



**Northern Periphery and  
Arctic Programme**  
2014-2020



**EUROPEAN UNION**

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# Evaluation Plan

For the Northern Periphery and Arctic Programme 2014 - 2020

Adopted by the Monitoring Committee on 4<sup>th</sup> December 2015

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### **Annex 1, definition of Output indicators**

### **Annex 2, definition of Result indicators**

# 1. Background and legal requirements

## 1.1 Introduction

According article 56.3 and 54.1 of the Common Provision Regulation 1303/2013 there is a request for impact evaluations: *“During the programming period, the managing authority shall ensure that evaluations, including evaluations to assess effectiveness, efficiency and impact, are carried out for each programme on the basis of the evaluation plan and that each evaluation is subject to appropriate follow-up in accordance with the Fund-specific rules. **At least once during the programming period, an evaluation shall assess how support from the European Structural & Investment (ESI) Funds has contributed to the objectives for each priority.** All evaluations shall be examined by the monitoring committee and sent to the Commission.”*

And furthermore; *“The impact of programmes shall be evaluated, in the light of the mission of each ESI Fund, in relation to the targets under the Union strategy for smart, sustainable and inclusive growth and, having regard to the size of the programme, in relation to GDP and unemployment in the programme area concerned, where appropriate.”*

In conclusion, the purpose of the impact evaluation(s) is to evaluate:

1. How the ERDF contributed to the objectives of each priority.
2. If the programme is contributing to the targets of the EU2020 objectives.
3. Where appropriate, if the programme is contributing to the GDP and (reduction of) unemployment. This is in general not needed for Interreg programmes considering the size of their programme.

Each programme should start preparing the impact evaluation(s) by drafting an evaluation plan. *“The evaluation plan shall be submitted to the monitoring committee no later than one year after the adoption of the operational programme.”* (CPR, Article 114.1.).

## 1.2 Content of the Evaluation Plan

An evaluation plan should at least contain the following elements:

- subject and rationale
- evaluation questions
- methods and data requirements
- duration and tentative date
- estimated budget

With point of departure in the intervention logic, the *subject and rationale* outlines the background, the coverage and the main approach of the evaluation.

The evaluation plan shall explain how the evaluation process will provide evidence to allow for overall conclusions on the contribution of each programme priority axis to their objectives. The evaluations planned should also allow concluding on the impact of the programme in relation to the targets of the

Europe 2020 Strategy. The methodology and the depth of the evaluation carried out is not necessarily the same for all priority axes.

*Evaluation questions* will have to be defined to identify how the ERDF contributed to the objectives of each priority. The more specific the questions are, the more useful the answers will be. The evaluation questions can be further specified in the ToRs for the evaluation.

*The evaluation method* required will depend on the evaluation questions that need to be answered, as well as corresponding the investment priority and specific objective. Very often a mix of methodologies might be necessary to understand what happened and why. For each specific objective a different method could be used.

A good evaluation relies on good quality *data*. The evaluation questions will determine what data need to be collected, and when. This may be monitoring data or new data which need to be collected specifically for the evaluation through surveys and interviews with stakeholders.

In the NPA's case, it shall be considered to what extent the regional expert panels appointed for the baseline values and targets for the result indicators can provide input to the evaluation process. Furthermore the possibility for collecting project data via the eMS monitoring system has to be explored.

The *timing* of impact evaluation(s) has to be balanced. In general, it should be scheduled as late as possible to enable the availability of results but also as early as possible to allow the findings to feed into the policy process.

For the NPA the First Call, projects will close by mid-2018, which indicates that 2018 should be the earliest time an impact evaluation can take place. It shall be considered if results from projects funded by the 2007-2013 programme can be utilised for the NPA-evaluation as well (mainly for Priority Axis 1 and 2) so the volume of the implemented projects are increased.

Further issues of interest for the evaluation are first of all the Arctic Dimension and the horizontal principles. In addition, issues like efficiency in relation to geographical coverage, benefits for local and regional communities and efficiency in relation to prioritised target groups, for example SMEs, should also be a part of the evaluation.

## 2. Subject and rationale, guiding evaluation questions

### 2.1 Introduction

The Northern Periphery and Arctic Programme area is the focus of increasing popular and political attention linked to climate change and its impacts throughout the Programme area. In addition, long-standing development issues persist across the Programme area, most notably peripherality, harsh climate, structural economic problems, out-migration and an ageing population.

Linked to these issues are considerable development challenges. However, in the context of globalisation and the growing international attention, and based on the region's economic, human and environmental strengths, the Programme area is open to considerable new opportunities and a promising future. The realisation of these opportunities depends on timely and wise engagement with the issues, coordinated and strategic management at all levels, and an even greater level of interaction across the area and beyond the borders of the Programme area.

The vision of the NPA-Programme *aims to expand regions' horizons, building on concrete outcomes and enabling the NPA area to be a first class region in which to live, study, work, visit and invest.*

*To counteract the overwhelming challenges, the Programme will help to generate vibrant, competitive and sustainable communities by harnessing innovation, expanding the capacity for entrepreneurship, and seizing the unique growth initiatives and opportunities of the Northern and Arctic regions in a resource-efficient way.*

This will be achieved through:

- Using innovation to maintain and develop robust and competitive communities.
- Promoting entrepreneurship to realise the potential of the Programme area's competitive advantage.
- Fostering energy-secure communities through promotion of renewable energy and energy efficiency.
- Protecting, promoting and developing cultural and natural heritage.

These objectives translate into four priority axes and six specific objectives, which have been developed in response to the distinctive characteristics of the programme area and the Europe 2020 goals.

### 2.2 The Arctic Dimension

The identified challenges and possibilities for the Programme area have a specific character and are so to speak more extreme within the Arctic part of the area. For example peripherality and low dense population is the general situation for the entire Programme area. But while the average population density for the Programme area is 6 persons per square kilometre, the density for the Arctic is below one person per square kilometre. Another example is the impact of climate change where climate change projections predict that temperatures will rise higher and earlier in the Arctic region and neighbouring areas than in rest of the Programme area.

In relation to the opportunities, the abundant of natural resources is a characteristic that covers most of the Programme area. However, the Arctic part of the Programme area in particular contains huge

unexploited mineral, oil and gas resources which might be accessible in the future because of climate change.

Despite this specific character of the challenges and opportunities within the Arctic region, the Programme has not appointed any specific Arctic priority axis. The ambition is that as many as possible of the funded projects shall cover the Arctic part of the Programme area and actively involve arctic partners and end users as much as possible and relevant.

Furthermore, it is the ambition that the Programme shall collaborate with other programmes and initiatives within the Arctic part of the Programme area so the programmes and initiatives that cover the Arctic region are used in a more comprehensive and efficient way.

## 2.4 The horizontal principles

The Programme identifies three horizontal principles:

- Environmental sustainability
- Inclusion and diversity
- Equality between men and women

The concepts of gender equality, inclusion and environmental sustainability have been expressed in actions and indicators that are feasible in concrete terms, measurable at project and Programme level, and aim at stimulating changes in attitude and behaviour. Based on the approach set out in the Programme document, the Programme will evaluate how the horizontal principles are addressed by each project proposal and apply relevant selection criteria defined at Programme level.

## 2.5 Formulation of evaluation questions

In the following each of the six specific objectives will be explained, the logic behind them and the results sought. For the purpose of the impact evaluation one tentative question will be formulated for each specific objective supplemented with a number of supporting sub-questions and specific questions concerning the Arctic Dimension and the horizontal principles. The evaluation questions will as closely as possible be linked to the programme specific result and output indicators with the purpose to utilise the ongoing monitoring of the result indicators and the output indicators collected from the project reporting in the best possible way. Based on the evaluation questions the possible evaluation methodology and data sources will be discussed in section 3.

The tentative evaluation questions will be formulated in the final format in the Terms of Reference for the evaluation task. The TOR will in addition include an overall question about the Programme's contribution to the Europe 2020 Strategy.

### **Specific Objective 1.1 - Increased innovation and transfer of new technology to SMEs in remote sparsely populated areas**

According to the programme area analysis, SMEs, and among these particularly micro-enterprises, in remote and sparsely populated communities commonly suffer from a lack of critical mass and weak external links to access innovation support.

The Programme aims to help SMEs to overcome these challenges by contributing to transnational collaboration between businesses and research institutes, facilitating the clustering of businesses across borders, supporting transnational business networks, building innovation infrastructures, and connecting knowledge-brokers to SMEs. Through these actions, the Programme can also contribute to attitude change among the different actors in the innovation system, collaborations on targeted and demand-driven innovation support, and technology transfer for local and regional SMEs in remote areas.

As a result of transnational cooperation, the NPA 2014-2020 seeks to contribute to an improved innovation environment in peripheral areas, with support infrastructures that encourage SMEs in these regions to participate in innovation processes, and to contribute to more outward-looking attitudes towards innovation, which facilitate interaction between SMEs and R&D actors across regional and national borders. A tangible Programme-level result in the medium term will be changing attitudes to innovation and changing behaviour among SMEs and intermediary actors. In the longer term, the result will be a higher level of innovation and competitiveness in remote and sparsely populated areas.

The specific objective is further explained in the programme document.

The result indicator for Specific Objective 1.1 has been defined as *degree of transnational collaboration between SMEs and R&D in remote and sparsely populated areas*. The intention is to monitor the development within this field throughout the programme period. The monitored development will be a result of more general trends as well as the impact of many different local, national and international interventions including eventually contributions from the Programme.

### **Evaluation question**

A tentative evaluation question for Specific Objective 1.1 is *to what extent the Programme has contributed to the observed development in transnational collaboration between SMEs and R&D?*

Furthermore,

- What kinds of businesses (sector, size, maturity) and facilitating organisations have been involved, directly and indirectly, through NPA funded actions?
- What kinds of new innovation support systems and structures have been established as an impact of the Programme?
- Has the cooperation between R&D and SMEs been enhanced as a direct impact?
- To what extent have underrepresented groups as young people, indigenous peoples or women been directly involved in the activities organised by the supported projects?

### **Specific Objective 1.2 - Increased innovation within public service provision in remote, sparsely populated areas**

Remote and sparsely populated areas in the Programme area face shared challenges in accessing key public services, such as healthcare, social care, education and energy. Within these areas, public service providers are faced with the challenge of reconciling limited resources and a lack of critical mass with an increasing demand for public service provision. In addition, markets can fail to service extremely remote areas, even in terms of the provision of basic goods.

Transnational cooperation can facilitate the transfer and development of innovative organisational models, processes and solutions to address the viability of public service provision and the provision of basic goods and services, e.g. through private-public partnerships, urban-rural cooperation, social enterprises and other innovative approaches to pooling competences and resources.

In addition, collaboration with R&D institutes could result in innovative and distance-spanning technologies that enable new ways to deliver public services, such as mobile health and wellbeing services in sparsely populated areas. Such developments are especially relevant in the NPA Programme area, which faces particular challenges in terms of an ageing population, lifestyle diseases, cold climate and long distances.

The Programme seeks to contribute to an increased awareness of and openness to new approaches to providing and using public services that will meet future demands in remote and sparsely populated areas. A more tangible result in the medium term will be the development of new concepts for public service provision. In the longer term, transnational cooperation shall contribute to a 'future-proofing' of public services in remote, sparsely populated areas.

The specific objective is further explained in the programme document.

The result indicator for Specific Objective 1.2 has been defined as *availability and use of technology-driven public service provision in remote and sparsely populated areas*. The intention is to monitor the development within this field throughout the programme period. The monitored development will be a result of more general trends as well as the impact of many different local, national and international interventions including eventually contributions from the Programme.

### **Evaluation question**

A tentative evaluation question for Specific Objective 1.2 is *to what extent has the Programme contributed to enhancement of the availability and use of technology-driven public service provision in remote and sparsely populated areas?*

Furthermore,

- What kinds of public services have been impacted?
- What kinds of new technologies have been introduced?
- What other kinds of innovative solutions and models (than technology driven) have been introduced?
- Can any changes in the mind set and awareness among public service providers in relation to new solutions and models be identified as an impact of programme interventions?

### **Specific Objective 2.1 -Improved support systems tailored for start-ups and existing SMEs in remote and sparsely populated areas**

Start-ups and existing SMEs face particular operational challenges, such as obtaining finance and lack of critical mass. According to the area analysis, these challenges for start-ups and SMEs in remote and sparsely populated areas are amplified by long distances to support systems. In addition, as companies in the periphery, they face challenges such as a small local customer base, long distances to market,

and a poor business environment generally, which threaten the survival and growth of start-ups and existing SMEs.

Transnational cooperation can contribute to an improved entrepreneurial climate by facilitating the transfer and development of business support strategies and solutions to overcome the challenges faced by start-ups and existing SMEs in remote and peripheral regions. This is particularly valid for SMEs outside traditional sectors as fishery and forestry, which could contribute to a more dynamic business sector.

The Programme seeks to contribute to an improved entrepreneurial business environment supporting start-ups and existing companies in remote and sparsely populated areas. A tangible result in the medium term will be the development of new business support systems. In the longer term, transnational cooperation will contribute to a higher frequency and success rate of start-ups and survival of existing SMEs in remote, sparsely populated areas.

The specific objective is further explained in the programme document.

The result indicator for Specific Objective 2.1 has been defined as *conditions for start-ups in remote, sparsely populated areas*. The intention is to monitor the development within this field throughout the programme period. The monitored development will be a result of more general trends as well as the impact of many different local, national and international interventions including eventually contributions from the Programme.

### **Evaluation question**

A tentative evaluation question for Specific Objective 2.1 is *to what extent has the NPA contributed to improvement of the conditions for start-ups in remote, sparsely populated areas?*

Furthermore,

- To what extent has the availability of support services been enhanced because of activities funded by the Programme?
- What kinds of businesses (sector, size, maturity) have been impacted by the Programme's interventions?
- To what extent have underrepresented groups as young people, indigenous peoples or women been directly involved in the activities organised by the funded projects?

### **Specific Objective 2.2 - Greater market reach beyond local markets for SMEs in remote and sparsely populated areas**

In addition to the well-recognised challenges faced by entrepreneurs, SMEs, and among these specifically micro-enterprises in remote and sparsely populated areas, are faced by particular challenges, such as a small local customer base and long distances to market. In addition, micro-enterprises – SMEs with fewer than 10 employees – commonly lack experience or a tradition of cooperation with enterprises outside the local area.

Transnational cooperation can contribute to better access to key markets and a wider customer base by facilitating the transfer and development of marketing concepts and models.

The Programme seeks to contribute to an increased awareness of and increased capacity to act on business opportunities beyond local markets to overcome challenges faced by SMEs in remote and sparsely populated areas, such as a small customer base and long distance to market. A tangible result in the medium term will be changes in attitudes and market behaviour among SMEs in remote, sparsely populated areas. In the longer term, transnational cooperation will contribute to an enhanced integration of the Programme area within the global economy.

The specific objective is further explained in the programme document.

The result indicator for Specific Objective 2.2 has been defined as *degree of internationalization of SMEs in remote and sparsely populated areas*. Through the update of the values of the result indicator the development within this field is monitored throughout the programme period. The monitored development will be a result of more general trends as well as the impact of many different local, national and international interventions including eventually contributions from the Programme.

### **Evaluation question**

A tentative evaluation question for Specific Objective 2.2 is *to what extent has the Programme increased the capacity of SME in remote and sparsely populated areas to act beyond local markets?*

Furthermore,

- Have SMEs to a higher extent been engaged in transboundary business-to-business activities because of Programme funded activities?
- What kinds of new transboundary business networks, clusters and other business to business relations have been established?
- What kinds of SMEs (sector, size, maturity) have been involved?
- Have new (permanent) business support services been established to facilitate access to new markets?
- To what extent have underrepresented groups as young people, indigenous peoples or women been directly involved in the activities organised by the funded projects?

### **Specific Objective 3 - Increased use of energy efficiency and renewable energy solutions in housing and public infrastructures in remote, sparsely populated areas**

Ensuring a reliable, sustainable and affordable energy supply is particularly challenging in the remote and sparsely populated communities in the Programme area, especially due to their lack of critical mass and issues linked to the harsh climatic conditions of many parts of the area.

In regions that have historically had access to relatively cheap energy, such as hydropower, a tradition of energy efficiency and high-yield insulation of buildings is sometimes missing. Regions without access to cheap energy are more dependent on fluctuating fuel prices and could benefit from a greater degree of energy self-sufficiency, especially cold regions.

A change in awareness and public policy is required to achieve a higher uptake of energy efficiency measures and renewable energy solutions in housing and public infrastructures. Relevant actions could include incentives for retrofitting houses, changes of demands on constructing houses, a change in urban planning, a change in energy policy, and so on.

The Programme seeks to contribute to increased awareness about and increased readiness to invest in energy efficiency measures and renewable energy solutions suitable for constructing, maintaining and running housing and public infrastructures in cold climates and dispersed settlements. A tangible result in the medium term will be the development of a number of new concepts for energy-saving and use of renewable energy suited for small dispersed settlements and public infrastructures in cold climates. In addition, such a shift to new concepts could create business opportunities for companies developing and installing such solutions. In the longer term, transnational cooperation will contribute to higher energy efficiency in remote, sparsely populated areas.

The result indicator for Specific Objective 3 has been defined as *energy performance of residential buildings and public infrastructures in remote and sparsely populated areas*. Through the update of the values of the result indicator the development within this field is monitored throughout the programme period. The monitored development will be a result of more general trends as well as the impact of many different local, national and international interventions including eventually contributions from the Programme.

### **Evaluation question**

A tentative evaluation question for Specific Objective 3 is *to what extent the Programme has contributed to increased energy performance of residential buildings and public infrastructures in remote and sparsely populated areas?*

Furthermore,

- What kinds of new energy solutions for public infrastructures and housing have been developed as result of Programme interventions?
- Has programme interventions resulted in higher independence from imported fossil fuels?
- What kinds of stakeholders have been influenced by Programme interventions?

### **Specific Objective 4 - Increased capacity of remote and sparsely populated communities for sustainable environmental management**

According to the area analysis, the NPA area is characterised by a high-quality but fragile natural environment and a rich cultural heritage. However, local communities in the Programme area are also faced by the impacts of major global trends, such as climate change impacts on people, and rapid economic and environmental changes, such as large-scale industrial projects. These developments can lead to major environmental, as well as associated economic and social, upheavals. The scale of the issues is often beyond the scope of the individual communities to cope with on their own, and it requires a wide range of competences and expertise.

This is particularly relevant in the Arctic and subarctic regions of the Programme area, where the impacts of climate change are expected to be more dramatic than in other places, and where small communities are faced by major commercial interests of multinational companies, such as mineral extraction. In addition, as a result of mega-projects, these small communities are often impacted not only economically, but also environmentally, facing the risk of pollution and damage to natural and cultural heritage, and socially, for example by hosting a community of fly-in-fly-out professionals. It is the Programme's intention to help communities mitigate any negative impacts from mega-investments.

Remote and sparsely populated communities should be empowered to find a dynamic balance between environmental, economic, and social interests to sustain their welfare and viability. Sustainable environmental management not only helps to prevent and mitigate damage to natural and cultural heritage sites as a result of economic, social and environmental change, but it also fosters the awareness that effective environmental management is needed to continue to be able to make use of natural assets in general, and natural and cultural heritage sites specifically, as assets to achieve sustainable growth in the community.

The Programme seeks to contribute to an increased preparedness for community-based sustainable environmental management. This enhanced management shall facilitate community development whilst at the same time balancing environmental, economic and social interests in remote and sparsely populated areas. In particular, this shall be seen in relation to exploitation of natural resources and large new investments, for example within the mineral and renewable energy sectors. A tangible result in the medium term perspective will be the development of new management processes and competence development activities within public authorities. A longer-term result of transnational cooperation will be a higher level of capability to handle changes that impact on the cultural and natural heritage within the Programme area.

The result indicator for Specific Objective 4 has been defined as *capacity of responsible authorities in remote, sparsely populated areas for environmental management in relation to climate change and impacts of new investments in the exploitation of natural resources.*

### **Evaluation question**

A tentative evaluation question for Specific Objective 4 is *to what extent the Programme has contributed to an enhanced capacity of responsible authorities in remote, sparsely populated areas for environmental management in relation to climate change and impacts of new investments in the exploitation of natural resources?*

Furthermore,

- Have Programme interventions contributed to a better horizontal and vertical integration within public authorities in relation to climate change adaptation or management of new investments in the exploitation of natural resources?
- Has the Programme contributed to a higher degree of international cooperation of local and regional authorities on climate change adaptation?
- Has a higher extent of community involvement in relation planning and decision making in sustainable environmental management been a result?
- Have the availability and reach of capacity building initiatives been enhanced for local and regional authorities?

### **Evaluation questions in relation to the Arctic dimension and horizontal principles**

The intensions of the Arctic dimension can be pinpointed as follows:

- The Programme supports cooperation, innovation and transfer of knowledge and technology within themes of specific significance for the Arctic part of the Programme area, such as sustainable use of non-renewable and renewable resources and demographic development.
- The overall intention is that Programme funded projects shall contribute to economically more robust local communities and regions of importance to people, including indigenous peoples, living in the Arctic area.

In relation to the Arctic dimension the following evaluation question will be answered:

*To what extent has the Programme supported cooperation, innovation and transfer of knowledge and technology within themes of specific significance for the Arctic territories?*

*Have projects funded by the Programme contributed to economically more robust local communities and regions of importance to people, including indigenous peoples, living in the Arctic area?*

*Furthermore, to what extent has the Programme collaborated with other programmes dealing with Arctic issues?*

The themes of specific significance for the Arctic territories will be defined as part of the Terms of Reference for the evaluation. Furthermore, it may in specific be relevant to coordinate the evaluation of the Arctic Dimension with other Interreg programmes that cover the Arctic part of the programme area.

The horizontal principles will primarily be evaluated in relation to the monitored indicators collected at project level. The evaluation questions in relation to the horizontal principles will be as follow:

*To what extent has the programme contributed to environmental sustainability?*

*To what extent has the programme contributed to inclusion and diversity?*

*To what extent has the programme contributed to equality between men and women?*

### **Lesson learnt from previous programmes**

The results from the evaluations of the two previous programmes; the Interreg IIIB Northern Periphery Programme and the Northern Periphery Programme 2007 – 2013 (NPP) are important to keep in mind and bring into the evaluation of the NPA-Programme.

In specific two conclusions will be of superior interest in relation to future evaluations:

- The Programme has been rooted in the needs of the Programme area
- The focus on delivering tangible outputs, results and impacts is an area where in specific the NPP-Programme according to the evaluation has ‘pushed the boundaries’ of Interreg Programmes.

Therefore the following two overall questions shall be covered by the evaluation of the NPA-Programme:

*Do the NPA-Programme and the supported interventions reflect real and broadly acknowledged needs within the Programme area?*

*Has the NPA-Programme succeeded to develop the strong focus on tangible outputs and results further compared to previous programmes?*

### 3. Methods to be used and their data requirements

#### 3.1 Introduction

The evaluation method required will depend on the evaluation questions that need to be answered. Very often a mix of methodologies will be necessary to understand what happened and why. For each specific objective a different method could be used.

According to the EU Commissions guidelines<sup>1</sup> there are two main groups of methods that are suited for impact evaluations:

- the theory based methods and
- the counterfactual based methods

Theory based impact evaluation is based on establishing the theory behind an intervention (the theory of change) and assessing whether it has been implemented according to that theory in order to judge the contribution of the intervention to observed effects. The theory based impact evaluation deals with 'why it works', 'did things work as expected to produce the desired change'.

Counterfactual impact evaluation(s) focus on the set of questions which are devoted to quantifying "whether a given intervention produces the desired effects on some pre-established dimension of interest. The overarching goal is to answer a "does it make a difference" question by identifying and estimating casual effects through counterfactual methods." The counterfactual method does not per se explain why a given intervention makes a difference. The core element of a counterfactual impact evaluation is to compare two groups/areas to see what has been the change in the group/area with the intervention and in the group/area without the intervention.

#### 3.2 The specific NPA approach

The NPA-Programme is based on the clear assumption that the best way to overcome the challenges faced by the Northern Periphery and Arctic, and simultaneously, take advantage of the opportunities the area has is *to generate vibrant, competitive and sustainable communities*. Harnessing innovation and expanding the capacity for entrepreneurship are deemed to be crucial objectives for the interventions while SMEs and different organisations dealing with support systems for SMEs are among the main target groups.

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<sup>1</sup> Monitoring of European Cohesion Policy (ERDF, ESF, CF). Guidance Document on Evaluation Plans. Terms of References for Impact Evaluations. Guidance on Quality Management of External Evaluations. EC DG Regional and Urban Policy, February 2015

The theory or hypothesis behind the Programme and the selected fields of intervention are clear, while the means and the resources of the Programme are very limited in relation to the extension of the Programme Area and the character of the challenges that have to be met. The way the Programme can be expected to impact the area must therefore be in the quite “soft end”. Furthermore, can the challenges be described as multi-faceted. Meaning that that Programme functions in a very complex reality where development and change is the result of many simultaneously ongoing processes.

No big investments can be made in new support systems for SMEs and no new legislation or financial instruments will be the direct result of the NPA interventions. However, the NPA funded interventions can support introduction of new technologies and business concepts and promote better uptake of these and already existing possibilities. The interventions can help development of new networks and clustering across the Programme Area and beyond national and other administrative borders and better links to R&D providers can be established. The programme can support changes in attitudes in the first hand and in longer term perspective also impact behaviour among business actors as well as other important stakeholder groups dealing with local community development. In many cases the impact will be indirect and in a long term perspective. The evaluation method shall be suited to identify such changes and a theory based method is considered to be better suited to catch such changes in complex systems that take place in a long term perspective compared to counterfactual methods where the intended changes have to take place within the programme period and therefore more strict statistical tools can be used.

Compared to the counterfactual methods which will be mainly quantitatively based, the theory based methods are expected to give more composite (qualitative as well as quantitative) knowledge about how and why the programme has an impact. This knowledge is expected to enhance the understanding of how interventions funded by the Programme functions and will furthermore be suited to give input to different communication activities: Communication to the different programme bodies, the different national and regional stakeholders and not at least to potential applicants to the Programme.

### How to grasp soft and long term changes by use of the theory based evaluation methods?

A number of possible methods is listed in the draft paper *Questions and Answers on impact evaluation(s) for Interreg programmes 2014 – 2020*<sup>2</sup>.

Data collection tools	Pros	Cons
Stakeholder analysis	Involvement	Subjective
Case studies	Practice	Representativeness
Surveys	Representative	Budget
Expert panels	Subjective	Representativeness
Focus groups	Target groups	Budget
Interviews	Broad participation	Subjective
Monitoring Systems (indicators)	Quantitative	Correctly filled?
SWOT	Simple	Qualitative
Experimental and statistical methods (see annex)	Scientific	Expensive

Source: based on the research of Ecorys

<sup>2</sup> Questions and Answers on impact evaluation(s) for Interreg Programmes 2014 – 2020. Interact 26 August 2015

In specific methods as case studies, expert panels and focus groups will be suited to identify and catch complex and long term perspective changes.

The work already done by the five established regional expert panels in relation to the result indicators and baseline values and the following up of this in 2017 and further on will deliver an important input to the evaluation process concerning the actual development across the Programme area and the drivers behind.

In addition, through the ongoing monitoring of the projects, funded by the programme, different kind of data and meta-data will be collected. This data gives the overview of the outputs and results generated by the supported projects.

The result evaluation shall establish the link between the observed development of the programme area (the monitoring of the baseline values/target values) and the immediately results of programme interventions (the monitoring of the projects).

A suitable tool for this is the case study method. A number of case studies may establish the needed causal link between the project results and the observed development within the programme area.

A case study is suited to capture the complexity of a single case, where 'real world' phenomena are studied. According to Johansson<sup>3</sup> the "case" should

- be a complex functioning unit,
- be investigated in its natural context with a multitude of methods, and
- be contemporary.

The method is frequently used within social and political science but has during the time been discussed and criticised among other things for not being representative, *one cannot generalise on the basis of a single case*.

However, this criticism has been rejected by other researchers claiming that *one can often generalize on the basis of a single case, and the case study may be central to scientific development via generalization as supplement or alternative to other methods* (Flyvbjerg<sup>4</sup>). The important thing here is way the cases are selected and analysed.

Selection of cases and the analysis will be developed further in the Terms of Reference for the evaluation.

### **Different methods used for Priority axis 1, 2, 3 and 4?**

The programme funding is allocated between the four priority axes so 30% of the funding is allocated to priority axis 1, 30% to axis 2, 20 % to axis 3 and finally 20% to axis 4. Altogether about half of the programme's funding is foreseen to be allocated to projects dealing with entrepreneurship, innovation and market extensions for SMEs. In addition priority axis 1 and 2 has been more popular among applicants during the first two calls compared to the other priorities.

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<sup>3</sup> Rolf Johansson, Case Study Methodology. 2003

<sup>4</sup> Bent Flyvbjerg, Five Misunderstanding About Case Study Research. 2006

As a consequence of that the number of implemented projects will be bigger within priority axis 1 and 2 compared to priority axis 3 and 4 in 2018 when the evaluation is proposed to take place. The results can therefore be expected to be more varied within these priorities while only relatively few projects within priority axis 3 and 4 have been fully implemented and therefore there will be fewer results to evaluate. This fact might imply a differentiation in the way the evaluation is organised for the four priorities.

To some extent it will be possible to supplement the evaluation with relevant projects from the previous NPP 2007 – 2013 Programme. This will in specific be possible for priority axis 1, 2 and 3. Besides adding more potential cases to the evaluation, the use of projects from the previous programme will open the opportunity to make an ex post evaluation of results from projects that closed years ago. This might to some extent compensate for the previous mentioned challenge that the Programme's results will have the character of long term changes.

Because of the disproportionate allocation of the programme's funding between the four priority axes and the timing of the evaluation (see below) it is proposed that the main part of the resources used for case studies will be used with priority axis 1 and 2 while the part of the evaluation that is based on the monitoring data from the project reporting, the collected data concerning output indicators etc. will cover all four priority axes more equally.

However, it is recommended that the distribution of the resources across the four priority axes shall be reviewed before the Terms of Reference for the evaluation is drafted. The outcome of the 3<sup>rd</sup> Call which only address Priority axis 3 and 4 may change the allocation of funded projects.

### **Methods for evaluation of the Arctic dimension and other evaluation themes**

The specific evaluation questions in relation to the Arctic dimension will be a part of the case studies and the case studies will be selected in a way so projects that cover the Arctic region and arctic stakeholders and target groups will be selected.

For the horizontal principles, the Programme has defined a set of indicators that will be monitored during the project and Programme lifecycle. The results of this monitoring will be part of the result evaluation.

In addition, issues like efficiency in relation to geographical coverage, benefits for local and regional communities and efficiency in relation to prioritised target groups, for example SMEs, should be included in the TOR for the evaluation. The ongoing monitoring of the Programme for example reported in the bi-annual Strategic Programme Overviews will be an important source for this part of the evaluation.

### **Number of evaluations throughout the programme period**

It is proposed that all six specific objectives shall be evaluated simultaneously as early as possible in the programme period; this evaluation will also include the horizontal principles and the Arctic dimension. The reason for that is an aim to get a feed back to the ongoing programme development as early as possible so needed changes can be made before the end of the programme period.

In addition, the achievements of the programme will be assessed in line with the previous (NPP) Programme's Achievement Report later on in the programme period. This evaluation will first of all be

an input to the post-2023 programming process. An important source for this ‘achievement evaluation’ will be the project output database and a number of additional case studies.

### 3.3 What kind of data is needed and how to collect them?

Data source	Character of data
<b>Programme monitoring system</b>	<p>Quantitative data in relation to 28 output indicators, see Appendix 1</p> <p>Quantitative data concerning the horizontal principles.</p> <p>Qualitative data concerning specific project outputs (new products and services)</p> <p>Additional information from project reporting</p>
<b>Five regional expert panels</b>	<p>Quantitative and qualitative data in relation to the six result indicators and the 23 sub-indicators behind these selected for specific NUTS 3 regions across the programme area. See Annex 2.</p>
<b>Regional, national and international sources</b>	<p>Supplementing statistics concerning the six specific objectives (innovation, entrepreneurship, energy efficiency and environmental management) on NUTS 2 and national level.</p>
<b>Case studies</b>	<p>A huge variety of mainly qualitative data collected from documents, public authorities, business organisations, interviews with stakeholders/end users and other information sources related to the selected cases</p>

As mentioned above, the evaluation shall establish the link between the observed development of the programme area (the monitoring of the baseline values) and the immediately results of programme interventions (the monitoring of the projects).

Systematic collected data concerning the outputs from the projects will first of all be based on the programme monitoring system where data for more than 20 output indicators is collected. The majority of these are programme specific indicators and are closely related to the 6 specific objectives of the Programme, see Annex 1. In addition data concerning a number of indicators concerning the horizontal principles will be collected.

In specific the programme specific output indicators are expected to give important information for the evaluation. These indicators are highlighted in Annex 1.

The result indicators are developed as composite indicators. This means that the indicators are composed of up to six sub-indicators, which are aggregated into one index number. The baseline values for the result indicators were identified in 2015 and will be updated in 2017, 2019 and 2023. Programme (composite) result indicators and sub-indicators per Priority Axis and specific objective are listed and defined in Annex 2<sup>5</sup>.

The data for the result indicators is collected by five regional expert panels at NUTS 3 level and covers three selected regions across the programme area for each indicator. This data will be supplemented with data at NUTS2 and national level from regional, national and international sources. The data will address the six programme specific objective within the main themes innovation, entrepreneurship, energy efficiency and environmental management.

The case studies will be based on a huge variety of different kind of data and meta-data collected from documents, interviews with key persons from the project partnership, the end users, representatives from public authorities, business organisations etc.

## 4. Time plan

The *timing* of impact evaluations has to be balanced. In general, it should be scheduled as late as possible to enable the availability of results but also as early as possible to allow the findings to feed into the policy process.

In terms of the NPA, the First Call projects will close by mid-2018 which means that 2018 is the earliest time a result evaluation can take place.

A time plan can be as follow:

- Update of the baseline values with the help from the regional expert panels, mid 2017
- Drafting terms of reference for the evaluation by the Evaluation Group, approval of the MC June 2017
- Public procurement process autumn 2017. Selection of consultant, latest 31<sup>st</sup> December 2017.
- Preparing the needed data (inclusive eventually input from the regional expert panels), selection of suited projects from the NPP and the NPA programme by the Secretariat/EVA group, January 2018
- Kick off meeting (Evaluation Group and the selected consultant), mid January 2018
- The evaluator's preparation of the evaluation process, January – February 2018
- Implementation of case studies, ideally carried out March - Mid Summer 2018
- Preliminary information of and discussion with the MC at the meeting in June
- Analyses of data and drafting of the evaluation report, a first draft of the evaluation report will be discussed with the Evaluation Group mid October
- In parallel the Regional Advisory Groups (RAGs) will be consulted concerning the findings

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<sup>5</sup> Further information on the result indicators and the methods and data behind can be found in the report Result Indicator, Baselines and Targets of the Northern Periphery and Arctic Programme 2014 – 2020, Technical report 2015.

- Presentation of the final draft of the evaluation report will be presented and discussed at the MC meeting December 2018; the outcome of the RAG consultation will be annexed to the draft evaluation plan.
- Final evaluation report submitted January 2019

An Achievement Report that will follow up and supplement the evaluation report from 2019 will be outlined and drafted in 2021.

## 5. Budget

The average time consumption for a case study is estimated to two weeks or 80 hours. If there in total are conducted 10 case studies the total time consumption will be 800 hours. Some of the work can be eventually done in parallel by two or more consultants as well as other kind of data collection can take place in parallel. Some of the work in relation to the data collection may be done by extra hired staff at the Secretariat.

The preparation of the evaluation is estimated to 100 hours while the analysing the case studies and the other available data is estimated to 140 hours and the drafting and finalising the report is estimated to 200 hours including meetings etc.. In total the budget should have room for 1200 – 1300 hours. With an average hourly rate of 100 EURO (dependent on the country) the evaluation will demand a budget about 120.000 EURO not including VAT. If some of the work can be carried out by the Secretariat a minimum budget for external assistance is estimated to 100.000,- EURO.

The costs for the expert panels and the follow up of the Achievement Report will be covered separately according to the TA budget.

## 6. Organisation of the evaluation

The MC has the overall responsibility for the evaluation.

The evaluation process shall be followed by an Evaluation Group. The EVA group consists of two national representatives, two regional representatives and a representative from the Managing Authority and from the Joint Secretariat.

The EVA group will be responsible for drafting the evaluation plan and the Terms of Reference for the evaluation process. The TOR will describe the evaluation task; the evaluation questions, the preferred methodology, the time frames, the conditions and expectations concerning the competences of the evaluator etc. The MC will endorse the evaluation plan and the TOR for the evaluation process.

The EVA-group will in addition be responsible for monitoring the evaluation process and ensuring the quality of the conclusions and recommendations. The MC will endorse the final draft evaluation report.

The evaluation task will be carried out by an external (independent) consultant assisted by the MA and the JS. The day to day coordination and the communication with the selected consultant and the EVA group will be handled by the JS in cooperation with the MA.

The expertise needed for the evaluations will first of all be linked to competences in relation to the Programme area (knowledge to the specific challenges and opportunities as well as the geography) and competences in relation to evaluation of transnational cooperation programmes and in specific competences in relation to qualitative evaluation methodologies. The demands for specific expertise as well as other relevant quality management questions will be part of the Terms of Reference for the evaluations.

Furthermore, eventually cooperation with other Interreg programmes concerning evaluation of the Arctic Dimension will be discussed and handled in relation to the drafting of the Terms of Reference.

## **7. What will be done with the evaluation outcomes?**

Following regulatory requirements, the evaluation outcomes will be presented for approval to the Monitoring Committee, and sent to the European Commission. Besides the regulatory requirements, the NPA 2014-2020 intends to use the evaluation outcomes as a tool to improve the implementation of the programme and to inform the development of the next programme post 2020.

First of all, the evaluation outcomes will provide the Monitoring Committee and other programme bodies with an insight about which parts of the programme implementation require further efforts to achieve the programme objectives, for example a better thematic coverage of certain specific objectives or types of actions, a more balanced implementation of the Arctic dimension, or endeavours to reach specific groups of SMEs better. The evaluation outcomes will complement the picture provided through ongoing project and programme monitoring including the annual progress reporting to the EU Commission.

Secondly, the evaluation outcomes will enable the programme to communicate about its results; the evaluation outcomes will provide the necessary evidence and justification that the programme's interventions realised through the projects have led to positive results and impacts. As pointed out in the communication strategy, communicating the results is essential for raising awareness about the added value of cooperation, as well as for giving accountability for invested funds. This in turn will again help to sustain and widen the impact of results achieved, for example, increasing the viability of the results by increasing support among end users and decision makers, or increasing the transferability of the results to other sectors and regions. In addition, the impact of communicating the result will also contribute positively to the overall picture that Interreg projects and programmes have a distinct added value for regions in Europe.

Finally, the evaluation outcomes will generate an opportunity for learning. The NPA 2014-2020 builds on the experience of 3 previous programmes. Part of its success has been the ability to draw lessons, the commitment to continuous improvement, and an open and pro-active attitude to receive feedback from its main stakeholders. It is expected that the evaluation outcomes will lead to Monitoring Committee as well as the partner countries' decisions impacting on the NPA 2014-2020 and the development of a (possible) future programme.



**Annex 1, Output indicators** (important indicators in relation to the evaluation are highlighted with red)

Priority 1	Number of enterprises receiving support (1)	Enterprises
Priority 1	Number of enterprises cooperating with research institutions (26)	Enterprises
Priority 1	Number of enterprises supported to introduce new to the market products	Enterprises
Priority 1	Number of enterprises supported to introduce new to firm products	Enterprises
Priority 1	Number of product and service opportunities to be developed based on new or existing R&D	Products and services
Priority 1	Number of supported SMEs reporting productivity increase in % (i.e. Increased sales, customer base and increased productivity)	SMEs
Priority 1	Number of innovative technology-driven solution for public service provision in remote areas	Collaborations
Priority 1	Number of innovative models/solutions addressing viability and low critical mass in public service provision	Services
Priority 2	Number of enterprises receiving support	Enterprises
Priority 2	Number of new enterprises supported (1)	Enterprises
Priority 2	Number of enterprises supported to introduce new to the market products (28)	Enterprises
Priority 2	Number of enterprises supported to introduce new to the firm products	Enterprises
Priority 2	Number of business support solutions (services) utilising place-based opportunities	Services
Priority 2	Number of new or sustained jobs reported	Jobs
Priority 2	Number of business support solutions (services) removing barriers for start-ups/existing SMEs	Services
Priority 2	Number of solutions (services) using technology to overcome long distances to market	Services
Priority 3	Number of households with improved energy consumption classification (31)	Households
Priority 3	Decrease in annual primary energy consumption of public buildings	KWh/year
Priority 3	Number of models (products) developed utilising by-products from economic activities as energy sources for public infrastructures and housing	Product
Priority 3	Number of renewable energy solutions (services) for public infrastructures and housing	Services
Priority 3	Number of smart energy management solutions (services)	Services
Priority 4	Number of research institutions participating in cross-border, transnational or interregional research projects (42)	Research Institutions
Priority 4	Number of organisations introducing a decision-making tool or governance concept facilitating sustainable environmental management	Organisations
Priority 4	Number of schemes/interventions involving sustainable environmental management	Services
Priority 4	Number of capacity building solutions (services) to maintain the balance between competing environmental, economic and social interests	Services
Priority 4	Number of solutions (services) for the sustainable management of natural and cultural heritage	Services



## Annex 2, definitions of Result indicators and sub-indicators

Specific Objective	Programme (Composite) Result Indicator	Sub-indicators	Definition
<b>Priority Axis 1 - INNOVATION</b>			
<b>Indicator 1.1:</b>	Degree of transnational collaboration between SMEs and R&D in remote and sparsely populated areas	Share of SMEs and R&D institutions in the region involved in transboundary innovation cooperation [%]	The indicator captures only active participation in joint innovation projects with other businesses or organizations that involves 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. Excluded is the purchase of external knowledge and technology without active cooperation with the source (e.g., hiring of employees who possess the new knowledge, the use of contract research or consulting services).
		Availability of innovation support services and structures for regional SMEs [Score 0 -10]	The definition encompasses all types of services and (policy) initiatives targeted at regional SMEs that provide support in the area of innovation and technology transfer, also looking beyond national borders.
		Share of SMEs in the region making use of any of the available support services [%]	The definition refers to the uptake of available innovation support services, giving an indication as to how well-known innovation support programmes are among regional SMEs and how useful they are perceived.
<b>Indicator 1.2:</b> <b>(for projects in the area of technology-driven public service provision, except for projects in the area of eHealth service</b>	Availability and use of technology-driven public services in remote and sparsely populated areas		The definition refers to the availability and actual uptake of information and communication technology for the provision of public services in the area of administration, social care, education and energy supply, etc., addressing the challenge of reconciling limited resources and a lack of critical mass with an increasing demand for public

<b>provision)</b>			service provision.
<b>Indicator 1.2: (only for projects in the area of eHealth service provision)</b>	Availability and use of telehealth services in remote and sparsely populated areas	Share of professional -to-patient consultations carried out remotely via phone [%]	The definition encompasses all medical consultations of patients that are delivered remotely by health care professionals in a regional hospital or health care centre via telephone.
		Share of patient-to-professional consultations carried out remotely via videoconferencing [%]	The definition encompasses all medical consultations of patients that are delivered remotely by health care professionals in a regional hospital or health care centre via video conferencing.
		Share of patients in the region whose health is monitored remotely	The definition encompasses all remote monitoring of patients through the use of telecommunication technology. Included is the self-monitoring of vital signs and medical parameters by patients, who then report these data to health care professionals via phone, internet, etc. from the patient's home, but also the remote monitoring from a nearby health station. The transmission of data can be real time or the data can be stored and then forwarded. Also included are homecare services delivered remotely at clients' homes (e.g., the use of IT-based safety support services for elderly people like fall sensors and GPS tracking). Not included in the definition is any form of self-monitoring (e.g., of blood pressure, body fat, etc.) when no reporting of data to the health care system is involved.
		Share of professional-to-professional instructions and training carried out remotely [%]	The definition encompasses all remote professional-to-professional instructions and training for health care professionals in regional hospitals, public health care centres and at patient sites.
<b>Priority Axis 2 – ENTREPRENEURSHIP</b>			
<b>Indicator 2.1:</b>	Conditions for start-ups in remote and sparsely populated areas	Availability of (not for profit) support services for regional start-ups aimed	The definition encompasses all types of services that aim at building knowledge and skills of

<p>at developing human capital [Score 0 -10]</p>	<p>(prospective) start-ups offering information resources, counselling, coaching, training, mentoring, etc.          These services may build capacities in the area of management and administration (e.g., business management, project management, etc.), financing (e.g., preparing a business plan or grant application, etc.), marketing and sales (PR, use of social media, web-sales, etc.) or others.          Services may be both, actual and virtual.</p>
<p>Rate of uptake of human capital development programmes for regional start-ups [Score 0 -10]</p>	<p>The definition refers to the uptake of human capital development programmes, by considering the average participation and comparing the actual number of participants to the potential target population. The definition gives an indication as to how well-known support programmes are among regional start-ups and how useful they are perceived.</p>
<p>Availability of (not for profit) support services for regional start-ups aimed at developing social capital [Score 0 -10]</p>	<p>The definition includes services like networking and matchmaking services that aim at facilitating better linkages between (prospective) start-ups and other actors in the entrepreneurial ecosystem.          Services may focus on developing connections between start-ups and larger companies, start-ups and investors, start-ups and customers, start-ups and R&amp;D organisations, international networks, etc.          Services may be both, actual and virtual.</p>
<p>Availability of programmes for the pre-start-up stage supporting the development of business ideas in the region [Score 0 -10]</p>	<p>The definition includes all programmes that foster the generation of innovative ideas and support their development into marketable products and services like incentive schemes (e.g., awards), business simulation programmes for</p>

			<p>schools, programmes that promote the creation of university spin-off companies, etc.</p> <p>Services may be both, actual and virtual.</p>
	Availability of programmes and policy initiatives fostering an entrepreneurial culture in the region		<p>Regional availability of programmes and policy initiatives fostering an entrepreneurial culture, i.e. an environment in which people are encouraged and empowered to innovate (includes social innovation), create, and take risks (e.g., long-term promotion of entrepreneurship through awareness raising campaigns, the promotion of role models, in education, etc.).</p>
<b>Indicator 2.2:</b>	Degree of internationalization of SMEs in remote and sparsely populated areas	Share of SMEs in the region engaged in one or more transboundary inter-enterprise cooperation [%]	<p>Transboundary inter-enterprise cooperation may encompass all kinds of relations or forms of cooperation between SMEs from two or more countries on core business activities.</p> <p>Excluded are joint legal ownership and transactions with subsidiaries. Included are inter-enterprise relations that pertain to the delivery of goods and services from one enterprise to another which are used in the value chain of an enterprise (e.g., the supply of key components). Specifically included are, hence, types of cooperation like business networks, strategic alliances, bidding consortia, clusters, joint ventures, franchising and licensing agreements, out-sourcing and sub-contracting, etc. Excluded are, however, memberships, for example in chambers of commerce, business clubs, etc.</p>
	Availability of business support programmes to facilitate access to new markets for regional SMEs [Score 0-10]		<p>The definition encompasses all available support programmes and initiatives designed to provide guidance and practical support for regional SMEs wanting to internationalise and build up business relations with</p>

		enterprises in other countries.
	Share of SMEs in the region making use of any of the available support services [%]	The definition refers to the uptake of available innovation support services, giving an indication as to how well-known innovation support programmes are among regional SMEs and how useful they are perceived.
<b>Priority Axis 3 – RENEWABLES AND ENERGY EFFICIENCY</b>		
<b>Indicator 3:</b>	Energy performance of residential buildings and public infrastructures in remote and sparsely populated areas	<p>Average annual final energy consumption for space heating and cooling and domestic hot water in residential buildings in the region per net conditioned floor space (in 2015, 2017, 2019 or 2023) [kWh/m<sup>2</sup>/a]</p> <p>Total annual final energy demand divided by the total floor space of the regional residential building stock.</p> <p>To adjust for variations in the length of the heating season, if consumption figures are not climate corrected, the energy consumption should be averaged over a period of several years.</p> <p>A residential building is defined as a building at least half of which is used for residential purposes.</p>
		<p>Average annual final energy consumption for space heating and cooling and hot water in non-residential public buildings in the region per net conditioned floor space (in 2015, 2017, 2019 or 2023) [kWh/m<sup>2</sup>/a]</p> <p>Total annual final energy demand in non-residential public buildings divided by the total floor space of the regional non-residential public building stock.</p> <p>To adjust for variations in the length of the heating season, if consumption figures are not climate corrected, the energy consumption should be averaged over a period of several years.</p>
		<p>Share of final energy consumed in regional residential and non-residential public buildings coming from renewable sources (in the base year 2015/ in the reporting years 2017, 2019, 2023) [%]</p> <p>The indicator refers to the share of the building energy consumed (as determined under sub-indicator 1 and 2) that is produced from renewable sources.</p> <p>Renewable energy comes from a diverse group of natural sources, such as the sun, wind, flowing water, biological processes, or geothermal heat flows.</p> <p>Hydrogen, although being renewable and very abundant in nature as part of many compounds, cannot be</p>

considered a renewable energy source in the strict sense of the term, as with today's technologies it takes more energy to produce hydrogen than the amount of energy hydrogen can yield.

**Priority Axis 4 – PROTECTING, DEVELOPING AND PROMOTING NATURAL AND CULTURAL HERITAGE**

<p><b>Indicator 4:</b></p>	<p>Capacity of responsible authorities in remote, sparsely populated areas for environmental management in relation to climate change and impacts of new investments in the exploitation of natural resources</p>	<p>Degree of horizontal integration and coordination of environmental management [Score 0 -10]</p> <hr/> <p>Degree of vertical integration and coordination of environmental management [Score 0 -10]</p> <hr/> <p>Degree of international cooperation of local and regional public authorities on environmental management [Score 0 -10]</p>	<p>The degree of cross-sectoral coordination and cooperation on environmental management and its embedding in all aspects of governance, i.e. in planning, policy-making and implementation. Environmental management does not refer to the management of the environment as such (e.g., the management of conservation areas), but to the management of the interaction of modern human societies with, and their impact upon the environment.</p> <hr/> <p>The degree of coordination and cooperation on environmental management between the different governance levels and the embedding of environmental management in all governance levels (national, regional, local). Environmental management does not refer to the management of the environment as such (e.g., the management of conservation areas), but to the management of the interaction of modern human societies with, and their impact upon the environment.</p> <hr/> <p>The degree to which local and regional public authorities are engaged in international cooperation on environmental management. International cooperation of public authorities can take place in the area of research, in the operation of monitoring and warning systems, in administration and planning, in the area of information and good practice transfer, etc.</p>
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<p>Degree of community involvement and public participation in planning and decision-making related to environmental management [Score 0 -10]</p>	<p>The degree to which communities and the general public are involved in planning and decision-making in relation to environmental management, e.g., in the development of strategies and action plans, in the design and implementation of local or regional programmes, etc.</p> <p>The indicator also considers the ability of local and regional authorities to mobilise communities and the general public.</p>
<p>Availability of (financial and human) resources and capacities in local and regional public authorities for environmental management [Score 0 -10]</p>	<p>Availability of resources and capacities in local and regional public authorities for environmental management (in particular, to respond to environmental crises) including the availability of financial and human resources, notably skilled personnel.</p>
<p>Availability and reach of capacity building programmes for local and regional public authorities related to environmental management [Score 0 -10]</p>	<p>Availability and reach of capacity building programmes for public authorities to gain knowledge on environmental management and develop relevant skills in the area of change management, planning, modelling, etc.</p> <p>This may take the form of training courses, guidance material, informational events, etc.</p>