REN commitment to mitigate impacts and promoting biodiversity

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cigre

For power system expertise

REN

REN commitment to mitigate impacts and promoting biodiversity

1. Integrating Biodiversity in REN activies
2. The Journey of the REN Biodiversity Chair
3. Value Creation of a Biodiversity Chair
4. Main Challenges

REN

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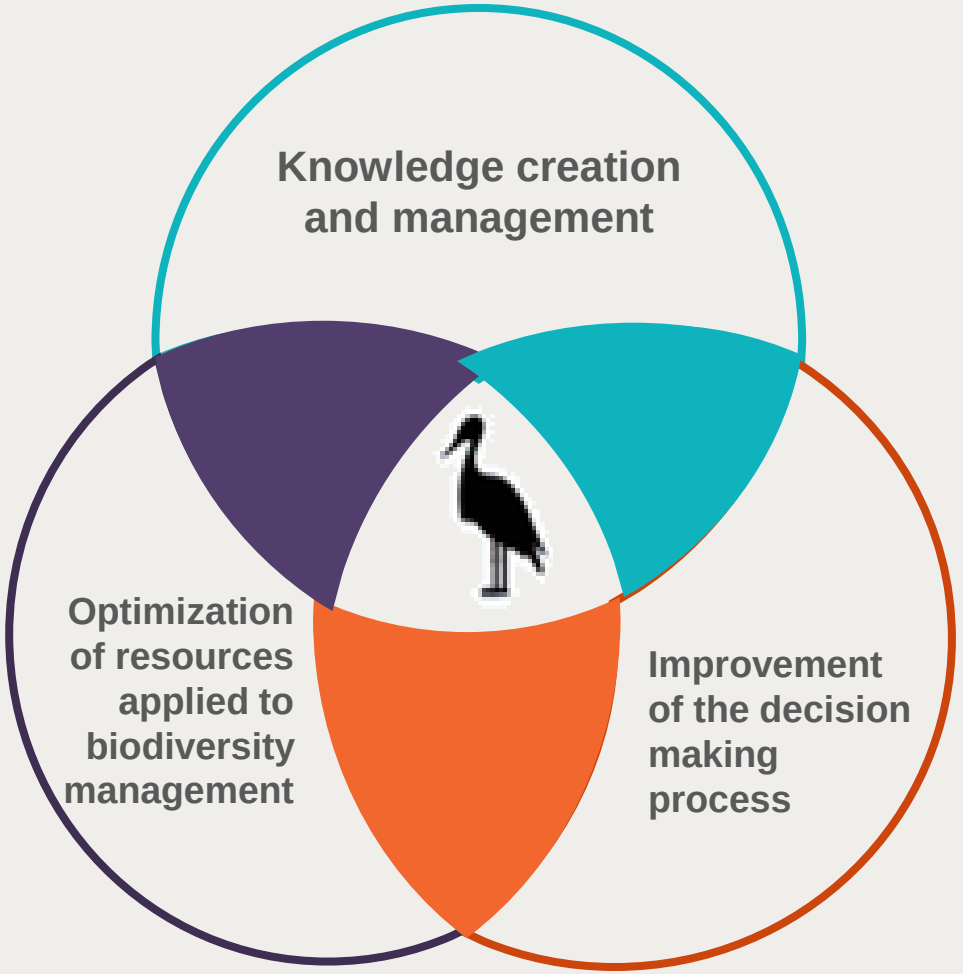
1. Integrating Biodiversity in REN activies

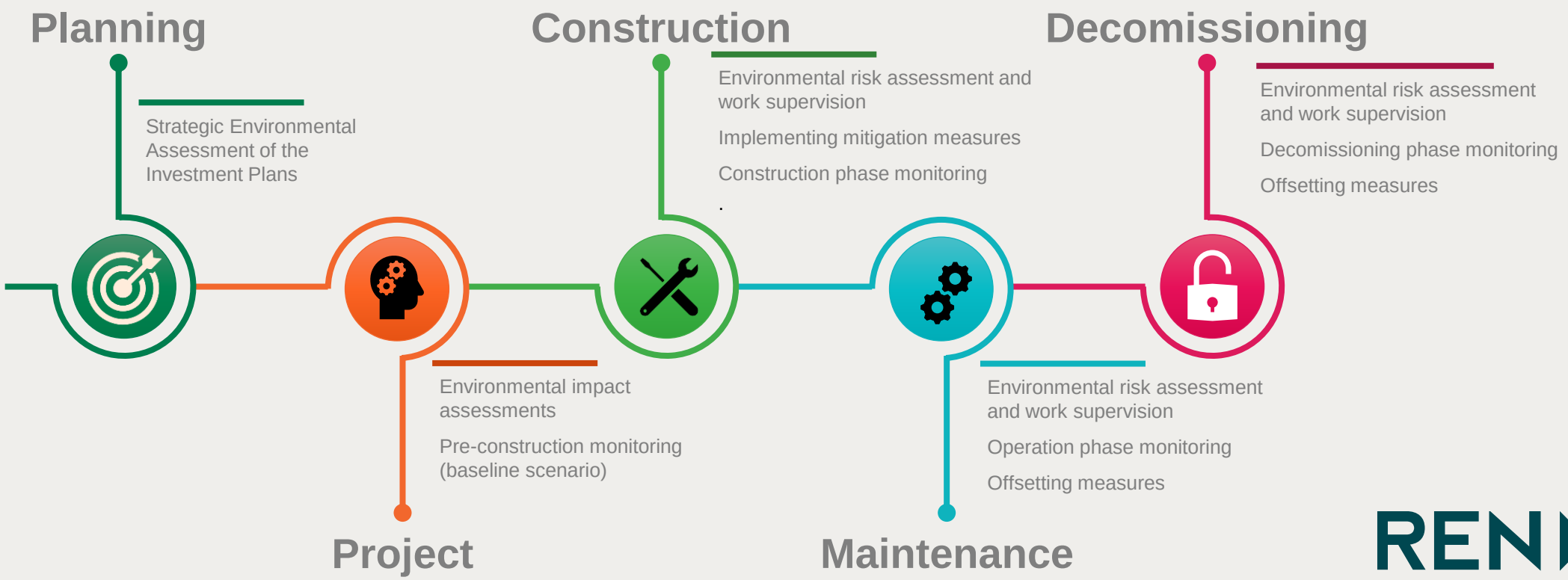
- REN is dedicated to recognize broader environmental concerns with the risks and opportunities associated with their **impacts and dependencies on biodiversity**
- In 2015 we promoted the creation of a Chair that would enhance our knowledge and action to **integrate biodiversity into our decision-making process** and **corporate operations**



CÁTEDRA REN EM BIODIVERSIDADE

1. Integrating Biodiversity in REN activies

- **Integrated vision** of environmental management
- **Ability to influence** throughout the asset's life cycle
- Consolidation of **biodiversity management methodologies** in the various project development phases



1. Integrating Biodiversity in REN activies

Why

Challenges taking in consideration the expected **expansion of the electricity transmission network** resulting from the increase in renewable energy production and consumption

Opportunity to enhance the **international recognition of the it's environmental performance**, recognized by different stakeholders, boosting the opportunity of participation in research projects, contributing to a better "benchmark" and adoption of best practices

2. The Journey of the REN Biodiversity Chair

- The REN Chair in Biodiversity initially results from an agreement, began on the 1st of July 2015, between the **University of Porto (CIBIO/InBIO), FCT and REN**.
- **Longevity** of the research program | **2015 – 2023**
- REN as Founding Member of the **BIOPOLIS** Association

2015

3 years

- Monitoring, minimization and compensation
- Population ecology
- Citizenship in science

2018

2 years

- Consolidation of
- Applied ecology
- Knowledge transfer and intereaction with REN and other TSOs

2021

3 years

- Biodiversity in REN infraestructures
- Technological development applied to Biodiversity
- Impacts and mitigation
- Knowledge transfer and intereaction with REN and other TSOs

2. The Journey of the REN Biodiversity Chair

2021-2023 | Focused on the impact of energy transmission lines on biodiversity

Biodiversity in REN infraestructures

- Pilons
- Right-of-way

Technological development applied to Biodiversity

- Automatic collision detection
- Effectiveness Evaluation of Anti-bird Device

Impacts and mitigation

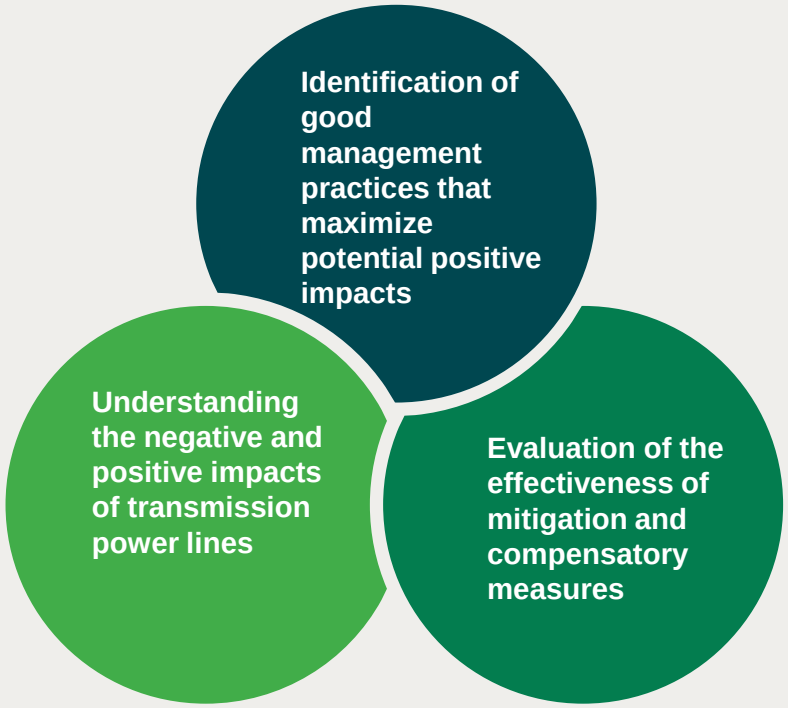
- Analysis of exclusion effects (Bonell's Eagle)

Knowledge transfer and intereaction with REN and other TSOs

- Scientific consultancy and knowledge transfer
- Participation in CIGRE and RGI activities
- Publication of REN Chair activities
- REN Strategy for Biodiversity

3. Value Creation of a Biodiversity Chair

Scientific research



Scientific advice

REN Chair also contemplates scientific consulting through counselling and supporting in the context of Environment Impacts Assessment (EIA) studies, as well as analyses of biological and technical data collected by REN in the last 20 years.

This way, researchers and REN Teams have worked together to solve practical questions with relevance for REN activities (i.e. reduction of bird mortality and mitigating outages caused by birds)

3. Value Creation of a Biodiversity Chair

REN

- Scientific advice about ongoing projects
- Support to the decision-making process
- Improved relationships with consultants, NGOs, and environmental authorities
- Human resource development /corporate science
- Benchmarking
- Co-creation of scientific knowledge with CIBIO

BIOPOLIS cibio

- Applied research / Effective knowledge transfer
- Scientific advances of existing knowedge / technological innovation
- Capacity building (PhD and master students)
- CIBIO as a reference research center in the area

REN

3. Value Creation of a Biodiversity Chair

	2015	2018	2021	2023	
Scientific Articles		26	37	9	72
Communications at congresses			6	6	12
Publications and thesis		5	3	2	10

3. Value Creation of a Biodiversity Chair

- Provide the scientific **evidence** to
  - Support REN's decisions
  - Support knowledge transfer with conservation authorities

Scientific articles

Environmental Impact Assessment Review 100 (2023) 107068

Contents lists available at ScienceDirect

Environmental Impact Assessment Review

journal homepage: www.elsevier.com/locate/eiar

ELSEVIER

A review of post-construction monitoring practices used in the evaluation of transmission power line impacts on birds and mitigation effectiveness, with proposals for guideline improvement

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Biodiversity strategy
Support in the collaborative approach to the construction of REN's Biodiversity Strategy

Manual
Guidelines for consultants and conservation authorities

Studies
Study assessing the effectiveness of deterrence devices in preventing white stork nesting on REN pylons

3. Value Creation of a Biodiversity Chair

Technological developments

DFOS – distributed fibre optic sensing

- Application of advanced technology of distributed fibre optic sensing, based on optical microphones for the detection of bird strikes on OPGW cables
- One of the main advantages of this technology is that it does not require the installation of devices in the cables since the already installed optical fiber (OPGW) is the sensing element itself.

4. Main Challenges

Onshore

Biodiversity

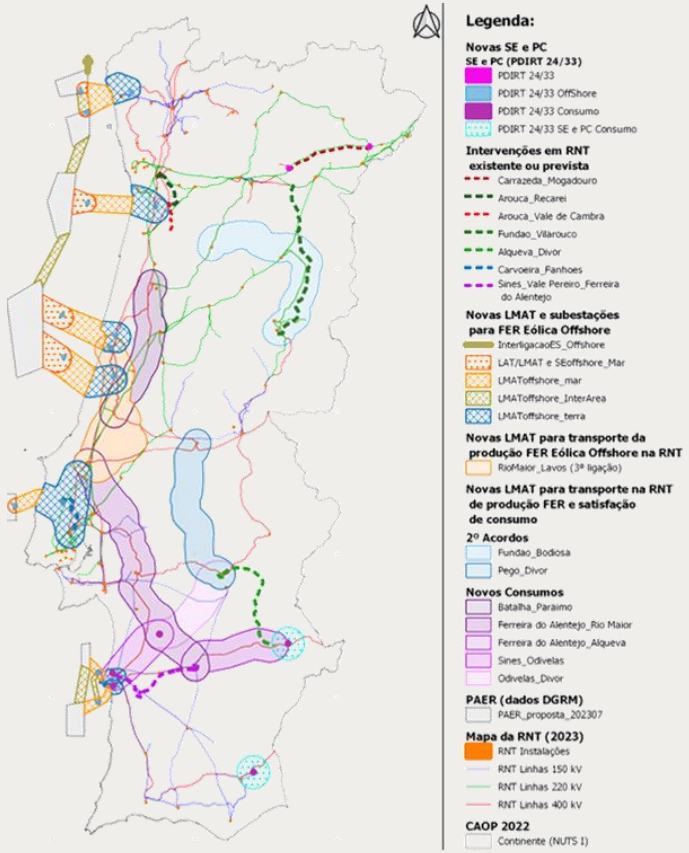
Communication

Territorial load

NIMBY

889 km of powerlines

Offshore



Thank you

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