

# GrEnFin

## Greening Energy Market and Finance



ALMA MATER STUDIORUM  
UNIVERSITÀ DI BOLOGNA

# Who we are



**Silvia Romagnoli**

PROGRAM DIRECTOR

[\*silvia.romagnoli@unibo.it\*](mailto:silvia.romagnoli@unibo.it)



**Angelo Neri**

PROGRAM COORDINATOR

[\*angelo.neri6@unibo.it\*](mailto:angelo.neri6@unibo.it)

**TUTOR**

[\*amia.santini2@unibo.it\*](mailto:amia.santini2@unibo.it)



# A new shape of Finance



*GrEnFin proposes a new role of finance as a facilitator of the transition process.  
Finance is recognized to be pivotal for the sustainable transition.  
We ethically reshape its goal into a societal service for the common good.*

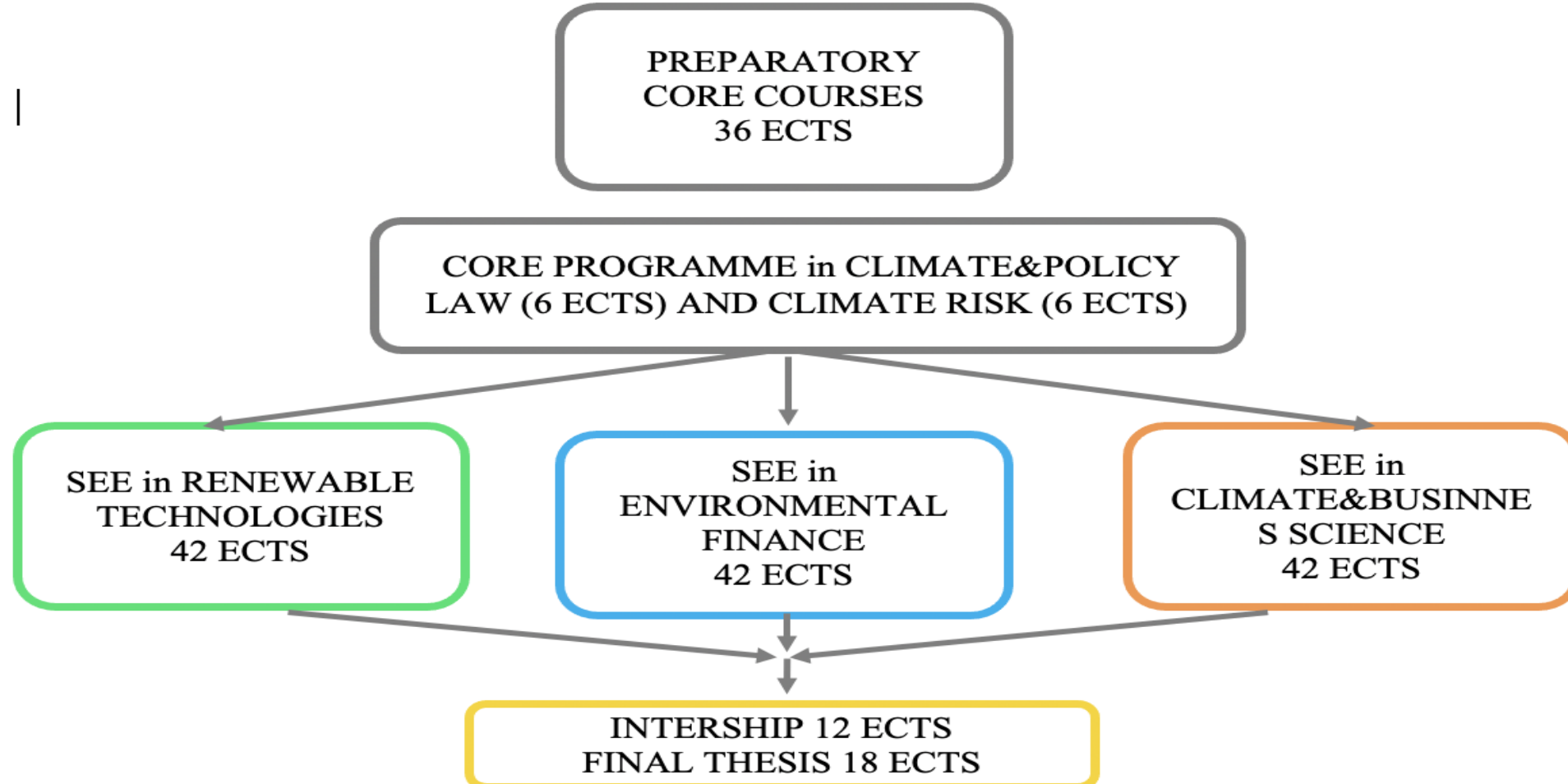
The Master proposes an innovative and interdisciplinary educational path targeted to the

***Sustainable Energy Expert, expected to be the Hero of the Green Economy.***

- ***INTERDISCIPLINARY PATH:*** engineering knowledge, quantitative skills, economic-business competences
- ***INNOVATIONS:*** Innovations in methodologies and contents.
- ***SYNERGIES WITH THE BUSINESS WORLD:*** GrEnFin Master is our answer to the stakeholders' needs. The structures comes from a co-designed project agreed with academy and business world.



# Overview of the GrEnFin Master Structure: an Interdisciplinary Path



## First semester: Preparatory Core Courses (36 ECTS)

### RISK MODELLING AND PROBABILITY (12 ECTS):

- Introduction to probability and the mathematics of risk (6 ECTS)
- Risk modelling and evaluation (6 ECTS)

### CLIMATE-RELATED RISK AND COMMODITY MARKET (12 ECTS):

- Climate and transition risks: uncertainties, complexity, and implications for economic and financial dynamics (6 ECTS)
- Commodities and Energy Markets: interactions with climate policy (6 ECTS)

### FINANCIAL MARKET & CLIMATE CHANGE: PRICING/HEDGING AND ASSET MANAGEMENT (12 ECTS):

- Mathematical Finance, Asset Pricing, Derivatives (6 ECTS)
- Asset Management and Transition Risk (6 ECTS)



**Between the 2<sup>nd</sup> AND 3<sup>rd</sup> SEMESTER: Core courses (12 ECTS)**  
**4<sup>th</sup> SEMESTER : Internship (12 ECTS) and Final Thesis (18 ECTS)**

INTERNATIONAL LAW AND SUSTAINABILITY (6 ECTS)  
CREDIT AND WEATHER DERIVATIVES (6 ECTS)

INTERNSHIP (12 ECTS)

FINAL THESIS (18 ECTS)



# The Sustainable Energy Expert: Three Curricula

## *SEE in Renewable Technologies*

Here we have focus on the **sustainable engineering technologies**. Students will increase their knowledge in **Renewable Energy and Climate** and also gain **financial and economics tools** that can help to have a 360 degrees vision about the energy market and the implication of the transition process in term of increased risk.

## *SEE in Environmental Finance*

Students will increase their knowledge in **risk and financial management associate to climate**. The competences in **financial engineering** allow to design contingent claims ad hoc able to provide useful hedging strategies.

## *SEE in Climate&Business Science*

Students will gain a deep **economic perspective of the energy transition process** and will be able to identify the best way to manage it. The main subject will give the student deeper understanding of **Climate science, prediction and mitigation strategies**.



## Different specializations



### RENEWABLE TECHNOLOGIES TRACK

#### Related Courses (30 ECTS)

- Climate System and Climate Change (6 ECTS)
- Smart Grids for Smart Cities (6 ECTS)
- Solar&Wind Energy and Storage Systems (6 ECTS)
- Python coding and data science (6 ECTS)
- Machine Learning and AI (6 ECTS)
- Summer/Winter school (6 ECTS)
- Summer/Winter Training (3 ECTS)
- Intensive Programme (6 ECTS)

#### Electives (12 ECTS)

- Hydraulic and Bioenergy (6 ECTS)
- Corporate Finance (6 ECTS)
- Financial Risk Management (6 ECTS)
- Statistical Methods for asset management (6 ECTS)
- Economics of financial market and sustainable perspectives (6 ECTS)
- Advanced Mathematical Finance (6 ECTS)
- Advanced methods for risk management (6 ECTS)
- Computational Finance (6 ECTS)

### ENVIRONMENTAL FINANCE TRACK

#### Related Courses(30 ECTS)

- Climate System and Climate Change (6 ECTS)
- Smart Grids for Smart Cities (6 ECTS)
- Python coding and data science (6 ECTS)
- Advanced Mathematical Finance (6 ECTS)
- Summer/Winter school (6 ECTS)
- Summer/Winter Training (3 ECTS)
- Intensive Programme (6 ECTS)

#### Electives (12 ECTS)

- Advanced methods for risk management (6 ECTS)
- Computational Finance (6 ECTS)
- Statistical Methods for asset management (6 ECTS)
- Economics of financial market and sustainable perspectives (6 ECTS)
- Econometrics of financial markets (6 ECTS)
- Machine Learning and AI (6 ECTS)

### CLIMATE&BUSINNES TRACK

#### Related courses(30 ECTS)

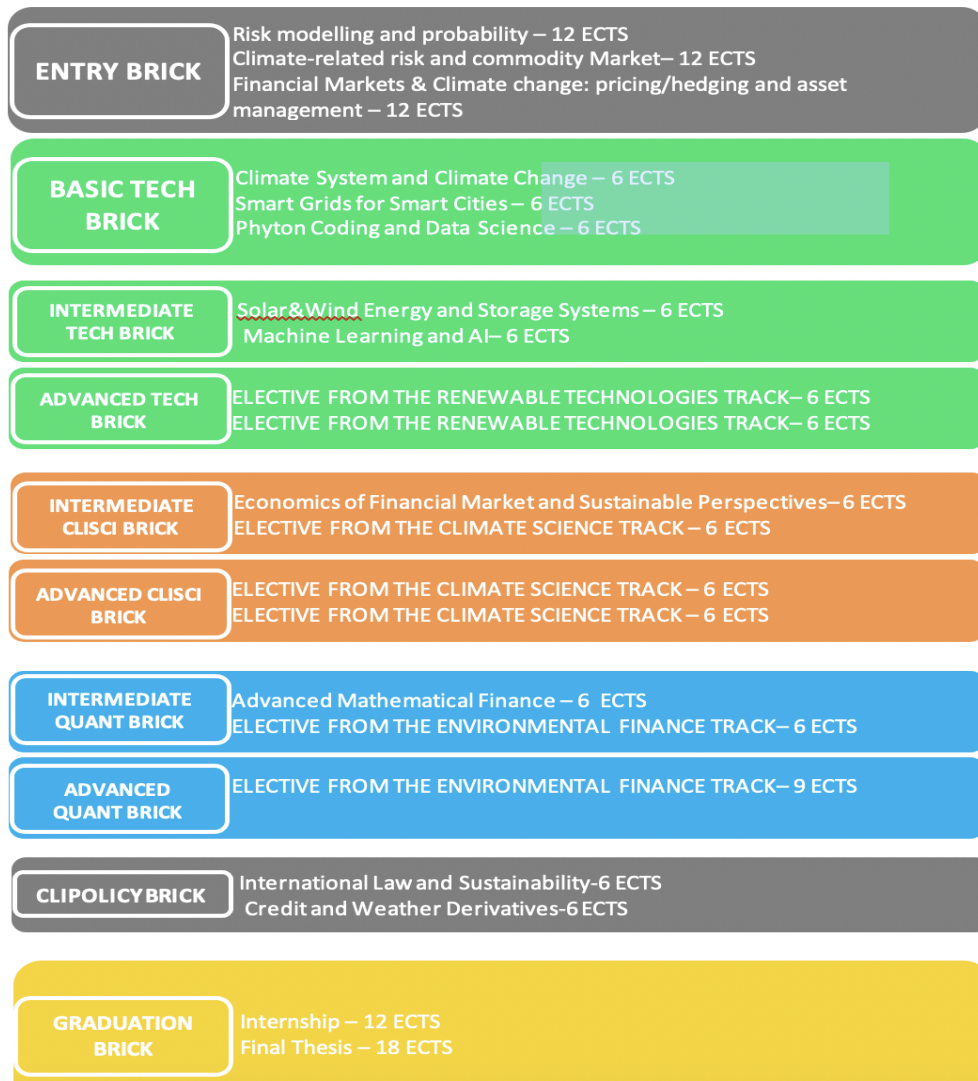
- Climate System and Climate Change (6 ECTS)
- Economics of financial market and sustainable perspectives (6 ECTS)
- Smart Grids for Smart Cities (6 ECTS)
- Python coding and data science (6 ECTS)
- Summer/Winter school (6 ECTS)
- Summer/Winter Training (3 ECTS)
- Intensive Programme (6 ECTS)

#### Electives (12 ECTS)

- Corporate Finance (6 ECTS)
- Financial Risk Management (6 ECTS)
- Statistical Methods for asset management (6 ECTS)
- Statistics of financial markets (6 ECTS)
- Advanced methods for risk management (6 ECTS)







## A brick composition of the educational path

The GrEnFin educational Path can be tailored on the interests of students:

- ENTRY BRICK
- BASIC TECH BRICK
- **INTERMEDIATE/ADVANCED BRICKS (CURRICULA)**
- CLIPOLICY BRICK
- GRADUATION BRICK

A number of electives are offered inside every curriculum.

GrEnFin offers a **flexible educational path** to be tailored by students



## A strong connection with the industrial/business world



- The GrEnFin master is our answer to the stakeholders needs: from the GrEnFin project survey to a worldwide needs analysis and finally to the definition of the learning outcomes and the draft of the educational path
- L and SMEs are partners of GrEnFin project: relevant and innovative contribution in term of contents (frontier topics) and methodologies (teamwork based on real cases) during the testing and piloting phases
- **Summer/Winter School and Training** based on case studies and team projects
- **Intensive Programme** with IT Lab focused on frontier topics
- 300 hours of **curricular Internship/RAship** to practically approach the real problems
- **Double supervision of the final Thesis:** an academic and an industrial/external supervisor



## GrEnFin Master: from an EU Project to an educational International Dimension



- GrEnFin Consortium came up with the idea of the International Master as a result of a joint work of academies/enterprises: **international network**
- **Double Degree**: DD agreements with LMU and UPD
- **Thesis abroad and Overseas** opportunities are offered thanks to GrEnFin connections
- **Industrial research** in international scenarios
- **GrEnFin EMJM**





# ADMISSION PROCESS - GrEnFin

You will find all information about the admission here:

<https://corsi.unibo.it/2cycle/GreeningEnergyMarketFinance/how-to-enrol>

There will be a **compulsory assessment test online**

Deadlines and dates for the a.y. 2025/2026 have not been published yet, but they will be similar to the a.y. 2024/2025

	APPLICATIONS PROCEDURE OPEN	APPLICATIONS PROCEDURE CLOSED	ONLINE ASSESSMENT TEST	RESULTS AND FEEDBACK
Intake 1	March 8 <sup>th</sup> 2024	April 4 <sup>th</sup> 2024 h 11:00 a.m. CET	April 9 <sup>th</sup> 2024 h 11:00 a.m. CET	May 6 <sup>th</sup> 2024
Intake 2	April 5 <sup>th</sup> 2024	May 3 <sup>rd</sup> 2024 h 11:00 a.m. CET	May 9 <sup>th</sup> 2024 h 11:00 a.m. CET	May 31 <sup>st</sup> 2024
Intake 3	June 3 <sup>rd</sup> 2024	July 1 <sup>st</sup> 2024 h 11:00 a.m. CET	July 8 <sup>th</sup> 2024 h 11:00 a.m. CET	July 29 <sup>th</sup> 2024



# Admission requirements and evaluation



Adequate knowledge of **mathematics**,  
**economics** and **statistics** tools at  
undergraduate level

Admission is conditional on the assessment  
of the personal qualification by the  
***Admission Board***

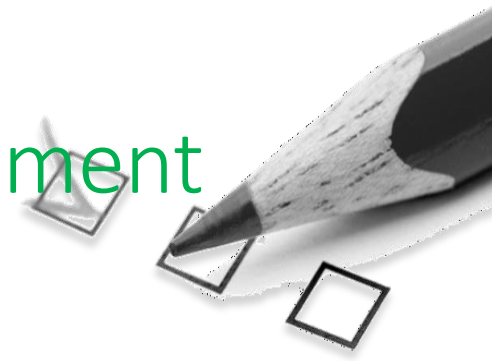


# GrEnFin online assessment test

- A thirty-minute test of twenty multiple-choice questions for the assessing of basic knowledge of mathematics, statistics, economics and finance. It will be administered online at <http://prove.unibo.it/>
- It is compulsory, and only applicants who do take it will be considered eligible for the evaluation



# Assessment



- Academic merit: **max 50 points**
- Presentation letter +  
motivation letter: **max 10  
points**
- Curriculum vitae: **max 10  
points**
- GrEnFln online  
assessment test: **max 30  
points**

For admission:  
**min. 60  
points**



# International perspective

Double Degree Agreements with



University of Munich  
– **Germany**

Université Paris Dauphine  
– **France**







Visit the degree program website: [GrEnFln](#)



# GrEnFin Erasmus Mundus Joint Master Mobility Paths

RENEWABLE RESOURCES	ENVIRONMENTAL FINANCE	CLIMATE&BUSINESS
<p>UPD</p> <p>(London Campus)</p> <p>PREPARATORY COURSES</p> <p>QUANTITATIVE TOOLS, ECONOMICS AND FINANCE</p>	<p>LMU</p> <p>PREPARATORY AND BASIC SPECIALIZED COURSES</p> <p>QUANTITATIVE FINANCE</p>	<p>UNIBO</p> <p>PREPARATORY COURSES</p> <p>QUANTITATIVE TOOLS, ECONOMICS AND FINANCE</p>
<p>UNIBO</p> <p>BASIC SPECIALIZED COURSES IN THE ENGINEERING AREA, STATS &amp;IT</p>	<p>LMU</p> <p>ADVANCED SPECIALIZED COURSES</p> <p>GREEN FINANCE, STATS&amp;IT</p>	<p>LMU</p> <p>BASIC SPECIALIZED COURSES</p> <p>GREEN FINANCE, STATS&amp;IT</p>
<p>UNIBO</p> <p>ADVANCED SPECIALIZED COURSES IN THE ENGINEERING AREA</p>	<p>UPD</p> <p>(Paris Campus)</p> <p>BASIC SPECIALIZED COURSES</p> <p>ENERGY ECONOMICS, STATS&amp;IT</p>	<p>UPD</p> <p>(Paris Campus)</p> <p>ADVANCED SPECIALIZED COURSES</p> <p>ENERGY ECONOMICS, GREEN FINANCE, STATS&amp;IT</p>
<p>LMU</p> <p>RESEARCH PROJECT/INTERNSHIP</p>	<p>UNIBO</p> <p>RESEARCH PROJECT/INTERNSHIP</p>	<p>UPD</p> <p>(Paris Campus)</p> <p>RESEARCH PROJECT/INTERNSHIP</p>



# GrEnFin Erasmus Mundus Joint Master

## Awarded Diplomas

- Laurea Magistrale in Greening Energy Market and Finance from UNIBO;
- Master in Financial and Insurance Mathematics from LMU;
- Master in Economics and Finance from UPD.

## Admission Procedures

- As described before **BUT just one intake** (Dec-Feb)
- See the **website** for more information <https://site.unibo.it/grenfin-emjm/en>



L'UNIVERSITÀ  
NON TI CAMBIA LA VITA.  
O FORSE SÌ.



ALMA MATER STUDIORUM  
UNIVERSITÀ DI BOLOGNA



 @unibo



 @joinunibo