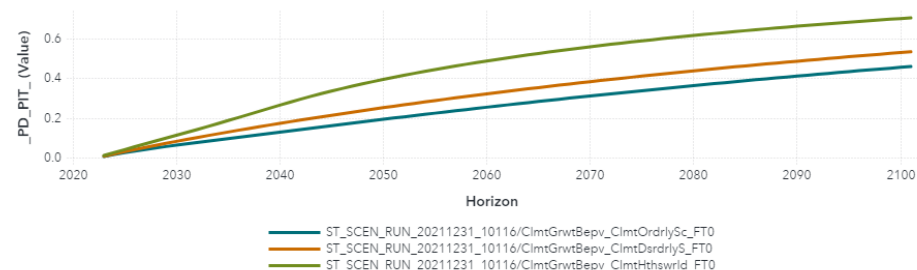
Crosstab 1

				ST_SCEN_RUN_20211231_10116											
				ClimtGrwtBepv_ClimtOrdrlSc_FT0											
				31Dec2022				31Dec2023				31Dec2024			
PORTFOLIO	NACE_DESC	GHG_RANGE	RATING_GRADE	_BALANCE_	_PD_PIT_	_LGD_PIT_	_ECL_STAGED_	_BALANCE_	_PD_PIT_	_LGD_PIT_	_ECL_STAGED_	_BALANCE_	_PD_PIT_	_LGD_PIT_	_ECL_STAGED_
				Value	Value	Value	Value	Value	Value	Value	Value	Value	Value	Value	Value
< Total				320,235,090.77	0.0106	0.34	1,144,687.56	256,615,108.29	0.0202	0.34	1,381,052.77	183,392,418.93	0.0291		
	Subtotal			147,577,137.43	0.0093	0.40	600,111.29	118,118,949.18	0.0177	0.40	741,806.01	83,982,395.69	0.0254		
		Subtotal		3,142,498.48	0.0136	0.40	27,609.96	2,711,921.58	0.0249	0.40	50,604.27	2,142,442.77	0.0348		
			Subtotal	3,142,498.48	0.0136	0.40	27,609.96	2,711,921.58	0.0249	0.40	50,604.27	2,142,442.77	0.0348		
< Corporate - SME				73,766.51	0.0030	0.40	90.52	65,183.60	0.0059	0.40	90.52	48,407.11	0.0086		
	< Accommodation			532,813.80	0.0098	0.40	2,098.00	454,120.34	0.0189	0.40	4,557.07	354,692.38	0.0275		
		< GHG_1		1,247,517.21	0.0066	0.40	3,331.32	1,124,510.71	0.0128	0.40	3,331.32	893,191.21	0.0187		
				878,331.93	0.0045	0.40	1,596.44	731,306.89	0.0087	0.40	1,596.44	566,038.24	0.0127		

ST_SCEN_RUN_20211231_10116 (stress)

Esecuzione su 30+ anni degli scenari NGFS Orderly, Disorderly e Hot House World

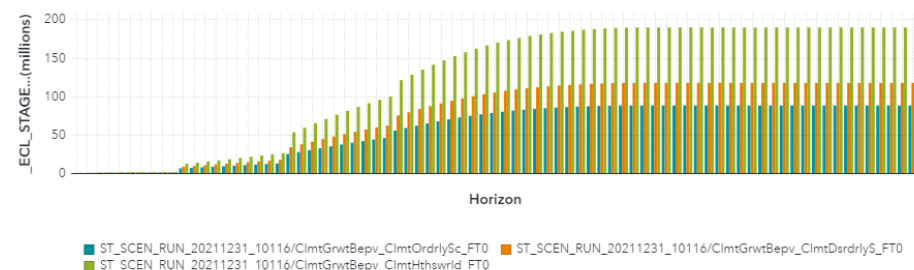
Path: [PORTFOLIO]



ST_SCEN_RUN_20211231_10116 (stress)

Compare All Scenarios by Horizon

Path: [PORTFOLIO]



ST_SCEN_RUN_20211231_10116 (stress)

Climate_Attribution_Analysis(ClmtGrwtBepv_ClmtDsrdlyS_FT0 vs. ClmtGrwthBep_ClmtHthswrld_FT0)

Output variable:

Scenario:

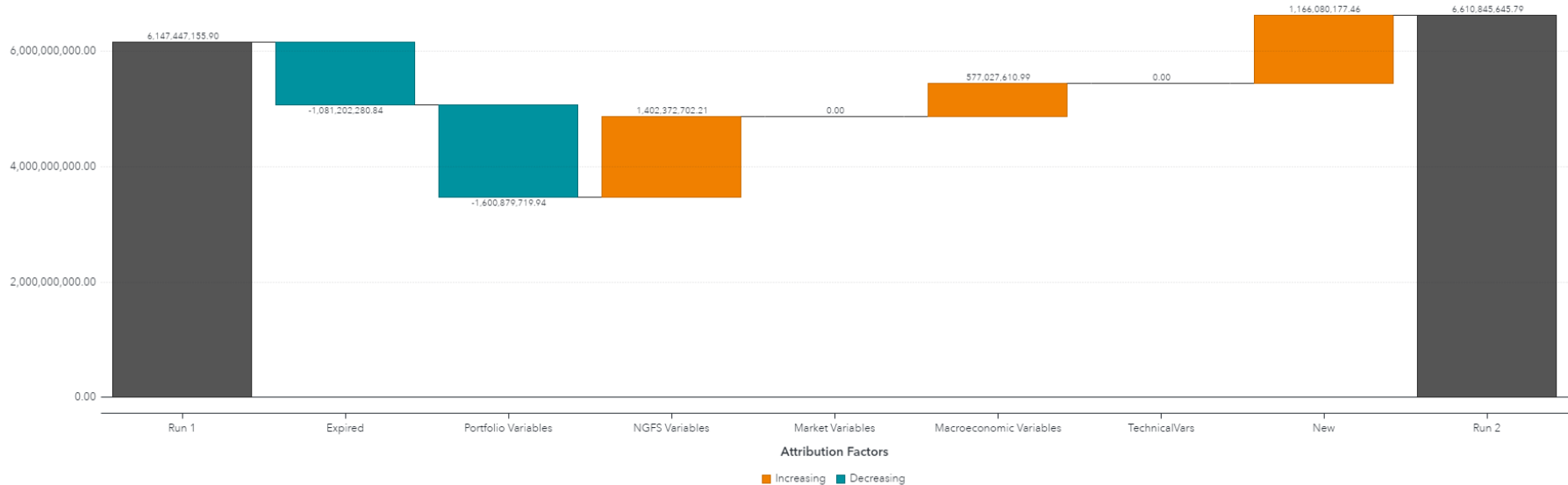
_ECL_STAGED_ ▼

ClmtGrwtBepv... ▼

Analysis Results of Climate_Attribution_Analysis (ClmtGrwtBepv_ClmtDsrdlyS_FT0 vs. ClmtGrwthBep_ClmtHthswrld_FT0)

Climate_Attribution_Analysis (ClmtGrwtBepv_ClmtDsrdlyS_FT0 vs. ClmtGrwthBep_ClmtHthswrld_FT0)

_ECL_STAGED_



La funzionalità di **Attribution Analysis** permette di analizzare diverse simulazioni isolando gli impatti di diversi fattori del calcolo, come variabili di portafoglio, parametri di rischi o fattori climatici



Cosa è fondamentale per un framework tecnologico?



DINAMICITÀ

Supportare esattamente ciò che è richiesto per gli stress test: **scenari a lungo termine, bilancio dinamico** e poter integrare oggetti legati al clima



SCALABILITÀ

Garantire la flessibilità necessaria per **gestire diversi tipi di scenari e strategie**, fornendo una **piattaforma unica** per gestire il rischio climatico, simulazioni IFRS9 e RWA, stress test, pianificazione, ecc.



SENSITIVITÀ

Poter essere sfruttato come **motore di sensitivity per testare e identificare la migliore strategia** per la banca, cogliendo le opportunità future



**“The measure of intelligence
is the ability to **change.**”**

Albert Einstein

A series of horizontal bars of varying lengths and colors (teal, blue, and dark blue) are positioned on the left side of the slide, creating a modern, abstract background element.

Grazie

giada.scalpelli@sas.com

sas.com

