

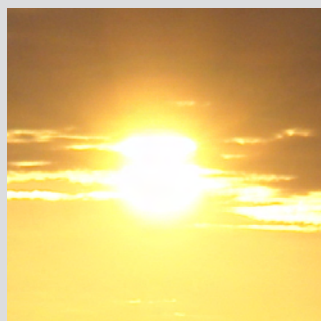
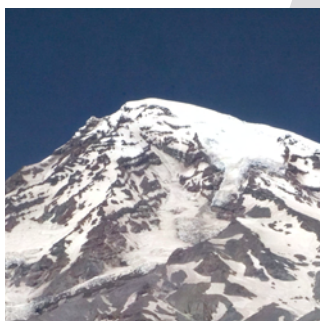
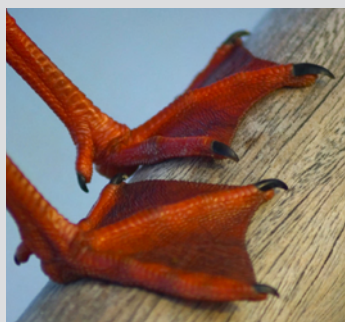
Directorate General Environment, Unit E.4. LIFE

Ex-Post Evaluation of Projects and Activities Financed under the LIFE Programme

Country-by-country analysis

Luxembourg

July 2009



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The views expressed are those of the Consultant and do not necessarily reflect those of the European Commission.

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1 Executive summary

The LIFE programme has co-financed six LIFE Environment projects and three LIFE Nature projects in Luxembourg during the period 1996-2006. The LIFE Environment projects were mainly managed by the private sector (five out of six) and aimed at demonstrating new industrial processes for reducing waste production. One project dealt with improved wastewater treatment. The three LIFE Nature projects addressed both habitats and species, and were all fully in line with related EU directives¹.

Effectiveness was high at project level, with objectives being achieved, and sometimes overshoot (especially for LIFE Nature projects). The results and impacts of LIFE Nature projects are likely to be sustained in the future. LIFE Environment projects are likely to have sustainable results and impacts for projects at local or national level. However, the long term effects of industrial projects depend more on commercial success at EU level in order to sustain results and impacts. All stakeholders met during the evaluation agreed on the uniqueness of the LIFE programme in promoting nature protection, innovation and demonstration.

2 Introduction

This country report on the implementation of the LIFE Programme in Luxembourg is part of the overall ex-post evaluation of the LIFE Programme. The evaluation was commissioned in July 2008 and covers all LIFE projects initiated during the period 1996-2006. The overall objective of the evaluation is to assess the relevance and impact of the activities and projects financed under the LIFE Programme. The evaluation comprises country studies in all Member States, except Bulgaria, which has never had any LIFE projects. This report documents the analysis carried out concerning the implementation of the LIFE Programme in Luxembourg. The ex-post evaluation focuses on assessing the effect of the LIFE Programme on Europe's nature and environment through looking at results and impacts of LIFE projects implemented under the Nature (NAT) and Environment (ENV) components. The results and impacts have further been assessed along three main evaluation criteria:

- Effectiveness, i.e. the extent to which planned objectives have been reached
- Sustainability, i.e. the extent to which positive impacts have continued or are likely to continue
- Utility, i.e. the extent to which impacts address key environmental needs and priorities in the EU and for the stakeholders concerned.

3 Environmental policy overview

Luxembourg adopted, in 1999, a “National Plan for Sustainable Development” which comprises three pillars: Pillar I, Protection of the Environment and Natural Resources, Pillar II, Economic effectiveness, Pillar III, Social Solidarity and international solidarity². Pillar I covers six scenarios namely Biodiversity, Forests, Soils, Water, Atmosphere and Wastes. Pillar II covers four domains: Industry & craft industry, Agriculture, Energy, and Transport. All these priorities are in line with those of the 6th EAP as expressed in Decision 1600/2002/EC. On 25th June 2004, the legal framework for sustainable development in Luxembourg was adopted. This establishes three instruments for the

¹ Council Directive 79/409/EEC (Birds Directive) and Council Directive 92/43/EEC (Habitats Directive)

² Plan National pour un Développement Durable - PNDD - mai 1999, available at http://www.environnement.public.lu/developpement_durable/publications/index.html

implementation of the strategy and its follow up: The National Plan for sustainable Development (4 year cycle), the National Report on its implementation (every two years) and the sustainable Development Indicators³.

4 Overview of LIFE projects in Luxembourg

During the period 1996 to 2006, the LIFE Programme co-financed nine projects in Luxembourg including three Nature projects and six Environment projects. A full overview table of the projects is provided in Appendix 1. In addition to the limited number of projects in Luxembourg, the repartition over time is uneven for the period.

Table 4.1 Overview of LIFE projects 1996-2006 in Luxembourg

	Number of projects	Total LIFE contribution (million EUR)	Main themes covered ⁴	Average LIFE contribution per project (million EUR)	Average project duration (years)
Environment	6	6.7	Climate change (33%)	1.1	4.2
Nature	3	2.4	Habitats (100%)	0.8	5.3

Source: Butler

The **LIFE Environment** projects co-financed by the LIFE Programme were distributed over a number of themes, with two in Climate Change, one in Strategic Approaches as the most important. The most dominant type of beneficiary was public and private enterprises which accounted for 83% of projects.

The **LIFE Nature** projects co-financed by the LIFE Programme during 1996-2006 all targeted habitats. One project was implemented by a public enterprise, while the two others were implemented by national NGOs.

5 Effects of projects implemented

Because of the fairly small number of **LIFE Nature** projects in Luxembourg, the results and impacts can be assessed as limited. Overall, Nature projects in Luxembourg have had positive effects on ecosystems and targeted species⁵. LIFE funding has allowed the purchase of land for nature

³ Recueil de Legislation – A – N°102) 2 July 2004, Loi du 25 Juin 2004 relative à la coordination de la politique nationale de développement durable.

⁴ For the purpose of this evaluation, the LIFE projects were categorised according to the thematic structure of the LIFE+ Programme (ref. Regulation EC No. 614/2007, Annex II). The themes included for LIFE Nature: Habitat Directive, Birds Directive and Biodiversity. For LIFE Environment: Climate change, air, water, soil, forests, natural resources and waste, chemicals, urban environment, strategic approaches.

⁵ Through the 2 closed LIFE Nature projects in Luxembourg. 5 species were specifically targeted through LIFE Nature projects: namely common tree frogs (*Hyla arborea*), great crested newts (*Triturus cristatus*), yellow bellied toads (*Bombina variegata*), and Natterjack toads (*Bufo calamita*) under project LIFE 96 NAT L 003195, and the pearl mussel (*Margaritifera margaritifera*) under project LIFE05 NAT/L/000116. The third LIFE Nature project in

conservation which was not a priority of the Government of Luxembourg at the beginning of the evaluation period. While the amount of land purchased is not fully documented, it can be assumed that over 50 ha have been purchased for nature restoration⁶. Projects under LIFE Nature were usually well integrated in the overall activities of the beneficiary organisations, and it is considered likely that they generated sustainable impacts after project funding stopped. Stakeholders reported that capacity of beneficiaries have increased over the 1996-2006 period, both in terms of proposal elaboration and project management.

Through the LIFE Nature funding, land purchase⁷ was demonstrated as an effective means of nature protection and restoration, and has in that sense contributed to the improvement of nature management in Luxembourg. It is worth noting that none of the Nature projects included an international component or partner.

Results of **LIFE Environment** projects in Luxembourg were generally good, as no project was reported to be a complete failure. LIFE Environment projects have demonstrated the viability of new industrial processes and furthered the development of innovative products - e.g. Goodyear (development of extra low rolling resistance tyre) and ECOSB wooden panels⁸. Others – e.g. Zeolite, and Simulation and control software in WWTP⁹, have had limited results because of technical difficulties not overcome during the project duration or non costs-effective solutions being developed. Impacts as such are dependent on the capacity of beneficiaries to commercialise and disseminate know how gained, and apply to a large commercial scale the products developed. International cooperation in Luxembourg is mainly driven by the small size of the country's industry, thus requiring international partnership for specific industrial processes. Dissemination of results within Luxembourg, or beyond, to a wider European audience, is not documented.

6 The effectiveness of projects

Effectiveness can be assessed at two levels: The project level, which compares achievements with project objectives, and at programme level, which compares achievements with LIFE Programme objectives¹⁰.

At project level, the degree of effectiveness is high for both LIFE Environment and LIFE Nature. One LIFE Environment project did not manage to develop the expected product to a technically viable level, even though the project was adequately implemented and can be assumed not to be failure. **LIFE Nature** beneficiaries have usually achieved their objectives, some with greater others with less difficulty, and in one instance have achieved more objectives.

Luxembourg, Ecological valorisation of the Alzette's upper valley - LIFE99 NAT/L/006284 aimed at restoring good ecological status of the river basin, and falls under the Habitats Directive

⁶ The entire Natura 2000 area in Luxembourg is 462 km² over 60 sites (from DG ENV available at http://ec.europa.eu/environment/nature/natura2000/db_gis/index_en.htm)

⁷ This was outlined by several interviewees especially in the context of high pressure on land from both Urban expansion, and agricultural development.

⁸ Respectively LIFE06 ENV/L/000118 and LIFE05 ENV/L/000047

⁹ Respectively LIFE04 ENV/LU/000829 and LIFE98 ENV/L/000582

¹⁰ Specific objective for: LIFE Nature: To contribute to the implementation of Council Directive 79/409/EEC (Birds Directive) and Council Directive 92/43/EEC (Habitats Directive); LIFE Environment: To contribute to the development of innovative and integrated techniques and methods and to the further development of Community environmental policy.

At programme level, **LIFE Nature** projects effectiveness is assessed as high having targeted priority species or habitats, and therefore contributed to the implementation of Council Directive 79/409/EEC (Birds Directive) and Council Directive 92/43/EEC (Habitats Directive). **LIFE Environment** projects have supported demonstration and innovations in wastewater treatment, waste management or environmentally innovative industrial processes and products. Therefore, effectiveness at programme level is assessed as high.

7 The sustainability of projects

Sustainability of projects in Luxembourg is assessed as high for both LIFE Nature and LIFE Environment. **LIFE Nature** projects were found to be sustainable as projects were implemented by beneficiaries with previously on-going activities in nature protection and outlook for the future. Also, the nature protection purpose of land purchased through LIFE projects is clearly mentioned in land titles, thus ensuring sustainability of the protection over these lands. Of the two completed projects, only one is being documented has having established a “maintenance” plan which has been expanded since the project’s closure¹¹.

The sustainability of **LIFE Environment** projects is dependent on commercial success (up-scaling) and the capacity of beneficiaries to bring results to full scale implementation, commercialisation, and economic viability. Even projects which did not reach either commercial or full technical viability during the lifetime of the LIFE co-funding are thought to have been further developed after project closure.¹²

8 The utility of projects

All in all, projects funded through the LIFE programme between 1996 and 2006 in Luxembourg fall within the 6th EAP priorities and address EU environmental problems and priorities. LIFE Nature projects target species and habitats as specified in Article 6, especially through “*conservation of species and habitats, with special concern to preventing habitat fragmentation*”. **LIFE Environment** projects goals in Luxembourg are in line with Article 5 (Climate change, through *reduction of emissions in the transport sector*), Article 7 (Waste reduction and wastewater treatment).

These priorities are reflected in the “National Plan for Sustainable Development” of 1999 and were included in legislation in 2004, and although without strategic steering at National Level, LIFE Programme is fully compliant with the national priorities of Luxembourg.

All stakeholders interviewed agree that without LIFE funding, projects would have taken place, but on a much smaller scale, and in a far less timely manner. Funding from LIFE is seen as a “quality stamp”, and brings added value to promoters in the development of their projects.

¹¹ Project LIFE96 NAT/L/003195 has a yearly schedule of maintenance for the land purchased under the LIFE Project. No up to date information is available concerning project LIFE99 NAT/L/006284.

¹² Based on interviews with Stakeholders.

Appendix 1 Comprehensive overview of LIFE Projects in Luxembourg

In connection with the ex-post evaluation, data was extracted from the BUTLER database of the LIFE Unit. Table 1 and Table 2 below provide an overview of the information available on each project as well as the LIFE+ theme attached by the evaluation team to the project. The budget figures for LIFE co-financing do not necessarily correspond to the actual payments made.

Table 2 Overview of LIFE Environment Projects in Luxembourg

Id.	Title	LIFE generation	Funding year	Start year	End year	Total budget (EUR)	LIFE co-financing budget (EUR)	Beneficiary type	International partners (yes/no)	LIFE+ theme
LIFE97 ENV/L/000206	Waste management in the field of construction with prevention as a main goal.	LIFE II	1997	1997	2002	996,200	498,100	SME	No	Natural resources and waste
LIFE98 ENV/L/000582	New integrated utilisation of simulation and control softwares for an inexpensive and effective management of wastewater treatment plants.	LIFE II	1998	1998	2003	1,923,515	689,974	Development agency	No	Water
LIFE04 ENV/LU/000829	ZEOLITE	LIFE III	2004	2003	2007	1,712,682	510,942	International enterprise	No	Climate change
LIFE05 ENV/L/000047	New and environmentally friendly OSB panels	LIFE III Extension	2005	2005	2008	1,875,343	417,103	International enterprise	No	Air
LIFE06 ENV/L/000118	Development and validation of ultra low rolling resistance tyre with environmentally friendly resources	LIFE III Extension	2006	2005	2009	12,392,586	3,120,026	International enterprise	No	Climate change
LIFE06 ENV/L/000121	Energy Efficient Building Systems	LIFE III Extension	2006	2005	2009	5,610,087	1,510,026	International enterprise	No	Strategic Approaches

Table 3 Overview of LIFE Nature Projects in Luxembourg

Id.	Title	LIFE generation	Funding year	Start year	End year	Total budget (EUR)	LIFE co-financing (EUR)	Beneficiary type	International partners (yes/no)	Directive (Birds, Habitats) or biodiversity
LIFE96 NAT/L/003195	Conservation of 4 endangered species of amphibians in Luxembourg	LIFE II	1996	1997	2000	259,642	129,821	Public enterprise	No	Habitats
LIFE99 NAT/L/006284	Ecological valorization of the Alzette's upper valley	LIFE II	1999	1999	2006	4,073,882	1,222,165	NGO-Foundation	No	Habitats
LIFE05 NAT/L/000116	Restoration of pearl mussel populations in the Ardennes	LIFE III Extension	2005	2005	2011	2,264,062	1,132,031	NGO-Foundation	No	Habitats

Appendix 2 Summary tables on LIFE Environment projects in Luxembourg

Table 4 Overview of LIFE ENV projects in Luxembourg by year, 1996-2006

Generation	Year	Number of projects	Total budget (EUR million)	Total LIFE co-financing budget (EUR million)	Average duration (years)	Average LIFE funding per project (EUR million)
LIFE II	1996	0	0.0	0.0	0.0	0.0
	1997	1	1.0	0.5	5.0	0.5
	1998	1	1.9	0.7	5.0	0.7
	1999	0	0.0	0.0	0.0	0.0
	Total	2	2.9	1.2	5.0	0.6
LIFE III	2000	0	0.0	0.0	0.0	0.0
	2002	0	0.0	0.0	0.0	0.0
	2003	0	0.0	0.0	0.0	0.0
	2004	1	1.7	0.5	4.0	0.5
	Total	1	2	1	4.0	0.5
LIFE III extension	2005	1	1.9	0.4	3.0	0.4
	2006	2	18.0	4.6	4.0	2.3
	Total	3	19.9	5.0	3.7	1.7
Grand total		6	24.5	6.7	4.2	1.1
Comparative figures for all ENV projects		1,076	1,947.7	615.9	3.3	0.6

Table 5 Overview of LIFE ENV projects in Luxembourg 1996-2006 by theme

LIFE+ theme	No. of projects	In % of total	Total budget (EUR million)	In % of total	LIFE contribution (EUR million)	In % of total
Climate change	2	33%	14.1	58%	3.6	54%
Air	1	17%	1.9	8%	0.4	6%
Water	1	17%	1.9	8%	0.7	10%
Soil	0	0%	0.0	0%	0.0	0%
Forests	0	0%	0.0	0%	0.0	0%
Natural resources and waste	1	17%	1.0	4%	0.5	7%
Chemicals	0	0%	0.0	0%	0.0	0%
Urban environment	0	0%	0.0	0%	0.0	0%
Strategic approaches	1	17%	5.6	23%	1.5	22%
Total	6	100%	24.5	100%	6.7	100%

Table 6 Luxembourg LIFE ENV projects 1996-2006 according to beneficiary type

Beneficiary type	No. of projects	In % of total	Total budget (EUR million)	In % of total	LIFE contribution (EUR million)	In % of total
Public entities						
National authority	0	0%	0.0	0%	0.0	0%
Regional authority	0	0%	0.0	0%	0.0	0%
Local authority	0	0%	0.0	0%	0.0	0%
Development agency	1	17%	1.9	8%	0.7	10%
Intergovernmental body	0	0%	0.0	0%	0.0	0%
Park-reserve authority	0	0%	0.0	0%	0.0	0%
Sub-total	1	17%	1.9	8%	0.7	10%
Public and private enterprises						
International enterprise	4	67%	21.6	88%	5.6	82%
Large enterprise	0	0%	0.0	0%	0.0	0%
SME Small and medium sized enterprise	0	0%	0.0	0%	0.0	0%
Mixed enterprise	0	0%	0.0	0%	0.0	0%
Public enterprise	1	17%	1.0	4%	0.5	7%
Sub-total	5	83%	22.6	92%	6.1	90%
NGOs and research						
NGO-Foundation	0	0%	0.0	0%	0.0	0%
Research institutions	0	0%	0.0	0%	0.0	0%
University	0	0%	0.0	0%	0.0	0%
Training centre	0	0%	0.0	0%	0.0	0%
Sub-total	0	0%	0.0	0%	0.0	0%
None indicated	0	0%	0.0	0%	0.0	0%
Total	6	100%	24.5	100%	6.7	100%

Appendix 3 Summary tables on LIFE Nature projects in Luxembourg

Table 7 Overview of LIFE NAT projects in Luxembourg, 1996-2006

Generation	Year	Number of projects	Total budget (EUR million)	Total LIFE co-financing budget (EUR million)	Average duration (years)	Average LIFE funding per project (EUR million)
LIFE II	1996	1	0.3	0.1	3.0	0.1
	1997	0	0.0	0.0	0.0	0.0
	1998	0	0.0	0.0	0.0	0.0
	1999	1	4.1	1.2	7.0	1.2
	Total	2	4.3	1.4	5.0	0.7
LIFE III	2000	0	0.0	0.0	0.0	0.0
	2002	0	0.0	0.0	0.0	0.0
	2003	0	0.0	0.0	0.0	0.0
	2004	0	0.0	0.0	0.0	0.0
	Total	0	0	0	0.0	0.0
LIFE III extension	2005	1	2.3	1.1	6.0	1.1
	2006	0	0.0	0.0	0.0	0.0
	Total	1	2.3	1.1	6.0	1.1
Grand total		3	6.6	2.5	5.3	0.8
Comparative figures for all NAT projects		771	1,224.1	637.2	4.2	0.8

Table 8 Categories of LIFE NAT projects in Luxembourg, 1996-2006

LIFE NAT themes	No. of projects	In % of total	Total budget (EUR million)	In % of total	LIFE contribution (EUR million)	In % of total
Habitats Directive	3	100%	6.6	100%	2.5	100%
Birds Directive	0	0%	0.0	0%	0.0	0%
Biodiversity projects	0	0%	0.0	0%	0.0	0%
Total	3	100%	6.6	100%	2.5	100%

Table 9 Luxembourg LIFE NAT projects 1996-2006 according to beneficiary type

Beneficiary type	No. of projects	In % of total	Total budget (EUR million)	In % of total	LIFE contribution (EUR million)	In % of total
Public entities						
National authority	0	0%	0.0	0%	0.0	0%
Regional authority	0	0%	0.0	0%	0.0	0%
Local authority	0	0%	0.0	0%	0.0	0%
Development agency	0	0%	0.0	0%	0.0	0%
Intergovernmental body	0	0%	0.0	0%	0.0	0%
Park-reserve authority	0	0%	0.0	0%	0.0	0%
Sub-total	0	0%	0.0	0%	0.0	0%
Public and private enterprises						
International enterprise	0	0%	0.0	0%	0.0	0%
Large enterprise	0	0%	0.0	0%	0.0	0%
SME Small and medium sized enterprise	0	0%	0.0	0%	0.0	0%
Mixed enterprise	1	33%	0.3	4%	0.1	5%
Public enterprise	0	0%	0.0	0%	0.0	0%
Sub-total	1	33%	0.3	4%	0.1	5%
NGOs and research						
NGO-Foundation	2	67%	6.3	96%	2.4	95%
Research institutions	0	0%	0.0	0%	0.0	0%
University	0	0%	0.0	0%	0.0	0%
Training centre	0	0%	0.0	0%	0.0	0%
Sub-total	2	67%	6.3	96%	2.4	95%
None indicated	0	0%	0.0	0%	0.0	0%
Total	3	100%	6.6	100%	2.5	100%