

**Submission by the European Commission to  
CBD Notification 2018-019  
Mainstreaming of biodiversity and other strategic actions to enhance implementation:  
request for submission of relevant information**

Mainstreaming biodiversity in energy and mining, infrastructure, manufacturing and processing, and health is extremely important for achieving the Aichi Biodiversity Targets. Hence, the European Commission welcomes a solid preparation for the upcoming discussions at SBI2 and COP14, and is happy to provide the following input in response to Notification 2018-019.

Key **cross-cutting policies for mainstreaming** at the European Union level include:

- [legislation on environmental impact assessment](#)<sup>1</sup> (EIA) and strategic environmental assessments (SEA);
- [legislation on industrial emissions and waste](#)<sup>2</sup>, requiring installations to operate under a permits where limits on allowable waste and pollution are based on levels that can be attained by account best available techniques, taking into account the specific conditions of the location concerned;
- legislation on [environmental liability](#)<sup>3</sup>.
- policies directly relevant for spatial planning, such as river-basin water management plans, integrated coastal zone management, climate change adaptation action plans, etc.;
- initiatives/tools to facilitate the taking into account of the value of ecosystems and their services:
  - o the EU initiative on mapping and assessing ecosystems and their services (MAES). Several methodological reports have been published and a new publication with an analytical framework and indicators to map and assess ecosystem condition is now available – see the [5th MAES report on ecosystem condition](#)<sup>4</sup>. Furthermore, guidance on integrating ecosystems and their services into planning and decision-making, including by business, is under preparation under the EU Action Plan on Nature, People and the Economy. This work is also supported by various research projects, including [ESMERALDA](#)<sup>5</sup>.
  - o Support for the Economics of Ecosystem and Biodiversity (TEEB) as a tool to improve the way nature and biodiversity values are taken into account in the decisions by authorities and the private sector. A new 8.5 M€ project for implementing TEEB – the economics of ecosystems and biodiversity in the Agri-food sectors in partnership with seven EU Partner countries will help to promote the Natural Capital Protocol.
  - o natural capital accounting (NCA), including at EU level through the KIP INCA Work involving all the main EU knowledge partners, and at global level through the World Bank-led project WAVES and the UNSD-led project on Natural Capital Accounting and Valuation of Ecosystem Services.

<sup>1</sup> [http://ec.europa.eu/environment/eia/index\\_en.htm](http://ec.europa.eu/environment/eia/index_en.htm)

<sup>2</sup> <http://ec.europa.eu/environment/industry/stationary/ied/legislation.htm>

<sup>3</sup> <http://ec.europa.eu/environment/legal/liability/index.htm>

<sup>4</sup> [http://ec.europa.eu/environment/nature/knowledge/ecosystem\\_assessment/pdf/5th%20MAES%20report.pdf](http://ec.europa.eu/environment/nature/knowledge/ecosystem_assessment/pdf/5th%20MAES%20report.pdf)

<sup>5</sup> <http://www.esmeralda-project.eu/>

- Further analytical work on how to facilitate integration of ecosystem services in policy making has been done under the following EU-funded research projects:
  - OPERAs: [d3-3towards-framework-assessing-es-nc-integration-different-levels-governance-final-draft-4-feb-2015.pdf](http://www.operas-project.eu/sites/default/files/resources/d3-3towards-framework-assessing-es-nc-integration-different-levels-governance-final-draft-4-feb-2015.pdf)<sup>6</sup> and [policy-needs-and-opportunities.pdf](http://www.operas-project.eu/sites/default/files/resources/policy-needs-and-opportunities.pdf)<sup>7</sup>.
  - OpenNESS: [Operationalisation of natural capital and ecosystem services: from concepts to real-world applications](http://www.openness-project.eu/sites/default/files/OpenNESS%20D2.1%20Paper%20on%20the%20policy%20analysis%20WP2.pdf)<sup>8</sup>
- work on business & biodiversity, notably the EU Business & biodiversity platform, the Community of Practice on Biodiversity Financing under this platform and various platforms at national level. The EU Business and Biodiversity Platform (B@B) of the European Commission has reinforced its engagement with business and other partnerships in 2017, including the World Business Council for Sustainable Development and the Natural Capital Coalition and also supports the further development and use of the Natural Capital Protocol. This is a standardised framework for business to identify, measure, and value direct and indirect impacts (positive and negative) and dependencies on natural capital and biodiversity.
- The Commission strongly supports initiatives such as the Natural Capital Coalition and the Natural Capital Protocol;
- [regulation on company reporting](https://ec.europa.eu/info/business-economy-euro/company-reporting-and-auditing/company-reporting/non-financial-reporting_en)<sup>9</sup>, which includes obligations for large companies on environmental reporting, e.g. as part of reporting on corporate responsibility policies; the European Commission has reiterated the importance to recognize biodiversity-related information in the [recent guidelines on non-financial reporting](https://ec.europa.eu/info/business-economy-euro/company-reporting-and-auditing/company-reporting/non-financial-reporting_en)<sup>10</sup>. These guidelines aim to develop a principle-based methodology relevant to companies across all economic sectors which helps them to disclose relevant, useful and comparable non-financial information. In this communication, the Commission takes into account best practices, relevant developments and the results of related initiatives, both within the EU and at international level.
- new [Green environmental financing policies](https://ec.europa.eu/clima/news/sustainable-finance-high-level-expert-group-delivers-roadmap-greener-and-cleaner-economy_en)<sup>11</sup>, which are under development. The final report by the High-Level Expert Group on sustainable finance maps out the challenges and opportunities that the EU faces in developing a sustainable finance policy. It identifies ways in which the private financial sector can re-connect with the real economy to support the transition to a more resource-efficient and more circular economy. The group's report will form the basis of the Commission's comprehensive Action Plan on sustainable finance that it will put forward in the coming weeks. The Natural Capital Financing Facility is a financial instrument under the LIFE Programme set up to develop a pipeline of projects that would serve as demonstration to foster further investments in ecosystems for biodiversity and climate adaptation purposes through loans and investment funds.

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<sup>6</sup> <http://www.operas-project.eu/sites/default/files/resources/d3-3towards-framework-assessing-es-nc-integration-different-levels-governance-final-draft-4-feb-2015.pdf>

<sup>7</sup> <http://www.operas-project.eu/sites/default/files/resources/policy-needs-and-opportunities.pdf>

<sup>8</sup> <http://www.openness-project.eu/sites/default/files/OpenNESS%20D2.1%20Paper%20on%20the%20policy%20analysis%20WP2.pdf>

<sup>9</sup> [https://ec.europa.eu/info/business-economy-euro/company-reporting-and-auditing/company-reporting/non-financial-reporting\\_en](https://ec.europa.eu/info/business-economy-euro/company-reporting-and-auditing/company-reporting/non-financial-reporting_en)

<sup>10</sup> [https://ec.europa.eu/info/business-economy-euro/company-reporting-and-auditing/company-reporting/non-financial-reporting\\_en](https://ec.europa.eu/info/business-economy-euro/company-reporting-and-auditing/company-reporting/non-financial-reporting_en)

<sup>11</sup> [https://ec.europa.eu/clima/news/sustainable-finance-high-level-expert-group-delivers-roadmap-greener-and-cleaner-economy\\_en](https://ec.europa.eu/clima/news/sustainable-finance-high-level-expert-group-delivers-roadmap-greener-and-cleaner-economy_en)

- various policies and initiatives are in place to strengthen policy implementation and legal enforcement, which is of crucial importance. A recent initiative in this respect is the [Environmental Implementation Review](#)<sup>12</sup>.

In addition to mainstreaming biodiversity into other policies, 'business involvement' is also 'mainstreamed' in nature and biodiversity policies'. E.g., the 'EU Action Plan for nature, people and the economy' to better implement the EU nature legislation sets out an ambitious programme of work from 2017 to 2019. The plan projects actions to enhance legal certainty for companies and sets incentives to invest in nature including guidance for an EU-level strategic approach to green infrastructure. Similarly, the Commission is preparing an EU Initiative on Pollinators which will, i.a., promote private sector's activities on pollinators, including innovative business models. Business is also encouraged to engage in nature-based solutions<sup>13</sup>.

Mainstreaming biodiversity is also a key priority in the EU development cooperation. E.g. the Commission actively promotes the use of tools to identify and address key environmental and climate change issues, mostly in relation to sector support. In particular, we are promoting SEAs as an important tool to mainstream biodiversity and other themes. [A project that is particularly relevant in this context is SWITCH....]. A [newsletter](#)<sup>14</sup> presents regular updates and experiences.

**Specific guidelines and guidance** for mainstreaming biodiversity include the following:

#### *Mining*

The EU guidance on "[non-energy mineral extraction and Natura 2000](#)"<sup>15</sup>, published in 2010, provides guidance and good practice on how best to ensure that mineral extraction developments are compatible with the provisions of EU nature legislation and Natura 2000-related provisions. The key issues addressed are the value of Strategic planning; the procedure for the Appropriate assessment of extractive plans/projects; mitigation, alternatives and compensation. The focus is on mineral extraction on land and how impacts thereof can be properly assessed and avoided. The guidance also addresses marine extraction as well as opportunities for positive contributions of mineral extraction activities to biodiversity. Annex 2 of the guidance includes a series of case studies setting out good practices and examples on the key issues addressed by the guidance.

The recently adopted [EU Action Plan for nature, people and the economy](#)<sup>16</sup> includes inter alia an action to identify, together with the EU Member States and stakeholders, best practices on investment in land rehabilitation and restoration by extractive industries, with a view to complement the existing guidance. This work will be carried out throughout 2018 and it will also draw on initiatives undertaken by extractive sectors and NGOs (often in collaboration) to promote biodiversity mainstreaming at EU level (including for example voluntary schemes, awards, partnerships).

The Directive on the management of waste from extractive industries (2006/21/EC)<sup>17</sup> provides for measures, procedures and guidance to prevent or reduce as far as possible any adverse effects on the

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<sup>12</sup> [http://ec.europa.eu/environment/eir/index\\_en.htm](http://ec.europa.eu/environment/eir/index_en.htm)

<sup>13</sup> E.g., under the R&D project Naturvation, a paper on governance has been prepared which includes a chapter on involving business, <https://naturvation.eu/news/20170803/working-paper-governance-and-politics-nature-based-solutions>.

<sup>14</sup> <https://europa.eu/capacity4dev/public-environment-climate/minisite/9-newsletter>

<sup>15</sup> [http://ec.europa.eu/environment/nature/natura2000/management/docs/nee\\_i\\_n2000\\_guidance.pdf](http://ec.europa.eu/environment/nature/natura2000/management/docs/nee_i_n2000_guidance.pdf)

<sup>16</sup> [http://ec.europa.eu/environment/nature/legislation/fitness\\_check/action\\_plan/index\\_en.htm](http://ec.europa.eu/environment/nature/legislation/fitness_check/action_plan/index_en.htm)

<sup>17</sup> <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02006L0021-20090807>

environment, in particular water, air, soil, fauna and flora and landscape, and any resultant risks to human health, brought about as a result of the management of waste from the extractive industries.

The Directive requires, amongst others, that all operators prepare a waste management plan, which ensures an appropriate planning of waste management options with a view to minimising the generation of extractive waste and its harmfulness, encouraging waste recovery and securing its short and long-term safe disposal. This includes planning for rehabilitation of extractive waste facilities, such as waste heaps and tailing ponds. In Commission decision (2009/335/EC)<sup>18</sup> on technical guidelines for the establishment of the financial guarantee in accordance with Directive 2006/21/EC it is specified that measures to reinstate biodiversity, if relevant, shall be included in the “assessment of the costs necessary to ensure land rehabilitation, closure and after closure including possible after closure monitoring or treatment of contaminants.” The reference document on the Best Available Techniques (BREF) on the management of waste from extractive industries<sup>19</sup> contains many relevant sections and good examples of how to take biodiversity into consideration during the selection of sites and as well as during the management of established sites.

### *Renewable energy*

A lot of information is available as concerns the direct and indirect impacts of renewable energy on biodiversity. Some of the protected habitats and species under the Birds and Habitats Directives, and most specifically birds, bats and marine mammals, have been found to be vulnerable, including through induced land use change. For these reasons, developers, planners and authorities need to take duly into account the provisions of EU nature legislation, irrespective of whether their projects are to be located in a Natura 2000 site or not, as these projects even when located outside a Natura 2000 site, could still have impacts on protected habitats and species under the Birds and Habitats Directives. Specific actions that focus on renewable energy, aim at improved implementation through better knowledge and access to data, innovative approaches, as well as better engagement and involvement of stakeholders:

- The European Commission has prepared a guidance document on "Wind energy developments and Natura 2000"<sup>20</sup>. It will be reviewed as part of the project referred to below;
- A "Guidance document on the requirements for hydropower in relation to EU Nature legislation" and "Guidelines on energy transmission infrastructure and EU Nature Legislation" are under preparation and will be published shortly at [http://ec.europa.eu/environment/nature/natura2000/management/guidance\\_en.htm](http://ec.europa.eu/environment/nature/natura2000/management/guidance_en.htm). The existing and upcoming guidance documents contain various relevant case-studies and examples;
- Other general guidance documents prepared by the European Commission relevant to renewable energy developments such as the guidance on the application of article 6 of the Habitats Directive are available on the website of DG Environment<sup>21</sup>;
- Under an ongoing project that runs until December 2019, the Commission will:

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<sup>18</sup> <http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32009D0335>

<sup>19</sup> [http://eippcb.jrc.ec.europa.eu/reference/BREF/mmr\\_adopted\\_0109.pdf](http://eippcb.jrc.ec.europa.eu/reference/BREF/mmr_adopted_0109.pdf)

<sup>20</sup> [http://ec.europa.eu/environment/nature/natura2000/management/docs/Wind\\_farms.pdf](http://ec.europa.eu/environment/nature/natura2000/management/docs/Wind_farms.pdf)

<sup>21</sup> [http://ec.europa.eu/environment/nature/natura2000/management/index\\_en.htm](http://ec.europa.eu/environment/nature/natura2000/management/index_en.htm)

- gather information on and an understanding of the potential direct and indirect impacts that the different forms of renewable energy developments (wind, solar, ocean, geothermal energy as well as bioenergy) may have on protected habitats and species, and suggest concrete ways of mitigating such impacts;
- identify challenges in planning and permitting procedures faced by Member States and possible ways of addressing them;
- develop a toolkit with options for the criteria and the methodology necessary for the preparation of wildlife sensitivity maps;
- assess the impacts of the development of bioenergy

### *Infrastructure*

The report "[Dealing with Conflicts in the Implementation and Management of the Natura 2000 Network Best Practice at the Local / Site Level \(lot 3\) - A review of 24 Best Practice case studies](#)"<sup>22</sup> reviews 24 best practice case studies, of which nearly half are different types of infrastructural developments, on how conflict in Natura 2000 areas is resolved. This report is part of a broader project, which reviewed current practices in solving multiple use issues of Natura 2000 sites through conflict management strategies and participatory approaches<sup>23</sup> and drew up recommendations for future actions to promote best practices in dealing with conflicts in the implementation and management of the Natura 2000 network<sup>24</sup>.

The Guidance document on [Inland waterway transport and Natura 2000](#)<sup>25</sup> has been elaborated to provide guidance on how best to ensure that activities related to the development and management of inland waterways are compatible with EU environmental policy in general and nature legislation in particular. Particular attention is given to explaining how to develop integrated projects which aim to take account of the river's ecological processes early on in the design process and which search for win-win solutions for both inland waterway transport and biodiversity wherever possible.

The [Study on permitting & facilitating the preparation of TEN-T core network projects](#)<sup>26</sup> is also a source of information for case studies on biodiversity mainstreaming. The EU's Trans-European Transport Network (TEN-T) policy aims at developing a Europe-wide network of transport infrastructure. Experience has shown that the efficient completion of these network corridors is sometimes impacted by complex regulatory and administrative arrangements, which can contribute to increased costs, delay and uncertainty for infrastructure projects. The study identified barriers in regulatory and administrative processes that impact the effective and efficient planning and implementation of TEN-T core network projects whilst ensuring that the environmental legislation including those on biodiversity are fully respected. Recommendations on how to address these barriers, including proposed policy options were also presented.

Specifically for the waterborne transport sector – which includes maritime ports, inland ports and inland waterways – a guidance document has been published with recommendations on permitting of

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<sup>22</sup> [http://ec.europa.eu/environment/nature/natura2000/management/docs/report%20LOT3\\_Task%202-Best\\_cases.pdf](http://ec.europa.eu/environment/nature/natura2000/management/docs/report%20LOT3_Task%202-Best_cases.pdf)

<sup>23</sup> [http://ec.europa.eu/environment/nature/natura2000/management/docs/report%20LOT3\\_Task%201-European\\_review.pdf](http://ec.europa.eu/environment/nature/natura2000/management/docs/report%20LOT3_Task%201-European_review.pdf)

<sup>24</sup> [http://ec.europa.eu/environment/nature/natura2000/management/docs/conflict\\_solving2010.pdf](http://ec.europa.eu/environment/nature/natura2000/management/docs/conflict_solving2010.pdf)

<sup>25</sup> [http://ec.europa.eu/environment/nature/natura2000/management/docs/iwt\\_en.pdf](http://ec.europa.eu/environment/nature/natura2000/management/docs/iwt_en.pdf)

<sup>26</sup> <https://ec.europa.eu/transport/sites/transport/files/2016-12-permitting-facilitating-ten-t.pdf>

projects, particularly in relation to environmental permitting, of which [the EU nature and water legislation](#)<sup>27</sup> are key instruments.

The Guidelines on the [Implementation of the Birds and Habitats Directives in Estuaries and Coastal Zones with particular attention to port development and dredging](#)<sup>28</sup> and the accompanying policy document Commission Staff Working Document (SEC(2011) 319 final) "[Integrating biodiversity and nature protection into port development](#)"<sup>29</sup> illustrate how nature protection and biodiversity concerns can be integrated into ports policy while reconciling the need for port development and nature conservation. The holistic approach advocated by the Guidelines implies building partnerships between all stakeholders in order to help reaching the goals of all actors involved.

### *Energy*

The Trans-European Networks for Energy (TEN-E) strategy is focused on linking the energy infrastructure of EU countries. As part of the strategy, nine priority corridors and three priority thematic areas have been identified.

The guidance document [Streamlining environmental assessment procedures for energy infrastructure Projects of Common Interest \(PCIs\)](#)<sup>30</sup> has been published to support Member States in defining adequate legislative and non-legislative measures to streamline environmental assessment procedures and to ensure coherent application of environmental assessment procedures required under Union law. For PCIs. The biodiversity related legislation features prominently in the guidance and early planning and „roadmapping” of the different assessments is strongly emphasized for successful streamlining of environmental assessment procedures. Several case studies on good practices are included in this document.

### *Health:*

The study [The health & social benefits of nature & Biodiversity protection](#)<sup>31</sup> has an interesting collection of case-studies. Most of them received (co-)funding from EU funds.

The European Commission organised a workshop during the European Week of Regions and Cities in October 2017 targeting cities and regions across Europe. The aim was to raise awareness on the beneficial effect of nature on our health and well-being and the potential of the Natura 2000 sites to connect citizens with nature. It also addressed the role of cities and regional authorities in stimulating the cross-sectoral cooperation between the health, social and environment sectors. Three case studies were presented: two of them are included in the case studies of the study referred to above and the third was concerned with the Scottish green partnerships<sup>32</sup>. For the Report, see [here](#)<sup>33</sup>.

## **Ongoing analysis and research**

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<sup>27</sup> <https://ec.europa.eu/transport/sites/transport/files/2016-12-permitting-facilitating-ten-t-annex-on-waterborne.pdf>

<sup>28</sup> <http://ec.europa.eu/environment/nature/natura2000/management/docs/Estuaries-EN.pdf>

<sup>29</sup> [http://ec.europa.eu/environment/nature/natura2000/management/docs/sec2011\\_319pdf.pdf](http://ec.europa.eu/environment/nature/natura2000/management/docs/sec2011_319pdf.pdf)

<sup>30</sup> [http://ec.europa.eu/environment/eia/pdf/PCI\\_guidance.pdf](http://ec.europa.eu/environment/eia/pdf/PCI_guidance.pdf)

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<http://ec.europa.eu/environment/nature/biodiversity/intro/docs/Health%20and%20Social%20Benefits%20of%20Nature%20-%20Final%20Report%20Annex%201%20-%202020%20cases%20sent.pdf>

<sup>32</sup> <https://www.nature.scot/professional-advice/contributing-healthier-scotland/our-natural-health-service>

<sup>33</sup> <http://cor.europa.eu/EURegionsWeek2017/Pages/11B118-636443665340643838.aspx>

There are several projects in addition to the projects on valuation mentioned above (ESMERALDA, OPERAs and OpenNESS). The following are particularly relevant:

The project EKLIPSE provides a European science policy interface, which supports policy makers, businesses, authorities in queries on biodiversity related to policy and society, see [here](#)<sup>34</sup>, and for the various topics [here](#)<sup>35</sup>. Particularly relevant research questions are:

- [health](#): which types and components of urban and peri-urban blue/green spaces have a significant impact on human mental health and mental well-being? For several years, papers have been published about the positive impact of greenness on health, including some synthesis and systematic reviews. Yet, none of them has so far addressed the question of the type of habitats and components of such habitats that have a significant (and preferably positive) effect on mental health and psychological well-being. This is important to be able to provide recommendations to designers and managers of green and blue space in and around cities.
- [energy](#): how are European energy policies affecting biodiversity and ecosystem services in countries globally<sup>36</sup>
- [Biodiversity and the food and beverages industry](#)<sup>37</sup>. A final report/product is under preparation. (For general information on Eklipse, see [here](#)<sup>38</sup>)

Further information can be found at [Oppla](#)<sup>39</sup>, a new knowledge marketplace where the latest thinking on ecosystem services, natural capital and nature-based solutions is brought together. It is an open platform for easy information sharing. When searching on the terms 'energy', 'mining', 'infrastructure', 'manufacturing' and 'health', various examples of case studies or other research activities can be found.

## **Selected relevant projects under the LIFE programme**

### *Energy*

**ELIA** - Development of the beddings of the electricity transportation network as means of enhancing biodiversity (Project summary: LIFE10 NAT/BE/000709).

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<sup>34</sup> <http://www.eclipse-mechanism.eu>

<sup>35</sup> <http://www.eclipse-mechanism.eu/activities>

<sup>36</sup> The following research questions are being asked:

- What analyses exist that explore the EU energy policy strategy and related telecoupling effects on biodiversity and ecosystem services?
- What are the SDG targets and interlinkages that the EU energy policy tries to pursue (also indirectly) and what are the systemic trade-offs and co-benefits that are created beyond the territorial boundaries, where, at what scale, and who are the affected winners and losers?
- What policies and governance mechanisms could remedy these impacts on biodiversity and ecosystem services; or in hindsight, how could one have chosen pathways to more sustainable development?
- What are the recurrent patterns of interactions (nexus), cascading effects, etc.?
- What can be identified as leverage points and potentials for policy impact?
- What are the positive and negative feedback loops that may point to decarbonisation pathways?
- Are there any time issues, irreversibility?
- What is the relevance of context (place, scale, time)?
- What are the governance and transformation interventions that can potentially be applied? Lessons learnt?
- What are the main knowledge gaps?

<sup>37</sup> [http://www.eclipse-mechanism.eu/documents/32503/0/EKLIPSE\\_DraftDoW\\_business+request\\_for+11Dec2017.pdf/34145692-503b-4b0d-9843-a841dd1db023](http://www.eclipse-mechanism.eu/documents/32503/0/EKLIPSE_DraftDoW_business+request_for+11Dec2017.pdf/34145692-503b-4b0d-9843-a841dd1db023)

<sup>38</sup> [http://www.eclipse-mechanism.eu/business\\_activities](http://www.eclipse-mechanism.eu/business_activities)

<sup>39</sup> <https://oppla.eu/ask-oppla>

The aim of the project is to create green corridors under overhead electrical lines in wooded areas in Belgium and France. Various innovative actions will take place in order to enhance biodiversity and to raise people's awareness concerning natural habitats and species linked to this linear context. Project website [here](#)<sup>40</sup>

### *Mining*

**LIFE-ECORESTCLAY** - Holistic Ecological Restoration of a mining area in Tarragona (Spain) with seven clay Quarries. (Project summary [here](#)<sup>41</sup>)

This project objective is to develop a management protocol for mining areas, using innovative solutions for environmental protection. It will promote the reconstruction of ecosystems on the basis of reconstructing landforms that mimic the 'natural' conditions of the surroundings, thereby helping to boost biodiversity in the restored lands. (Project website [here](#)<sup>42</sup>)

**EcoQuarry** - Ecotechnology for environmental restoration of limestone quarries (Project summary [here](#)<sup>43</sup>).

The project succeeded in developing the quality control schemes required during the various phases of limestone quarry restoration to integrate the areas back into the landscape and recover functional ecosystems. It established principles of restoration ecology for assessing and designing the minimum requirements needed to trigger natural succession in the middle term. It promoted and demonstrated successful use of local materials for substrates; re-introduction of native species; and established minimum levels of inputs - especially watering. Project results have been crystallised in the elaboration of the Guidelines for the Restoration of Limestone Quarries in Mediterranean Climate. This handbook is oriented to offer a practical assessment for the practitioners of the limestone restoration sector. The handbook includes the best available and experimented technology, and the quality control schemes for the entire restoration process. Project website no longer available, but project documentation is available in the [project summary](#)<sup>44</sup>.

**LIFE IN QUARRIES** (Project summary [here](#)<sup>45</sup>) The LIFE IN QUARRIES project aims to develop biodiversity in active quarries by:

- Testing and defining methods for the restoration, maintenance and management of pioneer species and habitats;
- Testing and defining methods for preparing the physical quarry infrastructure during exploitation processes, in order to facilitate the establishment of restoration plans that will increase ecosystem services and biodiversity following exploitation;
- Identifying lock-in situations and challenges for biodiversity development in active quarries such as legal constraints, lack of biodiversity management awareness etc.;
- Developing the awareness of quarry managers, public administration managers and other local stakeholders for biodiversity management; and
- Demonstrating best practices of adapting management throughout the complete exploitation process for up to 24 Belgian quarries and sharing this experience in the European context.

Project website [here](#)<sup>46</sup>

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<sup>40</sup> <http://www.life-elia.eu>

<sup>41</sup> [LIFE12 BIO/ES/000926](#)

<sup>42</sup> <http://www.cemexrestaura.com/>

<sup>43</sup> [LIFE04 ENV/ES/000195](#)

<sup>44</sup> [http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n\\_proj\\_id=2700](http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_proj_id=2700)

<sup>45</sup> [LIFE14 NAT/BE/000364](#)

<sup>46</sup> <http://www.lifeinquarries.eu/>



## *Infrastructure*

**LIFE IMPACTO CERO** - Development and demonstration of an anti-bird strike tubular screen for High Speed Rail lines. Project summary [here](#)<sup>47</sup>

The bird collisions problem on high speed railroads is an increasing issue during the last years. In addition to the railroad infrastructures barrier effect, high speed characteristic has to be considered as a risk and aggravating factor itself.

Those birds killed as a cause of HSL (High speed lines) belong to common species as well as to more sensitive groups of birds, therefore their importance is qualitatively high. Such is the case of birds of prey, those linked to water bodies or linked to open and steppe-like environments.

The objectives of this project are:

- To establish a methodological proposal for the determination of optimum measures for protection against collisions with birds for new High Speed Lines (HSL) projects, as well as a series of recommendations for the development of environmental monitoring programmes during development of new lines or mitigation measures for lines under operation.
- To demonstrate the effectiveness of a new design for protection measures against bird-strike on HSL based on the concept of equally spaced tubular screens (PTE).
- To augment the knowledge about the interaction between railway infrastructure and birds, contributing to diminish present and future impacts on biodiversity.
- Locally, in the project area, to reduce the impact of the existing and/or projected HSL to established bird populations in protected areas.

Project website [here](#)<sup>48</sup>

**LIFE LINES** - Linear Infrastructure Networks with Ecological Solutions

Project summary [here](#)<sup>49</sup>

The main objectives of the LIFE LINES project are to evaluate and disseminate practices to mitigate the negative effects that transport and energy infrastructure have on wild fauna, and to simultaneously promote the creation of a demonstrative 'green Infrastructure' based on ecological corridors and stepping stones.

Running alongside grey infrastructure e.g. roads, railways and energy networks, the enhanced green infrastructure will improve connectivity and the conservation of local and regional biodiversity. A green infrastructure strategy will be used, for the first time, as a decision-support tool for practical conservation aims.

Project website [here](#)<sup>50</sup>

## *Manufacturing and processing (Industry)*

**LIFEBioStandards** - Biodiversity in Standards and Labels for the Food Industry

Project Summary [here](#)<sup>51</sup>

The overall objective of the LIFEBioStandards project is to improve biodiversity performance in the food chain. In terms of EU added value, the project proposes a multinational step forward in the

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<sup>47</sup> [LIFE12 BIO/ES/000660](#)

<sup>48</sup> <http://www.lifeimpactocero.com>

<sup>49</sup> [LIFE14 NAT/PT/001081](#)

<sup>50</sup> <https://lifelines.uevora.pt/>

<sup>51</sup> [LIFE15 GIE/DE/000737](#)

implementation of the EU Biodiversity Strategy to 2020 by developing standards and having them applied by pioneering companies in the food industry.

Project website [here](#)<sup>52</sup>

**Bais** - Biodiversity Action on Industrial Sites: integrating industrial and environmental management systems

CMS is the UK professional standard for databasing biodiversity management but is currently not structured for industrial use. The project aimed to adapt CMS software for industrial use with biodiversity records and industrial management information from the Du Pont pilot study. The CMS Partnership Support Group (CMSP), which is responsible for software development and quality control of the management plans, was a partner in the project with the University of Ulster. Biodiversity Action on Industrial Sites - BAIS - project aimed to provide a structured approach to biodiversity planning that involves implementation of action plans and regular auditing by developing a structured set of guidelines for a more long-term approach to biodiversity management.

Project summary [here](#)<sup>53</sup>

Report [here](#)<sup>54</sup>

**LIFE ENERGY** - Energy in the land - power lines and conservation of priority bird species in Natura 2000 sites (**LIFE13 NAT/SK/001272, Slovakia**)

The LIFE ENERGY project targets 10 bird species listed in Annex I of the Birds Directive, all of which breed in the 13 Natura 2000 project areas. These areas include highly important migration routes, feeding habitats and roosting places. Prevention of collisions of birds with electricity power wires is the most important part of the project, through the installation of bird flight diverters, restoration of windbreaks and other measures, though other bird population supporting activities will also be performed, such as increasing food resources.

Project summary [here](#)<sup>55</sup>.

Project website [here](#)<sup>56</sup>.

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<sup>52</sup> <http://www.business-biodiversity.eu/en/food-standards>

<sup>53</sup> [LIFE98 ENV/UK/000583](http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_proj_id=5034)

<sup>54</sup> <http://www.culturalecology.info/baywatch/baywatch1/BAISreportoct03.pdf>

<sup>55</sup> [http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n\\_proj\\_id=5034](http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_proj_id=5034)

<sup>56</sup> <http://www.lifeenergia.sk/index.php/en/>