

Interreg CENTRAL EUROPE Programme

Annex 08: Methodological document

PROGRAMME-SPECIFIC OUTPUT INDICATORS, COMMON OUTPUT INDICATORS, PERFORMANCE FRAMEWORK AND RESULT INDICATORS

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1. Programme-specific output indicators

In order to allow an aggregation of outputs at programme level, the Interreg CENTRAL EUROPE Programme has developed a typology for main project outputs. Emphasis is put on outputs linked to “policy learning” and “implementation-oriented” approaches. This typology, which is based on the experiences of the CENTRAL EUROPE 2007-2013 programme and has been slightly adapted and simplified, differentiates between the following four types of main project outputs:

- Strategy and action plan development (and/or implementation)
- Transnational tool development (and/or implementation)
- Pilot action
- Training

These main project outputs are monitored through programme-specific output indicators which follow the general structure of the typology of outputs. The indicators being based on the output types as indicated above are further tailored and linked to the thematic focus and scope of each priority axis and specific objective covering the main actions as expressed in the intervention logic.

In order to ensure a common understanding the table below explains the scope and meaning of the four main output types.

Type of outputs	
Strategy/ action plan	<p>A strategy should be jointly defined on the basis of problems which are relevant for the participating regions. It should provide a common vision and set objectives and priorities in a mid- to long-term perspective. The formulation of a transnational and/or regional strategy should be carried out with involvement of relevant stakeholders (targeting the policy level) and aim at its subsequent implementation.</p> <p>An action plan should break down the strategy goals and objectives into specific tasks. It should include the sequence of steps to be taken, or activities that must be performed, for a strategy to succeed. Therefore it should include a time line, the financial resources and a definition of the responsible actors.</p> <p>This type of output can relate either to the development of new or further improvement, revision and/or update of existing strategies/action plans as well as their subsequent implementation.</p> <p>Each developed strategy/action plan, whether implemented or not, should be only counted once under the respective output indicator. Project management-related strategies such as e.g. the project communication strategy should not be considered under this output indicator.</p>
Tools	<p>A tool is to be understood as a means for accomplishing a specific task or purpose. Tools should be jointly developed at transnational level and innovative; they can be physical or technical objects, but also methods, concepts or services. They comprise amongst others of analytical tools, management tools, technical tools, software tools, monitoring tools, decision support tools etc.</p> <p>To be effective, a tool must be tailored to user needs and the respective framework conditions and has to be comprehensive and durable.</p> <p>This type of output relates either to the joint development of new or further improvement and/or adaptation of existing durable tools as well as their subsequent operational implementation.</p> <p>Each developed tool, whether implemented or not, should be only counted once under the respective output indicator. Project management-related tools such as standard project websites, internal communication platforms and templates should not be considered under this output indicator.</p>

Type of outputs	
Pilot actions	<p>A pilot action is to be understood as a practical implementation of novel schemes (e.g. services, tools, methods or approaches). An experimental nature is central to a pilot action (or pilot investments, if relevant) which aims at testing, evaluating and/or demonstrating the feasibility and effectiveness of a scheme. Therefore it covers either the testing of innovative solutions or demonstrating the application of existing solutions to a certain territory/sector.</p> <p>The results and practices of pilot actions should be exploited on and transferred to other institutions and territories.</p> <p>A pilot action is limited in its scope (area, duration, scale etc.) and must be unprecedented in a comparable environment.</p>
Training	<p>Training is to be understood as providing persons with the understanding, knowledge, skills, competences and access to information required in particular occupations. Training may encompass any kind of education (general, specialised or vocational, formal or non-formal, etc.).</p> <p>Training measures should be jointly developed at transnational level and tailored according to the needs of the specific territories, target groups and stakeholders addressed by the operation.</p> <p>Implemented training measures such as training seminars, study visits, peer reviews, online training courses, etc. are to be counted under the respective output indicator. Internal project management related trainings such as on reporting requirements, finances etc. should not be considered under this output indicator.</p>

In accordance with the described typology, the following tables present the set of **programme-specific output indicators** for each of the priorities and specific objectives providing explanations¹ and examples.

¹ Specific terminology used is also described in the CP annex 02 Glossary.

PRIORITY 1: Cooperating on innovation to make CENTRAL EUROPE more competitive

Specific objective 1.1: To improve sustainable linkages among actors of the innovation systems for strengthening regional innovation capacity in central Europe

	ID	Output indicator name	Explanation	Examples of outputs
Priority 1	1b.1	Number of <u>strategies and action plans</u> for strengthening linkages within the innovation systems developed and/or implemented	<p>See general explanation on strategy/action plan above.</p> <p>The developed and/or implemented strategies and action plans should target the strengthening of linkages within the innovation system which is to be understood as building and consolidating connections and cooperation between actors in the innovation system, notably the research and business sector (e.g. laboratories, universities, companies, suppliers, customers etc.), policy makers and public authorities.</p>	<ul style="list-style-type: none"> • Strategies for innovation networks • Internationalisation strategy of clusters • Technology transfer action plan from research to business • ...
	1b.3	Number of <u>tools</u> and services for strengthening linkages within the innovation systems developed and/or implemented	<p>See general explanation on Tools above.</p> <p>Tools and services developed and/or implemented should aim at improving linkages among actors in the innovation systems including enhanced knowledge transfers between research institutions and businesses.</p>	<ul style="list-style-type: none"> • Innovation voucher schemes • Matchmaking instruments • Cooperation models and financing schemes • Collective open innovation platforms • ...
	1b.5	Number of <u>innovation networks</u> established	<p>In order to measure project contributions to the creation of innovation networks being particularly relevant for the specific objective 1.1, in this exceptional case this additional indicator complements the typology of outputs.</p> <p>Innovation network are forms of coordinated and stable cooperation relations between enterprises and other players (e.g. training and research institutions, political players, etc.) that serve the exchange of information, knowledge and resources. The aim of the established networks is to join efforts for yielding innovative products, processes and services and gain competition advantage.</p>	<ul style="list-style-type: none"> • Regional or transnational business clusters • Technology sector networks • Networks of entrepreneurs • Networks of business innovation service providers • ...
	1b.6	Number of <u>pilot actions</u> for strengthening linkages within the innovation systems implemented	<p>See general explanation on Pilot actions above.</p> <p>The implementation of pilot actions should aim at testing and demonstrating the feasibility of novel solutions for improving linkages among actors in the innovation systems as precondition for innovation.</p>	<ul style="list-style-type: none"> • Pilot advisory service for innovation support in businesses • Pilot actions on technology transfer • Pilot applications related to product, process, service innovation in business • ...
	1b.8	Number of <u>trainings</u> for improving innovation capacity and mind sets implemented	<p>See general explanation on training above.</p> <p>Implemented training measures should target relevant actors of the innovation system (public and private sector) aiming at improved competences and skills and enhanced knowledge transfers.</p>	<ul style="list-style-type: none"> • Training on internationalisation of clusters • Training on technology transfer • Training on innovation support • ...

Specific objective 1.2: To improve skills and entrepreneurial competences for advancing economic and social innovation in central European regions

	ID	Output indicator name	Explanation	Examples of outputs
Priority 1	1b.2	Number of <u>strategies and action plans</u> for improvement of skills and competences of employees and entrepreneurs developed and/or implemented	<p>See general explanation on strategy/action plan above.</p> <p>The developed and/or implemented strategies and action plans should target the improvement of knowledge and skills of employees and entrepreneurs focussing on the development and implementation of innovative products, services or processes for advancing economic and social innovation.</p>	<ul style="list-style-type: none"> • Strategies to improve creativity and entrepreneurship mind sets • Strategies for improving technological and management competences • Strategies on enhanced entrepreneurship for social innovation • Action plan for competence development on eco-innovation • ...
	1b.4	Number of <u>tools</u> for improvement of skills and competences of employees and entrepreneurs developed and/or implemented	<p>See general explanation on Tools above.</p> <p>Tools developed and/or implemented should focus on the improvement of knowledge and skills of employees and entrepreneurs for the development and implementation of innovative products, services or processes and building a stronger culture of entrepreneurship.</p>	<ul style="list-style-type: none"> • Innovative learning systems for skills and entrepreneurial competence development • Curricula development • Tools measuring economic and social innovation capacity • ...
	1b.7	Number of <u>pilot actions</u> for improvement of skills and competences of employees and entrepreneurs implemented	<p>See general explanation on Pilot actions above.</p> <p>Implemented pilot actions should aim at testing and demonstrating the feasibility of novel solutions the improvement of knowledge and skills of employees and entrepreneurs contributing to advancing economic and social innovation.</p>	<ul style="list-style-type: none"> • Pilot investment on training facility for entrepreneurs • Pilot application and promotion of novel technologies • Pilot services for competence development of employees • ...
	1b.8	Number of <u>trainings</u> for improving innovation capacity and mind sets implemented	<p>See general explanation on training above.</p> <p>Implemented training measures should target relevant actors of the innovation system (public and private sector) aiming at improved competences and skills and enhanced knowledge transfers.</p>	<ul style="list-style-type: none"> • Entrepreneurship training • Training on eco-innovation technologies • Social innovation training • ...

PRIORITY 2: Cooperating on low carbon strategies in CENTRAL EUROPE

Specific objective 2.1: To develop and implement solutions for increasing energy efficiency and renewable energy usage in public infrastructures

ID	Output indicator name	Explanation	Examples of outputs
Priority 2	4c.1 Number of <u>strategies and action plans</u> for improved energy efficiency and renewable energy use of public infrastructures developed and/or implemented	<p>See general explanation on strategy/ action plan above.</p> <p>The developed and/or implemented strategies and action plans should target the reduction of energy used and an increased renewable energy share in consumption of public infrastructures including buildings.</p>	<ul style="list-style-type: none"> • Strategy for improving energy efficiency of public historic buildings • Strategy for energy relevant restoration of public building stock • Strategy for energy efficient municipal facilities management • ...
	4c.2 Number of <u>tools</u> and/or services for improved energy efficiency and renewable energy use of public infrastructures developed and/or implemented	<p>See general explanation on Tools above.</p> <p>Tools and services developed and/or implemented should focus on the improvement of energy efficiency and renewable energy use of public infrastructure.</p>	<ul style="list-style-type: none"> • Software for optimising energy consumption • Energy standards and certification systems • Energy services and financing schemes • Database of novel energy saving technologies applied in public buildings • ...
	4c.3 Number of <u>pilot actions</u> for improved energy efficiency and renewable energy use of public infrastructures implemented	<p>See general explanation on Pilot actions above.</p> <p>The implementation of pilot actions should aim at testing and demonstrating the feasibility of novel solutions for energy efficiency and renewable energy use in public infrastructure.</p>	<ul style="list-style-type: none"> • Pilot retrofitting of public buildings achieving higher energy efficiency • Pilot application of innovative energy technologies • Pilot testing of harmonised building energy performance certification method • ...
	4c.4 Number of <u>trainings</u> for improved energy efficiency and renewable energy use of public infrastructures implemented	<p>See general explanation on training above.</p> <p>Implemented trainings shall target relevant actors enabling them to develop and implement solutions for improved energy efficiency and renewable energy use of public infrastructures.</p>	<ul style="list-style-type: none"> • Training for energy managers of public infrastructures • Training on energy efficient restoration of public buildings • Training on innovative methods for financing energy efficient measures in public buildings (EPC, ESCOs) • ...

Specific objective 2.2: To improve territorially based energy planning strategies and policies supporting climate change mitigation

ID		Output indicator name	Explanation	Examples of outputs
Priority 2	4e.1	Number of <u>strategies and action plans</u> for the improvement of local/regional energy performance developed and/or implemented	<p>See general explanation on strategy/action plan above.</p> <p>The developed and/or implemented strategies and action plans should focus on energy planning at the territorial level considering the specific local/regional patterns of energy needs and resources with the aim to increase the use of endogenous renewable energy potentials and improve regional energy performance.</p>	<ul style="list-style-type: none"> • Sustainable regional energy action plans • Strategy for increased use of endogenous regional energy potentials • Strategy for better integration of energy produced from renewable energy sources into existing distribution networks • ...
	4e.3	Number of <u>tools</u> for the improvement of local/regional energy performance developed and/or implemented	<p>See general explanation on Tools above.</p> <p>Tools developed and/or implemented should focus on the improvement of the energy performance in both the public and the private sector and the exploitation of endogenous renewable energy resources.</p>	<ul style="list-style-type: none"> • Software model for regional energy planning • Energy management concepts • Handbook for municipality staff to introduce low carbon procurement into applied practise • ...
	4e.5	Number of <u>pilot actions</u> for the improvement of local/regional energy performance implemented	<p>See general explanation on Pilot actions above.</p> <p>The implementation of pilot actions should aim at testing and demonstrating the feasibility of novel solutions for exploitation of renewable energy resources as well as for improved local/regional energy performance.</p>	<ul style="list-style-type: none"> • Pilot application for the exploitation of renewable energy resources • Pilot implementation of demand and supply side solutions • Pilot scheme implementation fostering behavioural changes of energy consumption in households • ...
	4e.7	Number of <u>trainings</u> on low carbon solutions implemented	<p>See general explanation on training above.</p> <p>Implemented training measures should target relevant stakeholders enabling them to develop and implement solutions for the improvement of local/regional energy performance.</p>	<ul style="list-style-type: none"> • Training on integrated local and/or regional energy strategies • Training on monitoring and control of energy consumption • Training targeting the skills for better onsite renewable energy potential utilisation • ...

Specific objective 2.3: To improve capacities for mobility planning in functional urban areas to lower CO₂ emissions

ID	Output indicator name	Explanation	Examples of outputs
Priority 2	4e.2 Number of <u>strategies and action plans</u> for low-carbon mobility in functional urban areas developed and/or implemented	<p>See general explanation on strategy/action plan above.</p> <p>The developed and/or implemented strategies and action plans should focus on mobility planning fostering the reduction of CO₂ emissions in functional urban areas.</p>	<ul style="list-style-type: none"> • Strategies for introduction of novel low-carbon technologies in public transport in functional urban areas • Action plan on integrated low carbon mobility in functional urban areas • Strategies for improving public transport offers in functional urban areas aiming at reducing CO₂ emissions • Action plans for implementation of smart low carbon mobility services in functional urban areas •
	4e.4 Number of <u>tools</u> and/or services for low-carbon mobility in functional urban areas developed and/or implemented	<p>See general explanation on Tools above.</p> <p>Tools and services developed and/or implemented should aim at fostering smart low-carbon mobility and the reduction of CO₂ emissions in functional urban areas.</p>	<ul style="list-style-type: none"> • Governance and financing model for integrated low-carbon mobility in functional urban areas • New economic instruments and incentives to implement low carbon mobility Multi-modal services for smart low carbon mobility • ...
	4e.6 Number of <u>pilot actions</u> for low carbon mobility in functional urban areas implemented	<p>See general explanation on Pilot actions above.</p> <p>The implementation of pilot actions should aim at testing and demonstrating the feasibility of novel solutions for low carbon mobility in functional urban areas.</p>	<ul style="list-style-type: none"> • Pilot application of novel low-carbon technologies in public transport in functional urban areas • Pilot implementation of innovative services for smart low carbon mobility • Pilot application of multimodal low carbon services • ...
	4e.7 Number of <u>trainings</u> on low carbon solutions implemented	<p>See general explanation on training above.</p> <p>Implemented training measures should target relevant stakeholders enabling them to develop and implement solutions for the improvement of low carbon mobility in functional urban areas.</p>	<ul style="list-style-type: none"> • Training on low carbon mobility planning in functional urban areas • Training on novel and integrated low carbon public transport offers • Training on smart low carbon mobility services in functional urban areas •

PRIORITY 3: Cooperating on natural and cultural resources for sustainable growth in CENTRAL EUROPE

Specific objective 3.1: To improve integrated environmental management capacities for the protection and sustainable use of natural heritage and resources

ID	Output indicator name	Explanation	Examples of outputs
Priority 3	6c.1 Number of <u>strategies and action plans</u> for protection and sustainable use of natural resources and heritage developed and/or implemented	See general explanation on Strategy/action plan above. The developed and/or implemented strategies and action plans should focus on integrated environmental management which is to be understood as a comprehensive approach to natural resource planning and management aiming at the protection and sustainable use of natural heritage and/or resources.	<ul style="list-style-type: none"> Strategies for the sustainable management of protected high value ecosystems Strategies for the protection of central Europe's natural heritage Strategies for the sustainable use of natural resources and avoidance of usage conflicts Action plans on adaptation to negative effects of climate change ...
	6c.3 Number of <u>tools</u> for protection and sustainable use of natural resources and heritage developed and/or implemented	See general explanation on Tools above. Tools developed and/or implemented should aim at integrated approaches for the protection and sustainable use of natural heritage and resources.	<ul style="list-style-type: none"> Monitoring and assessment tools for the protection of biodiversity Software tools for integrated environmental planning Decision support tools for sustainable use of natural resources ...
	6c.5 Number of <u>pilot actions</u> for protection and sustainable use of natural resources and heritage implemented	See general explanation on Pilot actions above. The implementation of pilot actions should aim at testing and demonstrating the feasibility of novel solutions for the protection and sustainable use of natural resources and heritage.	<ul style="list-style-type: none"> Pilot implementation of natural heritage protection schemes Pilot application of novel monitoring systems Pilot testing of remediation technologies Pilot application of integrated management approach for increased resource efficiency in public institutions ...
	6c.7 Number of <u>trainings</u> on protection and sustainable use of natural resources and heritage implemented	See general explanation on training above. Implemented training measures should target relevant stakeholders enabling them to develop and implement solutions for the protection and sustainable use of natural resources and heritage.	<ul style="list-style-type: none"> Training on the application of novel environmental monitoring systems Training on innovative remediation technologies Training on integrated planning tools for sustainable use of natural resources ...

Specific objective 3.2: To improve capacities for the sustainable use of cultural heritage and resources

ID	Output indicator name	Explanation	Examples of outputs
Priority 3	6c.2 Number of <u>strategies and action plans</u> for protection and sustainable use of cultural heritage and resources developed and/or implemented	<p>See general explanation on Strategy/action plan above.</p> <p>The developed and/or implemented strategies and action plans should focus on an improved protection, management and sustainable use of the cultural heritage and resources as well as their valorisation (including cultural and creative industries).</p>	<ul style="list-style-type: none"> • Strategies for the valorisation of cultural heritage sites • Strategies supporting the creative industries sector • Regional development strategies building on cultural heritage assets • Investment strategies for valorisation of cultural resources • ...
	6c.4 Number of <u>tools</u> for protection and sustainable use of cultural resources and heritage developed and/or implemented	<p>See general explanation on Tools above.</p> <p>Tools developed and/or implemented should target the protection, sustainable use and valorisation of cultural heritage and resources.</p>	<ul style="list-style-type: none"> • ICT tools for increasing the visibility and attractiveness of heritage sites • Management tools fostering the sustainability and efficiency of cultural sites valorisation • Handbook on creative districts development • ...
	6c.6 Number of <u>pilot actions</u> for protection and sustainable use of cultural resources and heritage implemented	<p>See general explanation on Pilot actions above.</p> <p>The implementation of pilot actions should aim at testing and demonstrating the feasibility of novel solutions for the protection and sustainable use of cultural resources and heritage.</p>	<ul style="list-style-type: none"> • Pilot implementation of innovative management models for historic sites • Pilot implementation of accessibility measures to industrial heritage sites • Pilot implementation of innovative services for the valorisation of traditional knowledge • ...
	6c.8 Number of <u>trainings</u> on protection and sustainable use of cultural resources and heritage implemented	<p>See general explanation on training above.</p> <p>Implemented training measures should target relevant stakeholders enabling them to develop and implement solutions for the protection and sustainable use of cultural resources and heritage.</p>	<ul style="list-style-type: none"> • Training on management concepts for efficient historic site preservation and valorisation • Training on good practices for sustainable use of cultural heritage • Training seminar on services for creative industries development • ...

Specific objective 3.3: To improve environmental management of functional urban areas to make them more liveable places

ID	Output indicator name	Explanation	Examples of outputs
Priority 3	6e.1 Number of <u>strategies and action plans</u> for the improvement of environmental quality in functional urban areas developed and/or implemented	See general explanation on Strategy/action plan above. The developed and/or implemented strategies and action plans should focus on integrated approaches for improving the environmental quality of functional urban areas.	<ul style="list-style-type: none"> • Strategy for rehabilitation of urban brownfield sites • Action plan for the reduction of air pollution in urban areas • Investment strategy for improved urban waste management • ...
	6e.2 Number of <u>tools</u> for the improvement of environmental quality in functional urban areas developed and/or implemented	See general explanation on Tools above. Tools developed and/or implemented should aim at integrated approaches for the improvement of environmental quality in functional urban areas.	<ul style="list-style-type: none"> • Tools for reducing land-use conflicts in functional urban areas • Integrated environmental planning tools • Investment and financing models for improving the urban environment • ...
	6e.3 Number of <u>pilot actions</u> for the improvement of environmental quality in functional urban areas implemented	See general explanation on Pilot actions above. The implementation of pilot actions should aim at testing and demonstrating the feasibility of novel solutions for the improvement of environmental quality in functional urban areas.	<ul style="list-style-type: none"> • Pilot action on improvement of urban air quality • Pilot implementation of concepts for participatory processes in urban environmental planning and decision making • Pilot rehabilitation of contaminated sites in the urban context • ...
	6e.4 Number of <u>trainings</u> on the improvement of the environmental quality in functional urban areas implemented	See general explanation on training above. Implemented training measures should target relevant stakeholders enabling them to develop and implement solutions for the improvement of the environmental quality in functional urban areas.	<ul style="list-style-type: none"> • Training on rehabilitation methods and technologies • Training on the usage of innovative methods for monitoring of environmental quality (water, air, soil etc.) • Training seminar on integrated environmental management approaches for functional urban areas • ...

PRIORITY 4: Cooperating on transport to better connect CENTRAL EUROPE

Specific objective 4.1: To improve planning and coordination of regional passenger transport systems for better connections to national and European transport networks

ID	Output indicator name	Explanation	Examples of outputs
Priority 4	7b.1 Number of strategies and action plans for the improvement of regional passenger transport developed and/or implemented	<p>See general explanation on Strategy/action plan above.</p> <p>The developed and/or implemented strategies and action plans should focus on the improvement of regional passenger transport allowing a better connection to national and European transport networks.</p>	<ul style="list-style-type: none"> Regional mobility strategy linked to TEN-T network Public transport strategy in peripheral regions Action plans for improved interoperability of transport system
	7b.2 Number of tools and/or services for the improvement of regional passenger transport developed and/or implemented	<p>See general explanation on Tools above.</p> <p>Tools developed and/or implemented should aim at improving the regional passenger transport allowing a better connection to national and European transport networks.</p>	<ul style="list-style-type: none"> Real time public transport user information systems Financing and investment models for improving mobility in peripheral regions Planning tools for improved interoperability of public transport systems within and between regions ...
	7b.3 Number of pilot actions for the improvement of regional passenger transport implemented	<p>See general explanation on Pilot actions above.</p> <p>The implementation of pilot actions should aim at testing and demonstrating the feasibility of novel solutions for the improvement of regional passenger transport allowing a better connection to national and European transport networks.</p>	<ul style="list-style-type: none"> Pilot implementation of on demand public transport schemes Pilot implementation of cross-border multi-modal ticketing Pilot implementation of improved public transport connections to transport hubs ...
	7b.4 Number of trainings on the improvement of regional passenger transport implemented	<p>See general explanation on Training above.</p> <p>Implemented training measures should target relevant stakeholders enabling them to develop and implement solutions for the improvement of regional passenger transport allowing a better connection to national and European transport networks.</p>	<ul style="list-style-type: none"> Training on ICT tools for multimodal transport Training for mobility advisers in shrinking regions Training on sustainable cross border commuter services ...

Specific objective 4.2: To improve coordination among freight transport stakeholders for increasing multimodal environment-friendly freight solutions

ID		Output indicator name	Explanation	Examples of outputs
Priority 4	7c.1	Number of <u>strategies and action plans</u> for multimodal environmentally friendly freight transport developed and/or implemented	<p>See general explanation on Strategy/action plan above.</p> <p>The developed and/or implemented strategies and action plans should focus on the increase of multimodal environmentally friendly freight transport.</p>	<ul style="list-style-type: none"> Coordinated strategy on river freight transport systems Strategy for cooperation between multimodal freight transport terminals Action plan for improved coordination of multimodal terminals Action plan for logistic cooperation along green transport corridors ...
	7c.2	Number of <u>tools</u> and services for multimodal environmentally friendly freight transport developed and/or implemented	<p>See general explanation on Tools above.</p> <p>Tools developed and/or implemented should aim at supporting multimodal environmentally friendly freight transport.</p>	<ul style="list-style-type: none"> Management tools for logistic cooperation Financing and investment models for multimodal freight transport Logistic planning software for the greening of the last mile of transport Cooperation e-platform for multimodal freight transport across borders ...
	7c.3	Number of <u>pilot actions</u> for multimodal environmentally friendly freight transport	<p>See general explanation on Pilot actions above.</p> <p>The implementation of pilot actions should aim at testing and demonstrating the feasibility of novel solutions for the increase of multimodal environmentally friendly freight transport.</p>	<ul style="list-style-type: none"> Pilot implementation of environmentally friendly last mile freight transport approach Pilot application of IT services to “green” logistic providers Pilot application of harmonised freight transport standards ...
	7c.4	Number of <u>trainings</u> on multimodal environmentally friendly freight transport implemented	<p>See general explanation on Training above.</p> <p>Implemented training measures should target relevant stakeholders enabling them to develop and implement solutions for multimodal environmentally friendly freight transport.</p>	<ul style="list-style-type: none"> Training on the use of IT software for multimodal logistic planning Training on coordination requirements for corridor based green freight transport Training on harmonised quality standards for multimodal freight transport ...

2. Common output indicators

Out of the list of common output indicators [as defined in the Annex to regulation (EU) No 1299/2013] the following indicators have been selected, since reflecting the characteristics of operations and actions to be supported by the programme as well as building on the experience of the CENTRAL EUROPE 2007-2013 Programme. Additional information on the criteria adopted for the selection and non-selection of common output indicators is provided in the following table.

Common output indicator category	Selected common output indicators	Explanation for selection/non-selection
Productive investment	<ul style="list-style-type: none"> • CO1: Number of enterprises receiving support (priorities 1-4) 	The CENTRAL EUROPE Programme in 2007-2013 demonstrated to be effective in supporting the business sector. The interreg CENTRAL EUROPE Programme targets regional sustainable development in priorities 1-4, where an active involvement of the private sector is planned, with a specific focus on business-oriented bodies as key players.
	<ul style="list-style-type: none"> • CO41: Number of enterprises participating in cross-border, transnational or interregional research projects (priorities 1-4) 	The CENTRAL EUROPE Programme in 2007-2013 demonstrated to be effective in attracting the business sector in transnational cooperation projects. In line with the sustainable development orientation of the Interreg CENTRAL EUROPE Programme, the direct participation of the business sector in transnational cooperation projects is even more relevant for most of the actions funded under priorities 1-4.
	<ul style="list-style-type: none"> • CO42: Number of research institutions participating in cross-border, transnational or interregional research projects (priorities 1-4) 	The CENTRAL EUROPE Programme in 2007-2013 demonstrated to be effective in attracting research institutions in transnational cooperation projects. The participation of research institutions in transnational cooperation projects will continue and will be further strengthened in all actions funded under priorities 1-4.
Sustainable tourism	-	Category of indicators not applicable, since the programme does not fund large scale tourism investments. Actions supported by the programme on cultural and natural heritage focus on the improvement of capacities and/or include pilot actions having an experimental and/or demonstration character.
ICT infrastructure	-	Category of indicators not applicable, since the programme does not fund investments in ICT infrastructure.
Transport	-	Category of indicators not applicable, since the programme does not fund large scale investments in transport infrastructure.
Environment	-	Category of indicators not applicable, since the programme does not fund large scale investments in environmental infrastructure. Actions supported by the programme focus on the improvement of capacities and/or include pilot actions having an experimental and/or demonstration character.
Research, innovation	<ul style="list-style-type: none"> • CO26: Number of enterprises cooperating with research institutions (priority 1) 	<p>The CENTRAL EUROPE Programme in 2007-2013 demonstrated to be effective in attracting the business sector and establishing links with the research sector in transnational cooperation projects. Within the Interreg CENTRAL EUROPE Programme the strengthening of cooperations between enterprises and research institutions is in particular tackled within priority 1.</p> <p>Other indicators of this category not applicable, since the programme does not fund investments in research</p>

Common output indicator category	Selected common output indicators	Explanation for selection/non-selection
		infrastructure facilities or pure research projects.
Energy and climate change	-	Category of indicators not applicable, since the programme does not fund large scale investments in energy infrastructure. Actions supported by the programme focus on the improvement of capacities and/or include pilot actions having an experimental and/or demonstration character.
Social infrastructure	-	Category of indicators not applicable, since the programme does not fund investments in social infrastructure. Actions supported by the programme focus on the improvement of capacities and/or include pilot actions having an experimental and/or demonstration character.
Urban development specific indicators	-	Category of indicators not applicable, since the programme does not fund large scale urban investments. Actions supported by the programme focus on the improvement of capacities and/or include pilot actions having an experimental and/or demonstration character.
Labour market and training	-	Category of indicators not applicable, since they are only relevant for cross-border cooperation according to the definitions given in the "EC Guidance document on monitoring and evaluation, Concepts and Recommendations - Annex 1, March 2014 as well as in Article 7(1)(a) of regulation (EU) No 1299/2013.

The calculation of targets for the selected common output indicators which are related to the participation of enterprises and research institutions in supported projects, is based on the statistics of the CENTRAL EUROPE 2007-2013 Programme. In particular, the following method has been applied:

Enterprises: According to the scope of the respective investment priority a historic average participation rate of private institutions has been calculated which has been extrapolated to the number of projects planned under each investment priority. The target has been set assuming that about 40% of the future private partners will be profit-oriented². This ratio has been defined on the basis of the participation of profit-oriented partners in projects of the 2007-2013 period.

Research institutions: Similar to above a historic average participation rate of research institutions has been calculated based on the categorisation of partners as in the application forms which has been extrapolated to the number of projects planned under each investment priority.

² According to the definition as stated in the EC Guidance document on monitoring and evaluation, concepts and recommendations, an enterprise is defined as organisation producing products or services to satisfy market needs in order to reach profit.

3. Performance framework

The CENTRAL EUROPE Programme has set up its performance framework in accordance with Article 20-22(4) and Annex II of Regulation (EU) No 1303/2013. It is composed of programme-specific output indicators, financial indicators as well as key implementation steps for each priority axis and includes milestones for 2018 as well as targets for 2023.

3.1 Programme specific output indicators

The programme-specific output indicators used for the performance framework are included in an aggregated form covering the key features and main types of outputs to be expected in the frame of operations supported by the Interreg CENTRAL EUROPE Programme, namely strategies and action plans, tools as well as pilot actions being developed and/or implemented (see also section 1 in this document). As a consequence, their inclusion in the performance framework will ensure the capture of essential progress and achievements of the respective priority axis. This is even further underlined by the fact that the financial allocation to operations, which will be delivering these types of outputs, represents the full amount of financial allocations to the respective priority axis.

a. Definition of output indicator targets and milestones

The definition of targets for the output indicators within the performance framework are, as described above, based on a mathematical aggregation of the underlying output indicator targets as defined under each specific objective. This aggregated indicator represents the sum of the single output indicators which cover the main three types of outputs which are generated by the supported operations, notably strategies/action plans; tools; pilot actions - see also section 2 of the cooperation programme (CP) under the header “Actions to be supported under the investment priority”, where types of outputs expected are described.

The quantification of targets applied for the underlying single output indicators (i.e. number of strategies, action plans, tools and pilot actions) is based on the following:

- expected size and number of operations to be supported under each investment priority
- allocation of funds as foreseen for each programme priority
- expert advices, notably Interreg CENTRAL EUROPE Steering Group, ex-ante evaluators, managing authority and joint secretariat
- experiences of the CENTRAL EUROPE 2007-2013 Programme, especially with regard to historical data on the average number of outputs generated by operations

Specific information on the assumptions and/or data used to estimate the values of targets for each of the indicators is included in the performance framework overview table at the end of this section. It is to be noted that no milestones for 2018 could be defined, since outputs of fully implemented operations will only represent a minor number in relation to the overall programme output targets. This is due to the following:

- The Interreg CENTRAL EUROPE cooperation programme plans to open its first call for proposals in the first half of 2015 applying a two-step application procedure. According to the experience of the CENTRAL EUROPE 2007-2013 programme and of other transnational programmes, as well as considering the high number of applications to be expected in the 1st call, the application and selection process until the issuing and the signature of the subsidy contract is expected to last until spring 2016. Based on this assumption most of the start dates of the first wave of supported operations will consequently be around mid-2016.
- The average project duration of CENTRAL EUROPE operations is of 36 months (up to a maximum of 48 months) meaning that most operations funded within the 1st call will last at least until mid-2019. The output indicators included in the performance framework refer to the main achievements of the operations which, especially in the transnational context, as experience shows, are in most cases only available at a late stage of implementation of operations.

- The reporting of project achievements towards the programme bodies (progress reports and final report) happens on a 6-monthly basis with a gap of two months³ between the end of the respective reporting period and the submission of the draft progress report. In addition to this time span, the content- and financial monitoring of the reports including the validation of their contents and the reported achievements leading to the processing of the related payment claim requires further months. Consequently, even for the operations supported under the 1st call the full documentation of the main outputs and achievements will only be available by the beginning of 2020.

Due to the chronology as described above, it is not feasible for the programme to report any measurable outputs for the 2018 milestone of the performance framework. This is also underlined by the fact that the first operations will not even be fully implemented by the end of 2018, which is however a pre-condition for transmitting the output indicator data within the annual implementation reports (AIR)⁴ to the EC. Therefore, the target value for 2018 has been set at “0” and key implementation steps have been introduced⁵ (see section 3.3).

The ex-ante evaluation has appraised the indicator system as appropriate and has concluded that “the target values of the programme-specific output indicators seem realistic” (cf. CP annex A: Ex-ante evaluation - Final report, section 10. Feasibility of the choice of the quantified targets).

b. Data collection and validation

The data on targets and the achieved progress of operations is collected from the application forms and during the regular monitoring of the implementation of operations (periodic progress reports). Accordingly, no additional administrative burden is imposed to beneficiaries for data collection related to the performance framework.

The validation of output indicator data is ensured through the following process (for further information on the project cycle please refer to CP section 5.3.h):

- Ex-ante assessment of output indicator targets, as defined by project applicants, in the frame of the quality assessment of applications performed by the MA/JS and independent thematic experts
- Thorough checks on reported output indicator values during the monitoring of project progresses performed by the MA/JS, requesting the necessary evidence and background information

c. Specification on the share of the financial allocation represented by the output indicators:

The output indicators as included in the performance framework for each programme priority cover three main types of outputs which are generated by the supported operations (notably strategies/action plans, tools and pilot actions) to which all thematic activities and deliveries (including communication activities) are supposed to be contributing. Project management and coordination activities, even though being an essential pre-condition for reaching the project objectives and expected results, are not directly represented in the performance framework. The experience of the CENTRAL EUROPE 2007-2013 period has shown that such management and coordination activities account for about 15-20% of the total budget of operations.

³ In case of the last reporting period, the last progress report has to be submitted by up to 3 months after project end together with the final report

⁴ “The managing authority includes information on progress in achieving the milestones and targets in the Annual Implementation Reports (AIR), beginning from the reports submitted in 2017. The data transmitted relate to values for indicators for fully implemented operations” (EC Guidance Fiche „Performance framework Review and Reserve 2014-2020“, Final Version 14 May 2014)

⁵ In accordance with the above mentioned Guidance Fiche „Performance framework Review and Reserve 2014-2020“,

Considering these assumptions and experience-based data, the output indicators as included in the performance framework for each programme priority cover at least an 80% share of the financial allocation to projects.

3.2 Financial indicators

The financial indicators included in the performance framework, namely “Total amount of eligible expenditure certified to EC” for the respective priority axis, are directly linked to the information included in the CP Section 3 (Financing Plan). The values for milestones of 2018 and targets in 2023 are extrapolated from the annual ERDF commitments included in table 15 of the CP. They are split per priority axis through applying the distribution key of the funds described in the justification of the financial allocation in the CP section 1.2. The financial indicator is thus entirely capturing the financial progress per priority axis. It is verifiable and transparent as it is extracted from the regular monitoring of the project implementation progress. The reporting of this indicator therefore does also not generate additional administrative burden on beneficiaries.

3.3 Key implementation steps

Key implementation steps have been included because by the end of 2018 only few operations will be fully implemented. Therefore, completed and reported project outputs are likely to represent only a minor number in relation to the overall programme output targets. Thus, no milestones for the output indicators have been defined for 2018 (see explanations under chapter 3.1).

A key implementation step foreseen for each priority axis is the number of operations approved by the end of 2018. The calculation base for the milestone is that 70 % of the planned total number of operations to be supported by the programme are expected to be approved by that date. Since approved operations will later deliver the foreseen outputs covered by the output indicators, this is considered to be a relevant reference capturing the progress for the milestone of the respective priority axis. The evidence for this indicator is the respective funding decisions taken by the CENTRAL EUROPE monitoring committee, being a transparent and easily verifiable information source.

Priority axis	Indicator or key implementation step	Measurement unit, where appropriate	Milestone for 2018	Final target (2023)	Explanation on calculation method
1	Number of strategies, action plans, tools and pilot actions developed and/or implemented for strengthening linkages within the innovation systems	Number	0	120	<p><u>Milestone 2018:</u> no milestone defined, since only very limited outputs related to fully implemented operations are expected by end of 2018 (instead a key implementation step is foreseen)</p> <p><u>Target 2023:</u> Calculation based on the aggregation of single output indicator targets of SO1.1 (assumption 15 projects approved under SO1.1):</p> <ul style="list-style-type: none"> • 30 innovation strategies and action plans (based on CE 2007-2013 data in average appr. 2 per project) • 40 tools and services for innovation support and technology transfer (based on CE 2007-2013 data in average appr. 2-3 per project) • 50 pilot actions in the field of innovation support and technology transfer (based on CE 2007-2013 data in average appr. 3-4 per project)
	Number of strategies, action plans, tools and pilot actions developed and/or implemented for improving skills and competences of employees and entrepreneurs	Number	0	110	<p><u>Milestone 2018:</u> no milestone defined, since only very limited outputs related to fully implemented operations are expected by end of 2018 (instead a key implementation step is foreseen)</p> <p><u>Target 2023:</u> Calculation based on the aggregation of single output indicator targets of SO1.2 (assumption 15 projects approved under SO1.2):</p> <ul style="list-style-type: none"> • 20 strategies and action plans for improvement of skills and entrepreneurial competences (based on CE 2007-2013 data in average appr. 1-2 per project) • 40 tools for knowledge and skills improvement (based on CE 2007-2013 data in average appr. 2-3 per project) • 50 pilot actions knowledge and skills improvement (based on CE 2007-2013 data in average appr. 3-4 per project)
	Total amount of eligible expenditure certified to EC for priority axis 1	EUR	10.100.000,00	83.183.989,00	<u>Milestone 2018 and target 2023:</u> Calculation extrapolated from the annual ERDF commitment (CP table 15) according to the co-financing rate and applying the distribution key of the funds for priority 1
	Number of approved operations in priority axis 1	Number	21	30	<p><u>Target 2023:</u> Calculation based on the funds allocated for priority 1 (ca. EUR 69 M ERDF) and an average project budget of EUR 2.3 M ERDF</p> <p><u>Milestone 2018:</u> 70 percent of target value (assuming approval of operations of 3 calls for proposals)</p>
2	Number of strategies, action plans, tools and pilot actions developed and/or implemented in the field of improved energy efficiency and renewable energy use of public infrastructures	Number	0	50	<p><u>Milestone 2018:</u> no milestone defined, since only very limited outputs related to fully implemented operations are expected by end of 2018 (instead a key implementation step is foreseen)</p> <p><u>Target 2023:</u> Calculation based on the aggregation of single output indicator targets of SO2.1 (assumption 6 projects approved under SO2.1):</p> <ul style="list-style-type: none"> • 15 strategies and action plans for improved energy efficiency and renewable energy use in public infrastructures (based on CE 2007-2013 data in average appr. 2 per project) • 10 tools for low carbon performance of public infrastructures (based on CE 2007-2013 data in average appr. 1-2 per project) • 25 pilot actions for low carbon solutions of public infrastructures (based on CE 2007-2013 data in average appr. 4 per project)
	Number of strategies, action plans, tools and pilot actions developed and/or	Number	0	59	<u>Milestone 2018:</u> no milestone defined, since only very limited outputs related to fully implemented operations are expected by end of 2018 (instead a key implementation step is

Priority axis	Indicator or key implementation step	Measurement unit, where appropriate	Milestone for 2018	Final target (2023)	Explanation on calculation method
	implemented for improving local/regional energy performance				foreseen) <u>Target 2023:</u> Calculation based on the aggregation of single output indicator targets of SO 2.2 (assumption 8 projects approved under SO 2.2): <ul style="list-style-type: none"> • 25 strategies and action plans for the improvement of energy performance at local/regional level (based on CE 2007-2013 data in average appr. 3 per project) • 10 tools for low carbon performance of public infrastructures (based on CE 2007-2013 data in average appr. 1 per project) • 24 pilot actions for low carbon solutions of public infrastructures (based on CE 2007-2013 data in average appr. 3 per project)
	Number of strategies, action plans, tools and pilot actions developed and/or implemented for low-carbon mobility in functional urban areas	Number	0	35	<u>Milestone 2018:</u> no milestone defined, since only very limited outputs related to fully implemented operations are expected by end of 2018 (instead a key implementation step is foreseen) <u>Target 2023:</u> Calculation based on the aggregation of single output indicator targets of SO 2.3 (assumption 5 projects approved under SO 2.3): <ul style="list-style-type: none"> • 12 strategies and action plans for low carbon mobility in functional urban areas (based on CE 2007-2013 data in average appr. 2-3 per project) • 8 tools and/or services fostering low carbon mobility in functional urban areas (based on CE 2007-2013 data in average appr. 1-2 per project) • 15 pilot actions for low carbon mobility in functional urban areas (based on CE 2007-2013 data in average appr. 3 per project)
	Total amount of eligible expenditure certified to EC for priority axis 2	EUR	6.500.000,00	53.475.422,00	<u>Milestone 2018 and target 2023:</u> Calculation extrapolated from the annual ERDF commitment (CP table 15) according to the co-financing rate and applying the distribution key of the funds for priority 2
	Number of approved operations in priority axis 2	Number	13	19	<u>Target 2023:</u> Calculation based on the funds allocated for priority 2 (ca. EUR 44 M ERDF) and an average project budget of EUR 2.3 M ERDF <u>Milestone 2018:</u> 70 percent of target value (assuming approval of operations of 3 calls for proposals)
3	Number of strategies, action plans, tools and pilot actions developed and/or implemented for protection and sustainable use of natural heritage and resources	Number	0	127	<u>Milestone 2018:</u> no milestone defined, since only very limited outputs related to fully implemented operations are expected by end of 2018 (instead a key implementation step is foreseen) <u>Target 2023:</u> Calculation based on the aggregation of single output indicator targets of SO 3.1 (assumption 14 projects approved under SO 3.1): <ul style="list-style-type: none"> • 45 strategies and action plans for protection and sustainable use of natural resources and heritage (based on CE 2007-2013 data in average appr. 3 per project) • 32 tools protection and sustainable use of natural resources and heritage (based on CE 2007-2013 data in average appr. 2-3 per project) • 50 pilot actions for protection and sustainable use of natural resources and heritage (based on CE 2007-2013 data in average appr. 3-4 per project)
	Number of strategies, action plans, tools and pilot actions developed and/or implemented for sustainable use of cultural heritage and	Number	0	127	<u>Milestone 2018:</u> no milestone defined, since only very limited outputs related to fully implemented operations are expected by end of 2018 (instead a key implementation step is foreseen) <u>Target 2023:</u> Calculation based on the aggregation of single output indicator targets of SO 3.2

Priority axis	Indicator or key implementation step	Measurement unit, where appropriate	Milestone for 2018	Final target (2023)	Explanation on calculation method
	resources				(assumption 14 projects approved under SO 3.2): <ul style="list-style-type: none"> 45 strategies and action plans for sustainable management of cultural heritage and resources (based on CE 2007-2013 data in average appr. 3 per project) 32 tools for sustainable management of cultural heritage and resources (based on CE 2007-2013 data in average appr. 2-3 per project) 50 pilot actions for sustainable management of cultural heritage and resources (based on CE 2007-2013 data in average appr. 3-4 per project)
	Number of strategies, action plans, tools and pilot actions developed and/or implemented for the improvement of environmental quality in functional urban areas	Number	0	90	<p><u>Milestone 2018:</u> no milestone defined, since only very limited outputs related to fully implemented operations are expected by end of 2018 (instead a key implementation step is foreseen)</p> <p><u>Target 2023:</u> Calculation based on the aggregation of single output indicator targets of SO 3.3 (assumption 10 projects approved under SO 3.3):</p> <ul style="list-style-type: none"> 25 strategies and action to improve environmental quality in functional urban areas (based on CE 2007-2013 data in average appr. 2-3 per project) 25 tools for environmental planning and management in functional urban areas (based on CE 2007-2013 data in average appr. 2-3 per project) 40 pilot actions for improvement of the environmental quality in functional urban areas (based on CE 2007-2013 data in average appr. 4 per project)
	Total amount of eligible expenditure certified to EC for priority axis 3	EUR	13.000.000,00	106.950.843,00	<u>Milestone 2018 and target 2023:</u> Calculation extrapolated from the annual ERDF commitment (CP table 15) according to the co-financing rate and applying the distribution key of the funds for priority 3
	Number of approved operations in priority axis 3	Number	27	38	<p><u>Target 2023:</u> Calculation based on the funds allocated for priority 3 (ca. EUR 88 M ERDF) and an average project budget of EUR 2.3 M ERDF</p> <p><u>Milestone 2018:</u> 70 percent of target value (assuming approval of operations of 3 calls for proposals)</p>
4	Number of strategies, action plans, tools developed and/or implemented and pilot actions for the improvement of regional passenger transport	Number	0	54	<p><u>Milestone 2018:</u> no milestone defined, since only very limited outputs related to fully implemented operations are expected by end of 2018 (instead a key implementation step is foreseen)</p> <p><u>Target 2023:</u> Calculation based on the aggregation of single output indicator targets of SO 4.1 (assumption 8 projects approved under SO 4.1):</p> <ul style="list-style-type: none"> 18 strategies and action plans for improved regional passenger transport (based on CE 2007-2013 data in average appr. 2-3 per project) 14 tools and/or services for improved regional passenger transport (based on CE 2007-2013 data in average appr. 1-2 per project) 22 pilot actions for or improved regional passenger transport (based on CE 2007-2013 data in average appr. 2-3 per project)
	Number of strategies, action plans, tools and pilot actions developed and/or implemented for multimodal environmentally friendly freight transport	Number	0	30	<p><u>Milestone 2018:</u> no milestone defined, since only very limited outputs related to fully implemented operations are expected by end of 2018 (instead a key implementation step is foreseen)</p> <p><u>Target 2023:</u> Calculation based on the aggregation of single output indicator targets of SO 4.2 (assumption 5 projects approved under SO 4.2):</p> <ul style="list-style-type: none"> 10 strategies and action plans for multimodal environmentally friendly freight transport (based on CE 2007-2013 data in average appr. 2 per project)

Priority axis	Indicator or key implementation step	Measurement unit, where appropriate	Milestone for 2018	Final target (2023)	Explanation on calculation method
					<ul style="list-style-type: none"> • 8 tools and/or services for multimodal environmentally friendly freight transport (based on CE 2007-2013 data in average appr. 1-2 per project) • 12 pilot actions for multimodal environmentally friendly freight transport (based on CE 2007-2013 data in average appr. 2-3 per project)
	Total amount of eligible expenditure certified to EC for priority axis 4	EUR	4.300.000,00	35.650.281,00	<u>Milestone 2018 and target 2023:</u> Calculation extrapolated from the annual ERDF commitment (CP table 15) according to the co-financing rate and applying the distribution key of the funds for priority 4
	Number of approved operations in priority axis 4	Number	9	13	<u>Target 2023:</u> Calculation based on the funds allocated for priority 4 (ca. EUR 30 M ERDF) and an average project budget of EUR 2.3 M ERDF <u>Milestone 2018:</u> 70 percent of target value (assuming approval of operations of 3 calls for proposals)

4. Result indicators

4.1 Methodology

Similar to most European Territorial Cooperation (ETC) programmes, the Interreg CENTRAL EUROPE Programme primarily develops and improves specific know-how and capacities in different thematic fields through transnational cooperation in the programme area. This will be achieved by creating an enabling environment through improving the policy, legal and institutional frameworks, as well as through developing human resources and strengthening managerial systems. Due to missing data concerning these issues on the level of the entire programme area, neither the state of play, nor their inter-linkages or changes compared to the baseline situation can be expressed in quantitative terms but only through a qualitative appraisal and description. As a consequence, the result indicators covering the programme main results and capturing the desired change⁶ in the programme area are based on a qualitative description of the situation.

Each result indicator is composed of a set of four specific components which define the focus and scope of the indicator. The first three components are meant to describe the overall situation of the programme area with regard to the main aspects tackled by the respective result indicator, whereas the fourth one is directly related to the achievement and transfer (“roll-out”) of results of Interreg CENTRAL EUROPE transnational cooperation projects⁷. This allows identifying the changes which are attributable to the programme, considering thereby also potential external effects.

Data collection for the baseline and monitoring of progress are carried out at the level of the single components by applying a semi-quantitative method. This method is based on the establishment of a transnational expert panel per programme priority appraising the situation through structured surveys combined with dedicated focus group discussions collecting expert inputs from all nine central European Member States. The focus groups represent the key step that allows the aggregation and harmonisation of data collected from single national experts to a transnational perspective and at result indicator level.

The appraisal for each result indicator component is both qualitative (i.e. a brief statement focusing on key points) and quantitative using a Likert scale with the following five-level format (allowing half-scores): “1 - very poor”, “2 - low”, “3 - moderate”, “4 - good”, “5 - excellent”.

The expert panel is addressed (through surveys and thematic focus group discussions) at different stages of the programme implementation:

- Setting up the baseline situation (end 2014/early 2015)
- Measurement of the progress (2018 and 2020)
- Verification of the achievement of the set targets (2023)

The detailed methodology including the procedure for data collection and target setting as well as the establishment of the baseline situation is described in a separate document (“Result indicator baselines and measuring progress” - May 2015).

4.2 Explanation of result indicators and main components

The following table presents an overview of the components and main terminology relevant for each of the result indicators.

⁶ cf. EC Guidance Document on Monitoring and Evaluation (EC DG Regio: The programming Period 2014-2020: Guidance Document on Monitoring and Evaluation – European Regional Development Fund and Cohesion Fund, January 2014)

⁷ The criteria related to transfer of project results will be only included for progress monitoring in 2018, 2020 and 2023 since it is linked to the implementation of supported projects (therefore not applicable to the baseline). This applies for the respective criterion as included in all result indicators of P1-4.

Result indicator	Explanation / terminology	Main components
1.1 Status of linkages among actors of the innovation systems achieved through transnational cooperation in central European regions	<p>This indicator measures the <u>degree and quality of linkages achieved through transnational cooperation</u> among the actors in the innovation system at a certain point in time. The territory of reference is the whole CENTRAL EUROPE programme area as defined in Annex 03.</p> <p>Thereby, <u>linkages</u> are to be understood as: The innovative activities of a firm partly depend on the variety and structure of its links to sources of information, knowledge, technologies, practices, and human and financial resources. Each linkage connects the innovating firm to other actors in the innovation system: government laboratories, universities, policy departments, regulators, competitors, suppliers, and customers. (UNESCO - Measuring innovation, 2009).</p> <p><u>Innovation system</u> is to be understood as “the network of institutions in the public and private sectors whose activities and interactions initiate, import, modify and diffuse new technologies (Freeman, 1987)”.</p> <p><u>Actors</u> of the innovation system include stakeholders from the research and business sector, policy makers and public authorities.</p>	<ul style="list-style-type: none"> • Extent and quality of cooperation between actors in the innovation systems within a region as well as with other central European regions resulting in knowledge and technology transfer between research and the business (in particular SMEs) • Extent and performance of cluster and innovation networks and their degree of internationalisation • Degree of availability of services for innovation support of enterprises (including finance), in particular for SMEs • Degree of transfer of project results (including tested pilot solutions) to concerned stakeholders⁸
1.2 Status of capacities of the public and private sector for skills development of employees and entrepreneurial competences achieved through transnational cooperation driving economic and social innovation in central European regions	<p>This indicator measures the <u>capacities of the public and private sector in terms of skills development of employees and entrepreneurs as well as their entrepreneurial competences achieved through transnational cooperation</u> at a certain point in time. The territory of reference is the whole CENTRAL EUROPE programme area as defined in Annex 03.</p> <p><u>Skills</u> are to be understood as “productive assets of the workforce that are acquired through learning activities (OECD: Workforce skills and innovation, 2011).</p> <p><u>Entrepreneurship</u> is the mind set and process to create and develop economic activity by blending risk-taking, creativity and/or innovation with sound management, within a new or an existing organisation. (European Commission, Green Paper Entrepreneurship in Europe, 2003).</p> <p><u>Innovation</u> is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations (OECD, Oslo Manual: Guidelines for collecting and interpreting innovation data,</p>	<ul style="list-style-type: none"> • Extent of knowledge of the public and private sector on the adaption of workforce skills to market needs and innovation processes contributing to regional smart specialisation strategies • Extent of expertise of the public sector and private sector for fostering entrepreneurial mind sets and entrepreneurship • Degree of awareness of the public and private sector on opportunities and necessary competences for social innovation • Degree of transfer of project results (including tested pilot solutions) to concerned stakeholders

⁸ The criterion related to transfer of project results will be only included for progress monitoring in 2018, 2020 and 2023 since it is linked to the implementation of supported projects (therefore not applicable to the baseline). This applies for the respective criterion as included in all result indicators of P1-4.

Result indicator	Explanation / terminology	Main components
	<p>2005).</p> <p><u>Social innovations</u> are new ideas (products, services and models) that simultaneously meet social needs (more effectively than alternatives) and create new social relationships or collaborations (Murray et. al: Open Book of Social Innovation, 2010).</p> <p><u>Capacities</u> are to be understood as the enabling policy, legal and institutional environment including human resources development and the respective managerial systems.</p>	
2.1 Status of capacities of the public sector and related entities for increased energy efficiency and renewable energy use in public infrastructures achieved through transnational cooperation	<p>This indicator measures the <u>capacities of the public sector and related entities for increased energy efficiency and renewable energy use in public infrastructures achieved through transnational cooperation</u> at a certain point in time. The territory of reference is the whole CENTRAL EUROPE programme area as defined in Annex 03.</p> <p><u>Energy efficiency</u> improvements refer to a reduction in the energy used for a given service (heating, lighting, etc.) or level of activity. The reduction in the energy consumption is usually associated with technological changes, but not always since it can also result from better organisation and management or improved economic conditions in the sector ("non-technical factors") (World Energy Council: Energy Efficiency Policies around the World: Review and Evaluation, 2008).</p> <p><u>Renewable energy sources</u> are a diverse group of technologies that capture their energy from existing flows of energy, from on-going natural processes, such as sunshine, wind, flowing water, biological processes, and geothermal heat flows.</p> <p><u>Public infrastructure</u> comprises infrastructure that is owned by the public and/or is for public use, including public buildings.</p> <p><u>Capacities</u> are to be understood as the enabling policy, legal and institutional environment including human resources development and the respective managerial systems.</p> <p><u>Public sector related entities</u> are institutions (private or public owned) that undertake (commercial) activities on behalf of the public sector in the fields of public services, infrastructure and energy.</p>	<ul style="list-style-type: none"> • Extent of technical knowledge of the public sector and related entities on energy efficiency methods and renewable use in public infrastructure • Degree of awareness of the public sector and related entities on available energy related certification systems and harmonisation of national and European energy standards for public infrastructures • Extent of knowledge of the public sector and related entities on financing schemes for the implementation of energy efficiency measures and renewable energy use in public infrastructure • Degree of transfer of project results (including tested pilot solutions) to concerned stakeholders
2.2 Status of capacities of the public sector and related entities	<p>This indicator measures the <u>capacities of the public sector and related entities for territorially based low carbon energy planning and policies achieved</u></p>	<ul style="list-style-type: none"> • Extent of expertise of the public sector and related entities on local and regional low carbon energy planning

Result indicator	Explanation / terminology	Main components
for territorially based low carbon energy planning and policies achieved through transnational cooperation	<p>through transnational cooperation at a certain point in time. The territory of reference is the whole CENTRAL EUROPE programme area as defined in Annex 03.</p> <p><u>Energy planning</u> at the territorial level provides a framework linked to policies and economic development which considers the specific local/regional patterns of energy needs and resources serving as a tool to mitigate climate change and enhancing sustainability.</p> <p><u>Capacities</u> are to be understood as the enabling policy, legal and institutional environment including human resources development and the respective managerial systems.</p> <p><u>Public sector related entities</u> are institutions (private or public owned) that undertake (commercial) activities on behalf of the public sector in the fields of public services, infrastructure and energy.</p>	<ul style="list-style-type: none"> • Extent of knowledge of the public sector and related entities on managerial approaches and strategies for improving energy performance in the public and private sector • Extent of expertise and capacities of the public sector and related entities for the use of regional endogenous energy potentials • Degree of transfer of project results (including tested pilot solutions) to concerned stakeholders
2.3 Status of capacities of the public sector and related entities for low-carbon mobility planning in functional urban areas achieved through transnational cooperation	<p>This indicator measures the <u>capacities of the public sector and related entities for low-carbon mobility planning in functional urban areas achieved through transnational cooperation</u> at a certain point in time. The territory of reference is the whole CENTRAL EUROPE programme area as defined in Annex 03.</p> <p><u>Low carbon mobility planning</u> is to be understood as a set of interrelated measures designed to satisfy the mobility needs of people and businesses. They are the result of an integrated planning approach and address low carbon forms of transport in cities and their surrounding areas.</p> <p>A <u>functional urban area</u> is a functional economic unit characterised by densely inhabited “urban cores” and “hinterlands” whose labour market is highly integrated with the cores (OECD, 2012). This definition originating from labour market and commuting considerations provides a spatial delimitation beyond administrative borders which is relevant for a multitude of thematic fields.</p> <p><u>Capacities</u> are to be understood as the enabling policy, legal and institutional environment including human resources development and the respective managerial systems.</p> <p><u>Public sector related entities</u> are institutions (private or public owned) that undertake (commercial) activities on behalf of the public sector in the fields of public services, infrastructure, transport and energy.</p>	<ul style="list-style-type: none"> • Extent of expertise of the public sector and related entities on integrated low carbon mobility concepts in functional urban areas • Degree of suitability of governance systems in functional urban areas for facilitating integrated low carbon mobility approaches • Extent of knowledge and implementation capacity of the public sector and related entities for novel low-carbon technologies in public urban transport • Degree of transfer of project results (including tested pilot solutions) to concerned stakeholders
3.1 Status of integrated environmental management	<p>This indicator measures the <u>integrated environmental management capacities of the public sector and related entities achieved through transnational</u></p>	<ul style="list-style-type: none"> • Extent and quality of integrated management capacities of the public sector and related entities for the protection of high value natural

Result indicator	Explanation / terminology	Main components
capacities of the public sector and related entities for the sustainable use of natural heritage and resources achieved through transnational cooperation	<p><u>cooperation</u> at a certain point in time. The territory of reference is the whole CENTRAL EUROPE programme area as defined in Annex 03.</p> <p><u>Integrated environmental management</u> thereby means a comprehensive approach to natural resource planning and management that encompasses ecological, social, and economic objectives. It considers the interrelationships among different elements and incorporates concepts of carrying capacity, resilience and sustainability.</p> <p>As <u>natural heritage</u> are considered natural features, geological and physiographical formations (including habitats) and natural sites or precisely delineated natural areas. (UNESCO: Convention Concerning the Protection of the World Cultural and Natural Heritage, 1972).</p> <p><u>Natural resources</u> are produced by nature, commonly subdivided into non - renewable resources, such as minerals and fossil fuels, and renewable natural resources that propagate or sustain life and are naturally self-renewing when properly managed, including plants and animals, as well as soil and water (IUCN definitions⁹).</p> <p><u>Sustainable use</u> is to be understood as a usage respecting the principles of sustainability.</p> <p><u>Capacities</u> are to be understood as the enabling policy, legal and institutional environment including human resources development and the respective managerial systems.</p> <p><u>Public sector related entities</u> are institutions (private or public owned) that undertake (commercial) activities on behalf of the public sector in the fields of public services, infrastructure, transport and natural resources.</p>	<p>heritage</p> <ul style="list-style-type: none"> • Extent and quality of integrated environmental management capacities of the public sector and related entities for sustainable use of natural resources for regional development • Extent of competences of the public sector and related entities for efficient management of natural resources in public institutions and enterprises • Degree of transfer of project results (including tested pilot solutions) to concerned stakeholders
3.2 Status of capacities of the public and private sector for the sustainable use of cultural heritage and resources achieved through transnational cooperation	<p>This indicator measures the <u>capacities of the public and private sector for the sustainable use of cultural heritage and resources achieved through transnational cooperation</u> at a certain point in time. The territory of reference is the whole CENTRAL EUROPE programme area as defined in Annex 03.</p> <p><u>Cultural heritage</u> is composed of tangible heritage including buildings and historic places, monuments, etc.¹⁰ and intangible cultural heritage which refers to practices, representations, expressions, knowledge, skills etc. (UNESCO 2003: Convention for the safeguarding of the intangible cultural</p>	<ul style="list-style-type: none"> • Degree of awareness of the public and private sector on economic potentials and available expertise for the development of cultural and creative industries • Extent of knowledge and implementation capacity of the public and private sector for a sustainable use of cultural heritage as a driver for regional development and job creation

⁹ IUCN definitions: http://cmsdata.iucn.org/downloads/en_iucn_glossary_definitions.pdf

¹⁰ UNESCO: <http://www.unesco.org/new/en/cairo/culture/tangible-cultural-heritage/>

Result indicator	Explanation / terminology	Main components
	<p>heritage).</p> <p><u>Cultural resources</u> comprise both elements, the tangible and intangible cultural heritage, encompassing current culture, including progressive, innovative and urban culture. These resources can be valorised among others in cultural and creative industries.</p> <p><u>Sustainable use</u> is to be understood as a usage respecting the principles of sustainability.</p> <p><u>Capacities</u> are to be understood as the enabling policy, legal and institutional environment including human resources development and the respective managerial systems.</p>	<ul style="list-style-type: none"> • Extent and quality of transnational linkages between cultural heritage sites as well as between institutions working in culture related fields • Degree of transfer of project results (including tested pilot solutions) to concerned stakeholders
3.3 Status of integrated environmental management capacities of the public sector and related entities in functional urban areas for making them more liveable places achieved through transnational cooperation	<p>This indicator measures the <u>integrated environmental management capacities of the public sector and related entities in functional urban areas achieved through transnational cooperation</u> at a certain point in time. The territory of reference is the whole CENTRAL EUROPE programme area as defined in Annex 03.</p> <p><u>Integrated environmental management</u> thereby means a comprehensive approach to natural resource planning and management that encompasses ecological, social, and economic objectives. It considers the interrelationships among different elements and incorporates concepts of carrying capacity, resilience and sustainability. In the urban context is also means tackling related issues together such as urban management and governance, integrated spatial planning, economic wellbeing and competitiveness, social inclusion, and environmental stewardship (European Commission, 2005: Integrated environmental management).</p> <p>A <u>functional urban area</u> is a functional economic unit characterised by densely inhabited “urban cores” and “hinterlands” whose labour market is highly integrated with the cores (OECD, 2012). This definition originating from labour market and commuting considerations provides a spatial delimitation beyond administrative borders which is relevant for a multitude of thematic fields.</p> <p><u>Capacities</u> are to be understood as the enabling policy, legal and institutional environment including human resources development and the respective managerial systems.</p> <p><u>Public sector related</u> entities are institutions (private or public owned) that undertake (commercial) activities on behalf of the public sector in the fields of public services, infrastructure and natural resources.</p>	<ul style="list-style-type: none"> • Extent of competences of the public sector and related entities for integrated management in order to avoid land use conflicts in functional urban areas • Extent of knowledge and implementation capacity of the public sector and related entities for the rehabilitation and reactivation of brownfields in functional urban areas • Extent of knowledge and implementation capacity of the public sector and related entities for integrated strategies to improve the environmental quality (air, water, waste, soil, climate) in functional urban areas • Degree of transfer of project results (including tested pilot solutions) to concerned stakeholders

Result indicator	Explanation / terminology	Main components
4.1 Status of coordinated planning capacities of the public sector and related entities for regional passenger transport systems linked to national and European transport networks achieved through transnational cooperation	<p>This indicator measures the <u>capacities of the public sector and related entities for coordinated planning of regional passenger transport systems linked to national and European transport networks achieved through transnational cooperation</u> at a certain point in time. The territory of reference is the whole CENTRAL EUROPE programme area as defined in Annex 03.</p> <p>A <u>regional passenger transport system</u> can be defined as the combination of vehicles, infrastructure, and operations that enable the movements or satisfy the travel demand of people within a defined region.</p> <p><u>European transport networks</u> are to be understood in the sense of the Trans-European transport network (TEN-T) consisting of infrastructure for railways, inland waterways, roads, maritime and air transport, thereby ensuring the smooth functioning of the internal market and strengthening economic and social cohesion¹¹. The core network consists of the strategically most important parts and constitutes the backbone of the multi-modal mobility network. It concentrates on those components of TEN-T with the highest European added value: cross border missing links, key bottlenecks and multi-modal nodes.</p> <p><u>Coordination</u> is the synchronization and integration of activities, responsibilities, and command and control structures to ensure that resources are used most efficiently in pursuit of the specified objectives.</p> <p><u>Capacities</u> are to be understood as the enabling policy, legal and institutional environment including human resources development and the respective managerial systems.</p> <p><u>Public sector related entities</u> are institutions (private or public owned) that undertake (commercial) activities on behalf of the public sector in the fields of public services, infrastructure and transport.</p>	<ul style="list-style-type: none"> • Extent of expertise and planning capacity of the public sector and related entities for linking regional passenger transport systems to national and TEN-T networks • Degree of coordination of passenger transport actors within and between regions thereby contributing to improved regional transport services • Extent of knowledge and implementation capacity of the public sector and related entities for smart mobility solutions and services to connect regions to transport nodes • Degree of transfer of project results (including tested pilot solutions) to concerned stakeholders
4.2 Status of coordination among freight transport stakeholders for increasing multimodal environment-friendly freight solutions	<p>This indicator measures the <u>coordination among freight transport stakeholders for increasing multimodal environment-friendly freight solutions achieved through transnational cooperation</u> at a certain point in time. The territory of reference is the whole CENTRAL EUROPE programme area as defined in Annex 03.</p> <p><u>Multimodal (freight) transport</u> is understood as the carriage of goods by at least two different modes of transport. Intermodal transport is therefore a</p>	<ul style="list-style-type: none"> • Degree of coordination among freight transport stakeholders contributing to more environmentally friendly freight transport systems • Extent of knowledge and implementation capacities of freight transport stakeholders for multimodal environmentally-friendly freight

¹¹ Regulation (EU) No 1315/2013 Union guidelines for the development of the trans-European transport network

Result indicator	Explanation / terminology	Main components
achieved through transnational cooperation	<p>particular type of multimodal transport (in accordance with the European Conference of Ministers of Transport (ECMT) definition). Thereby environmentally friendly freight transport solutions are those allowing a significant reduction of emissions of CO₂, NO_x and particulate matter as well as of noise.</p> <p><u>Coordination</u> is the synchronization and integration of activities, responsibilities, and command and control structures to ensure that resources are used most efficiently in pursuit of the specified objectives.</p> <p><u>Public sector related entities</u> are institutions (private or public owned) that undertake (commercial) activities on behalf of the public sector in the fields of public services, infrastructure and transport.</p>	<p>transport systems and logistics</p> <ul style="list-style-type: none"> • Extent of knowledge and implementation capacities of freight transport stakeholders for greening the last mile of freight transport • Degree of transfer of project results (including tested pilot solutions) to concerned stakeholders

4.3 Baseline situation of result indicators

In accordance with the described methodology the baseline has been established on the basis of the outcomes of the on-line survey (end of 2014/beginning of 2015) and focus group discussions involving 45 national thematic experts carried out between January and March 2015.

4.3.1 Baseline situation for Priority 1 (result indicators 1.1 and 1.2)

Result indicator 1.1:

Status of linkages among actors of the innovation systems in central European regions

Score agreed by thematic expert panel: 3.0 (moderate)

Qualitative description of baseline situation

The transnational linkages among actors in innovation systems across central Europe area are considered as weak and needing development. Even though there is increasing awareness of necessity of cooperation among such actors and growing infrastructure dedicated for such cooperation (material and institutional), there is not enough practice or patterns.

Due to often weak co-operation links, not sufficient language skills, working culture of organisations not always oriented towards internationalisation, economic factors and sometimes high fluctuation of staff in co-operating institutions, long-term interregional co-operation between actors of regional innovation systems “happens” mostly when financed from public funds, especially through Interreg and other EU funding programmes.

With regard to co-operations between various actors within regional innovation systems existing co-operation linkages vary in quality and intensity between regions in different central Europe countries and there is a clear correlation between the quality and intensity of such linkages and the maturity of the innovation systems.

Although there are good examples of collaboration driven by SMEs, in many countries the business sector exploits the potential of innovation and technology transfer and participation in transnational value chains not sufficiently. The number of successful transfers remains for many central European regions still rather limited.

Cluster structures are established in all Member States of the central Europe area. They differ considerably in performance though, with some countries having several gold-labelled clusters and others having only bronze-labelled ones or clusters without a label at all. Nevertheless, in many regions their potential, including potential for internationalisation, is with several exceptions, only partially unlocked owing to the fact that:

- Cluster structures are mostly limited geographically
- In some regional clusters there is a lack of contacts and skills for internationalisation activities and there is too high dependence on public funding
- There is a lack of focus and strategy on improvement of cluster capacity and innovative performance and finding innovative ways of financing or internationalisation (in particular among company- driven clusters)

With regard to services for innovation support of enterprises, there are support mechanisms on the national and regional levels in all central Europe Member States, yet their effectiveness and impact is in many cases not evident. In general, more specific services targeted at individual companies are regarded as more beneficial to the SME sector than those of general purpose or character. Yet, more complex monitoring systems and databases collecting relevant information on the achieved impacts are often missing in regions. Furthermore, the co-ordination of the existing approaches to innovation support services for SMEs with the changing innovation policy priorities is not sufficient in most

regions. There is also often a lack of co-ordination between public, non-profit and the private sector organisations when it comes to provision of such services.

The role of private financial instruments for risk capital (e.g. venture capital, business angels, crowd funding) is growing. Developments in this field are however in numerous central European regions lagging behind the EU average and lack of access to financing, including risk capital (private or public) is still for many SMEs one of the barriers to their innovative growth and development.

Result indicator 1.2:

Status of skills of employees and entrepreneurial competences driving economic and social innovation in central European regions

Score agreed by thematic expert panel: 2.7 (low to moderate)

Qualitative description of baseline situation

Most central European regions show a highly educated work force. However, there is a lack of targeted action that can bridge the gap between the skilled work force and the needs of companies, in particular of SMEs. More specifically, there are identified gaps in skills related to ICT and technical knowledge, managerial skills for the innovation processes as well as shortage of soft skills (also related to the understanding of market dynamics, knowledge of regulations, intellectual property rights etc.) as well as language and communication skills.

Smart specialisation strategies have been developed in all central European regions, however their enhancement and implementation is recognized to be mostly at an early stage. Similarly, there is also a shortage of up-to-date models or innovative learning tools for skills development for public and private actors (including SMEs) linked to regional smart specialisation strategies. In order to enhance it, some countries are promoting a dual education system with a strong involvement of the private sector, and other countries have systems for the re-qualification of workforce for market needs. However, there still exists a need of structured systems that can provide qualified workforce capable of dealing with the current market challenges.

The culture of entrepreneurship is recognised as limited in many central European regions. Despite of the general awareness of the importance and this shortcoming as well as a rising trend in tackling it, the stigma of failure related to the risk-taking aspect of entrepreneurship still hinders its advancement. In addition to that, there is a lack of structured training for entrepreneurship development at all levels of education, linked to the market needs as well as integrated in the local and regional strategies. Only few regions offer suitable services for supporting entrepreneurs, such as financial support schemes or training. Furthermore, there is still little support for enterprise initiation and management of start-ups. In most central European regions still disparities of entrepreneurial development between large cities, smaller towns and rural areas exist, where bigger cities present a more suitable environment for entrepreneurship development.

The concept of social innovation remains only marginally known in most of the central European regions and across their innovation system actors, and there is still limited public and private intervention in this domain. Furthermore, only very limited research on skills needs for social innovation is available, or monitoring systems are in place in this field. Despite this, it is recognized as an important topic and there exists an early stage of development of measures, opportunities and solutions that are linked to it.

In most regions of central Europe social innovation and entrepreneurship are lagging behind in dealing with the recognised challenges of demographic change, such as brain drain, rising unemployment, ageing society etc. There is also a shortage of suitable framework conditions, i.e. the legislative framework is still not suited for the challenges of an ageing society in the labour market and is lagging behind in providing the necessary flexibility and opportunities to exploit this potential.

4.3.2 Baseline situation for Priority 2 (result indicators 2.1, 2.2 and 2.3)

Result indicator 2.1:

Status of capacities of the public sector and related entities for increased energy efficiency and renewable energy use in public infrastructures achieved through transnational cooperation

Score agreed by thematic expert panel: **2.9 (moderate)**

Qualitative description of baseline situation

The existing legislative framework, including national and regional strategic documents, related to energy efficiency methods (EE) and renewable energy use (RES) in public infrastructure is in most countries of central Europe adequate. In terms of implementation capacities however, disparities among national and regional entities as well as among regions can be observed. There is an identified need to intensify awareness raising and education activities in order to create a demand for the acceleration of implementation of EE & RES measures in public infrastructure.

Despite a relatively high number of already implemented EE & RES projects, there is a significant gap between available and required technical and managerial skills to initiate and implement EE & RES measures. In particular, available technical knowledge targeting various sustainable energy technologies, capacities for energy monitoring and evaluation as well as technical expertise for EE & RES investment realisation are lacking in public institutions. In addition, there is not sufficient workforce available in order to address needs and challenges linked to the use of EE & RES in public infrastructure (e.g. energy managers especially in smaller municipalities) that would either bring or acquire by training necessary technical and managerial expertise. There is also a high potential for developing and strengthening capacities for monitoring and evaluation of EE & RES measures which have been implemented.

Overall, the awareness and knowledge of European energy-related certification systems and standards in the public sector is rather moderate and there is a prevailing tendency of applying national energy audits and certification systems of building. This is mainly due to the fact that common evaluation and harmonisation of energy related certification systems and standards are not required at the EU level. Furthermore, when applying EU certification systems in practise, several barriers have been identified such as more time needed to get acquainted with such new methods and the necessity of certain technical foreign language skills.

The level of general knowledge on available financing schemes for the implementation of EE measures and RES use in public infrastructure also shows visible territorial discrepancies. There are some regions in which financial capacities and knowledge on existing financing methods and incentives are often missing. When it comes to innovative pricing schemes and flagship initiatives, e.g. PPP projects or projects funded through energy service companies (ESCOs), these are mainly lacking within local and regional public bodies. In most central European countries EU funds, national subsidies and incentive schemes are the main financial sources for implementing EE and RES projects. However, there is a lack of awareness and motivation for initiating third-party financing projects, energy performance contracting or other innovative financing schemes particularly in smaller communities.

Result indicator 2.2:

Status of capacities of the public sector and related entities for territorially based low carbon energy planning and policies

Score agreed by thematic expert panel: **3.0 (moderate)**

Qualitative description of baseline situation

Low carbon energy planning in public institutions depends on various factors, among others, existing technical knowledge and skills, availability of workforce (e.g. energy managers) and overall strategic interest regarding energy performance and low carbon issues. In general, most central European countries show a moderate level of expertise of the public sector and related entities on low carbon energy planning mainly at the national and regional level. There are however, recognised disparities between some quite advanced regions and rather unexperienced ones.

There is not sufficient quality of integrated low carbon planning processes that would adequately reflect changes in economic and social spheres, updates in the European and national legislation, as well as research and development trends in order to implement modern and innovative low carbon strategies and approaches. In some central European countries there is a lack of appropriate tools, instruments and capacities for implementation, particularly at local and regional level.

Relevant energy management and evaluation skills are currently kept mainly within regional and local energy agencies and consultancy companies. Some central European countries also identified that difficulties in acquiring relevant energy data are limiting the implementation of successful projects. Therefore, energy management related projects are mostly realised by private companies or through public private partnerships (PPPs).

Decision makers' capacities for boosting energy related investment projects are mostly not sufficient. Lack of information about how to create the necessary legal and financial framework for energy related investments is also identified among the main bottlenecks. Thereby, there is currently a lack of strategic approaches, experience and good practices with the implementation of EE & RES investments when compared to other infrastructure projects (e.g. roads, railway).

Despite of an identified high potential and existing variety of endogenous energy sources, its utilisation is still not sufficiently evolved. There is a common tendency to use one endogenous source of energy while developing a more comprehensive model of utilising the overall potential of a particular region is usually not considered. This is caused, among others, by a broad variety of endogenous energy sources (e.g. wind, water, sun) and the complexity of RES potential assessment which requires specific technical knowledge and skills being often not available in the public sector. In fact, due to missing expertise and experience with the utilisation of endogenous energy potentials at regional level the public sector often leaves the implementation of RES projects to other investors and to the free market. Some regions identified a gap among motivated communities already equipped by various planning tools (e.g. for elaboration of development plans or infrastructure planning) which are however lacking sufficient personnel capacities and in-house expertise for implementation of EE & RES measures.

Result indicator 2.3:

Status of capacities of the public sector and related entities for low-carbon mobility planning in functional urban areas achieved through transnational cooperation.

Score agreed by thematic expert panel: 2.5 (low to moderate)

Qualitative description of baseline situation

The skills and planning capacities of the public administrations and related entities for low-carbon mobility planning are seen as predominately limited, yet there are clear disparities between the central European regions. A significant difference was however identified, in particular between bigger cities usually having higher capacities than rural areas.

The awareness level of public administration bodies of the importance of integrated low-carbon urban mobility approaches is generally high and access to knowledge is in most cases sufficiently good and provided through technical universities and scientific experts, specialised private

consultancy companies and NGOs active in the field of green mobility. However, knowledge and expertise in public administrations is in most cases only available to a certain extent and an improvement and better spreading of knowledge is required.

The basis for low-carbon urban mobility concepts is usually provided through national action plans for energy efficiency and renewable energies, strategies for transport development and green mobility or urban development plans.

Low carbon mobility is a challenge for functional urban areas. In some single cases measures for greening public urban transport have already been put in place and supported by national funds or indirect subsidies. However, clear integrated approaches and dynamic solutions also taking into account the functional urban area aspect are missing in most cases. A clear commitment to use second generation biofuels is not always given.

Although in some cases advisory boards exist, the general lack of suitable integrated governance structures or a specific administrative body in charge of functional urban area planning is seen as the reason why integrated urban mobility planning approaches are often not in place.

In almost all central European countries a clear lack of implementation capacities for low carbon mobility planning exists which is due to various reasons: The basic cause in all cases is a lack of financial means and of knowledge about potential financing schemes. Often political reasons are limiting planning to election periods and thus blocking strategic approaches. In other cases, little knowledge on good practice examples is limiting implementation capacities. Since integrated mobility planning in functional urban areas is challenging and requires going beyond administrative borders, there is still a lack of adequate governance models.

Intermodal urban mobility planning at functional urban area level is not common practice in central European regions, good linkage between municipal public transport and transport means in hinterlands is in most cases missing for various reasons, e.g. difficulty to coordinate and streamline many stakeholders and a big number of communities to be involved, the fact that public transport in hinterlands is drastically diminishing or that transport in hinterlands is mainly privately organized.

4.3.3 Baseline situation for Priority 3 (result indicators 3.1, 3.2 and 3.3)

Result indicator 3.1:

Status of integrated environmental management capacities in the public sector and related entities for the sustainable use of natural heritage and resources achieved through transnational cooperation

Score agreed by thematic expert panel: **3.2 (moderate)**

Qualitative description of the baseline situation:

The CENTRAL EUROPE Member States have in general a comprehensive legislative framework for the protection and management of the environment, in particular when considering the high standards of the environmental protection in place. In some central European countries the processes for the implementation of the environmental legislation are however not sufficiently established and there appear in some cases also deficiencies in the related expertise and skills required. This is among others due to the complexity of the environmental legislation but also due to new upcoming challenges linked to climate change. In addition, the practical implementation of this legal framework between Member States is not sufficiently harmonised. In some cases this also applies for the situation within a single Member State and the coordination of strategies and measures realised at regional level. Similarly, in several central European countries the sustainable management and the use of natural resources are not sufficiently integrated in and coordinated with the local and regional development strategies as well as with other sectoral policies (e.g. transport). As consequence pressures on the natural resources remain (e.g. pollution of water, air and soil, biodiversity losses etc.). At the same time also the valorisation of economic potentials related to these environmental resources is not sufficiently used (e.g. savings due to resource efficiency measures in businesses, touristic valorisation of natural heritage sites). While the level and quality of protection of natural heritage is considered as good within protected areas as designated by law, the procedures enabling the conservation of high-value natural resources (such as biodiversity, valuable habitats and species) outside of protected areas is not sufficiently established in several countries.

All central European countries have established and are operating environmental monitoring systems, which generally provide a sound level of information at both national and regional level. However, there are specific thematic fields in which there appear to be data gaps, e.g. for biodiversity monitoring. Communication on results of environmental monitoring between the policy makers, different levels of public administration responsible for environmental issues (in particular local and regional), environmental experts and the general public is not adequately established in most central European countries. Also the provision of environmental information to the public is not always sufficient and some countries are still lacking participative approaches involving the public.

Integrated and sustainable environmental management approaches are considered as relevant for ensuring a high degree of environmental protection while allowing socio-economic development. In practice, the implementation is however often hampered by insufficient coordination among institutions (including public and private sector bodies). Also the different governance levels which need to be often involved (in particular local and regional) render such cooperation difficult.

The existing knowledge and implementation capacity of the public sector and related entities actually differs between environmental resources, as some are managed better than others, and between countries (e.g. air pollution better managed than soil pollution, different degree of resource efficiency measures in companies). In addition, this knowledge is also often not systematically applied as shown e.g. by the fact that green public procurement is not systematically applied. Due to staff limitations and a lack of financial resources in the public administrations in several central European countries capacities for the implementation of the in force environmental legislation are limited, integrated approaches are not systematically applied and use conflicts between environmental protection and socio-economic development goals (e.g. tourism, private investments etc.) persist. Cooperation between institutions, different government levels and across borders is considered currently insufficient but relevant for improving the situation.

Result indicator 3.2:

Status of capacities of the public and private sector for the sustainable use of cultural heritage and resources achieved through transnational cooperation

Score agreed by thematic expert panel: 3.0 (moderate)

Qualitative description of the baseline situation:

The awareness on the importance of cultural resources and heritage for regional development is generally available in most of the central European regions, especially at national and regional level. The same applies for cultural and creative industries for which support has been foreseen in many of the regional development operational programmes for the 2014-2020 period. At local level and in rural areas however, the awareness of the added value of cultural resources is often more limited (especially when it comes to intangible heritage). Even though this general knowledge is existent and reference to cultural heritage and resources is included in many policy documents, its economic and job creation potential is in practice often however not yet sufficiently used and exploited. Also the development approaches currently applied are not always sustainable (e.g. usage conflicts, accessibility etc.) and are not benefitting the entire territory and population.

One of the reasons for the insufficient valorisation of these existing potentials is that the implementation capacity, especially of the public sector, is in several central European Member States not yet sufficiently developed. Practical knowledge and experience are actually often missing, notably with regards to integrated sustainable regional development approaches based on cultural heritage and resources (e.g. quality management, resource efficiency, territorial marketing etc.) and to the development of innovative and marketable products (e.g. creative tourism). Such approaches and products would however allow a better valorisation of economic and job creation potentials linked to culture. Furthermore, with regards to the cultural and creative industries (CCI) sector there is in several cases a lack of knowledge on which support measures implemented to foster the development of this sector are the most successful.

In fact, knowledge and awareness are just developing as previously the economic dimension of culture was not so much considered. Also support measures for the development of cultural and creative industries are often only in a starting phase (recently set-up or planned with the implementation of new operational programmes 2014-2020). They still need to be further developed and implemented at a broader scale. In addition, reliable monitoring data, related statistics and evaluations of support measures carried out are often not available, especially when it comes to the cultural and creative industries as well as to the economic effects related to culture.

Another reason why currently not yet the full economic potential of cultural resources is used lies in the fact that there is not enough cooperation between the public and the private sector; especially the cooperation with the finance sector proves to be difficult. Thereby certain reluctance from both sectors can be observed and as a consequence the private sector is often not ready to realise investments. Public-private partnerships are however considered as promising approaches in this regard and an intensification of the cooperation is seen as important.

With regards to the cooperation beyond national borders, numerous transnational linkages exist in most central European Member States especially when it comes to major culture sites and/or large institutions working in the cultural field (e.g. ministries). In addition, in border areas the cross-border cooperation is generally good. However, especially at local and regional level, the existing linkages do often not sufficiently allow the exchange on practical knowledge and experience for strengthening the institutional capacities and for using cultural resources for regional development. Furthermore, only few transnational cultural products and services exist which are promoted within and beyond the central Europe area. There is a high potential for the further development, strengthening and sustaining of these exchanges and cooperation. This is especially true as the current linkages often depend on public support (mostly European funds) and are, since being project based of short/medium term nature; thus they are currently often not yet sustainable.

Result indicator 3.3:

Status of integrated environmental management capacities of the public sector and related entities in functional urban areas achieved through transnational cooperation for making them more liveable places

Score agreed by thematic expert panel: 2.9 (moderate)

Qualitative description of the baseline situation:

The existing legislative framework applicable for the environmental situation in urban areas and the respective spatial planning policies are in most countries of central Europe adequate, in particular when considering the envisaged high environmental quality standards. There is however in some countries a problem that zoning plans are not covering the entire functional urban area which is leading to usage conflicts (e.g. between residential zones, industrial zones, pressures on green spaces etc.). In addition, several countries are facing difficulties with the practical implementation of the legislation and the reaching of these high standards. Reasons are among others, that not all environmental issues in the urban context are tackled with the same level of ambition (for example in some countries a certain focus is put on air protection, water protection etc. while at the same time less emphasis is put on environmental issues such as noise and soil protection). Furthermore, environmental concerns are not always treated at the same level of importance as economic and social aspects in the land use planning which has a direct influence on and the actual land use. In addition, there is a certain lack of monitoring information and data on the environmental quality at the level of the functional urban area and good practice examples for reaching the envisaged high environmental standards are not sufficiently available. In this context, communication of information on the environmental quality to the public is regarded as essential but currently the information flow is perceived as not yet sufficiently well established in most of the central European Member States.

Integrated management approaches are considered as a relevant method for reaching high environment quality standards and for mitigating persisting usage conflicts. However, even though general knowledge on the importance of integrated approaches is shared, their practical implementation is not yet common and not broadly spread across central Europe. Furthermore, integrated environmental management approaches remain also often project based and are not systematically implemented. This is among others due to the fact that institutional competences for implementing fully integrated approaches are limited as, particularly in the context of functional urban areas, competences are often split between several institutions and/or governance levels. In addition, coordination between different institutions and/or governance levels remains insufficient.

The staff employed by the public sector and related entities is considered to have in general a good level of expertise for taking actions related to the improvement of the environmental quality in the urban context. Nevertheless, practical experiences with the implementation of integrated approaches are limited and in several central European Member States the cooperation of experts between different institutions is not sufficient. Furthermore, additional new requirements stemming from complex environmental legislation as well as the challenges related to climate change adaptation are perceived as demanding for the public administrations especially at local and regional level.

The topic of rehabilitation and reactivation of brownfields is often included in strategic policy documents. In practice however, in several central European Member States, due to a lack of funds only limited brownfield rehabilitations and reactivations actually take place. Therefore development often occurs in greenfield areas leading to urban sprawl and further soil sealing. The implementation capacity of public institutions for brownfield management differs between the Member States of central Europe. In fact, in some countries a long tradition and experience with this topic exists, while in others the respective practical experience, knowledge and expertise is more limited. This applies also to the cooperation of the public with the private sector on this topic which is often not sufficiently developed.

The transnational exchange of experiences within cooperation projects but also cooperation between institutions at an early planning stage (e.g. in the frame of strategic environmental assessments) are considered valuable methods for addressing environmental challenges. As a consequence, an intensification and further development of such cooperation is considered as important.

4.3.4 Baseline situation for Priority 4 (result indicators 4.1 and 4.2)

Result indicator 4.1:

Status of coordinated planning capacities of the public sector and related entities for regional passenger transport systems linked to national and European transport networks achieved through transnational cooperation

Score agreed by thematic expert panel: 3.0 (moderate)

Qualitative description of the baseline situation:

In peripheral and low density regions of central Europe the level of services for public transport is often low or sometimes even not existing during weekends and overall widely not competitive with individual transport. However, the awareness of the importance of integrating public transport services at regional level as well as the expertise for planning and coordinating regional public transport systems and linking them to national and TEN-T networks is mostly available.

Implementation capacity of regions for passenger transport coordination is supported by national transport policies that are underlining the need for linking regional, national and TEN-T networks, but it is limited by several factors: overall financial constraints of the public sector, investment priorities focusing on other transport policy challenges such as the elimination of infrastructure bottlenecks of national and TEN-T networks, passenger transport operators that are focused on one single mode of transport (rail, bus) or on one territory without sufficient cooperation with other local public transport operators, lack of coordination between transport and land use planning and last but not least by the fact that railway operation and infrastructure provision are mostly not sufficiently well coordinated.

In central European regions different types of governance structures for the coordination of regional passenger operators are available, offering different levels of integration within one region. Regional transport associations which are the most powerful governance structures are well established in a small number of regions or are in the course of development. A less effective form of intra-regional coordination is that regional authorities are directly responsible for public transport management which are contracting bus and rail operators separately and coordinating services of local public transport operators. In other countries regional bodies have limited competences for managing public transport within their own region.

Coordination and planning of public transport services between different regions and linking them to national and European networks requires the involvement of stakeholders at national level. However, usually the degree of coordination is lower than within the single regions. Coordination and planning of integrated public transport beyond national borders is only existent in a few cases. Overall, a clear lack of coordination and integration for regional passenger transport systems and linking them to national and TEN-T networks is evident in most central European regions, but progress has been made in the last years.

General knowledge on smart mobility services and intelligent transport systems is widely available, in particular at national level. However, integrated and practically tested and sustainable solutions to apply these services and tools are limited. Implementation capacity of the public sector for smart mobility solutions is limited mainly by budget restrictions, by decision makers showing limited interest in innovation and by transport policy priorities focussing on hard infrastructure investments.

Result indicator 4.2:

Status of coordination among freight transport stakeholders for increasing multimodal environmentally-friendly freight transport solutions achieved through transnational cooperation

Score agreed by thematic expert panel: 2.6 (low to moderate)

Qualitative description of the baseline situation:

The awareness of the importance of environmentally friendly freight transport solutions and a general knowledge on multimodal transport technologies and green logistic applications is mostly available in central European regions. This awareness is well reflected in the priorities of transport policy and strategy documents.

Nevertheless multimodal freight transport has only a small market share in the highly competitive sector of freight transport, which is however dominated by a still increasing share of road transport with considerable impact on air pollution and greenhouse gas emissions. The freight transport sector is characterised by an overall limited level of cooperation and cooperation of key actors and an “implementation dilemma” comparing political priorities for environmentally friendly freight transport with the actual development of the modal split and transport emissions. Multimodal services for environmentally friendly freight transport solutions are available in most regions, but are in many cases not competitive, thus limiting the exploitation of the full potential of environmentally friendly freight transport solutions.

Implementation capacity of key stakeholders for multimodal environmentally-friendly freight transport solutions is limited in several central European regions due to the following reasons: outdated terminal equipment or missing terminals, partially outdated railway and waterway infrastructure, restricted public investment in terminals due to competition law, difficult access for SMEs to combined transport, lack of awareness for new solutions, high costs compared to road transport with missing adequate incentives (e.g. road pricing, fuel taxation etc.) for multimodal freight transport and last but not least by a lack of coordination between transport, land use and regional planning.

Coordination of freight transport stakeholders such as harbours and multimodal terminals for increasing multimodal environmentally-friendly freight transport solutions is therefore limited in this competitive environment.

Increasing negative environmental effects of traffic congestions in urban centres raise the awareness for the need of innovative solution for greening the last mile of freight transport. General knowledge on new logistic concepts for greening the last mile (e.g. city logistics) has been rapidly growing in the last years and is mostly available in central European countries, in particular in research institutions and at national level. Practical experience with integrated, well tested and sustainable solutions that are accepted by market actors is however limited.