



Energy
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Integrating ESG Factors into Property Valuation

Evidence, Training and Practical Tools from DeliverEEM

Andrea Ranieri
CRIF Real Estate Services

About the speaker and CRIF

Connecting property data, valuation and financial risk



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Member of the

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Analytics WG

CRIF, the end-to-end knowledge company



INFORMATION

Credit bureau & data pool
Business information
Marketing services
ESG information
Turnkey credit bureau platform
Property information



INTELLIGENCE

Advanced & big data analytics
Open banking suite
Credit, risk & digital consulting
ESG analytics & advisory
Credit rating services



PLATFORM

End-to-end credit management platform
Onboarding & remote collaboration
Identification & fraud prevention services
Customer Journey as a service
Customer engagement & business development



OUTSOURCING

Business process optimization
Credit collection & special servicing
Real estate valuation
Real estate energy & sustainability



CONSUMER SERVICES

Financial health and affordability
Identity theft and cyber risk protection

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Initials/YYYY-MM-DD

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CRIF ESG Data Lake: what can we provide?



ESG SCORE

ESG Score, individual **components** (E, S, G, Score) and score factors



PHYSICAL RISK

Scores & loss estimates for evaluating the exposure to **physical risk** impacts



GHG EMISSIONS

Data and estimates on **GHG Emissions of Scope 1, 2 and 3**



TRANSITION RISK

Scores & impact estimates for the evaluation of **transition risk**



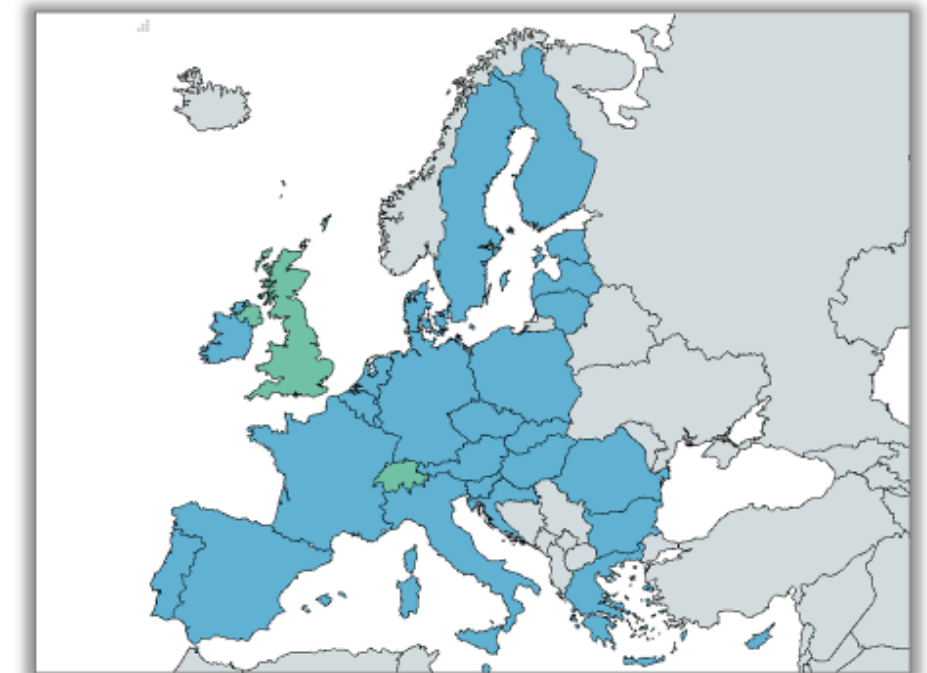
NATURE-RELATED RISK

Sectoral **eligibility** and **taxonomic alignment** indicators as of delegated acts



OTHER ESG KPIs

Sectoral **taxonomy alignment** proxies, **Paris-aligned** benchmarks, **top20 polluters**,...



All listed **ESG Data Services** can be delivered on **all EU27 countries**.

Selected ESG Data Services are also available on **UK** and **Switzerland**.



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DeliverEEM: Building an Energy Efficient Mortgage Ecosystem

DeliverEEM is a European LIFE project designed to accelerate private finance for energy-efficiency investments

Five project dimensions

- **De-risking investments** *Linking EPC, property value, LGD and climate risk*
- **ESG in valuation** *Survey, evidence, training and ESG valuation checklists*
- **Better operating models** *Embedding ESG into mortgage and collateral processes*
- **Renovation ecosystem** *Connecting lenders, valuers and renovation stakeholders*
- **Consumer transition** *Supporting access to renovation finance and EEM products*



Bridging the gap between ESG Factors and Valuation

Creating a common framework to connect ESG regulation, property data, valuation practice and lending decisions

ESG considerations are becoming increasingly **relevant to:**

- **property marketability** and expected operating costs;
- **physical and transition risk assessment;**
- mortgage lending and **collateral monitoring;**
- **sustainable finance** and regulatory expectations.

However, the practical integration of ESG factors into valuation remains uneven.

The next step is not identifying more ESG factors, but providing valuers and lenders with practical tools to assess, document and use them consistently.



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From market evidence to practical guidance

A four-step approach

Review

Standards, regulation and existing valuation guidance

Listen

Survey valuers and financial institutions

Translate

Develop training materials and an operational toolkit

Analyse

ESG factors potentially affecting valuation and value

The objective is **not to create a new valuation methodology**, but to support a more systematic consideration of relevant **ESG characteristics within existing valuation practice**.



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Regulation and standard review

Review
Standards, regulation and
existing valuation guidance

Mapping regulatory requirements, supervisory expectations and market standards affecting property valuation

Regulation

- CRR III
- EPBD
- SFDR
- EU Taxonomy

Supervision

- ECB Climate & Environmental Risk Guidance
- EBA ESG Guidelines

Valuation Standards

- IVSC
- RICS
- TEGoVA

Market Practice

- Existing EEMI Valuation Checklist
- ESG valuation frameworks

**A clear message emerged: ESG is no longer a voluntary consideration.
It is increasingly becoming part of valuation, collateral monitoring and lending decisions.**



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The Survey: From Awareness to Valuation Impact

Listen
Survey valuers and financial
institutions

Understanding how ESG factors move from general awareness to operational use and Market Value assessment

DeliverEEM Survey

- **14 Banks**
- **14 Valuation Institutions**
- **6 European Countries**
- Majority with 10+ years of professional experience
- Almost all respondents trained on ESG topics

Dimensions

- **Energy efficiency (E)**
- Carbon footprint (E)
- **Physical risks (E)**
- Pollution and waste manag. (E)
- Water usage (E)
- **Biodiversity (E)**
- Building and location charact. (S)
- **Mobility (S)**
- **Accessibility (S)**
- **Governance (G)**

Survey structure

1. **Awareness**
2. **Operational use**
3. **Data and sources**
4. **Market Value relevance**
5. **Evidence and implementation**



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Survey Results

Analyse
ESG factors potentially affecting
valuation and value

The market recognises ESG relevance, but materiality and valuation treatment remain context-dependent

Factors' ranking

Most relevant factors

- **Energy efficiency (E)** 2.21
- **Building and location (S)** 2.59
- **Physical risks (E)** 2.86

All other ESG factors rank significantly lower.

Key findings

- **A clear priority set is emerging:** Energy efficiency, building & location, and physical risks.
- **Market Value impact remains debated:** direct, context-dependent or primarily regulatory.
- **The real challenge is implementation:** data quality, standardisation and practical tools.

Main barriers

- **Incomplete or unavailable data**
- **Non-standardised data sources**
- **Regulatory uncertainty**
- **Lack of practical guidance**

**The challenge is no longer recognising ESG factors.
The challenge is applying them consistently, documenting them clearly and translating them into valuation evidence.**



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Why the Market Needs a Common ESG Tool

Analyse
ESG factors potentially affecting
valuation and value

Turning ESG requirements into consistent valuation practice

Not a valuation model.

**A practical tool to collect, assess and document ESG information consistently across
valuation and lending processes in Europe.**



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How the ESG Valuation Checklist Works

Translate
Develop training materials and
an operational toolkit

From guided data collection to a structured ESG assessment

1. Environmental – Energy efficiency

Energy efficiency is a key factor in reducing building energy demand, greenhouse gas emissions and transition risk. It may influence property value through lower operating costs, reduced exposure to energy price volatility, lower future capital expenditure requirements and improved market attractiveness. Conversely, poor energy performance may increase retrofit costs, obsolescence risk and potential value deterioration as regulatory requirements become more stringent.

Energy efficiency, together with its related measures and features, are recognised by the EPBD, EU Taxonomy Annex I, CRR III, SFDR, the ECB Guide on Climate-related and Environmental Risks and the EBA Guidelines on ESG Risks, as well as TEGoVA EVS 6, IVS 2025, the RICS ESG Data List, GRESB and INREV ESG SDDS.

1.1 Is an Energy Performance Certificate (EPC / APE) available for the property? If yes, what is the energy class?

G

1.2 How does the property's energy performance compare to similar properties in the local market?

Worse than market average

1.3 Which of the following energy efficiency features are present in the property and aligned with the current building standard?

1.3.1 Thermal insulation

Not aligned with current national/regional standards

1.3.2 Efficient windows or glazing

Not aligned with current national/regional standards

1.3.3 Efficient heating and/or cooling systems

Not aligned with current national/regional standards

1.3.4 On-site renewable energy (e.g. solar panels)

Not aligned with current national/regional standards

All the above indicators support the primary mechanisms through which buildings contribute to the Climate Change Adaptation objective of the EU Taxonomy.



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1. Environmental – Energy efficiency

2. Environmental – Physical climate risks

Physical climate risks may affect a property's long-term performance, usability, marketability and value sustainability. Consequently, they have become an increasingly important component of property valuation, risk assessment and sustainable finance. Physical climate risks also reinforce the need for strategic investments aimed at improving a building's resilience and adaptation capacity. In this context, Energy Efficient Mortgages and Green Mortgages can help bridge the gap between regulatory expectations and financial viability.

Relevant frameworks include the EU Taxonomy Annex II (Climate Change Adaptation), CRR III, SFDR, the ECB Guide on Climate-related and Environmental Risks and the EBA Guidelines on ESG Risks, together with the RICS ESG Data List, GRESB, INREV ESG SDDS, TEGoVA EVS 2025 / EVS 6 and IVSC (IVS 2025). This section primarily supports the Climate Change Adaptation objective of the EU Taxonomy.

2.1 Which is the scope of physical climate risk analysis carried out for this property?

EU Taxonomy – 28 hazards, scenarios and time horizons



2.2 Based on the property's location, how would you assess its overall exposure to physical climate risks (e.g. flood, heatwaves, landslide)?

High



The above indicators represent one of the main links between real estate valuation and the Climate Change Adaptation objective of the EU Taxonomy, which requires climate-related hazards to be identified, assessed and, where relevant, managed through appropriate adaptation measures.

1.3.3 Efficient heating and/or cooling systems

Not aligned with current national/regional standards



1.3.4 On-site renewable energy (e.g. solar panels)

Not aligned with current national/regional standards



All the above indicators support the primary mechanisms through which buildings contribute to the Climate Change Adaptation objective of the EU Taxonomy.



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1. Environmental – Energy efficiency

2. Environmental – Physical climate risks

3. Environmental – Mitigation and enhancement measures

Environmental mitigation and enhancement measures capture sustainability-related characteristics that may improve a property's environmental performance, resilience and long-term sustainability. These measures also help ensure that environmental improvements in one area do not create significant adverse impacts in others. From a valuation and risk-management perspective, these measures may contribute to a property's long-term attractiveness, marketability and overall value.

The relevance of these measures is reflected across the European sustainable finance framework, including the SFDR, EU Taxonomy, ECB Guide on Climate-related and Environmental Risks, and EBA Guidelines on ESG Risks, as well as in major international valuation and ESG frameworks such as IVSC (IVS 2025), RICS ESG Data List, RICS Sustainability & ESG Guidance, TEGoVA EVS 2025, GRESB and INREV ESG SDDS.

3.1 Which environmental factors have had a positive impact on the property valuation, if present?

Answer "Yes" if the factor is present; otherwise "No".

3.1.1 Measures to protect or preserve biodiversity or natural surrounding areas

No



Particularly relevant in the Environmental Delegated Act and DNSH Criteria of Annex I and II of the EU Taxonomy. It supports the Protection and Restoration of Biodiversity and Ecosystems objective.

3.1.2 Systems to detect and control material-related emissions and pollutants (air, noise, soil)

No



Particularly relevant in the Environmental Delegated Act and DNSH Criteria of Annex I and II of the EU Taxonomy. It supports the Pollution Prevention and Control objective.

3.1.3 Construction Waste Management and Circularity Measures

No



Particularly relevant in EU Taxonomy Annex I. It supports the Climate Change Mitigation and the Transition to a Circular Economy objectives.



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From guided data collection to a structured ESG assessment

1. Environmental – Energy efficiency

2. Environmental – Physical climate risks

3. Environmental – Mitigation and enhancement measures

Environmental mitigation and enhancement measures capture sustainability performance, resilience and long-term sustainability. These measures also help to avoid significant adverse impacts in others. From a valuation and risk-management perspective, they enhance attractiveness, marketability and overall value.

The relevance of these measures is reflected across the European sustainability standards, including the Climate-related and Environmental Risks, and EBA Guidelines on ESG Risk (IVS 2025), RICS ESG Data List, RICS Sustainability & ESG Guidance, TEGoVA EVS 2025, GRESB and INREV ESG SDDS.

3.1 Which environmental factors have had a positive impact on the property?

Answer “Yes” if the factor is present; otherwise “No”.

3.1.1 Measures to protect or preserve biodiversity or natural surrounding areas

No

Particularly relevant in the Environmental Delegated Act and DNSH Criteria of Annex I and II of the EU Taxonomy. It supports the Protection and Restoration of Biodiversity and Ecosystems objective.

3.1.3 Construction Waste Management and Circularity Measures

No

Particularly relevant in EU Taxonomy Annex I. It supports the Climate Change Mitigation and the Transition to a Circular Economy objectives.

Social

Social factors capture characteristics that may influence the usability, accessibility, health, safety and overall quality of the built environment for occupants and local communities. These factors are increasingly recognised as important determinants of a property’s long-term attractiveness, marketability and value sustainability, as they may affect occupier demand, tenant retention and the property’s ability to meet evolving societal expectations.

The relevance of these factors is reflected across the EPBD, CRR III, SFDR (PAI Indicators), the EU Taxonomy Regulation through its Minimum Safeguards provisions, and the EBA Guidelines on ESG Risks. Their assessment is also supported by major international valuation and ESG frameworks, including IVSC (IVS 2025), the RICS ESG Data List, TEGoVA EVS 2025, GRESB and INREV ESG SDDS.

4. Social factors

4.1 How would you assess the accessibility and availability of local services (schools, shops, healthcare, etc.)? Assessment based on the surrounding area.

Good

4.2 How would you assess access to mobility and public transport? Consider walking distance, frequency, or availability of transport connections.

Average

Among the other social indicators, this is the only aspect that is also discussed in Annex I of the EU Taxonomy Regulation, as it contributes to the Climate Change Mitigation objective by improving accessibility to public transport and sustainable mobility options.

4.3 Are there evident social criticalities affecting the property or the surrounding area? For example safety issues or severe social degradation.

Not assessable

The above indicators support alignment with the Minimum Safeguards framework of the EU Taxonomy, contributing to the assessment of social sustainability aspects during valuation process.



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How the ESG Valuation Checklist Works

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1. Environmental – Energy efficiency

2. Environmental – Physical climate risks

3. Environmental – Mitigation and enhancement measures

Environmental mitigation and enhancement measures capture sustainability performance, resilience and long-term sustainability. These measures also have significant adverse impacts in others. From a valuation and risk-management perspective, they affect attractiveness, marketability and overall value.

The relevance of these measures is reflected across the European sustainability frameworks, including the EU Taxonomy Regulation (Minimum Safeguards), the ECB Guide on Climate-related and Environmental Risks, and the EBA Guidelines on ESG Risks (IVS 2025), RICS ESG Data List, RICS Sustainability & ESG Guidance, TEGoVA EVS 2025, GRESB and INREV ESG SDDS.

3.1 Which environmental factors have had a positive impact on the property's value?

Answer "Yes" if the factor is present; otherwise "No".

3.1.1 Measures to protect or preserve biodiversity or natural surrounding areas

No

Particularly relevant in the Environmental Delegated Act and DNSH Criteria of Annex I and II of the EU Taxonomy. It supports the Protection and Restoration of Biodiversity and Ecosystems objective.

3.1.3 Construction Waste Management and Circularity Measures

No

Particularly relevant in EU Taxonomy Annex I. It supports the Climate Change Mitigation and the Transition to a Circular Economy objectives.

Social

Social factors capture characteristics that may influence the usability, accessibility and local communities. These factors are increasingly recognised as important for sustainability, as they may affect occupier demand, tenant retention and the overall value of the property.

The relevance of these factors is reflected across the EPBD, CRR III, SFDR provisions, and the EBA Guidelines on ESG Risks. Their assessment is also supported by international standards, including IVSC (IVS 2025), the RICS ESG Data List, TEGoVA EVS 2025, GRESB and INREV ESG SDDS.

4. Social factors

4.1 How would you assess the accessibility and availability of transport connections? Assessment based on the surrounding area.

Good

4.2 How would you assess access to mobility and public transport? Consider walking distance, frequency, or availability of transport connections.

Average

Among the other social indicators, this is the only aspect that is also discussed in Annex I of the EU Taxonomy Regulation, as it contributes to the Climate Change Mitigation objective by improving accessibility to public transport and sustainable mobility options.

4.3 Are there evident social criticalities affecting the property or the surrounding area? For example safety issues or severe social degradation.

Not assessable

The above indicators support alignment with the Minimum Safeguards framework of the EU Taxonomy, contributing to the assessment of social sustainability aspects during valuation process.

Governance

Qualitative indicators related to property management and governance.

Governance factors focus on how the property is managed, maintained and monitored over time, affecting its long-term performance and resilience. Strong governance arrangements contribute to the preservation of value, improve transparency and support effective management of sustainability-related risks.

The relevance of governance factors is reflected across the European regulatory and supervisory framework, including CRR III, SFDR, the EU Taxonomy Regulation (Minimum Safeguards), the ECB Guide on Climate-related and Environmental Risks, and the EBA Guidelines on ESG Risks. However, these factors are mostly recognised by international standards, including IVSC (IVS 2025), the RICS ESG Data List, TEGoVA EVS 2025, GRESB and INREV ESG SDDS.

5. Governance factors

5.1 Are there known sustainability certifications or structured sustainable management practices for the property?

Yes

5.2 How would you assess the overall quality of property management and maintenance?

Excellent

The above indicators support alignment with the Minimum Safeguards framework of the EU Taxonomy by providing a structured approach to evaluate management quality, sustainability oversight and governance practices.



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How the ESG Valuation Checklist Works

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From guided data collection to a structured ESG assessment

1. Environmental – Energy efficiency

2. Environmental – Physical climate risks

3. Environmental – Mitigation and enhancement measures

3.1 Which environmental factors have had a positive impact on the property's attractiveness, marketability and overall value?

3.1.1 Measures to protect or preserve biodiversity and natural surrounding areas

3.1.3 Construction Waste Management and Measures

Environmental mitigation and enhancement measures capture sustainability performance, resilience and long-term sustainability. These measures also help to avoid significant adverse impacts in others. From a valuation and risk-management perspective, they contribute to the property's attractiveness, marketability and overall value.

The relevance of these measures is reflected across the European sustainability frameworks, including the EU Taxonomy, the ECB Guide on Climate-related and Environmental Risks, and EBA Guidelines on ESG Risks (IVS 2025), RICS ESG Data List, RICS Sustainability & ESG Guidance, TEGoVA EVS 2025, GRESB and INREV ESG SDDS.

3.1.1 Measures to protect or preserve biodiversity and natural surrounding areas

No

Particularly relevant in the Environmental Delegated Act and the EU Taxonomy. It supports the Biodiversity and Ecosystems objectives of the EU Taxonomy.

3.1.3 Construction Waste Management and Measures

No

Particularly relevant in EU Taxonomy Annex I. It supports the Climate Change Mitigation and the Transition to a Circular Economy objectives of the EU Taxonomy.

4. Social factors

Social factors capture characteristics that may influence the usability, accessibility and local communities. These factors are increasingly recognised as important for sustainability, as they may affect occupier demand, tenant retention and the property's overall value.

The relevance of these factors is reflected across the EPBD, CRR III, SFDR, the EU Taxonomy, the ECB Guide on Climate-related and Environmental Risks, and the EBA Guidelines on ESG Risks. Their assessment is also reflected in the IVS (IVS 2025), the RICS ESG Data List, TEGoVA EVS 2025, GRESB and INREV ESG SDDS.

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Qualitative indicators related to property management and governance.

Governance factors focus on how the property is managed, maintained and monitored over time, affecting its long-term performance and resilience. Strong governance arrangements contribute to the preservation of value, improve transparency and support effective management of sustainability-related risks.

The relevance of governance factors is reflected across the European regulatory and supervisory framework, including CRR III, SFDR, the EU Taxonomy Regulation (Minimum Safeguards), the ECB Guide on Climate-related and Environmental Risks, and the EBA Guidelines on ESG Risks. However, these factors are mostly recognised by international standards, including IVSC (IVS 2025), the RICS ESG Data List, TEGoVA EVS 2025, GRESB and INREV ESG SDDS.

5. Governance factors

5.1 Are there known sustainability certifications or structured sustainable management practices for the property?

Yes

Are there known sustainability certifications or structured sustainable management practices for the property's maintenance?

Taxonomy by providing a structured approach to

EU Taxonomy Alignment

This indicator assesses whether the property complies with the applicable EU Taxonomy criteria based on its lifecycle stage, including new construction, renovation, or existing building ownership.

Is the property compliant with the applicable EU Taxonomy requirements, considering whether it is a new construction, renovation, or existing building?

Select an answer

Back to intro

See results

The above indicators support alignment with the Minimum Safeguards framework of the EU Taxonomy, contributing to the assessment of social sustainability aspects during valuation process.



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What the Checklist delivers

Translate
Develop training materials and
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Creating consistency without replacing professional judgement

**A common baseline for ESG assessment across European valuation and lending processes.
Supporting valuers, lenders, collateral management teams and sustainable finance functions.**

Not a valuation model. A common ESG assessment baseline.

What it provides

- Common ESG terminology
- Structured data collection
- Consistent documentation
- Comparable ESG information

What it is not

- Not a valuation model
- Not a property rating
- Not an automatic value adjustment
- Not a replacement for professional judgement

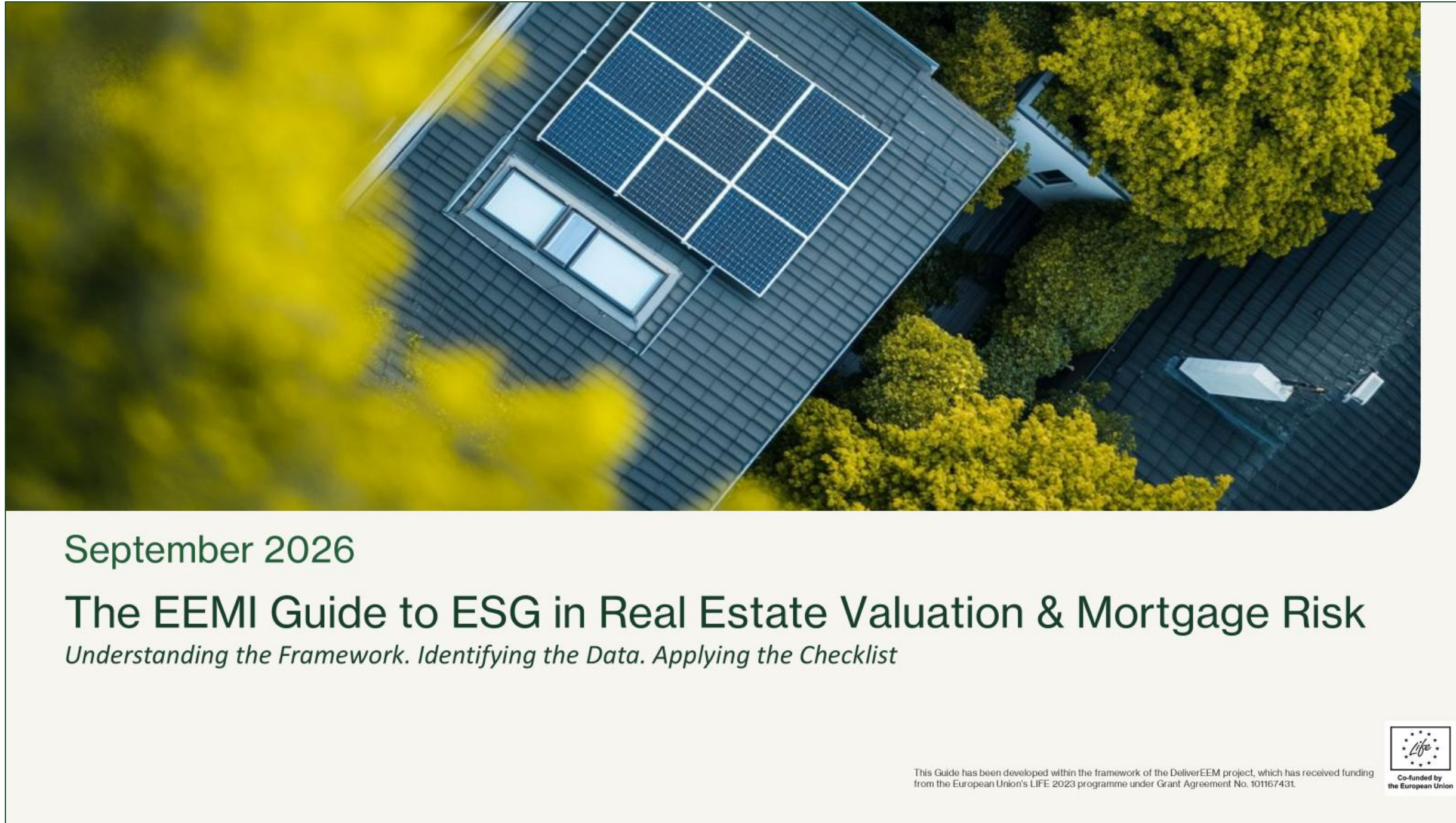


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Training materials

Translate
Develop training materials and
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From research to professional capability



Training materials

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From research to professional capability

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September 2026

The EEMI Guide to ESG in Real Estate

Understanding the Framework. Identifying the Data. Applying the

Coming soon and freely available online...



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From ESG Requirements to Valuation Practice

Three conclusions from the DeliverEEM valuation work

ESG relevance is clear, but its impact on Market Value remains debated.

Energy efficiency, property characteristics and physical risks are emerging as priorities, but their impact remains dependent on location, market evidence and data quality.

Consistency starts with data, not with automatic value adjustments.

The immediate priority is to improve how relevant ESG characteristics are identified, collected and documented across valuations and collateral processes.

Training and practical tools are the bridge to implementation.

The DeliverEEM training materials build professional capability, while the ESG Valuation Checklist provides a common operational baseline for valuers and lenders.

The next step is market application: testing the framework across countries, asset types and lending processes, and refining it as data and market evidence evolve.



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DELIVERING THE ENERGY EFFICIENT MORTGAGE ECOSYSTEM

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Thank you for your
attention



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