

Conference - Valuation Practice in the Current ESG Context

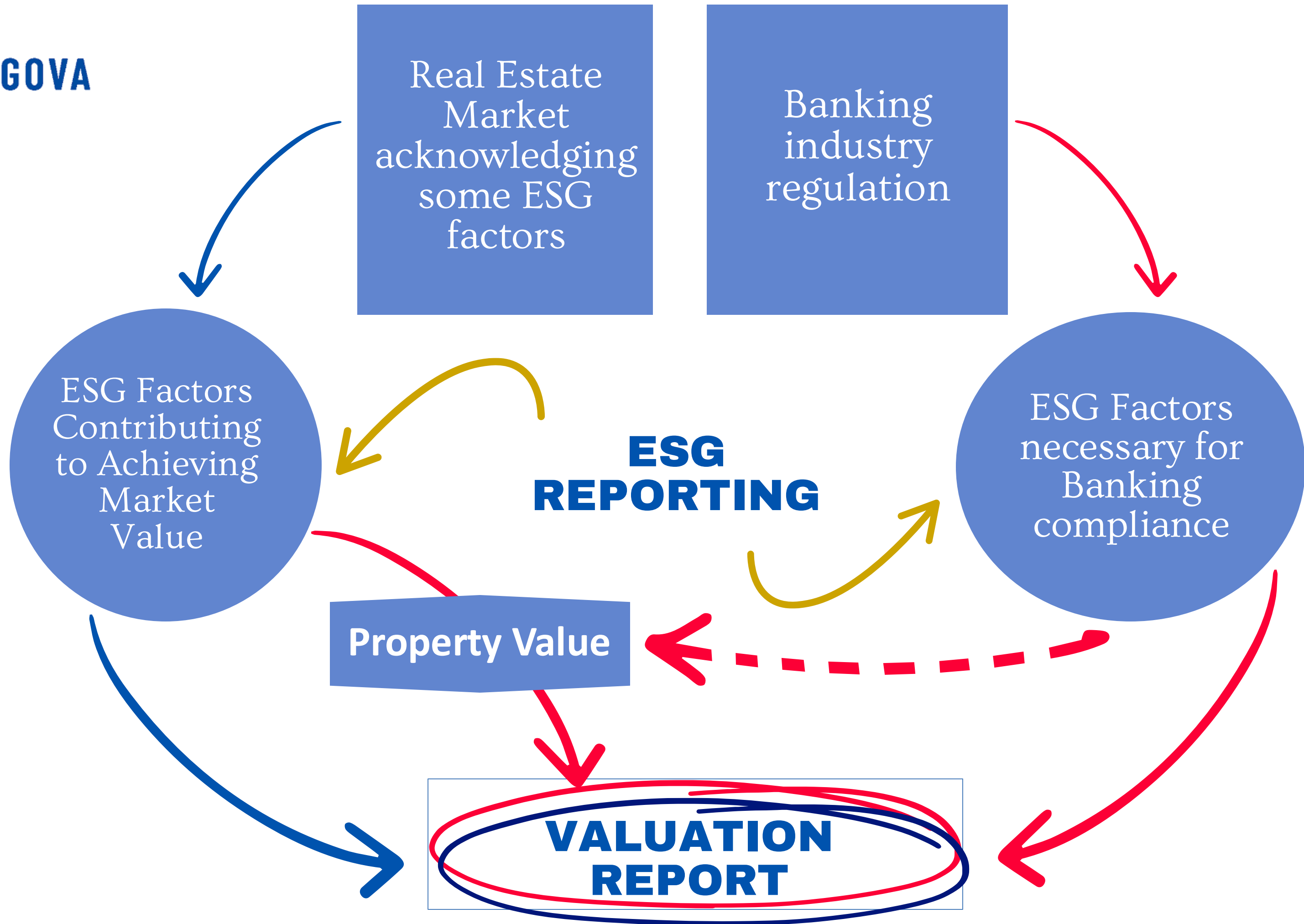
Σ.ΕΚ.Ε
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ESG valuation reporting

A personal experience

First of all, we are talking about at least two different concepts when we talk about ESG reporting in Mortgage Valuation.





The Importance of ESG Criteria for the Banking Industry

- ➡ ESG refers to the set of environmental, social, and governance criteria used to assess an organisation's sustainability and broader societal impact
- ➡ These criteria help investors evaluate how effectively an institution identifies and manages risks and opportunities in these areas.
- ➡ For banks, integrating ESG principles is not only a way to align operations with sustainable practices but also a strategic tool to strengthen resilience, enhance reputation, build trust with stakeholders, and contribute to long-term positive outcomes for society and the economy.



EU Legislation

- ➡ CSRD 'Corporate Sustainability Reporting Directive' (Directive EU 2022/2464)
- ➡ Taxonomy Regulation (Reg 2020/852/EU)
- ➡ SFDR 'Sustainable Finance Disclosure Regulation' (Reg 2019/2088/EU)



EU Taxonomy

- ➡ The EU Taxonomy was created by the European Commission to support climate goals, notably reducing greenhouse gas emissions by 55% and achieving climate neutrality by 2050. As the first science-based classification system, it enables investors and stakeholders to assess whether economic activities are sustainable.
- ➡ It is based in six environmental objectives:
 - climate change mitigation
 - climate change adaptation
 - protection and restoration of biodiversity and ecosystems
 - pollution prevention and control
 - sustainable use and protection of water and marine resources and
 - transition to a circular economy
- ➡ To be considered a sustainable activity, it must make a substantial contribution to at least one environmental objective, do no significant harm (DNSH) to any other environmental objective, complying with minimum social safeguards and complying with some screening criteria.





TEGOVA

ESG and the valuation for mortgage purposes

Real Estate
Market
acknowledging
some ESG
factors

- environmental pollution
- protection of species and resources
- energy efficiency
- greenhouse gas emissions

Some ESG
criteria are
already
drivers of
market value

Property Value

- Energy efficiency directive
- Energy performance of buildings directive
- water use and water management
- waste management
- climate resilience of buildings
- climate change effects
- social impact of real estate projects



My experience with ESG

A three-
stage
process

Property
data

Energy
Efficiency

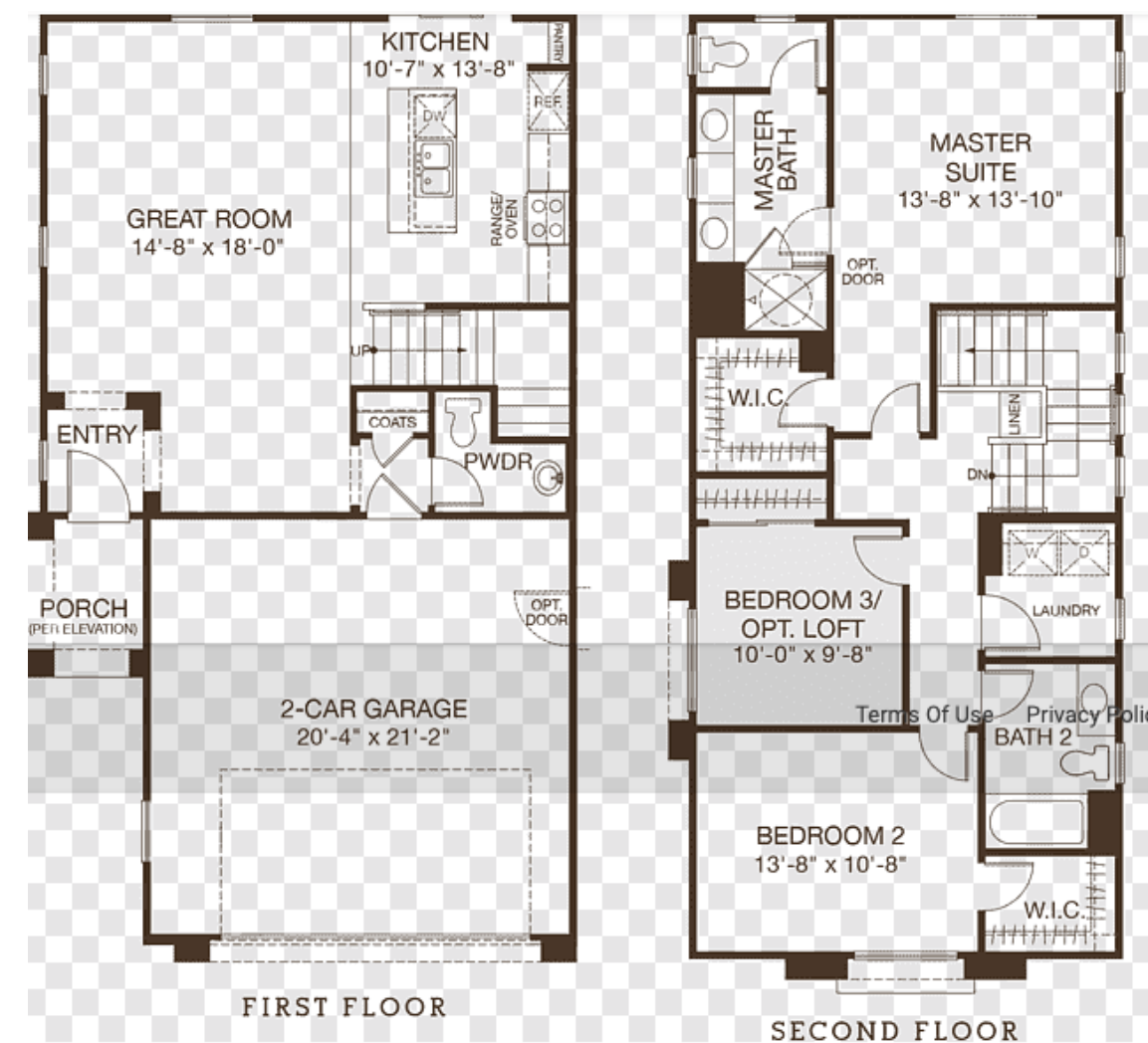
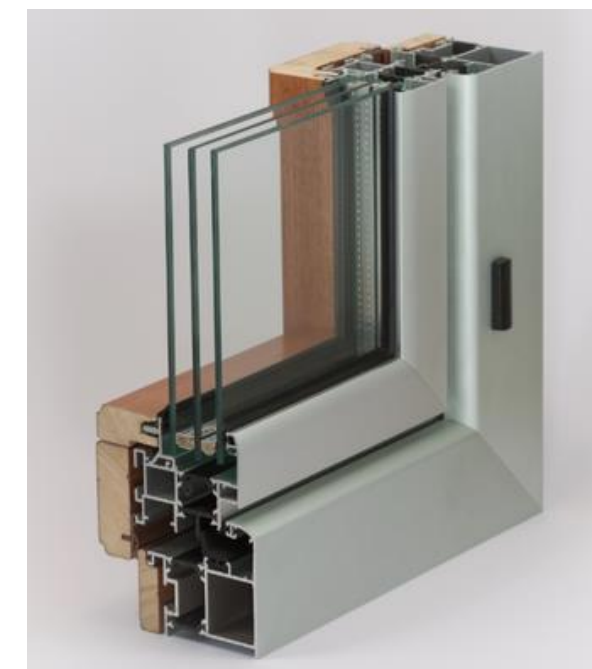
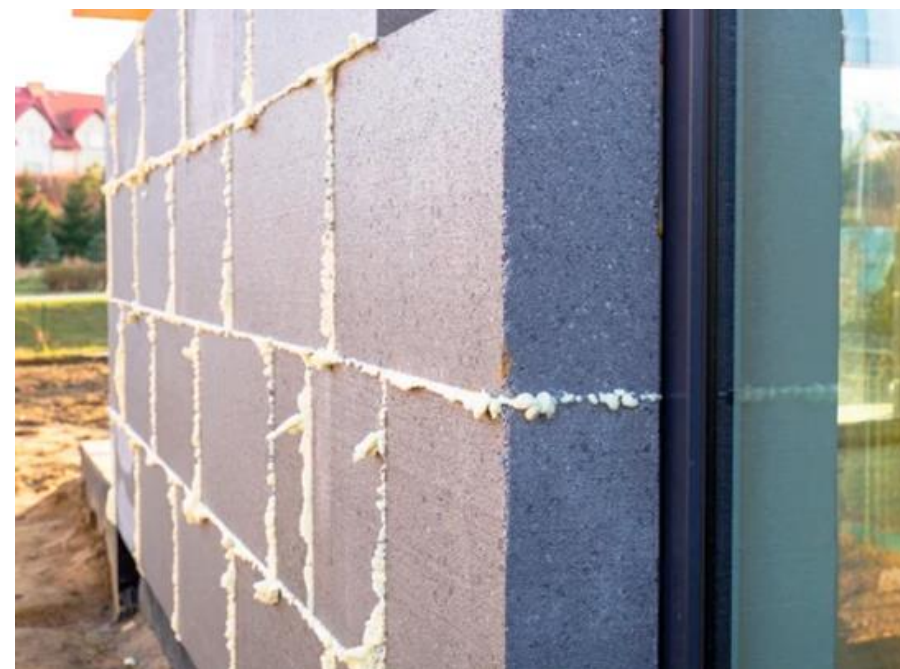
Physical and
Environmental
Risks

- Collect property data - construction details, equipment, etc.
- EPC - energy performance certificate
- Adaptation costs to higher EPC class
- Natural Catastrophic Risks
- Infrastructure risks
- Physical Risks
- Risk of accidents

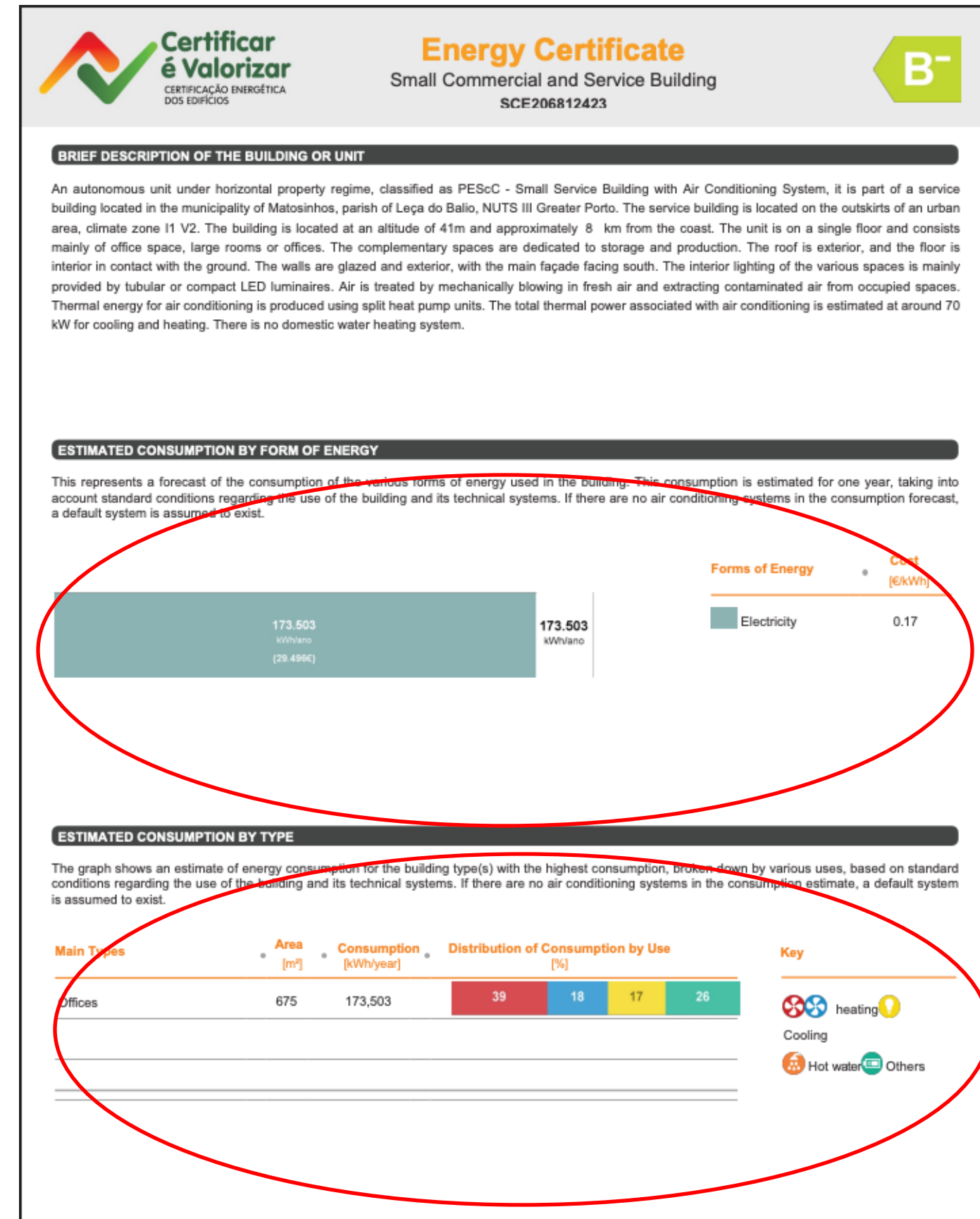





Property data



Energy Efficiency





Energy Certificate

Small Commercial and Service Building

SCE206812423

B⁻

PROPOSED IMPROVEMENT MEASURES

The proposed measures were identified by the Qualified Expert and aim to improve the building's energy performance. The implementation of these measures, in addition to reducing the annual energy bill, may contribute to an improvement in the energy rating.

Measure No.	Application	Description of Proposed Improvement Measure	Estimated Cost of Investment	Annual Reduction in Estimated Reduction in Energy Bill	Class (after measurement)
1		Installation of autonomous photovoltaic solar system without support	€20,000	up to €2,499	B

Find out more about the improvement measures on the other pages of the certificate.

SET OF IMPROVEMENT MEASURES

The graph shows the impact on energy consumption and associated costs. The breakdown presented reflects the individual impact of each improvement measure, as well as a set of measures selected by the Qualified Expert.

173.503 kWh/ano (26.496 €)

INITIAL SCENARIO

173.503 kWh/ano (26.997 €)

1

173.503 kWh/ano

8% (8%)

92% (26.997 €)

FINAL SCENARIO

Forms of Energy

Electricity

0.17

Solar


0

B

ENERGY CLASS FINAL SCENARIO

n°

Improvement measures included in the final scenario assessment.



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RECOMMENDATIONS ON TECHNICAL SYSTEMS

Given the nature and diversity of commercial and service buildings, they offer a wide range of potential for improvement and optimisation. Despite this fact, the technical systems responsible for heating and cooling, as well as for the production of domestic hot water, are decisive in energy consumption. Given their importance, it is essential that actions are regularly promoted to ensure the correct functioning of this equipment, especially in systems with boilers that produce domestic hot water and/or heating, as well as air conditioning systems. The implementation of these actions in conjunction with an Installation and Maintenance Technician (TIM) helps to keep these systems regulated according to their specifications, ensuring safety and optimised operation from an energy and environmental point of view.

When purchasing new equipment or replacing existing equipment, you should obtain information from a qualified technician about the appropriate size and characteristics for your needs. Choosing the right equipment will optimise energy and maintenance costs throughout its useful life.

These recommendations were produced by ADENE - Energy Agency. If you need more information on how to improve the performance of your equipment, contact this agency or a qualified technician.

DEFINITIONS

Renewable Energy - Energy from renewable natural resources such as the sun, wind, water, biomass, geothermal energy, among others, whose use to supply the various uses in the building contributes to reducing its fossil energy consumption.

CO₂Emissions - An indicator that reflects the amount of greenhouse gases released into the atmosphere as a result of energy consumption for various uses in the building.

Reference Values - Values that express the energy performance of building elements or technical systems and that lead to the reference scenario determined for comparison with the actual building.

Standard Conditions - Conditions considered in the assessment of the building's energy performance, assuming for this purpose an indoor temperature between 20°C and 25°C.

Energy Rationalisation Plan (PRE) - Plan for the implementation of a set of feasible and economically viable measures, identified through an energy assessment. The obligation to implement this plan is determined according to a set of criteria and only applies to Large Service Buildings.

ADDITIONAL INFORMATION

Type of

Alternative Address F

Name of

PQ Num

Date of

TIM Name


Issue of

NOTES AND OBSERVATIONS

The energy class was determined based on a comparison of the building's energy performance in its current condition with the performance it would have with a reference envelope and technical systems. It is considered that buildings must guarantee the comfort of their occupants, so if there are no air conditioning systems in the building/unit, their existence is assumed in order to allow objective comparisons between buildings.

The actual consumption of the building/unit may differ from the consumption predicted in this certificate, as it depends on the occupancy and behaviour patterns of the users.





Energy Certificate

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This section of the energy certificate presents, in detail, the elements considered by the Qualified Expert in the certification process of the building/unit. This information is broken down into the main energy indicators and climate data relating to the location of the building, as well as the construction solutions and technical systems identified in the project and/or during the visit to the property. The construction solutions and technical systems are characterised based on the best information collected by the Qualified Expert and provide an indication of the reference values or permissible limits (where applicable).

SUMMARY OF THE MAIN INDICATORS

Acronym	Description	Value / Reference
IEE	Energy Efficiency Indicator (kWhEP/m².year)	417.7 / 442.8
IEEs	Type S Energy Consumption Efficiency Indicator (kWhEP/m².year)	338.0 / 272.6
IEEt	Type T Energy Consumption Efficiency Indicator (kWhEP/m².year)	170.2 / 170.2
IEEren	Renewable Energy Efficiency Indicator (kWhEP/m².year)	90.5
Eren, ext	Energy produced from renewable sources for other uses (kWh/year)	0.0

CLIMATE DATA


Description	Value
Altitude	41 m
Degree days (18° C)	1165.2
Average outdoor temperature (tV)	10.2 / 20.9 °C
Winter climate zone	II
Summer Climate Zone	V2

WALLS, ROOFS, FLOORS AND FLAT THERMAL BRIDGES

Description of Identified Elements	Total Area [m²]	Thermal Transmission Coefficient* [W/m².°C]		
		Solution	Reference	Maximum
Walls				
Single or double exterior walls (post-1960), with a total thickness of 35 cm, without the contribution of any thermal insulation, as the construction solution in question is unknown, it was decided to consider the simplification of Adene order no. 11020/2009. U=0.96 W/(m2.°C).	86.4	0.96	0.70	-
Single or double interior walls (post-1960), with a total thickness of 20 to 25 cm, without the contribution of any thermal insulation, given that the construction solution in question is unknown, it was decided to consider the simplification of Adene's order no. 11020/2009. U=1.16 W/(m2.°C).	447.8	1.16	0.70	-
Roofing				
Lightweight exterior envelope roofing, with 70 mm thick mineral wool thermal insulation between metal sheets, the construction solution in question, it was decided to consider the simplification of Adene's order no. 11020/2009. U=0.57 W/(m2.°C).	675.4	0.57	0.50	-
Floors				
Flooring in contact with the ground, of unknown construction, with the contribution of possible thermal insulation. As the construction solution in question is unknown, it was decided to consider the simplification of Adene's order no. 11020/2009. U=0.6 W/(m2.°C).	675.4	0.60	0.60	-

* Lower values represent more efficient solutions.

GLASS WINDOWS



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Description of Identified Elements	Total Area [m²]	Thermal Transmission Coefficient*[W/m².°C]		Solar Factor	
		Solution	Reference	Glass	Overall
Single glazing consisting of metal frames without thermal break , 6 mm thick single pane of colourless glass, thermal transmittance coefficient of , thermal transmission Ug of 6.5 W/m2.°C, solar factor of the glass g of 0.85.	181.6	6.50	4.30	0.85	0.85
Single glazed opening consisting of metal frame without thermal break , 6 mm thick double glazing, colourless, coefficient of Thermal transmission Ug of 4.3 W/m2.°C, solar factor of glass g of 0.75. Interior protection by light-coloured opaque blinds	14.2	4.30	4.30	0.75	0.37

* Lower values represent more efficient solutions.


TECHNICAL SYSTEMS AND VENTILATION

Description of Identified Elements	Use	Energy of Energy [kWh/year]	Installed Power [kW]	Nominal/Seasonal Performance*	
				Ref.	Solution
Split					
Air conditioning system consisting of Split Heat Pump air conditioning units, with a total heating and cooling thermal power estimated at 70 kW, overall heating efficiency COP estimated at 3.3 and cooling EER estimated at 3.10.	🌀	18,018.00	70.00	3.30	3.40
Split system, consisting of 1 unit, with a heating capacity of 70.00 kW and a cooling capacity of 70.00 kW. The system also contributes 60,325.82 kWh of renewable energy (Eren).	🌀	8,992.60	70.00	3.30	3.00

*Higher values represent more efficient solutions.

Description of Identified Elements	Use	Type	Air Flow [m³/h]	
			Insufflation*	Extraction
Mechanical Ventilation				
Activities and Materials with Pollutant Emissions Type of Predominant Activity Sedentary Activities with Specific Pollutant Emissions 2 Predominance of Materials with Low Pollutant Emissions 2 Internal Gains by Occupants 125.7 W/person 's Reference Fresh Air Flow Rate 4052.6 m³/h Minimum Fresh Air Flow Rate - PRESCRIPTIVE METHOD (Reference Building) Pollutant load due to occupants 4.80 m³/(h.m²) Pollutant load due to materials and specific emissions 3.00 m³/(h.m²) Minimum Fresh Air Flow Rate 4052.6 Mechanical Ventilation System - On Fresh air flow rate 4005.0 m³/h Infiltration flow rate 0.0 m³/h Heat Recovery Efficiency 0.0% Mechanical Ventilation System - Off Infiltration flow rate 550.0 m³/h	🌀	Offices	3105.00	900.0





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*Refers only to fresh air flow rate




Improvement Measure 1 Installation of an autonomous photovoltaic solar system without support

Installation of a UPAC system consisting of 40 photovoltaic solar collectors, unit power of 250Wp, estimated annual production of 14,700kWh, estimated reduction in energy bill of €2,449, estimated installation cost of €20,000. Improvement of energy class to class B and estimated reduction in CO2 emissions of 2.12 tonnes/year.

Caption:

Use

 Space heating
  Room cooling
  Domestic hot water
  Lighting
  Other Uses (Eren, Ext)
  Ventilation and Extraction

 Lifts
  Escalators and Moving Walkways
  Regulation, Control and Management Systems Technical

AFFIXING THE ENERGY CERTIFICATE

ALTERNATIVE OR COMPLEMENTARY VERSIONS

Note on the use of information on this page

In accordance with Decree-Law 118/2013 of 20 August, commercial and service buildings or units must display their energy certificates in a visible and prominent position. This obligation typically applies to buildings with a floor area of more than 500m² or, as of 1 July 2015, more than 250m², and specifically refers to the display of the first page of the certificate.

In addition to this obligation, displaying the energy certificate demonstrates a commitment to and concern for issues related to the energy performance of buildings. It also allows building users to be informed of the building's energy performance.

Given that some buildings may have constraints on displaying the first page of the certificate, either because of its A4 size or because there is no suitable location to display it in a visible and prominent manner, alternative versions have been created.

The alternative versions presented here can be used as an alternative or complement to the first page of the energy certificate. The choice of model to be used is at the discretion of the owner, who may use any of the versions presented.

The layout of this page is designed for printing on self-adhesive paper. For this purpose, any A4 paper with a configuration of 4 labels per page (labels measuring 105 mm x 148.5 mm) may be used.

In some circumstances, it may be particularly important to ensure compatibility between the surface where the label will be affixed and the type of paper chosen, as well as the exposure it will have to the outside environment.



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Entidade Gestora
adene
Agência para a Energia

Entidade Fiscalizadora
Direção Geral de Energia e Geologia



Energy Certificate
 Small Commercial and Service Building
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Entidade Gestora

Entidade Fiscalizadora



My experience with ESG

Energy Efficiency	
The Energy Certificate was provided:	
Certificate No.	
Expiry Date	
Energy Class	
CO2 Emissions (tonnes/year)	
Transition Costs / Estimated Investment Cost	
Energy Savings / Annual Reduction in Energy Bill	
Investment Payback Period	
Space Heating	
Room Cooling	
Domestic Hot Water	
Lighting	
Renewable Energy	



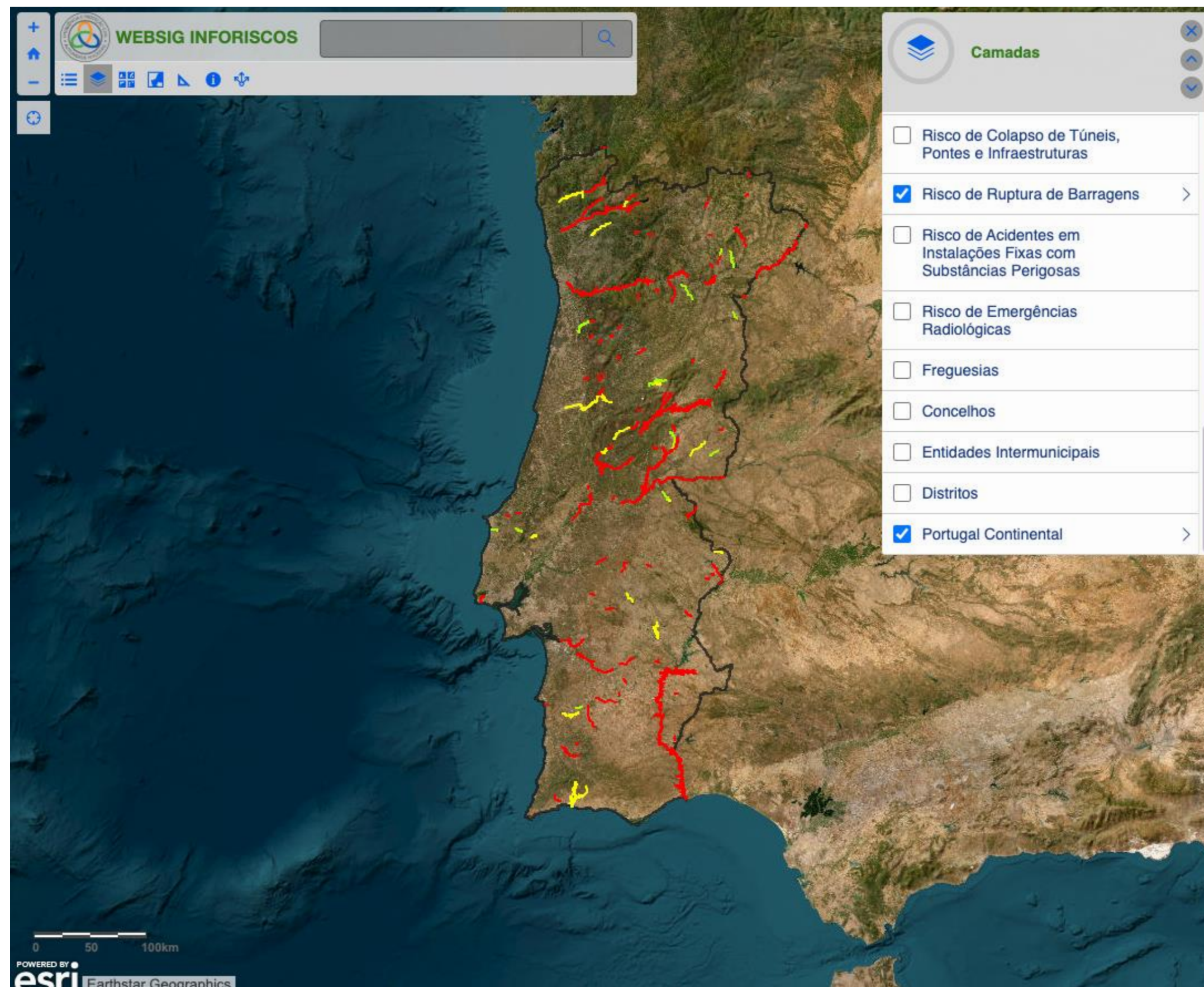
My experience with ESG

Physical and Environmental Risks

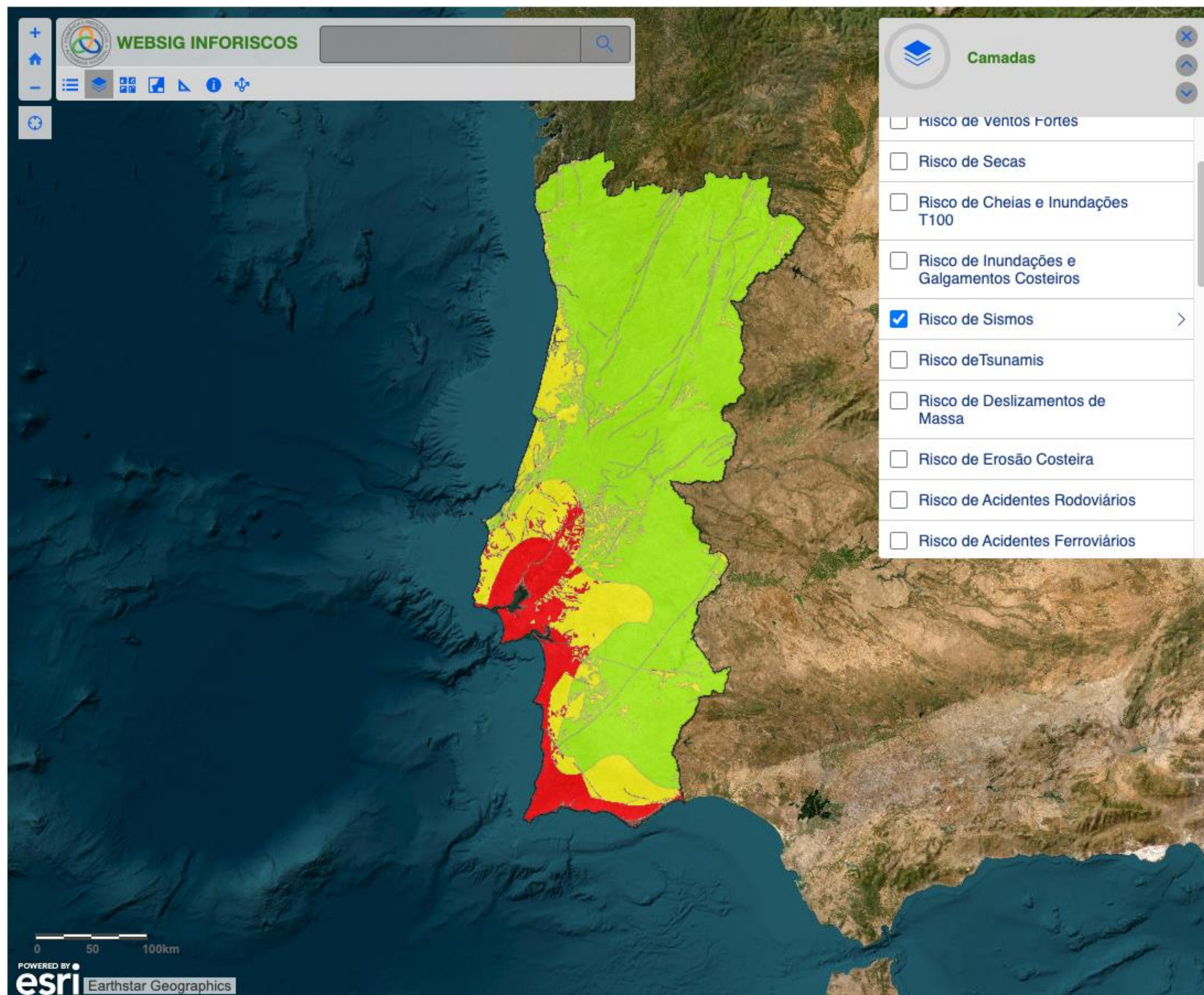
<i>Physical/Environmental Risks</i>	
<i>Type of Risk</i>	<i>Quantification</i>
<i>Risk of River Flooding</i>	<i>MODERATE</i>
<i>Coastal Erosion Risk</i>	<i>MODERATE</i>
<i>Risk of Coastal Flooding</i>	<i>MODERATE</i>
<i>Risk of Mass Landslides</i>	<i>LOW</i>
<i>Risk of Collapse of Buildings with High Population Density</i>	<i>MODERATE</i>
<i>Risk of Collapse of Bridges and Tunnels</i>	<i>LOW</i>
<i>Risk of Dam Rupture</i>	<i>LOW</i>
<i>Risk of Strong Winds</i>	<i>MODERATE</i>
<i>Rural Fire Risk</i>	<i>MODERATE</i>
<i>Urban Fire Risk</i>	<i>MODERATE</i>
<i>Fire Risk in Historic Centres</i>	<i>MODERATE</i>
<i>Heat Waves</i>	<i>MODERATE</i>
<i>Earthquake Risk</i>	<i>MODERATE</i>
<i>Tsunami Risk</i>	<i>LOW</i>
<i>Volcanic Activity Risk</i>	<i>MODERATE</i>
<i>Risk of Accidents Involving Hazardous Materials in Fixed Installations</i>	<i>LOW</i>
<i>Risk of Accidents Involving Hazardous Materials on Motorways</i>	<i>LOW</i>
<i>Risk of Accidents Involving Hazardous Materials on Railways</i>	<i>LOW</i>
<i>Risk of Harmful Materials in Construction</i>	<i>LOW</i>



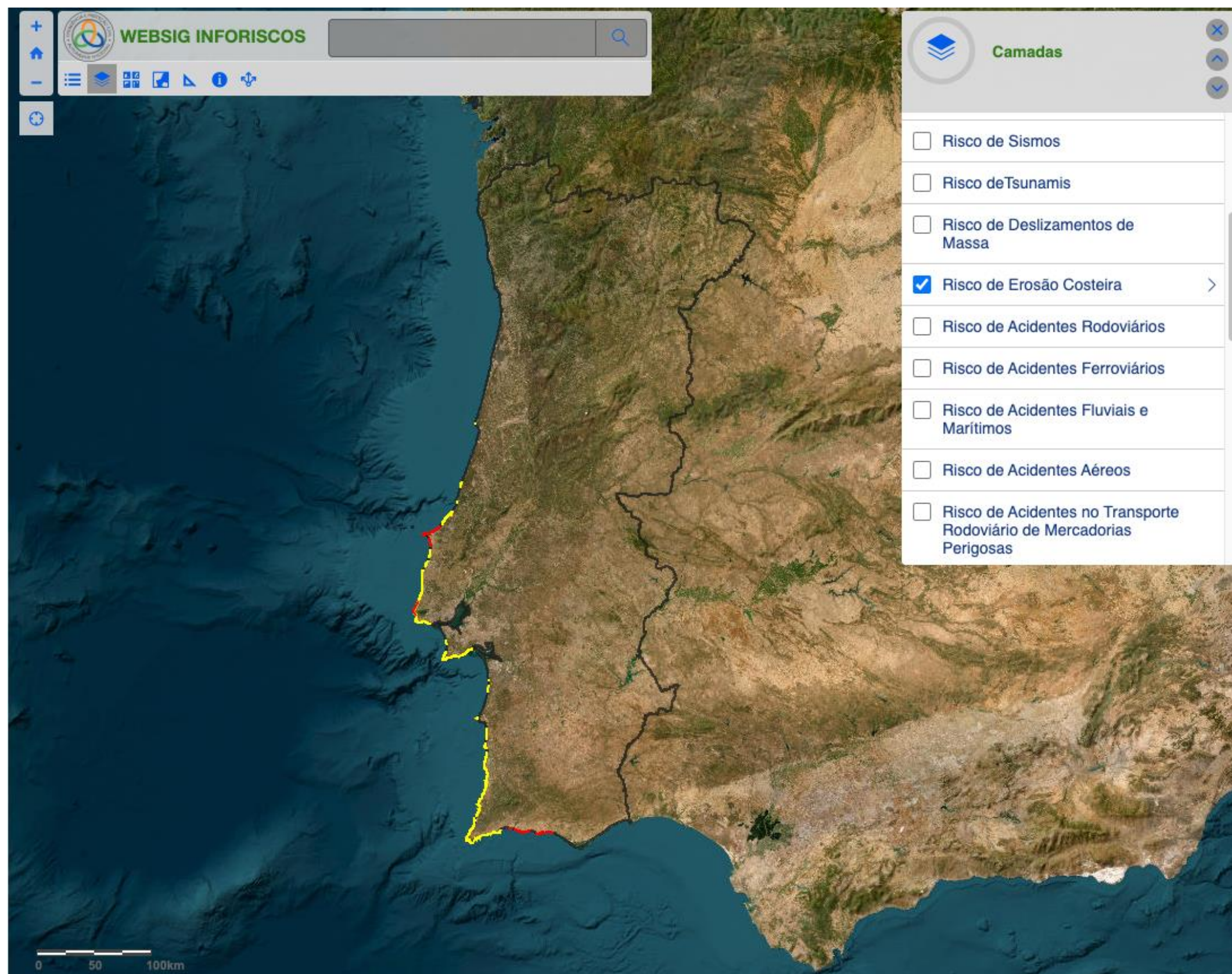
Example - Risk of rupture in a dam



Example - Risk of Earthquake



Example - Risk of Coastal Erosion



Biggest challenges that valuers face in introducing ESG criteria into mortgage valuation

- ➔ **Data gaps and reliability** - In several countries EPCs are missing or unreliable; access to consistent data on energy efficiency, physical climate risks, and environmental performance is limited.
- ➔ **Limited market recognition** - ESG factors are not yet consistently reflected in market prices across Europe. While some prime segments show premiums, in many markets ESG is not a driver of market value.
- ➔ **Regulatory fragmentation** - Delay in adapting EU directives of Energy Efficiency of Buildings and Energy Performance Certificates and varying expectations from banks, investors, and regulators create confusion and inconsistency.
- ➔ **Professional skills and awareness** - Many valuers lack training in sustainability, energy efficiency, and climate risk modelling. Integrating ESG into traditional methods remains a challenge.



Biggest challenges that valuers face in introducing ESG criteria into real estate valuation

- ➔ **Time horizon mismatch** - ESG impacts unfold over the medium-long term, while valuations capture value at a specific date. Difficult to price uncertain future transition and physical risks.
- ➔ **‘Property value’** - ESG criteria, particularly aspects related to energy efficiency and climate change risks, are fundamental to achieving a sustainable value for mortgage valuation and therefore must be part of the methodology for determining ‘property value’.
- ➔ **Fee pressure and resources** - Collecting and validating ESG data increases workload, but clients often expect it at no additional cost, threatening economic sustainability of valuation work.



Thank you



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