



Biodiversity: Risk or Opportunity?

A business case for EDP

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Head of Corporate Sustainability office
EDP Energias de Portugal



EDP generates electricity, distributes/commercializes electricity /gas

13 countries around the world



Wind & Solar Power

26% of EBITDA

Listed subsidiary: EDP Renováveis (EDP has 77.5%)

890 employees

IPO in Jun-08

Wind & Solar Power: 8.0 GW

A worldwide renewable market leader (present in 11 countries)

EDP Group⁽¹⁾

EBITDA = 3,617 million €

12,179 employees



EDP Brasil

16% of EBITDA

Listed subsidiary: EDP Brasil (EDP has 51%)

2,931 employees

Presence since 1996

Power generation: 2.2 GW (from which 1.8 GW is hydro)

2 electricity distribution concessions



Portugal

41% of EBITDA

6,982 employees

Privatization in 1997 (IPO)

Single electricity distributor

Power generation: 8.9 GW (ex-wind)

(from which 5.4 GW is hydro)



Spain

16% of EBITDA

1,935 employees

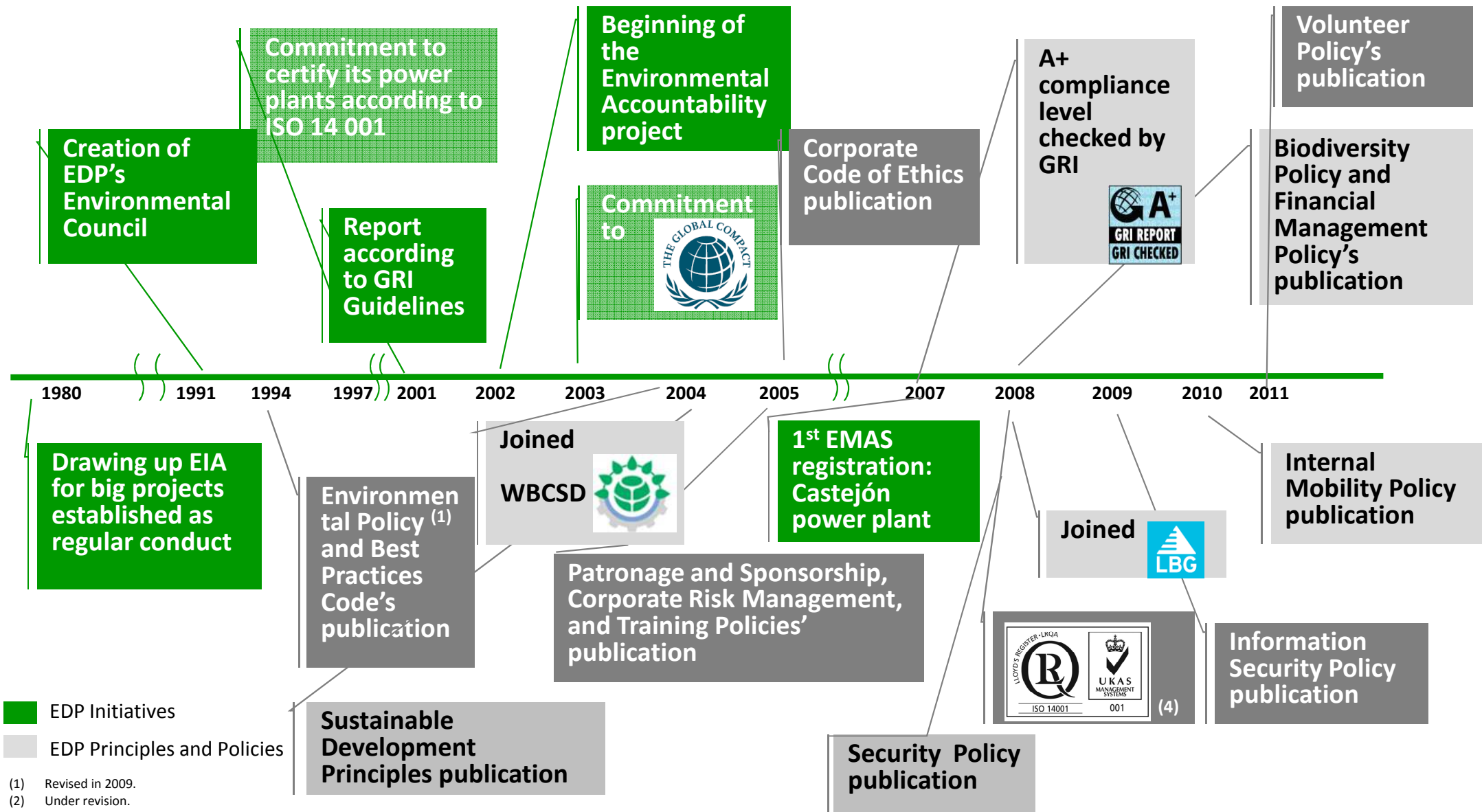
Presence since 2001

Power generation 3.9 GW (ex-wind)

2 in gas distribution

Sustainability is a concept that evolved within EDP

The environmental dimension was the kick off for a wider strategy



EDP Initiatives

EDP Principles and Policies

(1) Revised in 2009.

(2) Under revision.

(3) WBCSD: World Business Council for Sustainable Development.

(4) Its scope is: Corporate management of environmental policies and strategic environmental plans, environmental information and performance of EDP Group organizations; this scope includes project, construction, operation and decommissioning of facilities and the acquisition of existing facilities.

Sustainability Office



Sustainability Recognition: Corporate until 2014

2006

since



BEST IN CLASS
environmental and
social performance
STOREBRAND SRI



since

2007

2008

since

MEMBER OF
**Dow Jones
Sustainability Indices**
In Collaboration with RobecoSAM

**Corporate Environmental
Management System**



Corporate
Environmental
Management of
Policies, Strategic
Plans, Information
and Performance
of EDP's Group
Organizations



since

2009

2010

since



since

2011



FTSE4Good



**Storebrand
Sustainability Rating**



2012

since



since

2013

2014

since



EDP's sustainable challenges



CONTINUE TO GROW

PRESERVE LOW RISK BUSINESS PROFILE

CLIMATE CHANGE

IMPROVE EFFICIENCY

Investments in Renewable Energy

- Growth focused on CO₂-free technologies: +4.1GW of wind & hydro capacity until 2017; weight of hydro & wind up from 69% to 75% → Focused on technologies where EDP has recognized competitive advantages.

Energy Efficiency

- EDP intervention in the domains of Demand Side Management (DSM), namely the leverage of Energy Efficiency, is a mean to contribute to the change of consumer behaviour essential to fight climate change whilst opening new business opportunities.

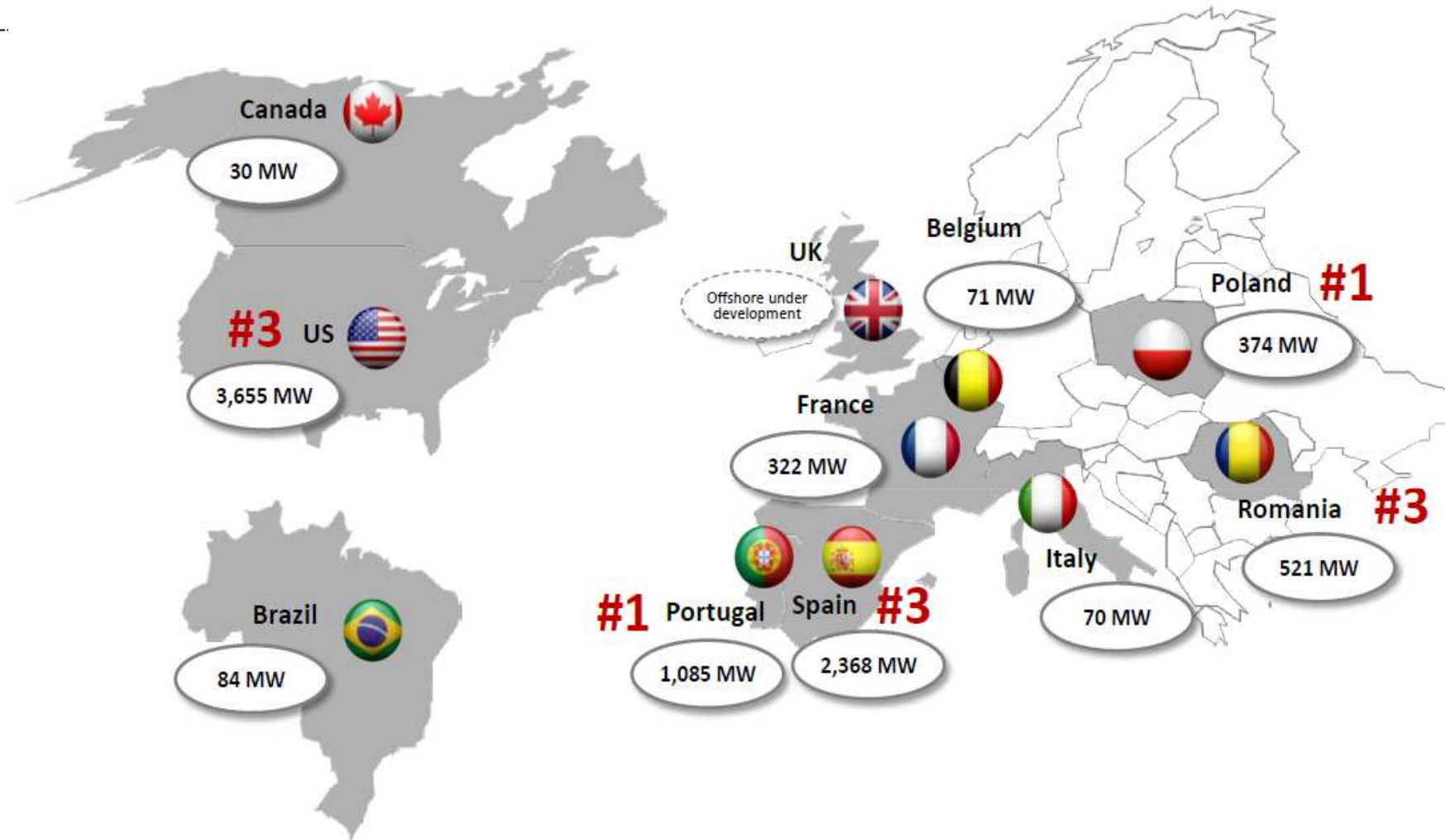
Innovation

- Innovation strategic areas: “Smarter Grids”, “Clean and Flexible Generation” and “Customer Focused Solutions”.

Access to Energy

- Potential markets: Countries with growing energy demand, declining macro risk and sound regulatory/contractual frameworks - Latin America and Southern Africa regions.

EDPR is a market leader with 8.6 GW of installed capacity worldwide



EDP Group company focused
on wind and solar investments

Diversified operating
portfolio

Young assets with
long residual life

Solid generation of
Operating Cash-Flow

77.5%
EDP Shareholding

10 Countries

5 Years Average Life

700 million €

Note: 1Q 2014 Figures

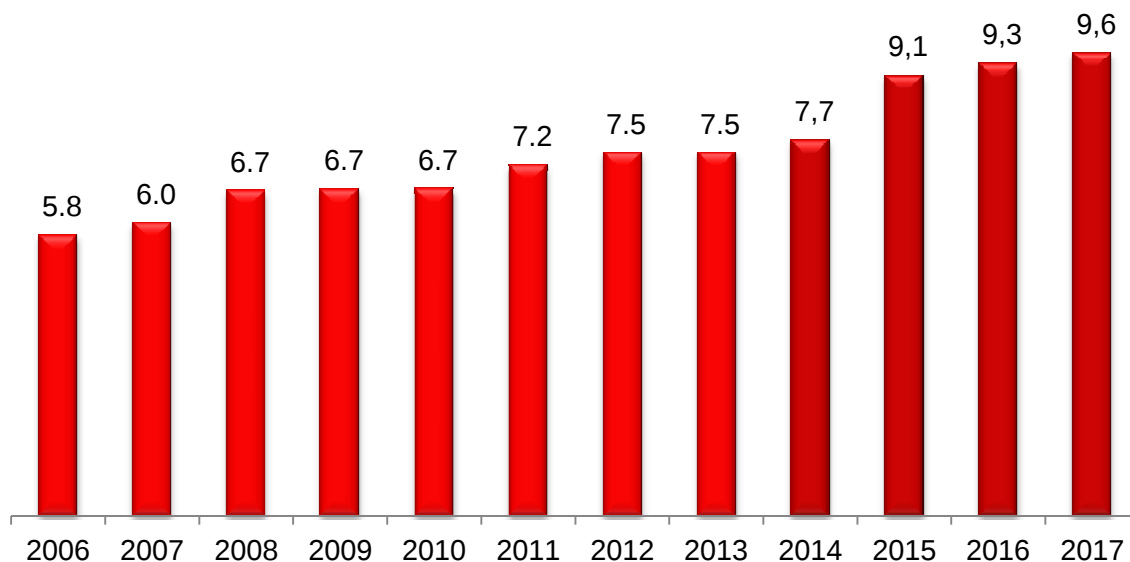
Sustainability Office



Focused growth: hydro projects



Hydro Installed Capacity (GW)



Portugal

- **2011 – 2017**

5 Repowering and/or pumping projects (+1,656 MW)
Alqueva II , Bemposta II, Picote II, Venda Nova II and Salamonde II

2 New projects with pumping capabilities (+425 MW)
Baixo Sabor, Foz Tua

1 New hydro project (+81 MW)
Ribeiradio/Ermida

Brazil

- **2015-2017**

2 New Hydro Plants (+592 MW)
Jari and Cachoeira Caldeirão

2011-2017

The increase of hydro installed capacity is due to:

60% Repowering and/or Pumping

40% New projects

Hydro Plants in Portugal: Starting point for long term sustainable involvement with local communities

Reduce environmental and social impacts from new plants:
Achieve 'no net loss' or 'net gain' on biodiversity; Shared decision-making process

Avoidance, Minimization and Compensation Measures

Environment & Agriculture, based on a local socio-economic dynamic as development factor

Promoting the creation of areas with the status of nature conservation

Creating new business opportunities and promoting local job creation

Agriculture/ecosystem services

- Guaranteed purchase of local products by contractors' workers canteens (for 8 years in average)
- Enhance new models of agriculture
A "multiple-purpose" agriculture, based on ecosystem services provider
- Develop new distribution channels to be in place after the end of construction works

Handcraft

- Deploy design products
- Develop adequate distribution channels
- Promote higher proximity from large consumption centres
- Improve professional skills of local communities

Entrepreneurship

- Training for entrepreneurship
- Support to new businesses brainstorming sessions
- Support to new business analysis and set-up



Environment and Biodiversity Strategy

Four major focus areas

Adaptive Management



- Local community engagement in the implementation of compensatory measures
- Scientific follow up (monitoring)
- Habitat and Ecosystems orientation
- LOAM – Landscape Outcomes Assessment Methodology
- COMPRO Project – stakeholder engagement

Long term Vision



- LCA – Life Cycle Assessment
- LTER – Long Term Evaluation Research
- Social and Economic integration
- EVI – Ecosystem Valuation Initiative
- WBCSD

Transparent Reporting



- Biodiversity Report
- Peer Review on scientific work
- Browsedp – repository of biodiversity information
- Baixo Sabor WEB-SIG Platform (Geo-referenced database with all the information produced by the monitoring programs)
- Corporate environment management system according to ISO 14001
- CDP and WDP disclosed and internationally evaluated

Fostering Knowledge



- Biodiversity Fund
- Long term studies
- Biodiversity Chair

Increasing stakeholder engagement allows stakeholders to experience the benefits and assume the ownership of the initiatives in a sustainable way



Adaptive Management



Tight collaboration with Scientific Institutions

- To follow up implemented measures and to adapt its management to meet the best possible results, optimizing investment.

Transform costs of mandatory actions into investment

- By maximizing value added to environment and learning from the results of its implementation.

Measures primarily oriented to habitats and ecosystems

- Restoration to maximize long term results.

Deep involvement of local stakeholders

- Turning them into our long term partners to preserve environmental improvements, getting economic and social value from better ecosystems, consolidating a sustainable way of life and creating economic benefits to both parts.

Promote local stakeholders participation from the very beginning of the projects

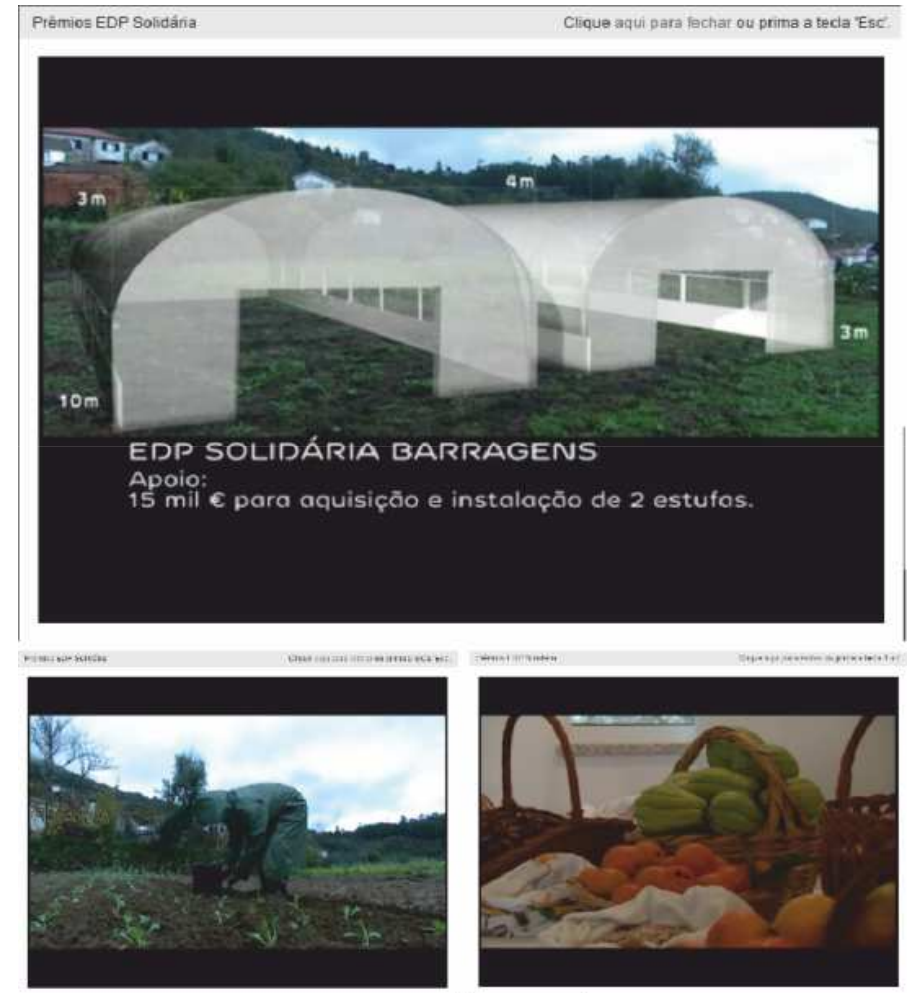
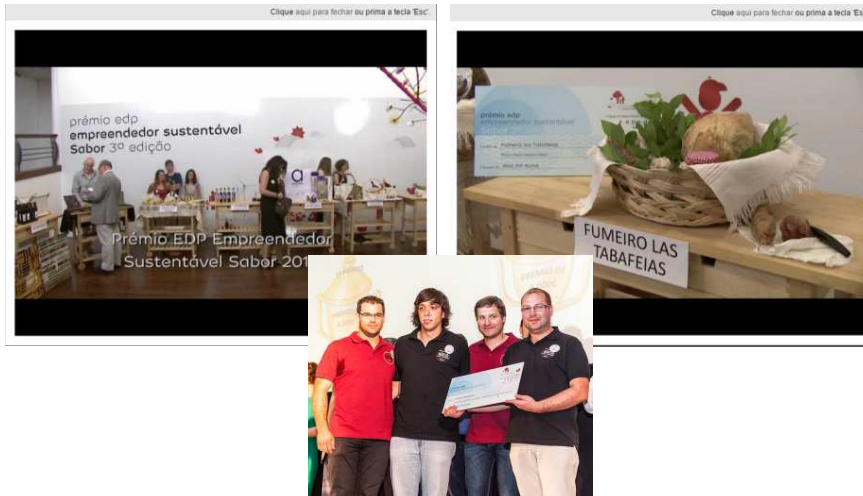
- Getting their main opinion, fears and desires through the use of LOAM - Landscape Outcomes Assessment Methodology, consultation.

A communication program should be defined for every project with significant impact in environment or in quality of life

- Tailored after a detailed evaluation of local stakeholders identification. A specific methodology for this project communication strategy is in place at corporate level – The ComPro project.



Adaptive Management



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Long Term Vision



Identify the environmental and social long term trends and regulation risks

- To be able to implement in advance measures in a cost effective way and take advantage of being the first mover.

Member of WBCSD – World Business Council for Sustainable Development

- Where sustainability issues are systematically analysed, and worldwide solutions are proposed proactively to governments and regulators.

EDP as Core Team of ecosystems focus area of WBCSD

- Pilot test of EVI- Ecosystem Valuation Initiative, which has given EDP an international visibility, showing our willingness to find and stabilize common metrics to evaluate environmental risks.

Partnership with MIT Portugal, for a LCA- Life Cycle Assessment of the Baixo Sabor hydropower project

- World pilot project to determine the overall impact and benefits during its entire life, compared with others technological solutions.

Having Baixo Sabor Project as LTER – Long Term Evaluation Research site

- A geo-referenced database has all the information produced of any site, impacts, measures and follow up. Any scientist in the world can review, comment results, and learn from experience.

Promote acceptable life condition for local communities

- Invest in creating management skills to improve their wellbeing is a guarantee that good environment performance in long term is going to be maintained.



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Transparent Reporting

To improve international credibility



Scientific collaborations are peer reviewed

Baixo Sabor Project:
Nature Conservancy
(Wyoming)

Osprey project:
University of
Gothenburg,
Finnish Museum of
Natural History...

LCA project:
University of Surrey
UK and
International
Society of Industrial
Ecology

Corporate environmental management certified

ISO 14001
Corporate
environmental
management
certified by Lloyd's

72% of generation
sites certified under
ISO 14001 and/or
EMAS

Sustainability reporting according with GRI

Annual report
externally verified

Environment
indicators quarterly
published in EDP
site

A Biodiversity
Report is annually
published
explaining strategy
and actions in this
specific field

CDP – Carbon Disclosure Project and WDP – Water Disclosure Project

EDP is in the first
ranking worldwide
in reporting to CDP
and WDP

Considered by SRI
investors
Core issues for
investment risk
management

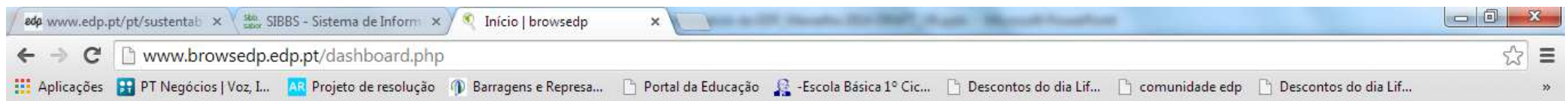
Sharing Knowledge with society

Browsedp:
Database solution
to share studies
financed by EDP, in
different
geographies

GIS Database,
developed to share
geographic
information
collected under EIA
processes of Baixo
Sabor



Browsedp: <http://www.browsedp.edp.pt/>



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Início Ver Documentos

» início (página inicial)

bem-vindo

Browsedp é uma ferramenta EDP de partilha de conhecimento com a sociedade.

Com ela, facilitamos o acesso às matérias ambientais em que estamos envolvidos. O acesso aos documentos consultados só é possível após registo do utilizador. Agradecemos todas as sugestões que contribuam para a melhoria deste sistema. Por favor contacte-nos através de browsedp@edp.pt

documentos recentes

- Ligação à Rede Nacional de Transporte de Eletric...
- Ligação à Rede Nacional de Transporte de Eletric...
- FINDKELP - As florestas do fundo do mar
- Parque Eólico de Corte Alamos e Sobre-equipamento Guerreiros: A...
- Parque Eólico de Corte Alamos e Sobre-equipamento Guerreiros: R...

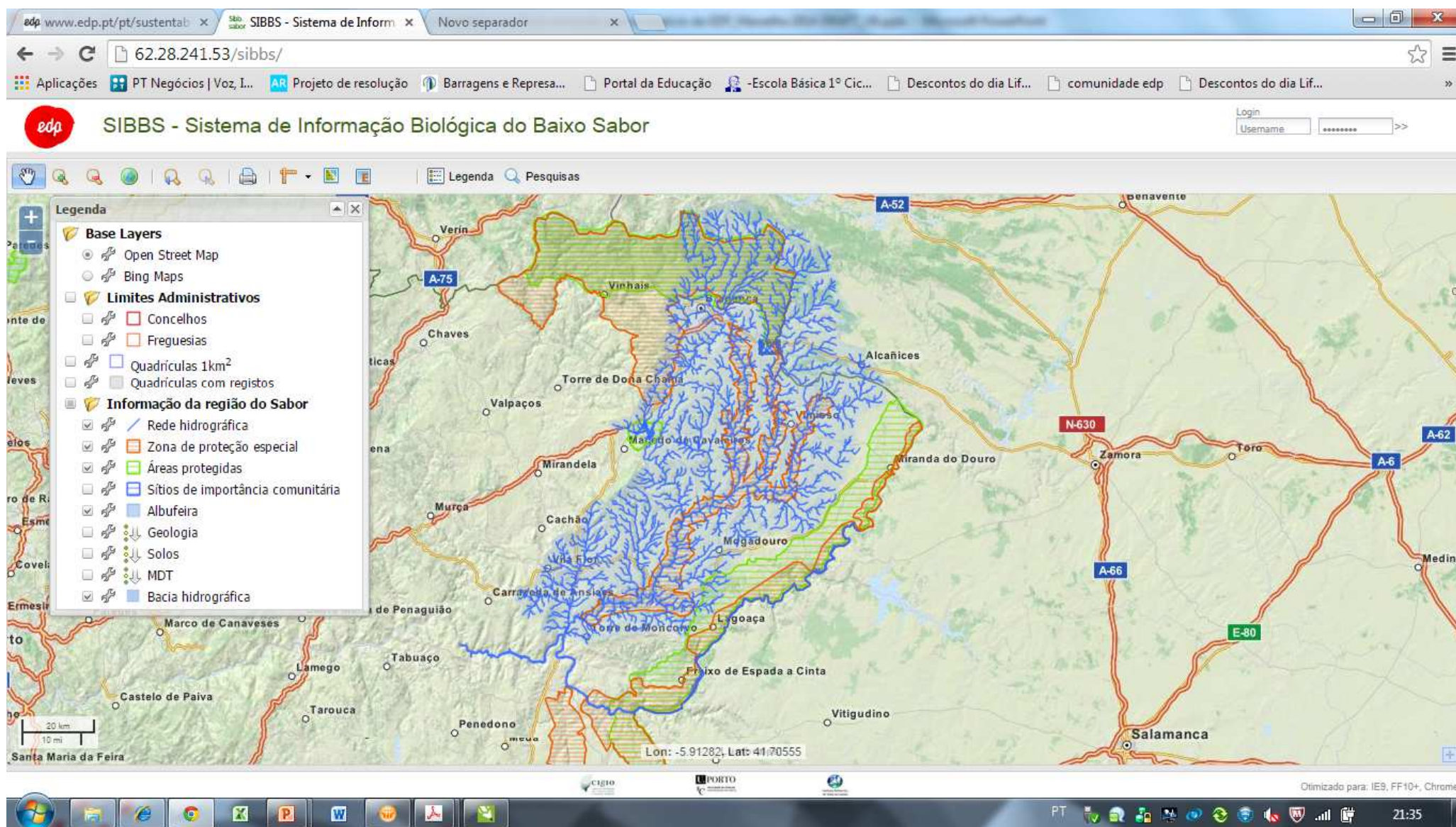
[Ver Tudo](#)

palavras-chave

alqueva alto ceira alto do talefe alvito arganil avifauna baixo sabor
barragem bemposta braga cabeça rainha castelo branco central
ciclo combinado central termoelectrica cibio cinfães coimbra Corte dos
Álamos douro internacional eia eólica ermida estudo de impacte
ambiental faro figueira da foz fonte da queiha foz tua fridão guemeiros
impacte ambiental lagos lares legislação lousã



GIS Database: <http://62.28.241.53/sibbs/>



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Biodiversity Fund

- **Volunteer five years program of 2.5M€, under EU Business and Biodiversity Initiative.** (15 projects implemented with partnership of more than 40 scientific entities and ONG)
- **Promoted concrete actions on biodiversity ,constituting guidance for future actions.**
- Capitalizes the goodwill of volunteer regeneration as a way to get an overall positive balance in company activities impacting the environment.

Long term studies

- Influence of climate change on Iberian fauna (which conservation measure are worse on the long run).
- Test adaptation to new environments: Reintroduction of osprey nesting in Portugal.

Biodiversity Chair

- Scientific support for structural decisions: overall impact new technologies, go no go implementation based on long term environment risk management...
- Influence the prioritization of biodiversity knowledge to support our project's need world wide: connection corridors between preserved areas; stock evolution of endanger species...
- Development of specific monitoring and other applied studies requiring advanced knowledge: integrated cumulative impact of wind farms on birds and bats, design improvement of fish ladders, instreaming flow optimization...



ATLAS E LIVRO VERMELHO
DOS BRÍOFITOS AMEAÇADOS DE PORTUGAL

ATLAS AND RED DATA BOOK
of Threatened Bryophytes of Portugal

Cecília Sérgio
César Augusto Garcia
Manuela Sá-Sousa
Cristiana Vieira
Helena Henriques
Sarah Stow

A *brilho da Portugal Continental integra um total de 704 anos (incluindo espécies, subespécies e algumas variedades) consideradas como ameaçadas. Compreende cerca de 40% das espécies ameaçadas e quase 60% das subespécies ameaçadas, sendo uma referência indispensável tanto para o estudo de plantas raras, como para grande importância científica. Simultaneamente, constitui uma ferramenta de apoio ao conhecimento e à avaliação importante biotecnológica da qualidade ambiental.*

A presente publicação foi elaborada com o contributo financeiro da Fundação de criação da rede de projectos cofinanciados no âmbito do SN2001, através de recursos, adquiridos de parte do Estado e provenientes do Estado da União Europeia.

Com a edição, a autoria pertence pela DGN (CNC).

Esta obra integra o projecto científico desenvolvido e coordenado pela direcção científica, no âmbito de conservação e divulgação da diversidade genética e de estudos de conservação e sustentabilidade no âmbito do projecto de investigação, sempre desenvolvido no âmbito dos projectos de investigação, *Atlas Livro Vermelho e Atlas dos Brilho da Portugal Continental* e *Atlas Livro Vermelho e Atlas dos Brilho da Portugal Continental* e *Atlas Livro Vermelho e Atlas dos Brilho da Portugal Continental*, sendo para todos os projectos cofinanciados por parte do Estado e provenientes do Estado da União Europeia, sendo para todos os projectos cofinanciados por parte do Estado e provenientes do Estado da União Europeia, sendo para todos os projectos cofinanciados por parte do Estado e provenientes do Estado da União Europeia.

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DOCUMENTA

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 Autoridade Floresta Nacional

 ICNB
Instituto de Conservação da Natureza e da Biodiversidade

 inrb
Instituto Nacional de Recursos Biológicos, I.



Fostering Knowledge



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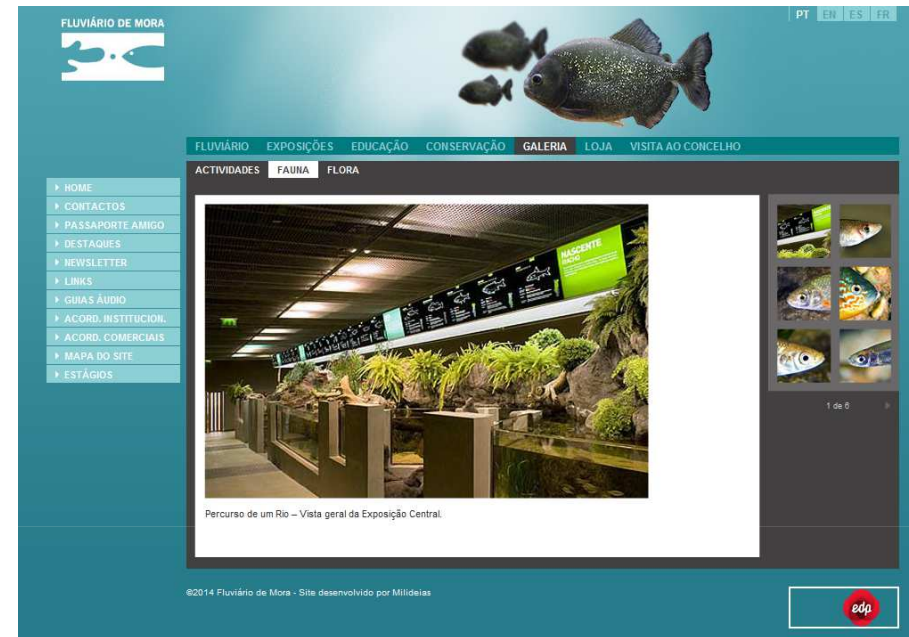
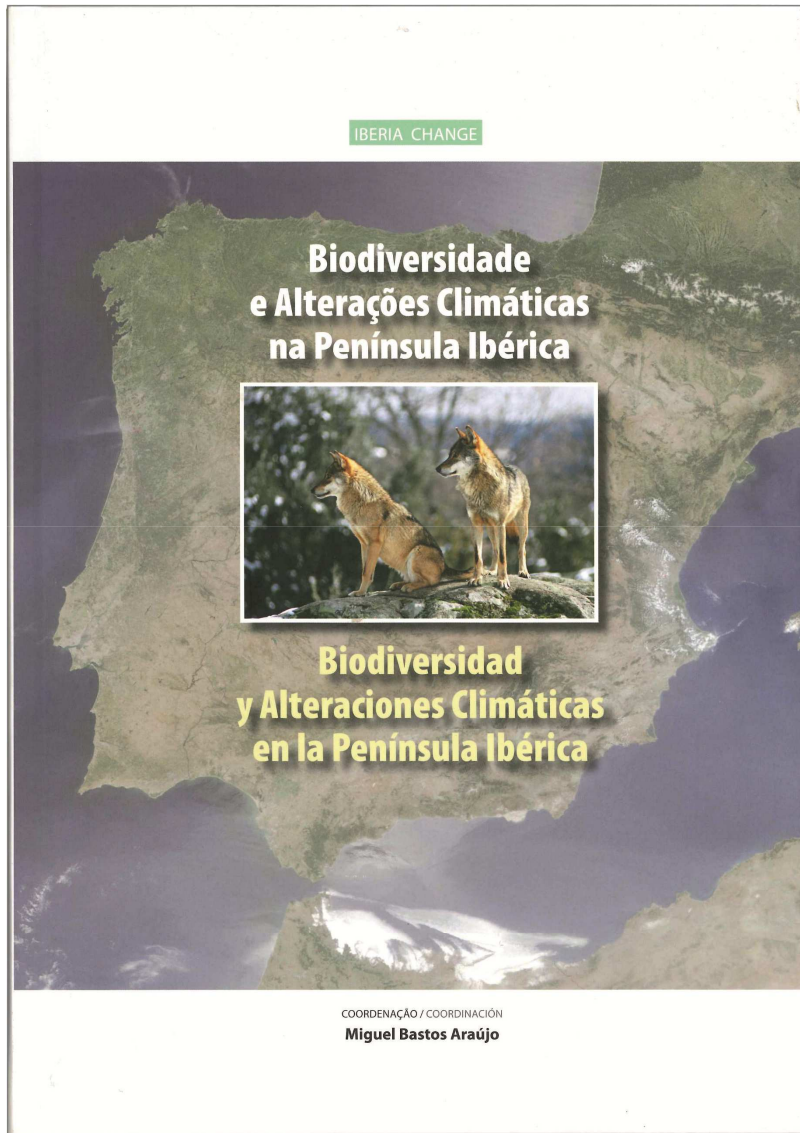
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Long term studies



© Jorge Safara



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Some deliveries from Biodiversity Chair

DEFINED ACTION LINES	Project focus	Companies/ Private sector benefits
POPULATION ECOLOGY	wolf (<i>Canis lupus</i>)	• Improvement in planning new projects. • More efficient allocation of resources.
FRAGMENTATION OF HABITATS AND METAPOPOPULATION PERSISTENCE	European free-tailed bat (<i>Tadarida teniotis</i>)	• Establishment of a better cost-benefit relation. • Establishment of a relation with other activity sectors (Agriculture)
LONG-TERM ECOLOGICAL RESEARCH	Biodiversity in general and ecosystem services	• Allows an EIA to consider: better cost-benefit relation; positive and negative Impact Assessment and temporal Scale. • Transparency in processes.
OFFSETTING AND MINIMIZING IMPACTS	Development of methodological initiatives to characterize and monitor biodiversity	Information/data: 1. More liable 2. In less time 3. Cost reduction.

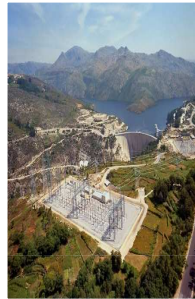


Applied knowledge to support sustainable businesses...

Key messages for future cooperation



Help increasing efficiency and effectiveness of the mitigation hierarchy



Contribute to the development of standards and best practices concerning impacts on biodiversity private sector activities



Increase the link between biodiversity and economic value



Support companies' planning strategies towards a more sustainable business





Thank you!



Visit EDP Website

Site: www.edp.pt

Link Sustainability:

<http://www.edp.pt/en/sustentabilidade/Pages/HPSustentabilidade.aspx>

Link Results & Presentations:

<http://www.edp.pt/pt/investidores/resultados/Pages/Resultados.aspx>

Sustainability Contacts

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