



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

CASE STUDY PRESENTATION



2024 GrEnFlu SUMMER SCHOOL AND TRAINING

The summer school

The programme of the Summer School

The project

Green miracle

Green transition

Green innovation

Data sources

Climate impact explorer

NGFS Phase 4 Scenario Explorer

PACTA tool

The programme of the Summer School



<u>Monday</u> <u>June 24</u>	8.30 – 9.00	Registration and <u>Opening</u>
	9.00 – 11.00	<i>Presentation of case study: “Green issuers: impact on risk management and asset allocation”</i> Amia Santini , Alma Mater Studiorum Università di Bologna
	11.00 – 12.30	<i>European Emission Trading System: Again</i> Rene Aid , Université Paris Dauphine
	12.30 – 14.30	Lunch
	14.30 – 16.30	<i><u>TeamWork</u>: Icebreaking, Skills Mapping, Supervised directions</i> Giorgio Bongermينو-Nicola Bartolini-Beniamino Sartini , Alma Mater Studiorum Università di Bologna
	16.30 – 16.45	<i>Coffee Break</i>
	16.45 – 18.15	<i>Quantity-Adjusting Options: Hedging Financial Products for Climate Risk</i> Silvia Romagnoli , Alma Mater Studiorum Università di Bologna

Tuesday, June 25	8.30 – 10.30	<i>Regulatory framework & Greenness Criterion - focus on data and KPIs</i> Francesco Giovanardi and Lea Zicchino , Prometeia
	10.30 – 12.30	<i>An overview: ESG and beyond, greenness and climate risk, evidence and perspectives on asset allocation and risk management</i> Amia Santini , Alma Mater Studiorum Università di Bologna
	12.30 – 14.00	Lunch
	14.00 – 16.00	<i>Optimal Portfolio: green factors and PAB</i> Francesco Giovanardi , Prometeia
	16.00 – 16.15	Coffee Break
	16.15 – 17.15	<i>TeamWork: project development, empirical work and finalization of goals</i> Giorgio Bongermينو-Nicola Bartolini-Beniamino Sartini , Alma Mater Studiorum Università di Bologna
	17.15 – 18.30	<i>TeamWork: project development</i> <i>Statistical LAB</i> Giorgio Bongermينو-Nicola Bartolini-Beniamino Sartini , Alma Mater Studiorum Università di Bologna

Wednesday June 26	8.30 – 11.00	<i>Risk management under Model uncertainty with applications to Climate risk</i> Andrea Mazzon , Università di Verona
	11.00 - 12.30	<i>TeamWork: results discussion, space for improvement and refinement</i> <i>Statistical LAB</i> Giorgio Bongermano-Nicola Bartolini-Beniamino Sartini , Alma Mater Studiorum Università di Bologna
	12.30 – 14.00	Lunch
	14.00 – 16.00	<i>TeamWork: final discussion with supervision</i> Giorgio Bongermano-Nicola Bartolini-Beniamino Sartini , Alma Mater Studiorum Università di Bologna
	16.00 – 16.15	Coffee Break
	16.15 – 17.15	<i>Preferred Habitat the heterogeneous effects of Eurosystem asset purchase program</i> Moaz Hedaia Hamed Elsayed , Université Paris Dauphine
	17.15 – 18.30	<i>TeamWork: preparation of the project presentations</i> Giorgio Bongermano-Nicola Bartolini-Beniamino Sartini , Alma Mater Studiorum Università di Bologna

Thursday, June 27	8.30 – 9.30	TEST
	9.30 – 10.30	<i>TeamWork: preparation of the project presentations</i>
	10.30 – 12.00	<i>Project presentations and evaluation</i>
	12.00 – 13.30	Lunch
	13.30 – 14.00	<i>Closure of the Summer School</i>



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Green issuers: impact on risk management and asset allocation

- ▶ Analysis of portfolios that account for the alignment of assets with sustainability goals.
- ▶ Different focus: equity, bonds, firms in a key sector for the transition
- ▶ Different criteria for greenness (**ESG rating, sustainable business model, green bond label**)
- ▶ Different analyses (**portfolio alignment, credit risk management, hedging, market analysis**)

The project



Team: **GREEN MIRACLE**



- ▶ Creation of optimized portfolios that account for the alignment of assets with sustainability goals - **ESG rating, different allocation strategies**

The project

Team: **GREEN TRANSITION**



- Analysis of "greenness" - **green bonds** versus brown. What is the role of the greenium in **credit risk**? What about **physical risk** and **transition risk**?

The project

Team: **GREEN INNOVATION**



- Analysis of "greenness" - green **energy producers** versus brown. How much of the market demand does each one cover? How does demand compare to supply? **Weather derivatives** for hedging?

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The project

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Green innovation

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Data sources

- ▶ Historical data: NASA data services ([Power DAVe](#)), EU data services ([Copernicus](#))
- ▶ Scenario projections: EU, Network for Greening the Financial System (NGFS), PACTA

Climate scenario projections

Projections from continent-level to province-level, under a variety of climate-change scenarios:

<https://climate-impact-explorer.climateanalytics.org/>

RCP2.6

The Representative Concentration Pathway 2.6 is one of the four core greenhouse gas concentration pathways assessed by the IPCC in its fifth Assessment Report (AR5). It assumes that CO₂ emissions start declining by 2020 and reach zero by 2100, leading to a radiative forcing (change in energy flux to the atmosphere due to human activities) of 2.6 W/m² by 2100. This scenario is likely (66-90% chance) to limit global warming below 2°C by 2100.

RCP2.6

- RCP4.5
- RCP6.0
- RCP8.5
- NGFS current policies
- NGFS net-zero 2050
- NGFS delayed transition
- CAT current policies

Search...

CLIMATE

Relative Humidity

Specific Humidity

Precipitation

Snowfall

Atmospheric Pressure (surface)

Atmospheric pressure (adjusted to sea level)

Downwelling Longwave Radiation

Wind Speed

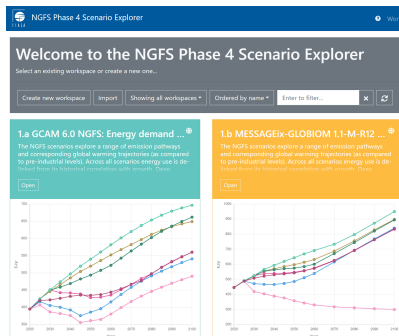
Mean Air Temperature

Daily Maximum Air Temperature

Daily Minimum Air Temperature

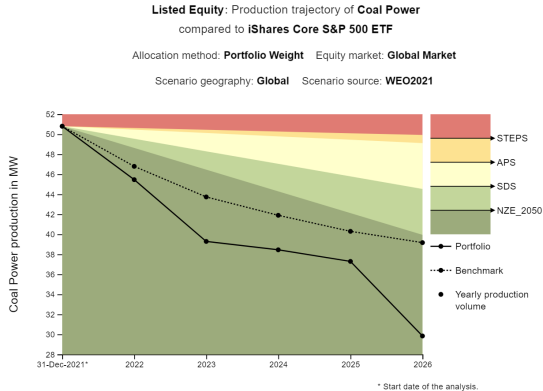
NGFS Phase 4 Scenario Explorer

The Scenario Explorer is a web-based user interface for NGFS Scenarios. This provides intuitive visualizations display of time series data and download of the data in multiple formats.



<https://data.ene.iiasa.ac.at/ngfs/#/workspaces>

PACTA tool for transition risk



<https://platform.transitionmonitor.com/>