# Sustainable Development Guidelines for developing a project funded by Regio

### **Draft Foreword**

There is no inherent contradiction between regulating for high environmental standards while maintaining economic competitiveness and stimulating wealth creation. On the contrary, any economic policy that sacrifices environmental quality cannot succeed in the long term.

Romania's long-term economic success is dependent upon a healthy environment and the sustainable use of natural resources, which are at the core of long-term economic sustainability.

While increasing the priority is given to economic growth and the creation of new jobs and opportunities, high environmental standards are essential to sustain economic growth and high employment.

Romania's economy depends on the availability of environmental goods and services to provide the basic primary resources for industry; that allows our people to enjoy a healthy environment to work and play in. Those healthy ecosystems also help regulate climate, absorb pollution and regulate floods – another compelling reason to look after them.

Accelerating technological change has driven rapid economic growth but has brought the world's economy, not just Romania's, up against global ecological challenges: energy shortages, climate change and biodiversity losses.

We cannot take these things for granted.

We encourage applicants to use these guidelines as a starting point for improving their projects, to develop innovative solutions to today's challenges and help secure Romania's long term future.

## Introduction

The guide aims to support potential applicants, providing the guidance needed to correctly complete an Application for funding through the Regional Operational Programme 2007-2013, for all priority axes, by respecting the principles of sustainable development.

This brochure is aimed at potential applicants seeking funding from Romania's Regional Operational Programme.

The brochure aims to:

- o Outline the importance of Sustainable Development in the context of the regional development
- o Outline the main environmental issues for Romania in the context of sustainable development
- Outline practical approaches that can help integrate sustainable development principles into the application process and add value to a project.
- Suggest tools for project monitoring and assessment.
- List organisations and resources that can help applicants improve project proposals.

# The legal framework

According to article 17 of European Council Regulation no.1083/2006 regarding general provision for the European Regional Development Fund, European Social Fund and Cohesion Fund, the sustainable development aims must be respected throughout implementation of structural and cohesion funds, both in the programming and in the implementation phases of the operational programmes.

Sustainable development by definition cuts across all spheres of the development process. It is not confined simply to the adherence to environmental law (environment protection is an obligation) or to projects with a strong environmental component (e.g. environmental infrastructure).

Sustainable development principles and priorities are reflected in the key aims of the National Strategic Reference Framework 2007-2013 and in the Regional Operational Programme 2007-2013, both of which are aligned to Romania's draft National Sustainable Development Strategy 2030.

The number of laws that regulate nature conservation, environmental pollution and impact assessment are many. Annex 12 of Regulation 1828/2006 on the description of management and control systems (Sections: Environment and Environmental Impact Assessment) sets out how they will be observed in the context of the ROP.

It states that in the evaluation and selection of projects submitted for financing project compliance with environment legislation shall be verified during the eligibility check. Furthermore, it states that in that case environment rules are not observed, penalties can be enforced on environment protection rules infringements.

# The policy framework

The ROP states that the environmental approach is necessary both to take advantage of the benefits which environmentally driven growth can bring and stimulate sustainable development. This means that the environmental dimension is especially important aiming not only to reduce and minimize the negative effects, but also to maximize the positive effects of the projects financed under different priority axes of the ROP.

The short term strategic objective, Horizon 2013, of Romania's draft National Sustainable Development Strategy (SNDD)<sup>1</sup> is to incorporate the principles and practices of sustainable development in all programmes and public policies.

Relevant objectives from the NSDS include

- meeting current energy demands more efficiently in order to fulfil climate change obligations and observe sustainable development principles
- a transport systems that facilitate safe, fast and efficient movement of persons and goods in accordance with European Union standards
- eco-efficient management of resource consumption and maximisation of resource productivity by promoting sustainable production and consumption patterns
- improving the coverage and quality of environmental infrastructure (both natural and man-made) by providing efficient public services in accordance with the "polluter pays" principle
- improving the state of public health and the performance of the healthcare system by enhancing the structure of the health sector and the quality of medical assistance

<sup>&</sup>lt;sup>1</sup> Awaiting publication in the official journal http://www.mmediu.ro/dezvoltare\_durabila/SNDD.pdf

- tackling poverty and social exclusion, promoting social cohesion, gender equality and cultural diversity
- developing human capital and increase competitiveness by linking education and life-long learning to the labour market
- improving the structure and performance of research, development and innovation

NB This guidance document does not have the value of a legal act, nor does it make applicants exempt from respecting national and European legislation in this field. For any clarifications please contact as appropriate:

- Intermediary Bodies within the Regional Development Agencies for general advice, eligibility criteria, deadlines etc.
- Ministry of Development, Public Works and Housing, the Managing Authority for the ROP for policy advice
- Ministry of Environment and Sustainable Development for environmental legislation and Natura 2000<sup>2</sup>
- Romanian Agency for Energy Conservation for advice on energy efficiency

<sup>&</sup>lt;sup>2</sup> Or the delegated local / regional environmental protection agency

# Why sustainable development is important for regional development

There are compelling reasons to integrate the environmental dimensions into the regional development process:

- Strategic and policy fit there is a fundamental requirement to integrate social and environmental dimensions at all levels of development policy implementation.
- Resource efficiency and effectiveness reducing resource use should deliver cost savings over the life time of investments, and should also insulate and future proof against rising costs of energy.
- Quality of Life and Environmental Quality High value businesses seek a high quality environment for their workers and this in turn can be an important economic driver for regional branding.
- Environmental technology & innovation fostering demand for green technologies will stimulate the creation of "green jobs" and help create a critical mass of skills. Green technology and business is growing at an unprecedented rate.
- Management of environmental risk increasingly the management of environmental risk is an effective way of increasing resilience of government and businesses, reducing non-compliance costs, including remediation and exposure to litigation.
- Environmental partnerships initiatives that have strong support from all stakeholders, including the environmental partners are likely to be more acceptable and therefore sustainable, and will encourage higher funds absorption.

# **Applicants must ensure that:**

- environmental issues have been carefully considered in elaborating and implementing the project, in developing project activities, project management and target group identification.
- the project respects national and community legislation (particularly with regard to Annex 12)<sup>3</sup>
- all project partners respect the same principles as the main applicant

Applicants must also state how the environmental benefits are going to be measured during not just the procurement process and develop stages, but also throughout the life of the project.

Projects must comply with EC Environmental legislation, before they can be funded. This policy seeks to ensure that projects do not have any adverse and unsustainable effects on the environment. Funding may be withheld until the necessary planning certificates have been obtained.

In preparing your application consult a competent environmental authority. The IB can advise on the appropriate body.

For projects that are likely to have significant effects on the environment, EC environmental legislation requires that they be subjected to a formal impact assessment.

For certain project types this assessment is mandatory, but for others a judgement is made as to whether the effects are significant.

Member States are required to give the EC, where appropriate, information about the environmental impact of measures for which funding is sought.

Negative environmental impacts can be related to:

- air quality;
- habitats and wildlife biodiversity;
- water resources;
- transport;
- urban development;
- · energy production/use;
- natural resource use; and,
- · waste.

Any measures that will be taken to minimise the adverse impacts will include specific conditions attached to a planning certificate. If there are no adverse effects this must be stated.

<sup>3</sup> Question 3: Since this guidance we do not need to spell out the mechanics of EIA and N2K, except for basic definitions – this would be a small volume in its own right, a desirable adjunct but that might be requested of the Ministry of Environment.

# What kind of projects may be supported?

The table illustrates environmentally sustainable projects that may be supported.

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Priority Axis 1	Improving urban green space, while making it safer and more accessible; creating community facilities that encourage greener lifestyles e.g. by reducing dependency on the car; developing local facilities that reduce the need to travel; upgrading buildings to make them more energy efficient; utilising existing environmental assets and valorising them e.g. space for urban wildlife; manage urban water runoff.		
	Developing business infrastructure with energy efficiency principles, using alternative energy supplies, rainwater and grey water handling, reusing or recycling materials, landscaping and wildlife, procuring locally and in strategic locations.		
	Developing social infrastructure with energy efficiency principles, using alternative energy supplies, grey water handling, re-using or recycling materials, landscaping and wildlife, procuring locally and in appropriate physical locations.		
Priority Axis 2	Reducing congestion, journey times and unnecessary journeys; helping to make town centres more agreeable, less noisy and less polluted and safer places; while ensuring wetlands and rivers are protected from road runoff and / or suitable mitigation measures, helping to reduce flood risks; landscaping and designing roads to reduce visual impacts and ambient noise levels. Increasing the use of local or reused materials in road construction. Bus lanes, cycle lanes, or appropriately configured "shared space" solutions <sup>4</sup> .		
Priority Axis 3	Developing health care and social services infrastructure with energy efficiency principles, using alternative energy supplies, grey water handling, re-using or recycling materials, landscaping and wildlife, procuring locally and in appropriate locations.		
	Interventions that employ green procurement, encourage energy efficiency or use IT to reduce operational costs, including adoption of green policies, e.g. "travel plans" or environmental management systems.		
	Developing educational infrastructure with energy efficiency principles, using alternative energy supplies, grey water handling, re-using or recycling materials, teleconferencing, landscaping and wildlife, procuring locally and in appropriate physical locations		
Priority Axis 4	Developing business infrastructure with energy efficiency principles, using alternative energy supplies, grey water handling, re-using or recycling materials, teleconferencing, landscaping and wildlife, procuring locally and in appropriate physical locations.		
	Rehabilitating former industrial sites, removing contaminants from the soil and water supplies, improving the image of the area, improving human health and safety, making them more desirable for the public and business, incorporating wetland and water course management, landscaping and wildlife management. Innovative bioremediation techniques.		
	Support for micro-enterprises that provide environmental benefits (as above). Incubator units that stimulate environmental technology companies or environmental services and / or create mutually supportive business environments that foster new collaborations. Projects that wish to improve production facilities (e.g. to manage their waste streams) or who are reliant on energy inefficient and costly processes could benefit. Companies wishing to green their supply chain.		
Priority Axis 5	Development of cultural assets, man-made or natural. Environmentally sensitive or advanced design that incorporates equal opportunities. When developing environmentally sensitive natural assets, mitigation measures to manage the predicted increases in tourism numbers (e.g.		

<sup>4</sup> More information on the Shared Space European project part financed by Interreg / http://www.shared-space.org/ and http://en.wikipedia.org/wiki/Shared\_space

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	waste water management using reedbeds ra	ther than connecting to a distant / remote sewe	er network).
	The development of a domestic tourism, and	environment friendly tourism. Branding Roma	nia's high quality natural and cultural assets.

# How to integrate environment into a project

### Integrating sustainable development in the project lifecycle

This Guide follows project activity through different parts of a project life-cycle and shows practical ways that sustainable development considerations can be built into projects.

Not all of the suggestions will be relevant or practical for every project, but the suggested actions should allow the project proponents to decide if the activity might be relevant to their project, to their organisation, to their target group(s), and to their style of partnership working. It is important to tailor the suggestions to individual projects.

Mainstreaming environmental issues is relevant to all projects, not just environmental projects. All projects will benefit from developing a deeper understanding of the environmental dimension of the proposed intervention.

There are opportunities to address environmental issues in all stages of the project lifecycle – from project design, to evaluation.

## Project Lifecycle

### **Developing and designing the project**

#### **Needs Analysis and Establishing Baseline Data**

- You will need to demonstrate a systematic approach to the environmental dimension and questions in the application form, so gathering relevant environmental information and data early on is helpful.
- You can use the environmental profile and/or the Strategic Environmental Assessment associated with the ROP as a starting point, but do not rely on it exclusively and support your application with your own research findings as appropriate.
- Consider engaging an appropriate environmental expert to advise on integration issues.
- Identify relevant environmental stakeholders, including academics, NGOs and other groups, both national and local they may be able to provide useful information and data and evidence of need.
- If you need to collect data in support of your application, ensure it is as up to date as possible and it is properly referenced. Consider carefully whether it forms part of your additional information, but avoid including irrelevant data and statistics for the sake of it.
- It is most likely that you will require a mix of qualitative (this could include observational data or people surveys) and quantitative information (statistical summaries).
- Environmental baseline data may be useful firstly to demonstrate "evidence of need" and secondly to help measure project impact, and therefore useful for later project monitoring and evaluation.
- · Use impact matrices to assess the positive and negative effects of your project

#### **Regulations and Legislation**

- Approach relevant state agencies for information
- Make sure project activity conforms with regulations and legislation on environment. Keep in mind that obtaining the Natura 2000 permit is a must for all projects that receive EC funding
- Consider 'future-proofing' your project environment legislation will continue to be strengthened at EU and Member State level and a project which goes beyond the present minimum legal requirements may save time and money in the future by anticipating future requirements

#### **Involving Environmental Stakeholders & Groups**

- Stakeholder involvement can be useful for many reasons:
  - obtaining new information and data,
  - obtaining different perspectives on the project's impacts,
  - o generating new and effective ideas for improving the environmental dimension and the project's overall design
- Consider how to collect user / beneficiary survey information
- Consider whether the project or aspects of it might be delivered in partnership to increase chances of a successful outcome

#### **Preparing Project Proposal and Delivery Plan**

- If the environmental dimension is a significant, remember to include a non-technical summary and avoid unnecessary jargon
- Include explicit environmental targets
- Explain how you involved environmental stakeholder groups in the design and whether they will be involved in the implementation
- Explain how you will measure the environmental impact
- · Consider whether environmental interest groups may be involved in a project steering committee or an environmental advisor may be co-opted to assist
- Include dissemination of good environmental practice as part of the project proposal

### **Delivering the project**

### **Working in Partnership**

- Even if your project does not involve an environmental partner financially there can be benefit in involving them in delivery, e.g. in an advisory or a project steering committee role
- Projects conceived and delivered in partnership may be more acceptable to other stakeholders, the public and funding bodies

#### **Check list for working with Contractors**

- The project should issue a statement of expectations and specify delivery requirements as part of procurement process, and monitor the performance of the successful contractor
- Does the contractor have an environmental policy, environmental management system, or environmental accreditation?
- If it does not have accreditation, is there information that allows you to audit the company's performance e.g. an annual environmental report?
- Have you included an environmental audit as part of the tendering process or set minimum standards?
- Will you specify environmental conditions in any part of the contract documentation?
- Have you set out how you will monitor compliance by the successful contractor?
- Have you specified that these conditions apply to sub-contractors?

#### Developing an environmental policy

If your own organisation has an environmental policy or an environmental management system, accredited or otherwise **or** is working towards this, this may be taken into account.

An Environmental Policy is a written statement that outlines objectives, targets and management procedures for dealing with environmental issues.

An environmental management system (EMS) guides processes for dealing systematically with environmental issues.

Whilst having an environmental policy is voluntary, and the structure and content are not regulated, organisations may obtain certification to a formal EMS, including ISO14001 and EMAS, the environmental policy is a vital document for implementation.

### Greening the supply chain

Identify which suppliers and their products and services have the highest environmental impacts e.g. consuming large amounts of natural resources or potentially polluting the environment.

Review environmental reports from your suppliers and see if and how they are improving their environmental performance.

See how your suppliers are rated by organisations that produce ratings and rankings of how green companies are.

Ask whether your suppliers could produce the same products or services with less resources, less wastage, and less pollution (sell this to them an opportunity to save both parties money and improve profitability).

Work in partnership with them, but If they don't give you with what you want, switch to a new supplier that produces products and services in an environment friendly way.

Look for suppliers that have environmental management systems or who have products and services that come from sustainable sources, that encourage take-back, re-use and recycling of their products.

# Increasing the sustainability of projects

The following tables list the different ways that project designers & developers can improve the sustainability of their projects.

Some useful principles recur, and apply more broadly, such as the waste hierarchy and the energy hierarchy.

Although the focus here is mainly on infrastructure projects, for these have the greatest potential for negative and positive impacts, many of the principles apply generally.

The suggested measures are intended as a starting point during the exploratory stage of project development and while the list is quite broad, it is by no means intended to be definitive and can be built on.

There are now many good quality online resources with cases studies and more specific advice in almost every area of intervention. These resources are improving all the time with new resources coming online regularly.

These resources and links are highlighted at the end of the brochure.

# Increasing the sustainability of transport development projects

Topic	Issue	Mitigation and management measures
Promote sustainable transport Encourage modal shift	Whether considering enhancement of ring roads, county of urban networks there is an important need to consider modal shift – i.e. strategies for encouraging the development and acceptance use of different forms of transport  At a policy level this can be done by directing the integration of urban transport, particularly rail and bus services through appropriate appraisal processes	Projects can:  examine and model impacts of development in the context of policies to reduce road patronage  develop community transport solutions or investment to promote walking and cycling (not just for recreation)  develop awareness raising campaigns, e.g. that break down attitudinal barriers that prevent people using other modes  develop innovative exemplars / model schemes of best
Promote sustainable transport Physical transport links	Construct new physical links with other transport services/routes:	<ul> <li>practice in sustainable transport solutions</li> <li>Projects can:</li> <li>construct new physical links between transport services and routes that currently do not exist e.g. safe / secure walkways between rail stations and bus stations.</li> <li>provide quick and efficient bus link, if distances between links are too great,</li> <li>improve public transport links to a region's sea and river ferry terminals</li> <li>develop park and ride schemes to reduce inner-city congestion (out-of-town parking &amp; fast bus city centre links)</li> <li>modal interchanges</li> <li>bus lanes</li> <li>cycle lanes</li> </ul>
Promote sustainable transport Widen awareness	Promote awareness of existing public transport options:	Projects can:  utilise public transport links that <u>already</u> exist in the region, but are under-utilised, e.g. due to a lack of

Topic	Issue	Mitigation and management measures
		awareness or poor integration     actively increase the level of awareness of potential public transport options, e.g. by working with businesses and local authorities to provide staff and public with a travel information serving that location
Promote sustainable transport Widen access to transport information	Develop and promote integrated transport: Integrated transport systems can significantly increase the use of more environmentally sustainable transport modes.	<ul> <li>Projects can adopt practical measures to:</li> <li>display all public transport options in one place, possibly highlighting useful links between the different services.</li> <li>integrate real-time transport information available at stations/bus-stops or on the internet can provide up-to-date and accurate information on all current public transport options</li> <li>develop electronic tickets and card systems that enable travellers to use any public transport service in the region without having to buy multiple tickets.</li> <li>provide secure, accessible cycle lockers in train and bus stations for travellers switching between the cycle and the train/bus modes</li> </ul>
Reduce environmental risk:  Reduce GHG emissions & Energy use	Reducing emissions of greenhouse gases by modal shift doesn't remove the need for fuel substitution	<ul> <li>Projects can:</li> <li>encourage the use of more environmentally sustainable fuels</li> <li>encourage use of public transport system, generally more environmentally sustainable than private car transport,</li> <li>'green' fuels such as bio-gas and bio-diesel may be used, must be from sustainable sources (consider the impacts of biofuel on food production in developing countries and oil palm plantations encouraging rainforest deforestation).</li> <li>Reduced carbon fuels such as Liquid Petroleum Gas (LPG) can be preferable over standard fuels.</li> <li>use solar or wind power for certain traffic monitoring</li> </ul>

Topic	Issue	Mitigation and management measures
		installations In conclusion, projects should aim to use the 'energy hierarchy':
Promote resource efficiency	Increasing the resource efficiency of the project can result in significant economic savings for the project and sponsor, while decreasing the projects' contribution to waste problems.  Using re-used/recycled and local sustainable materials will increase market demand, and generate demand for the environmental business sector.	Projects should always aim to follow the 'waste hierarchy':  Reduce the amount of waste produced;  Reuse materials and products wherever possible;  Recycle materials and products wherever possible;  Compost or recover energy from segregated residual renewable materials.  If none of the above is appropriate, waste must be disposed of according to best environmental practice.
	Maximise resource efficiency:	<ul> <li>Projects can maximise resource efficiency:</li> <li>to bring economic savings.</li> <li>by using an Environmental Management Systems (EMS)</li> <li>sponsors adopt a formal environmental management system (EMS)* - ISO14001</li> <li>by minimising unnecessary use of raw materials</li> <li>producing a site waste management plan.<sup>5</sup></li> </ul>

<sup>&</sup>lt;sup>5</sup> A statutory requirement during for construction projects over €300,000 in some countries

Topic	Issue	Mitigation and management measures
	Maximise use of reused and recycled materials:  Projects can make a +ve impact by reducing waste to landfill; and they can reduce the need to produce new materials thereby saving energy and natural resources.  Recycled aggregates include concrete aggregate that can be used in:  (i) paved roads as aggregate base, aggregate subbase, and shoulders,  (ii) as a base for building foundations	Projects can  use secondary and recycled resources in construction wherever possible.  where reused materials are not available, recycled material sources should be explored.  explicit targets for the percentage of secondary materials used in construction could be adopted and monitored by the project sponsor <sup>6</sup>
	Maximise use of local sustainable materials:	If use of reused or recycled materials is not practical     materials should be sourced as locally and sustainably as possible
Promote sustainable management of the land, inland waters, sea	High environmental standards creates opportunities for economic and social gains.  As well as being important for regional branding and tourism, a high quality and attractive environment will play a key role in attracting and retaining people to live and work.  Developments in areas that avoid sensitive biodiversity, such as in protected areas have a higher chance of being supported.	Projects must      conform to the MAROP's applicant's guidelines for Natura 2000      adhere to the EIA requirements  Over and above these requirements, benefits include:      Retaining and promoting on-site biodiversity as far as possible      Opportunities for the creation of new wildlife habitats onsite or around routes can be maximised, particularly for sensitive species that may be displaced as a result of the

<sup>&</sup>lt;sup>6</sup> In some countries the demand for aggregates is sufficiently high that minimum standards for recycled content: at least 10% of the total value of materials used have to derive from recycled and reused sources. Also projects should aim to supply at least 25% of aggregates used from secondary or recycled sources.

Topic	Issue	Mitigation and management measures
		development.
	Water course pollution risks can increase as a result of road developments	Projects can:  • reduce the risk of concentrating runoff to rivers and water bodies by using SUDS technologies <sup>7</sup> • take particular care in developments around intensive agricultural livestock holdings
	Wildlife habitats are already highly fragmented, further fragmentation can reduce the viability of fragile ecosystems	Projects can  avoid breaking up natural habitats  leave natural corridors or create new ones for species to cross / migrate
	Draining wetlands will result in a reduction in biodiversity and a deterioration of natural ecosystem and hydrological services avoid	Projects can
Improve the local built environment, landscape and to access green space and biodiversity	Plan for maximum integration of the development with the existing surrounding community:	<ul> <li>The project can be designed:</li> <li>for maximum integration of the development into the surrounding community.</li> <li>provide good aesthetic and physical links with surrounding areas.</li> <li>on-site pedestrian and cycle routes integrate with the wider networks of the area, with new physical links created across the community if possible.</li> <li>surrounding communities are involved in the design and</li> </ul>

<sup>7</sup> Sustainable urban drainage systems: <a href="http://en.wikipedia.org/wiki/Sustainable urban drainage systems">http://en.wikipedia.org/wiki/Sustainable urban drainage systems</a>

Topic	Issue	Mitigation and management measures
		aims of the development.
	Provide a pleasant public areas that are in tune with the community	Projects can create:  green spaces utilising native species  should be part of an overall aim to provide a pleasant and safe public areas for the community  sensitive landscaping can help reduce the visual impact of a road development  trees may also be used to reduce noise levels appropriate importance should be given for pedestrians and cyclists and avoiding or managing increasing traffic flows and speeds that may make roads less suitable for pedestrians and cyclists  lighting should be provided provide a safe environment, designed to minimise light pollution and unnecessary energy use
	Rights of way	<ul> <li>The development may affect existing rights of way, consider the design redesign to respect them</li> <li>Visual screening, underpaths, traffic lights, safe crossing points</li> </ul>
	Road neighbours	As well as visual impacts there are noise impacts     visual screening of properties by landscape planting of trees, shrubs and hedges     low noise surfacing and noise screening with fences and mounding as appropriate
Reduce environmental risk:	Develop a Site Environmental Management Plan:	Projects can develop:  • Site Environmental Management Plan which sets out

Topic	Issue	Mitigation and management measures
Managing waste and pollution		procedures to be followed during site and route preparation, construction and operation.  commitments to environmental protection, perhaps made by the developer during the planning process; and  consultation / liaison arrangements with the local community.
	Follow environmental best practice in any site remediation:	Projects can ensure:  that any contaminated soils and materials removed from the site are treated and disposed of in line with current legislation and environmental best practice;  take responsibility for waste.
	Install pollution prevention measures:	Projects can introduce:  Measures to decreasing flood risk  Sustainable Drainage Systems (SUDS) on new transport routes where appropriate.
	Follow best environmental practice in the disposal of wastes:	Projects can:  take additional measures to dispose of materials that exceed current legislation, where they cannot be reused, recycled or used in energy recover  Develop a Duty of Care standard that exceed legal requirements.
	Local Air Quality	Actions intended to improve road networks may increase traffic.  Measures that can be included:  o improving driving conditions and journey efficiency

Topic	Issue	Mitigation and management measures
		o appropriate traffic management measures

## Increasing the sustainability of infrastructure & construction projects

While construction projects have great potential for negative environmental impacts, they also present significant opportunities. Projects that adopt innovative ways of delivering economic, social and environmental benefits will be more sustainable. Projects that directly contribute to programme objectives and performance indicators are likely to contribute to the sustainability of the programme.

Good quality proposals will consider environmental issues in 3 stages: Design and materials selection stage, Construction stage, Operational stage.

Topic	Issue	Mitigation or management measures
Best Practice Design Introduce innovative solutions	New builds present significant opportunities for incorporating best practice designs.  These can help deliver the over-arching sustainable development programme aims.	Projects can:      adopt a energy efficiency hierarchy     adopt a waste hierarchy     adopt flexible building use principles including         o design for recycling         o life cycle analysis         o design e.g. moveable partition walls     adopt green building standards, e.g. LEEP / BREEAM     procure locally sustainable materials     share energy generation infrastructure – district heating, Combined Heat and Power
Best Practice Design  Maximise Brownfield site development before using a Greenfield	The apparent benefits of a clean green field site may be outweighed by  • the need to install all the services (e.g. roads, water, sewerage), a  • increases in traffic related impacts  • on site environmental impacts  • cumulative impacts of greenfield expansion	Projects on Brownfield sites can:
Best Practice Design Increase selection of	Choosing the correct materials can have a significant impact on the upstream environment impacts (extraction, processing and transport impacts) as well as downstream (durability, end of life	Projects can:  use materials that reduce the costs of extraction,

Topic	Issue	Mitigation or management measures
Best Practice Design Introduce sustainable urban drainage systems (SUDS)  Best Practice Design Encourage process-based remediation of contaminated land	potential uses, recyclability)  SUDS help manage rainwater and surface water runoff so it soaks into the ground close to the point where it falls.  They are an alternative to sometimes more expensive pipe drainage systems.  Benefits include reduced flooding, reducing pollution, conserving water resources and creating wildlife habitat.  SuDS are a series of flexible solutions that allow designers to select options that best suit the circumstances of any development, especially at the early design stage.  Process-based solutions are preferred because they aim to properly remove the risks and the associated future liabilities, that 'traditional' engineering techniques (extract & dump or encapsulate) tend to transfer or delay dealing with.  These technologies provide high-value, technically innovative solutions to contamination problems.	transport, and processing  • re-use or recycle the materials on site  • use bio / animal products as a substitute for insulation materials  • use certified products, such as wood products from Forestry Stewardship Council (FSC) labelled forests  Projects can:  • use permeable hard and soft surfaces, such as block and sand, gravel and 'grasscrete' to reduce runoff.  • install Green or Brown Roofs comprising a growing medium plus grasses, Sedums etc  • infiltration trenches and basins – excavations that have been back-filled with stone to create underground reservoirs that gradually infiltrate into the subsoil  • Retention ponds - where large non-permeable hard surfaces are unavoidable, such as substantial road provision.  Projects can use in combination:  • Bioremediation to treat the contamination in situ - introducing microbes the soil for the treatment of hydrocarbon (oil) contamination  • Bioventing or aerating to encourage biodegradation of contaminants above the water table.  • Biosparging or aerating groundwater by injecting air.
Promote resource	Before disposal of old existing building and any associated	Injection and recovery whereby the bio reactions are undertaken by pumping groundwater out of the site, treating it and then re-injecting it.  Projects can:
efficiency  Minimise waste generation	equipment consider it's re-use.  Consider then the reuse on or offsite and then the recovery of materials for recycling.	adopt a waste hierarchy:     Reduce the amount of waste produced;

Topic	Issue	Mitigation or management measures
	For example, recycled aggregates can be used in:	Reuse materials and products wherever possible;
	(iii) paved roads as aggregate base, aggregate subbase, and shoulders,	<ul> <li>Recycle materials and products wherever possible;</li> <li>Compost or recover energy from segregated</li> </ul>
	(iv) as a base for building foundations,	residual renewable materials.
	as fill for utility trenches and so on.	re-use or recycle old building materials
	Then consider waste streams associated with the build.	show how waste streams are going to be managed into the future
	Finally there is the waste stream associated with operation and management of the building.	consider "waste to energy" infrastructure
Promote resource efficiency	New builds are likely to offer considerable opportunities for increasing energy efficiency of the building operation, but only if	Projects can:
Increase Energy Efficiency	part of the design process.	adopt an energy efficiency hierarchy:
3,7	Refurbishing old buildings can produce similar benefits if thermal	Use less energy;
	efficiency can also be improved.	Use energy efficiently;
	Energy efficient electrical equipment used appropriately in the building is another important consideration.	Use renewable energy.
		use higher standards of insulation than required by law
		adopt thermal mass to increase heat exchange in summer and in winter
		employ natural ventilation and cooling
		<ul> <li>if needed, fit forced air systems that use same ducts for conditioning, and filtering as for heating.</li> </ul>
		specify radiant floor heating for comfort and efficiency
		ensure cross ventilation, and operable windows
		explore energy recovery HVAC systems
		specify thermostatic control systems
		specify energy monitors / management systems to help manage energy use – more useful in re-used buildings
Promote resource	Building water conservation features into the design specification can bring about reductions in the building operating costs as well	Projects can use

Topic	Issue	Mitigation or management measures
efficiency Maximise Water conservation	as having beneficial environmental consequences	<ul> <li>in non domestic installations         <ul> <li>e.g. washroom control systems for the non-domestic market save up to 40% reduction in water usage)</li> </ul> </li> <li>In domestic installations:         <ul> <li>low flow appliances such as supply restrictor valves,</li> <li>low flow showerheads, spray taps and dual flush toilets.</li> </ul> </li> <li>captured rainwater:         <ul> <li>roof run-off water is collected to reduce 'peak-flow' surface water run-off and provide water for non-potable uses</li> <li>grey water recycling by re-using the water used in washing for toilet flushing</li> </ul> </li> </ul>
Promote sustainable transport	The location of the site must be considered here. Questions include:  Will it increase or decrease the amount of travelling necessary for staff, customers and suppliers?  Is the site near existing residential & commercial areas?  Will it be served by good public transport?	<ul> <li>Projects can:</li> <li>locate development to reduce travel impacts</li> <li>develop a "Travel Plan"</li> <li>car sharing schemes,</li> <li>provide information on public transport options,</li> <li>provide facilities for safe cycle parking</li> <li>changing/shower facilities to encourage cycling and walking.</li> <li>maximise ICT to reduce travel need (video-conferencing and home working)</li> </ul>
Awareness Encourage responsible behaviour	The people that run the building and work in it are not normally connected in any way with those that designed and built it So, can the project have a lasting impact on people's behaviour towards the environment?	One effective way is publish user manuals for buildings to include: transport options, recycling provisions, facilities for cyclists, energy management, adoption of environmental management systems
Reduce pollution and other environmental risks	Develop a Site Environmental Management Plan:	Projects can develop:  • Site Environmental Management Plans that set out procedures to be followed during site and route

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		[100, 50, 50, 110, 110, 110, 110, 110, 11
Topic	Issue	Mitigation or management measures
		<ul> <li>preparation, construction and operation.</li> <li>commitments to environmental protection, perhaps made by the developer during the planning process; and</li> <li>consultation / liaison arrangements with the local community.</li> </ul>
	Follow environmental best practice in any site remediation:	Projects can ensure:  that any contaminated soils and materials removed from the site are treated and disposed of in line with current legislation and environmental best practice;  take responsibility for waste.
	Install pollution prevention measures:	Projects can introduce:  Measures to decreasing flood risk  Sustainable Drainage Systems (SUDS) on new transport routes where appropriate.
	Follow best environmental practice in the disposal of wastes:	Projects can:  take additional measures to dispose of materials that exceed current legislation, where they cannot be reused, recycled or used in energy recover  Develop a Duty of Care standard that exceed legal requirements.
	In reducing exposure to natural risks National Building Standards will have to be adhered to.  Developments in low lying flood plains are at greater risk due to unseasonal weather and flooding – see above.	Projects can:  • incorporate and exceed national building standards  • avoid flood plain locations  • utilise Sustainable Urban Drainage Systems

Topic	Issue	Mitigation or management measures
Wise use of land and water  Promote sustainable management of the land, inland waters, sea	High environmental standards creates opportunities for economic and social gains.  As well as being important for regional branding and tourism, a high quality and attractive environment will play a key role in attracting and retaining people to live and work.  Developments in areas that avoid sensitive biodiversity, such as in protected areas have a higher chance of being supported.	Projects must  conform to the MAROP's applicant's guidelines for Natura 2000  adhere to the EIA requirements  Over and above these requirements, benefitr include:  Retaining and promoting on-site biodiversity as far as possible  Opportunities for the creation of new wildlife habitats onsite or around routes can be maximised, particularly for sensitive species that may be displaced as a result of the development.
Improve the local built environment, landscape and to access green space and biodiversity	Plan for maximum integration of the development with the existing surrounding community:	<ul> <li>The project can be designed:</li> <li>for maximum integration of the development into the surrounding community.</li> <li>provide good aesthetic and physical links with surrounding areas.</li> <li>on-site pedestrian and cycle routes integrate with the wider networks of the area, with new physical links created across the community if possible.</li> <li>surrounding communities are involved in the design and aims of the development.</li> </ul>
	Provide a pleasant public areas that are in tune with the community	Projects can create:  • green spaces utilising native species  • should be part of an overall aim to provide a pleasant and safe public areas for the community  • sensitive landscaping can help reduce the visual impact of a road development

Topic	Issue	Mitigation or management measures
		<ul> <li>trees may also be used to reduce noise levels appropriate importance should be given for pedestrians and cyclists and avoiding or managing increasing traffic flows and speeds that may make roads less suitable for pedestrians and cyclists</li> <li>lighting should be provided provide a safe environment, designed to minimise light pollution and unnecessary energy use</li> </ul>
Reducing GHGs and managing climate change impacts	GHG emissions are likely in both the build and then the ongoing use of any new or rehabilitated infrastructure.  Importantly adapting to potential climate change impacts (e.g. flood risk) should be considered.  Other air quality considerations can be into the project too.	<ul> <li>Projects can:</li> <li>incorporate "carbon neutral" or "low carbon" building design criteria</li> <li>increase the thermal efficiency of the building to reduce the future carbon impacts and reduce running costs (see also above)</li> <li>fit out buildings with energy efficient equipment and cooling / heating systems</li> <li>locate premises in low flood risk areas</li> <li>use SUDS (e.g. porous road, pavement and parking surfaces) to mitigate the impacts of rainwater runoff</li> <li>use site characteristics and topology to optimise passive solar gain and protect from wind</li> <li>generate energy using renewable technologies or using a neighbour's waste stream, e.g. as part of an "energy park concept"</li> </ul>

# Increasing the sustainability of business development projects

The traditional focus for business development projects is the creation of appropriate physical infrastructure, advice support services, and the growth of human capital to drive business formation, attract investment, encourage innovation / diversification, and create jobs.

Improving the environmental performance of those organisations is also important, but sustainable business development can be much more. Business development projects and measures might include:

Topic	Issue	Mitigation or management measures
Adopt environmental management practices	Businesses that manage their environmental issues well can reduce the exposure to a range of business risks, including litigation, reputational risk and the increasingly higher costs associated with environmentally unfriendly business practices.  Competitive advantage can be gained from having a good reputation for corporate social responsibility.  Public procurement bodies and foreign companies and investors will often demand high environmental and ethical standards.	Projects can:  start by developing environmental policies for their organisation  adopt formal environmental management systems (EMS)  seek certification e.g. ISO14001 or EMAS  vet suppliers for their environmental performance  specify green standards in the procurement process  use only recycled paper  use ICT to reduce waste and unnecessary journeys, e.g. tele-conferencing  encourage / specify local sourcing  use sustainable certification schemes governing e.g. organic food production and wood products (Forestry Stewardship Council)
Encourage green marketing	Providing expertise and co-ordinated campaigns for specific sectors (e.g. to promote local or regional or environmentally certified goods and services in tourism and food and drink sectors).	Projects can:  develop marketing initiatives that promote a healthy environment for branding  encourage local purchasing
Develop environmental	Developing the environmental technology sector (e.g. renewable energy, pollution control, sustainable water	Projects can:

Topic	Issue	Mitigation or management measures
services and technology	management, to wildlife management services)	provide support for specific environment sector organisations with potential for high growth or that are not yet present.
		Sectors could include:
		energy audits
		<ul> <li>helping to develop environment policy, adopt EMS and related services,</li> </ul>
		waste management,
		renewable energies,
		sustainable land management,
		<ul> <li>woodlands and agricultural processing,</li> </ul>
		cultural and natural heritage services / management
Promote efficient use of	Improvements in resource efficiency can also help businesses reduce costs and can help to improve the bottom line.	Projects can:
resources: energy efficiency and water conservation		<ul> <li>retrofit or reprogram integrated climate control systems (HVAC)</li> </ul>
		install of energy management and monitoring equipment
		<ul> <li>use energy efficient office equipment and servers (e.g. Energy Star compliant)</li> </ul>
		<ul> <li>purchase EU energy labelled appliances in kitchens and communal areas</li> </ul>
		<ul> <li>develop recycling initiatives not just at company level, but at a business unit / park level</li> </ul>
		promote company awareness initiatives that highlight cost savings and wider benefits
Promote sustainable	The increase in people using the car to get to work has been	Projects can provide / encourage:
transport	rising dramatically in the last decade	car sharing schemes
	In most European cities this trend is not sustainable	facilities for cycles

Topic	Issue	Mitigation or management measures
		<ul> <li>making sure there are public transport connections</li> <li>flexible working and home working enabled by technology</li> </ul>
		<ul> <li>green fleet management (alternative fuels, hybrid cars, specification cars)</li> </ul>

# **Monitoring the project**

#### **Measuring project impact**

- Collect a range of information to monitor performance against the project's environmental objectives, targets and indicators
- Be prepared to develop organisational systems that are appropriate and sufficient for the task. The monitoring of project progress and performance againsts the sustainable development aims is an important part of the project cycle.
- Build environmental performance measures and measurement into the regular management of the project

#### **Stakeholders**

• If stakeholders are affected by project environmental outcomes, or awareness raising is included, evaluate the impacts using surveys or focus groups

#### **Evaluation**

- Collect qualitative as well as quantitative information
- Assess whether project partners, suppliers and contractors understand their responsibilities

#### **Setting targets**

Set targets that are specifically related to environmental sustainability and that are: Specific, Measurable, Achievable, Realistic, and Time-bound<sup>8</sup>.

Targets should be achievable but ambitious enough to show progress from the baseline position.

### **Project Indicators**

Examine the programme indicators, including the environment ones, and build relevant ones into your project.

An indicative list of project indicators ordered by priority is enclosed here.

Do not feel constrained by this list, and look at indicators from other priorities.

Your project has a higher chance of success if it can show a good selection and robust performance measures.

<sup>&</sup>lt;sup>8</sup> http://en.wikipedia.org/wiki/SMART (project management)

## A glossary of terms

Explanations of some the programming terms that you may encounter follow, with suggestions that should help applicants improve applications for funding:

Environmental integration: is about treating the environment as an equal component alongside the social and economic issues. The ROP is prepared in this way with KAIs developed with direct and indirection environmental interventions in mind. Applicants should respect this concept when preparing their applications for funding. A proposal is likely to be looked at positively if the environmental and social dimensions are well-integrated into the proposal rather than confined to the specific section in the application form.

Vertical integration: environmental concerns are the primary objective of a KAI. For example KAI 4.2 is about the remediation of polluted industrial sites. The activities here will deliver measurable environmental improvements but also create the conditions for subsequent economic and social activity. Even if the primary aim of a project is an environmental improvement, note that the maximum benefits may not be achieved without some behavioural changes (e.g. a good example here is that providing cycling lanes on its own does not guarantee that they will be used, there needs to be a package of measures).

Horizontal integration: here the KAI is primarily concerned with a social or economic intervention. For example KAI 3.2 is concerned with the modernisation of social services infrastructure, but nevertheless environmental concerns must feature as an integral part of the intervention, e.g. by using energy efficiency measures, the

adoption of an environmental policy by the applicant body, or a commitment to green the whole procurement process.

Environmental profile: describes the state of the environment in your region in your programme area. It also analyses the interactions between the proposed interventions and the environment, which should help applicants identify potential impacts and opportunities. Applicants may use the information in the profile or add to it in order to justify their applications.

Mainstreaming: refers to the horizontal programme policy toolkit for integrating sustainability and equal opportunities into every aspect of programme management and its delivery. Without policy tools, and legislation, for mainstreaming, the chances of good integration are very much reduced.

Strategic Environmental Assessment or SEA: a tool to identify potential environmental impacts of large scale interventions, policies and plans and a legal requirement. By identifying potential interactions of the regional programme interventions with the environment modifications to the scope of it were made.

Environmental Impact Assessment EIA: A legal requirement for a wide range of infrastructure and other projects that meet a threshold by virtue of

their size, the process involved or the potential environmental impact.

Travel Plan: a package of actions to encourage safe, healthy and sustainable travel options for the workplace. Travel Plans help to improve employee health, reduce car parking requirements, contribute to reduced congestion, enhance the community, and the environment. http://en.wikipedia.org/wiki/Travel\_plan

Shared space: a traffic engineering concept involving the removal of the traditional separation between motor vehicles and pedestrians and other road users, including the removal of traditional road priority management devices such as kerbs, lines, signs and signals. The reasoning is that it can result in improved road safety by forcing users to negotiate shared areas at appropriate speeds and with due consideration for the other users of the space.

Environmental indicators: As well as programme indicators for each priority, there are a number of environmental indicators which help to measure and evaluate the positive contributions to the programme (it's environmental performance).

Natura 2000: is an ecological network of protected areas in the territory of the European Union. The legislation protects habitats and species across Europe. The EU Habitats Directive and complements the Birds Directive. These two Directives are the basis of the creation of the Natura 2000 network.

The Birds Directive requires the establishment of Special Protection Areas (SPAs) for birds. The

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Habitats Directive similarly requires Special Areas of Conservation (SACs) to be designated for other species, and for habitats.

Together, SPAs and SACs make up the Natura 2000 network of protected areas.

### Useful information sources9

#### Case study databases

Regional Innovation Projects: Case Studies

http://ec.europa.eu/regional policy/cooperation/interregional/ecochange/studies en.cfm?nmenu=5

Sustainable transport

http://www.idea.gov.uk/idk/core/page.do?pageId=81097

http://ieea.erba.hu/ieea/page/Page.jsp?op=project\_list&searchtype=3

Green energy

http://ec.europa.eu/energy/intelligent/projects/index en.htm

### **ERDF** projects:

Linking sustainable development to regional development

http://www.sepa.org.uk/publications/technical/struc funds/index.htm

Greening projects for growth and jobs (GRDP).

http://www.interreg3c.net/sixcms/media.php/5/Greening+Projects+for+Growth+and+Jobs+(GRDP).pdf

Beyond compliance: how regions can help build a sustainable europe

http://www.environment-agency.gov.uk/commondata/acrobat/grdp toolkitenglish 1739735.pdf?referrer=/grdp/

Environment, economic growth and competitiveness

http://www.landuse.co.uk/London/Projects/pr Environment.php

### **Buildings related:**

Romania Green Building Council

http://rogbc.wordpress.com/

London Sustainability Checklist

<sup>&</sup>lt;sup>9</sup> We need to enhance this section with some national resources, suggestions welcome.

http://www.londonchecklist.co.uk/checklist

Energy Performance for Buildings Directive (EPBD)

http://www.buildingsplatform.eu/cms/index.php?id=7

### **Energy Efficiency**

The Romanian Agency for Energy Conservation

http://www.arceonline.ro

### **International Sustainable Buildings standards**

Standards and tools to help implement EPBD

http://www.buildingsplatform.eu/cms/index.php?id=24

**BREEAM** 

http://www.breeam.org/

BRE

http://www.bre.co.uk/

LEED

http://www.usgbc.org/leed/

### Sustainable development in Romania

http://www.mmediu.ro/dezvoltare\_durabila.htm

http://strategia.ncsd.ro/

### Sustainable urban development

 $\underline{http://www.mmediu.ro/departament\_mediu/schimbari\_climatice/strategia.pdf}$ 

http://ec.europa.eu/environment/urban/thematic\_strategy.htm

### **National Environmental Protection Agency**

http://www.anpm.ro/content.aspx?id=26

Natura 2000

http://www.natura2000.ro

#### **Selected National Laws**

Ordin nr. 1338/2008, din 23/10/2008, privind procedura de emitere a avizului Natura 2000

Evaluare impact asupra mediului (EIM) a proiectelor - Acord de mediu

- HG nr. 1213 din 6 septembrie 2006 privind stabilirea procedurii-cadru de evaluare a impactului asupra mediului pentru anumite proiecte publice si private
- ORDINUL nr. 860 din 26 septembrie 2002 pentru aprobarea Procedurii de evaluare a impactului asupra mediului si de emitere a acordului de mediu, cu modificarile si completarile ulterioare
- ORDINUL nr. 863 din 26 septembrie 2002 privind aprobarea ghidurilor metodologice aplicabile etapelor procedurii-cadru de evaluare a impactului asupra mediului

Raspunderea de mediu

• Raspunderea de mediu OUG nr. 68 din 2007 privind raspunderea de mediu cu referire la prevenirea si repararea prejudiciului asupra mediului