Framework Contract: Implementation of an integrated evaluation approach within the framework of a robust North-West Europe evaluation system (Reference 16B007)

TASK 2: The implementation evaluation

FINAL REPORT

20 November 2018

This report was prepared for the
Interreg North-West EUROPE MANAGING AUTHORITY
c/o GEIE GECOTTI-PE – Interreg NWE
45/D, rue de Tournai
1° étage
59000 Lille
France

by
Spatial Foresight GmbH
7, rue de Luxembourg
L-7330 Heisdorf
LUXEMBOURG
www.spatialforesight.eu

in collaboration with
t33, Italy
as well as
Thomas Stumm (Eureconsult)
and
Luigi Lo Piparo (Sagitta Evolution)

NWE Implementation Evaluation
FINAL REPORT
20 November 2018

TABLE OF CONTENT

LIST OF TABLES

LIST OF BOXES

LIST OF FIGURES

TABLE OF ABBREVIATIONS

AA	Audit Authority
AF	Application Form
AIR	Annual Implementation Report
CA	Certifying Authority
COA	Contribution Analysis
CCTP	Specific Technical Terms and Conditions
CF	Cohesion Fund
CLT	Community Land Trust
CP	Contact Point
CPR	Common Provisions Regulation
DG REGIO	Directorate-General for Regional Policy and Urban Policy
DHC	District Heating and Cooling
EGTC	European Grouping of Territorial Cooperation
EIB	European Investment Bank
eMS	Electronic Monitoring System
ERDF	European Regional Development Fund
ESF	European Social Fund
ESIF	European Structural and Investment Funds
ETF	Evaluation Task Force
EU	European Union
EU2020	Europe 2020 Strategy
EUR	Euro
GHG	Greenhouse gas
JS	Joint Secretariat
LAU	Local administrative units
LP	Lead Partner
LRA	Local and regional authorities
MA	Managing Authority
MC	Monitoring Committee
NC	National Coordinator
NUTS	Nomenclature des unités territoriales statistiques
NWE	North-West Europe
OP	Operational Programme
PA	Priority Axis
PM	Project Manager
PMC	Programme Monitoring Committee
SO	Specific Objective

EXECUTIVE SUMMARY

This report presents the final results and recommendations for the evaluation of NWE Programme 2014-2020 implementation. The evaluation analyses and verifies Programme effectiveness and efficiency in the middle of the programme exercise, as well as assesses expected programme contributions to socio-economic changes in the territory.

Evaluation of project results and programme effectiveness

The evaluation of project results and programme effectiveness focuses on the overall relevance and suitability of projects and partnerships, project outputs, programme indicators and performance framework as well as project results and their contribution to the Programme. Each of these topics has been analysed.

Projects are relevant and suitable to Programme Objectives and to challenges identified in the Cooperation Programme. The ongoing projects are well balanced between the Programme Priorities and Specific Objectives (SOs). Only very few relevant themes are not covered by approved projects.

Project partnerships are generally relevant and suitable. Partnerships are especially relevant to delivering the Programme SOs. Inclusion of partners from different types of organisations and territories helps the projects deliver concrete outputs and results. Involving target group representatives helps ensure project results within and beyond the project partnership. This outreach to target groups corresponds largely to the target groups defined per SO in the Cooperation Programme. The project partnerships are generally well balanced and contribute to the Programme SOs and results, with only minor imbalances for SO2 and SO3 projects. Clearer indications on the envisaged project partnerships are recommended to ensure partnerships are more relevant for Programme objectives and results.

The Programme output delivery is satisfactory, even though the allocation and spending of funds remain behind schedule. The expected and achieved outputs of advanced projects indicate the programme will overachieve on most of its indicators. This may increase as projects are still being approved, which will increase the indicator framework achievement further. In particular, contributions to energy and CO2 emission indicators are considerable, though targets for these indicators were greatly underestimated and need recalculating. The positive contribution of projects to programme output indicators is also reflected in the performance framework with the exception of financial indicators, which remain generally low (for both allocation and implementation rates). In comparison to the previous programming period, the allocation rate remains low even though implementation increased considerably with the most recent calls. Also, projects are spending less than envisaged. Up to May 2018, claims were 4.4% and payments only 2.7% of allocated budgets. The Programme implementation pace needs to be further increased, even if first actions to avoid further decommitment have already been taken. This can be done by targeted promotion and by encouraging more projects to submit proposals.

Projects contribute with concrete results to the Programme SOs and result indicators. The changed focus of the NWE Programme to encourage delivering concrete results can be observed under all SOs. In particular, projects under SO1, SO2, SO3 and SO5 contribute to Programme SOs and their

results. Contributions to SO4 and its intended results are less visible, particularly due to less cross-thematic contributions. Projects emphasise the added value of focusing on concrete results which supports the formation of strong partnerships as well as learning and exchange. This highlights the main contributions of the NWE Programme. Even though there are contributions, the early stage of implementation means macro-economic indicator achievements remain low. The added value of the Programme is seen with increased capacity, as well as learning and demonstration projects. For future programmes, the intervention logic and result indicators may need to be adjusted to better capture qualitative contributions to enabling factors such as cooperation, coordination and governance.

Evaluation of process efficiencies

The process efficiency evaluation covers the programme organisation and management, including analysis and evaluation of support structures, tools and activities to ensure efficient and effective Programme delivery. The evaluation follows up on the 2016 evaluation of the two-step approach introduced to support increased result orientation.

The two-step approach improves the application process but does not significantly improve the quality of applications. Between Call 1 and Call 5 there has been a clear increase in the approval rate, but it is still considered low. The average approval rate was 26% in Step 1 and 65% in Step 2. For Call 5 these percentages were 31% and 64% respectively. The increased approval rates may also be due to improved processes. Recommendations from the 2016 evaluation have partially been taken on board. The timeframes for submitting application forms (AFs) in Step 2 are clearer and applicants are explicitly encouraged to contact the Joint Secretariat (JS) at any stage during the process. Contact Point (CP) and JS support in Steps 1 and 2 is generally appreciated, but not always used by projects for project development in Step 2. To increase the success rate in Step 2, further tools and guidance based on the analysis of approved projects are expected.

The high efforts of the JS may be disproportionate to the approval rate. JS support during project development phase takes considerable capacities from JS officers, which comes at the cost of monitoring project implementation. Although the approval rate has increased, a higher rate would be expected from the resources used. Project partners need most assistance with the quantification of baselines, long-term effects and value for money. Step-wise guidelines for applicants will be developed to help quantify baselines. Subsequently this will release some of the burden for the JS, however more research is needed to examine the reasons for the imbalance between capacity put into project development and low approval rates.

Project partners spend more time on project monitoring and financial reporting than expected, leading to possible delays in project implementation. Nevertheless, the result-orientation and focus on concrete outputs and results are appreciated. The enhanced result-orientation supports project partners to cooperate in a more effective and efficient way. Hence, reporting is not perceived as a burden, particularly since there is a learning effect from both progress and payment reporting. Once familiar with the electronic Monitoring System (eMS), reporting becomes less burdensome. Furthermore, practical improvements from the Programme have made the eMS interface more user-friendly.

eMS captures predominantly quantitative information. Project partners assume this information is largely capturing their contribution to Programme objectives. Programme bodies highlight the need to collect more qualitative information, in particular to better assess unintended or additional benefits. These effects are currently collected via project quality appraisals. More relevance should be given to qualitative aspects along with the quantitative data. A complementary final assessment of projects should be conducted to measure the actual contribution to Specific Objectives (SOs) of the Programme.

Synergies facilitating Programme implementation are limited, the NWE Programme is competing with other Programmes. Other funding sources may accelerate or hamper implementation of the NWE Programme. Synergies with national strategies or funding schemes are more prominent in certain countries, in particular the Netherlands, where a concrete effort is made to match NWE projects with other funding programmes. At the same time, there is a strong thematic and geographical overlap with Interreg programmes in the NWE area, with Interreg VA 2Seas and VB Atlantic area being considered the main 'competitors' by the Programme. The lack of complementarity and coordination among Interreg programmes leads to confusion for applicants and makes NWE less attractive. More coordination with national authorities as well as with other Interreg Programme support would better position the Programme, allow better use of funding possibilities and limit competition.

Evaluation of the contribution to Europe 2020

Evaluation of the Programme's contribution to Europe 2020 focuses on the direct project contributions via output reports as well as on identifying external factors and additional benefits. The analysis follows up on the analysis of possible project contributions presented in the Programme's ex-ante evaluation report[1].

Substantial contributions to smart and sustainable growth can be expected. The Programme contributes to smart growth directly via SO1 projects as well as cross-thematic contributions from SO3, SO4 and SO5. The Programme substantially contributes to sustainable growth via SO2, SO3 and SO4 projects. In addition, SO5 projects make a moderate contribution. Inclusive growth is less addressed. The Programme could promote and encourage more projects to contribute to social innovation. It is still too early to determine additional benefits or external factors facilitating the contributions to Europe 2020, more detailed analysis would be needed, particularly since some examples illustrate additional Programme contributions to Europe 2020. A structured analysis of the data from several quality appraisals should highlight additional contributions.

Evaluation of the contribution to territorial cohesion

Support from the NWE programme is well-distributed between poor and well-performing NUTS regions. The same applies when correlating NWE Programme investments per capita with the 'Social Progress Index' (SPI). Considering the relative ESIF share per type of region shows that the NWE funding support was, at the end of 2017, predominantly provided to urban and intermediate regions, and less to rural regions. 11 of 12 projects under SO1 applied the leader-follower approach with at least 33% following regions in the project partnership.

[1] Ex-ante Evaluation & Strategic Environmental Assessment of the INTERREG North West Europe Programme (2014-2020).

The storylines show that cooperation was key to the success of all NWE projects. Interviews with stakeholders in the case studies helped to understand why cooperation contributes to new ideas, learning, pilot actions and demonstration projects for policy-makers and other public actors that provide services or who define policies. Governance was a particularly useful enabler in projects under SO1, SO2 and SO5. Coordination was another useful enabler, as it helped to organise and align many stakeholders with their different expectations, capacities and experience in many diverse thematic fields, either along a value chain or within an innovative ecosystem.

The Programme has helped reduce disparities, but mostly in regions where NWE projects are active and have a direct influence. Despite its small size and therefore reduced impact on competitiveness and territorial development in a region, the NWE Programme fills a critical gap for cross-border, international cooperation. Some problems or issues are best solved through co-operation across borders, as domestic funding programmes fail to provide support beyond administrative boundaries.

There is a general balance of contributions to the two territorial cohesion goals - competitiveness and growth as well as balanced development and cohesion. Projects contribute to both goals of territorial cohesion, individually or in parallel. However, there is a tendency to value projects contributing to competitiveness and growth as more effective and successful, since their contributions are easier to quantify. A lack of available quantitative data and indicators at local and regional levels for social inclusion, cohesion, environmental and efficiency-related performance hamper the development and approval of projects targeting balanced development.

1 Context and Methodology

This report presents the final results and recommendations for the NWE Programme 2014-2020 implementation evaluation. The evaluation focuses on analysing and verifying the effectiveness and efficiency of the programme in the middle of the programme exercise, as well as an assessment of the expected programme contribution to socio-economic changes in the territory.

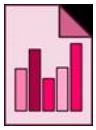
The implementation evaluation is Task 2 as defined in the Framework Contract between the Interreg NWE programme and the consortium of Spatial Foresight and t33. Two studies have been already conducted within the Framework Contract which are directly connected to the implementation evaluation. Task 1 was the evaluation and analysis of the two-step approach of evaluation to support increased result orientation[2]. An intermediate Task 1b defined territorial impact indicators and established a baseline, preparing for impact evaluations to follow[3].

This evaluation covers firstly programme implementation, with the consistency of delivery process, procedures and tools. Secondly, the evaluation checks if the implemented projects contribute to expected results and contribute to Europe 2020 goals. The evaluation and, correspondingly, this report include:

- Chapter 2: Analysis and evaluation of delivery process efficiency.
- Chapter 3: Analysis and evaluation of project and partnership suitability and relevance, project outputs and contribution to the Programme, as well as project results and their expected contribution to Programme results.
- Chapter 4: Analysis and evaluation of the likely contribution of implemented projects towards Europe 2020 goals.
- Chapter 5: Analysis and evaluation of the likely contribution of the Programme to territorial cohesion and integration through cooperation.

The analysis and conclusions in each chapter are based on various methods. Conclusions are illustrated by specific symbols for the main data source or evaluation method:

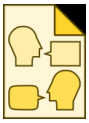
- Desk research and review of Programme documents.



- Analysis of Programme and project data, monitoring data on project and programme output and result indicators.

[2] Report prepared by Spatial Foresight and t33: Evaluation of the Two-Step Approach. FINAL REPORT. Version 24 March 2017. Framework Contract: Implementation of an integrated evaluation approach within the framework of a robust North-West Europe evaluation system (Reference 16B007).

[3] Report prepared by Spatial Foresight: Co-development of a territorial cohesion indicator system, facilitating the Programme performance and impact evaluation. FINAL REPORT. 24 August 2017. Framework Contract: Implementation of an integrated evaluation approach within the framework of a robust North-West Europe evaluation system (Reference 16B007) (Subsequent Contract no. 1.



- Interviews with Programme Bodies: 16 Interviews, of those 1 was with the MA, 7 with JS representatives, 8 with Monitoring Committee members and 1 with a national contact point.
- Interviews to project applicants: 10 to successful applicants and 5 to rejected project applicants.

- Survey of project partners. The survey was aimed at project managers, project partners, and stakeholders, who were asked to respond to a questionnaire. The survey was sent out to the 83 projects that applied at step 2 of the application process (for 5 calls). With a response rate of 59%, 51 complete and useful responses were collected and analysed.

- Case study research on 10 advanced projects from different thematic fields and SOs.

- A contribution analysis for selected case study projects covered all SOs. This identified the direct contributions of projects, their contributions on enabling conditions and the indirect contributions of the programme to territorial cohesion and integration.
- Analysis and mapping of territorial impact indicators.
- Focus group discussions with the Evaluation Task Force on the evaluation methodology and first results.

Details of the different methods and data gathering processes are presented in the annex to this document.

2 Process efficiency evaluation

This chapter analyses and evaluates the Programme management and organisation processes. This follows-up on the evaluation of the 2014-2020 NWE Programme two-step approach under Task 1 of the Framework Contract.

The primary sources of information used to evaluate NWE Programme process efficiency are the online survey of projects (Lead Partners and partners), interviews with applicants (9 approved and 5 rejected) and the programme bodies (JS officers and MC members) as well as 10 project case studies.

The analysis is aligned with the evaluation questions, to best identify and match key findings and recommendations for each question.

2.1 Two-step approach

The 2014-2020 NWE Programme introduced a two-step approach for project applications. In the first step applicants submit a basic online application. If this is successful, they receive feedback from the Programme asking them to submit a full application.

2.1.1 Summary and conclusions

Evaluation questions	Key findings	Recommendations
Have the recommendations of the 2016 evaluation concerning the two-step approach been implemented?	The Programme introduced clearer timeframes from Call 5. The other two recommendations have been partially implemented. (1) The programme does not insist but encourages applicants to contact the CP prior to submitting the AF in Step 1. (2) The programme encourages rather than obliges applicants to contact the JS after Step 1.	Support and guidance for project development in Step 2 should be clearer (more systematic meetings with JS, clearer instructions). JS could introduce a preliminary meeting between assessors and applicants.
Has there been any noticeable impact on the project development process or project quality?	Although the project development process has generally improved, there seems to be no significant improvement in project quality.	To increase success in Step 2, the programme could elaborate more tools and guidance based on an analysis of approved projects (which could be used as a benchmark).

Evaluation questions	Key findings	Recommendations
Were the applicants in contact with the CPs and JS in the project development process? If so, what was the area of support provided and was it helpful?	The support is considered good. Sometimes applicants perceive there is not enough coordination between CPs and JS as they often receive inconsistent advice. Applicants highlight that during project development they require most support and guidance on State aid, followed by Intellectual Property Rights and baseline quantification. For the JS, intervention logic, quantifying baselines and targets for long-term effects and results are also important issues. Support and advice are considered helpful, if taken. Sometimes applicants feel they do not need support or that they already have sufficient professional support.	Further coordination should be envisaged between CPs and JS, such as coordinating criteria for quality, baseline quantification, long-term effects, value for money, etc. The programme could increase coordination between JS and CP through further exchanges between the two bodies such as more joint training or workshops. Structured coverage for missing staff and appropriate handover procedures for staff changes could be improved. <u>After 2020</u> In the next programming period, there could be more systematic coordination between CPs and JS.

2.1.2 Analysis and evaluation

Implementation of 2016 recommendation on the two-step approach

The 2016 evaluation included three recommendations to further improve the two-step approach. The section below presents the extent to which these recommendations have been considered by the Programme.

Analysis of Programme documents, in particular the Programme Manual and the Terms of Reference for calls for proposals, show that the 2016 recommendations have been partially implemented.

<u>2016 recommendation</u>
Make it obligatory for applicants to submit AF 2 during the first window after the AF 1 approval. This change can be made either without extending the available timeframe for applicants (only three months for submitting AF 2) or by extending it to six months.

In terms of Step 2 submission deadlines, all Terms of References from Call 5 on give applicants only one deadline to submit the Step 2 application, approximately six months after Step 1 approval. This is also clearly outlined in the Programme Manual in the 'Project development after Step 1' section. This approach takes on board the 2016 recommendations, differing from previous calls which had two deadlines, where the time was considered either too short or too long.

2016 recommendation
In order to increase the rate of success in Step 1, the programme could impose that applicants must contact CP prior to the submission of the AF in Step 1 as a sine qua non condition.

The Programme Manual does not oblige applicants to contact CPs prior to submission of AF 1, still stating that '*Once project applicants start defining their project intervention logic, they **should** contact their contact point for support with the development of their project idea, which is provided right up to the submission of the application*'. This has not changed from previous versions of the Manual. However, it should be noted that all interviewed applicants said they received support from CPs in Step 1 (more information below).

2016 recommendation
In order to increase the rate of success in Step 2, the programme could introduce a preliminary meeting between the JS assessors and applicants (or between the JS assessors and the JS sponsors) in order to provide to applicants with preliminary feedback on the strengths and weaknesses of their project proposals.

On reinforcing JS support to project development after Step 1, the latest version of the Programme Manual still states that '***Following step 1 approval, the applicant should contact the Joint Secretariat** (JS) as soon as possible to meet, discuss the recommendations and agree on an action plan until the final submission of the full application.*' This is in line with previous versions of the document. This was corroborated by applicant interviews[4], which confirmed rare meetings (mostly only one) with the JS between Step 1 and Step 2.

Impact of the two-step approach on project development or project quality

Analysis of project data (see table below) shows an overall improvement in project quality[5], with a significant increase in Step 1 approval (up to Call 6), with Call 4 being the most successful to date, and Step 2 approval (up to Call 4, from the latest data available). Approval at Step 2 has significantly increased with an 81% peak in Call 4, showing better project quality and stricter selection in Step 1.

At the same time, the overall approval rate (applications approved share of applications submitted) is still considered low (26% in Call 4, 20% in Call 5). Expectations may be too high to facilitate realistic and successful programme implementation. However, the focus on results has brought more complexity for projects which may discourage potential applicants.

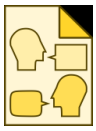
[4] The 10 applicant interviews with approved projects mostly involved advanced projects from Call 1-2, before implementation of the recommendations.
[5] Project quality can only be measured at the end of a project as part of the impact evaluation. For this evaluation, 'project quality' is 'quality of project proposals'.

Table 2.1 Success rate of applications per Call in NWE

	Project	Step 1	Step 2	Approvals Step 1	Approvals Step 2	Overall approval rate
Call 1	Applications	82	17	23%	53%	11%
	Approved	19	9			
Call 2	Applications	86	20	24%	70%	16%
	Approved	21	14			
Call 3	Applications	73	17	23%	63%	14%
	Approved	17	10			
Call 4	Applications	50	16	36%	81%	26%
	Approved	18	13			
Call 5	Applications	45	14	31%	64%	20%
	Approved	14	9			
Call 6	Applications	49	-	35%	not finished	-
	Approved	17	-			
Call 7	Applications	61	-	not finished	not finished	-
	Approved	-	-			
Total	Applications	446	84	26%	65%	16%
	Approved	106	55			

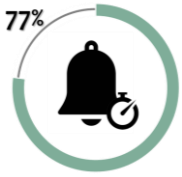
Source: JS data, own elaboration.

In terms of success rate per SO, data provided by the Programme shows a very limited success for SO1 and SO4 applicants (13% and 12% respectively after five calls), especially when compared with SO3, which has a 33% success rate.



Although the overall process seems to have improved, the project pipeline is still considered poor by most Monitoring Committee (MC) members, with too few approvals after Step 2. This seems inefficient given the time and resources required by programme bodies and applicants. This may be due not only to project quality, but also to high expectations and divergent and often overly strict interpretation of selection criteria within the MC as well as between the MC and JS. The interviewed JS officers seem to be more optimistic and mostly declare higher project quality, while admitting further improvement is necessary.

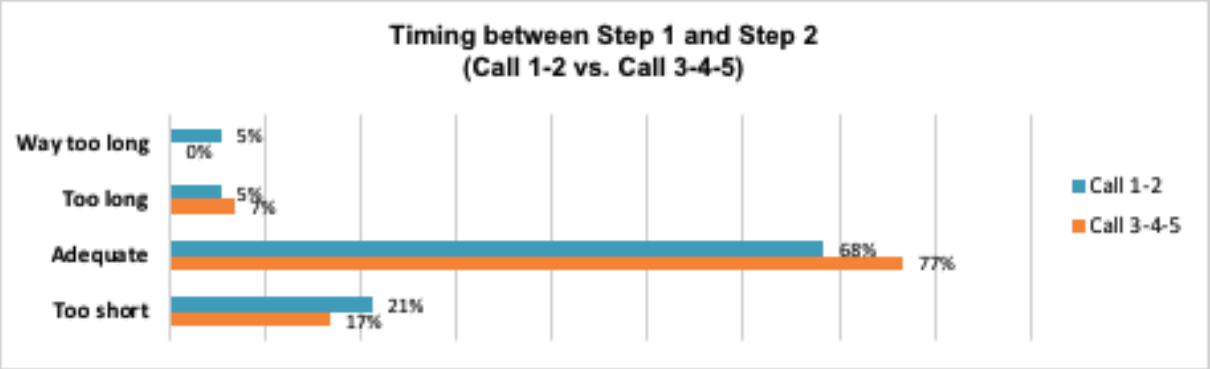
As recommended in the first evaluation report on the two-step approach, more success in Step 2 could result from further tools and guidance based on analysis of approved projects (which could be used as a benchmark). Moreover, the Programme could introduce a preliminary meeting between JS assessors and applicants (or between JS assessors and JS sponsors) to provide applicants with preliminary feedback on the strengths and weaknesses of their proposals.



Time between the notification of the MC at step 1 and the submission of step 2 considered **adequate**

At the same time, the decision to provide one deadline for submitting the AF in Step 2, with approximately six months for project development, has improved applicants' perception of the time available between the two steps (see Figure 2.1). More than three quarters of survey respondents consider the timing adequate.

Figure 2.1 Assessment of timing adequacy by projects



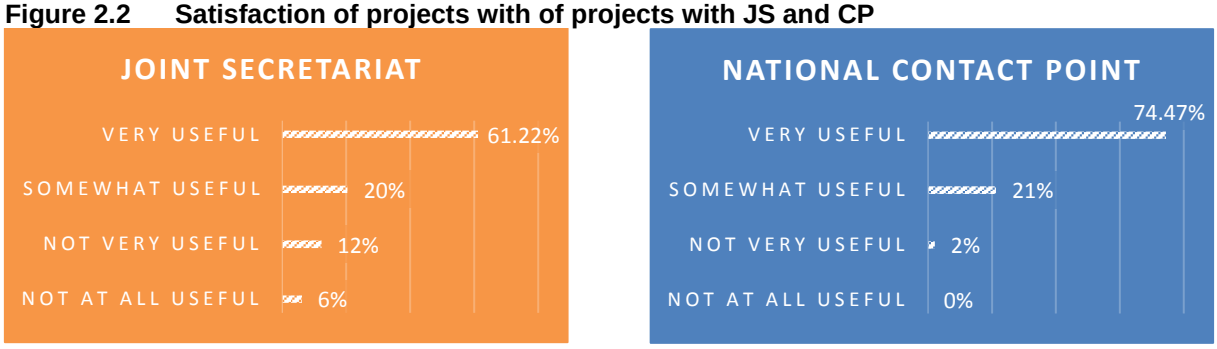
Source: online survey, own elaboration.

In terms of time spent on Step 2 project development, the survey confirmed previous findings, with most applicants (75%) needing between 9 and 32 weeks to draft the Step 2 AF.

Contact with CPs and JS during project development

Interviewed applicants and survey respondents generally expressed satisfaction with support provided by CPs and JS during project development. Looking at survey data in more detail, CP support is recognised more positively, with a very small share of respondents having a negative perception (only 2% found it 'not very useful' or 'not at all useful' against 18% for the JS).

Figure 2.2 Satisfaction of projects with of projects with JS and CP



Source: online survey, own elaboration.

An aspect which was often raised in the interviews and the survey was the lack of continuity between CP support in Step 1 and JS support in phase 2, combined at times with a lack of JS officer expertise in the project theme. In addition, survey respondents were not satisfied by JS support mainly because frequent staff turnover (different JS officers in charge of their project) and a perceived lack of time to address their requests. More specific handover procedures for staff changes could address these issues, as well as a better balance of tasks, which seem to affect Step 1 project assessment more.

Vague written recommendations after Step 1 approval and a lack of expert support between Step 1 and Step 2 were also highlighted by at least half the interviewed applicants, though many of these were rejected applicants, leading to a more negative perception. At the same time, the workshops organised by the JS at their premises in Lille mostly proved useful to understanding how to structure the full application (work packages, communication), but were less useful in advising applicants how to quantify

baselines and long-term effects. However, it should be underlined that JS support is considered very useful for technical aspects of the project application.

The interviewed applicants and survey respondents declare to mostly, but not only, ask for support on State aid (already to CPs at Step 1) and Intellectual Property Rights. For the JS, intervention logic, quantifying baselines and targets for long-term effects and project results are also important issues. Support and advice are considered helpful, if taken. It seems applicants sometimes feel they do not need support or that they have sufficient professional support already. Timing seems to be important in the value of support provided to applicants.

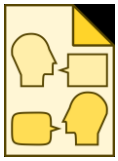
2.2 Project development, selection process and Programme capacity

2.2.1 Summary and conclusions

Evaluation questions	Key findings	Recommendations
Are the project application and selection tools efficient and effective? In other words, does the AF request the required information? Do the selection criteria cover all relevant aspects? Should anything change?	There is general satisfaction with application tools and selection criteria in both steps. However, additional clarity in the AF and guidance on quantifying baselines, long-term effects and, to a lesser extent, value for money is needed.	The Programme should provide more support for quantifying baselines and targets. This could include specific step-by-step guidelines, with concrete examples per SO based on successful applications. CPs could be trained to provide specific support, consistent with JS interpretations on these guidelines. <u>After 2020</u> New guidelines on quantifying baselines for the next programming period could already be envisaged based on the proposed new direct result indicators (see below).
Is the Programme capacity put into project development proportionate to the outcome, in terms of number and quality of approved projects?	The Programme capacity put into project development is considered disproportionate compared to the approval rate.	The Programme could perhaps change its approach from expecting projects to completely fulfil an ideal set of criteria, to an approach that selects a minimum number of projects from the best applications.

2.2.2 Analysis and evaluation

Efficiency and effectiveness of project application and selection tools



The interviews with programme bodies (JS, MC) and applicants show general satisfaction with application tools and selection criteria at both steps. The criteria at both stages grasp the essential aspects of the proposed projects. However, approximately 85% of interviewed JS officers and MC members mention a need to improve clarity in the AF for quantifying baselines, long-term effects and, to a lesser extent, value for money (underlined by the UK). In this sense, there should be greater support for applicants and possibly a different approach in future programming. In particular, long-term effects are often vaguely quantified and described. This was confirmed by applicants where almost all interviewees reported difficulties in quantifying baselines and long-term effects, admitting the figures they provided could not be precise or entirely realistic.

Baselines and target issues could be overcome by more specific guidelines. A step-by-step approach could assist applicants in the different phases, including defining objectives and links with Programme SOs, definition of outputs, definition of a measurable changes in line with the project objective or by quantifying the objective. The Programme could also provide examples of successful applications with clear methodologies to quantify baselines and targets per SO or per Priority. CPs could be trained to provide more specific support.

Assessment of Value for Money

Evaluating a project's value for money in the application phase is one of the most challenging aspects of assessing project proposals. Future calls could involve the following approach:

Proposal

1) Identify successful projects in terms of efficiency (progress, budget spending) and effectiveness (achievements) under each Priority and SO*;
2) Based on these, calculate the standard unitary cost (or a standard *range* of unitary costs) of achieving project-specific results (currently, each project has objectives and results, but standard types/categories can be found for each Priority);
3) Use these calculations to benchmark whether the budget proposal is 'good value for money', too low (unitary costs not credible) or too high (high unitary costs).

Example: Priority 1: *Innovation*

SO1: *To enhance innovation performance of enterprises throughout NWE regions*

Category (own proposal): *Development of new innovative products*

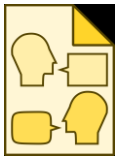
- Example of a successful project (1): Bio4SME
  Total budget: € 5 825 754
  Project-specific result (estimated net change): **6** new demonstrations or production lines
  Unitary cost (budget / new products): 5 825 754 / 6 **= € 970,959**
- Example of a successful project (2): Codex4SME
  Total budget: € 3 183 633
  Project-specific result (estimated net change): **4** new products developed
  Unitary cost (budget / new products): 3 183 633 / 4 = **€ 795 908**

➔ Proposal of a standard range of unitary cost to develop a new product under Priority 1:
€ 700 000 – 1 000 000

Unitary cost under € 700 000	Within range	Unitary costs over € 1 000 000
☹ Not credible unit cost	☺ Value for money	☹ High unit cost

**This exercise should be carried out at the end of the current Programme to identify projects which actually achieved the declared results.*

Balance between Programme capacities and project development outcomes



Project development and assessment are unanimously perceived as priority tasks by the JS officers interviewed. However, this is often combined with two negative consequences. A focus on development and assessment heavily reduces the time for project monitoring by the JS, with the risk of ignoring important issues in project implementation. In addition, JS and MC agree that, although the project approval rate has improved, JS staff capacity is disproportionate to the approval rate

In other words, a much higher success rate would be needed to justify the human resources used. At the same time, this effort may not be worthwhile and a refocus on project monitoring may be needed.

2.3 Efficiency of monitoring and payment systems and processes

2.3.1 Summary and conclusions

Evaluation questions	Key findings	Recommendations
Is the project monitoring and payment system and process efficient?	In general, the monitoring and payment system is efficient. Some beneficiaries see the administrative burden of monitoring and payments as too high. Payment delays can hinder implementation. Some minor eMS functionalities have been pointed out as flawed. • Insufficient characters to complete sections of progress reports; • No possibility to upload attachments; • Access limited to reporting periods; • Frequent system blocks when changes are introduced; • Lack of a visually helpful overview of the whole report before it is sent.	The monitoring and payment systems should be improved and simplified. There should be adequate reporting requirements (on progress and spending) necessary for monitoring and evaluation. For technical issues highlighted in the interviews and online survey, the following changes could help: • Increase the number of characters available in sections of progress reports; • Enable attachments; • Allow limited eMS access outside reporting periods; • Enable a more visually helpful overview of the whole report before it is sent.

Evaluation questions	Key findings	Recommendations
Does the monitoring system allow the Programme to grasp the intended results, side benefits and contribution to the SO of the Programme? Are there any changes required?	The monitoring system can grasp intended results of projects. However, the eMS system heavily concentrates on quantitative aspects of implementation which measure progress towards declared targets. This neglects important qualitative aspects of results and the territorial dimension of NWE projects. Moreover, the indicators do not seem always adequate to measure project results. The value of the existing mid-term qualitative assessment could not be checked, as insufficient quality appraisal reports were available.	More relevance should be given to qualitative aspects along with quantitative data. A complementary final assessment of projects should identify qualitative contributions to Programme SOs and additional benefits. This could include a final study or interviews with JS-projects at the end of a project and is already foreseen by the JS. After 2020 To best prepare the new monitoring system and guide applicants and projects towards more suitable monitoring, a scoping study in the current programming period could start with the proposed direct result indicators for 2021-2027.
Does the implementation of result orientation have an impact on the project and Programme implementation and spending?	The result orientation has been very positively received by project applicants and Programme managers alike.	-

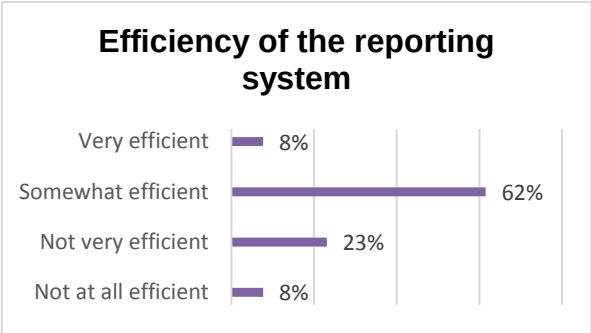
2.3.2 Analysis and evaluation

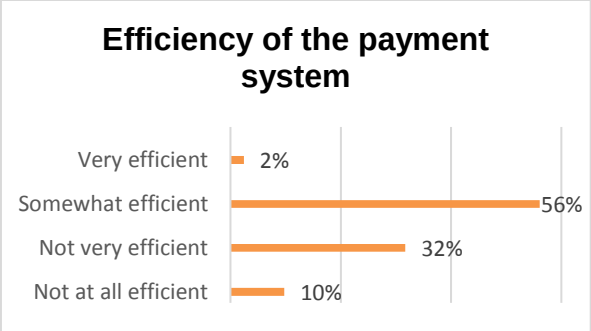
Efficiency of project monitoring, payment system, process and tools

There is general agreement that administrative tasks related to project monitoring and reporting take more time than expected and that the eMS system should be improved. The financial aspects are also considered challenging and often lead to delays. The main information on these aspects has been collected from the online survey, interviews with approved project applicants and case studies.

Many projects experience reporting difficulties. 58 progress reports covering 21 projects have been reverted to lead partners after being submitted. This implies that almost 50% of progress reports contain errors found by JS officers. There seems to be a learning curve in the reporting process though. Progress reports 0.1 and 1.1 are most frequently sent back. It takes projects between 1 day and four months to correct the progress reports which can hamper project implementation and delay other project management tasks.

Figure 2.3 Efficiency of systems perceived by projects

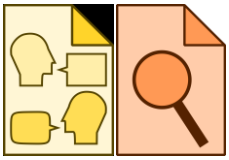




Source: online survey, own elaboration.

More than half the survey respondents (62%) consider the reporting system 'somewhat efficient' while 31% had a negative view ('not very efficient' or 'not at all efficient'). It is similar for the payment system (see figures below). When asked to describe their experience, respondents mostly highlighted:

- A very high administrative burden for all project partners leading to imbalances between administrative reporting and project management to achieve results;
- Different reporting rules (including financial reporting) between programmes and countries cause confusion, higher risk of errors and reimbursement delays;
- Lack of flexibility in correcting problems or errors.



The approved project applicants and case studies largely confirm the survey results. Although reporting is considered useful and the eMS is an improvement compared to the previous programming period, a vast majority of interviewees spend a disproportionate amount of time on reporting rather than project management. The whole process is often described as burdensome and time-consuming. The eMS contributes to this perception by not being as user-friendly as project partners would expect. Very few interviewees claim that processes and systems are less efficient and attractive compared to other Programmes in the area, especially Interreg 2Seas.

The financial aspects are similarly rated, with frequent delays and a confusion around tasks of First Level Controllers (FLCs) and communication with them, particularly in some countries. In this regard, coordination between Member States and the different entities involved in FLC might help to streamline requirements and time frames. Payment delays are a concern for SMEs and small associations as they mostly rely on timely reimbursement to guarantee a steady cash flow to pay staff and finance project activities. These delays may be preventable with more flexibility in correcting reporting errors.

Several eMS functions may be flawed, according to some beneficiaries:

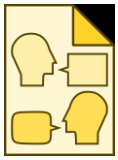
- Insufficient number of characters to complete sections of progress reports;
- No possibility to upload attachments;
- Access limited to reporting periods;
- Frequent system block when changes are introduced;
- Lack of a visually helpful overview of the whole report before it is sent.

Completeness of the monitoring system to capture intended results, side benefits and contributions to SOs

This evaluation question considers the legal framework for reporting requirements. The JS has a legal responsibility to pay projects within 90-days of them submitting a progress report. This is an important restriction and the reason why only essential information can be gathered on a six-monthly basis.

Within this framework, the monitoring system captures intended project results and contributions to SOs. It is less able to capture additional qualitative effects and side benefits of projects. The system remains an essential tool to monitor progress. However, many beneficiaries in interviews and case studies doubt its ability to measure all results and contributions to Programme objectives, especially qualitative aspects and the territorial dimension of projects. The monitoring system can fill administrative requirements but lacks the capacity to effectively measure specific aspects of territorial cooperation. Consequently, it has been supplemented by other tools, such as the JS appraisal system to assess progress every 18 months as well as more visits to projects.

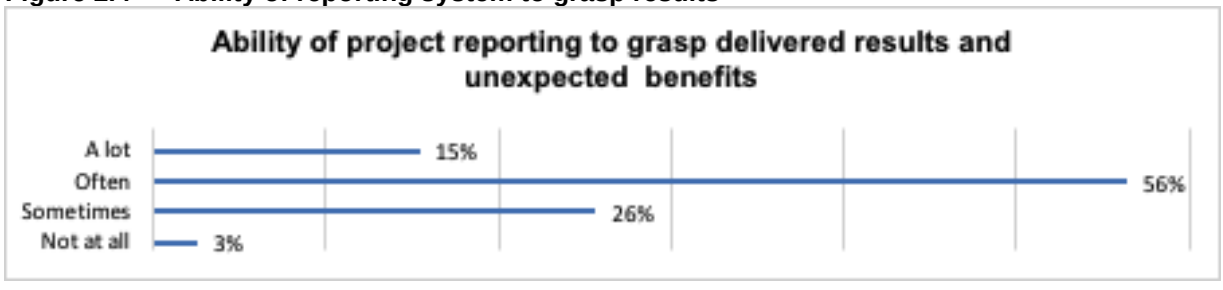
Qualitative aspects are collected outside the eMS, mainly via quality appraisals. Project partners and JS officers discuss the results twice during a project's lifetime and produce a monitoring report. During this discussion additional and unintended results from the projects are collected. This information is valuable and is gathered in a structured manner, so it can be easily used for evaluations and the results and examples disseminated.



Interviews with programme bodies (JS, MC) highlight the need to increase the effort to collect qualitative (soft) information from projects. This is perceived as a way to integrate quantitative data collected through the reporting system, as well as a means to build strong storytelling at Programme level. This would help showcase the real impact of NWE on its territory and capitalise results. To do so, the existing monitoring system should not be changed, but rather enhanced or complemented by more frequent meetings with projects and the structured collection of qualitative information.

Survey respondents generally give more positive feedback, with 71% considering the reporting system able to grasp results and unexpected benefits. When asked to detail their answers, most respondents highlighted the need to have programme officers more involved in the content of projects, to better capture their essence and the side benefits.

Figure 2.4 Ability of reporting system to grasp results

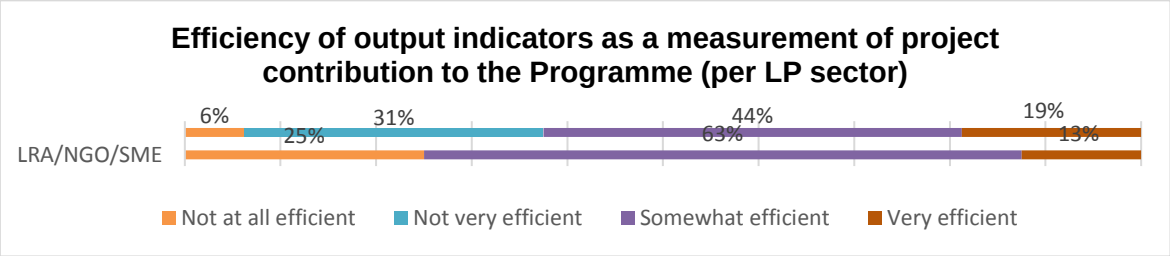


Source: online survey, own elaboration.

When asked more specifically about the ability of output indicators to measure project contributions to the Programme, most declare they are 'somewhat efficient'. Looking at these data from the point of view

of different types of lead partners (higher education and research or local and regional authorities, NGOs and SMEs), it appears universities and research centres are more critical of the indicator system, with 37% having a negative perception ('not very efficient', 'not at all efficient').

Figure 2.5 Efficiency of indicator ability to measure contribution per type of beneficiary



Source: online survey, own elaboration.

Impact of the result -orientation approach on project and Programme implementation

The focus on result-orientation in the current programming period is seen as positive by Programme Bodies and applicants. The data suggest this approach has encouraged a stronger focus on tangible outputs.

According to survey findings, result orientation helps partners to cooperate more effectively and efficiently. The obligation to reach a tangible objective helps and motivates all partners to find practical solutions for complex challenges. Result orientation is interpreted as achieving results starting from a baseline, measuring progress towards these results and the mid to long-term effects. While result orientation can increase focus on tangible progress and thus positively impact project implementation, it can also be a hindrance, due to difficulties in quantifying results and long-term effects.

2.4 Synergies and interactions with other programmes

2.4.1 Summary and conclusions

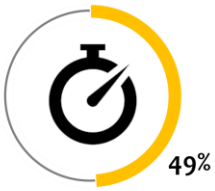
Evaluation questions	Key findings	Recommendations
Are there synergies between the Programme and other national strategies or support schemes (including funding streams) that facilitate programme implementation?	Synergies are more visible in certain countries, such as the Netherlands. Most synergies are 'accidental' rather than intentional.	There should be more concrete coordination between the Programme and national authorities (e.g. through NCPs) to increase synergies.

Evaluation questions	Key findings	Recommendations
Are there other programmes that affect the Programme performance (geographically or thematically)?	There is a strong overlap with ETC programmes in the area, with a lack of complementarity. Overlaps stimulate a 'comparative' approach to ETC by applicants who may choose programmes offering a better success rate, a better co-funding rate or more simple procedures than NWE Programme.	Thematically and geographically overlapping programmes in the NWE area should work towards much greater interaction, coordination and harmonisation. After 2020 - Improve governance: ETC programmes in the NWE area after 2020 should establish a coordinating body. Coordination should start in the CP drafting phase (when establishing thematic priorities, co-financing rates etc.). This could be supported through: a) a scoping study to find the specificities of NWE projects; b) a study identifying the territorial needs of NWE compared to other programmes in the area and to other territorial dimensions (e.g. CBC).

2.4.2 Analysis and evaluation

Synergies between the Programme and other national strategies or support schemes facilitating programme implementation

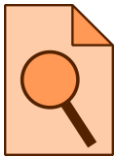
Although almost half the survey respondents[6] (project lead partners or partners) say their project benefits from synergies with other national funding schemes, there are large differences between countries. There is greater attention to this in some countries, notably the Netherlands, according to the programme interviews, case studies and online survey.



Declare **synergies** with other strategies and support schemes

An interviewed MC member in Germany had seen no existing or intended regional or national synergies and said any synergies would be accidental.

Projects with Dutch leadership or partner involvement are generally in line with thematically related national strategies. This ability of the Dutch authorities and CPs to match NWE projects with the appropriate national scheme is widely recognised by the other participating countries.



This is confirmed by two of the case study projects (CHIPS and HeatNet NWE), where the Dutch lead or project partners clearly mention important synergies with national schemes. It should be noted that different types of synergies depend on the type of partners involved. Local and regional public authorities are keener on finding complementarities with other Interreg or mainstream ERDF programmes in their area (e.g. CHIPS), while partnerships with

[6] Many respondents do not seem to have understood the question and often confused synergies with national co-financing.

a strong private component tend to look for complementary investments from the private sector. Research centres and universities tend to find complementarities with Horizon 2020 or national research grants (e.g. Bio4SME).

The online survey points to complementarities between NWE funding and national or regional schemes. However, as mentioned above, this seems to depend largely on the specific case, rather than systematic interaction and coordination between the NWE Programme and national authorities.

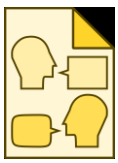
Synergies are mostly declared by LRAs, NGOs and SMEs and less so by higher education and research institutions.

Other programmes affecting Programme performance

According to the gap analysis provided by the Programme, the Interreg VB North Sea programme is seen as the biggest potential competitor due to very similar thematic (4 out of 5 SOs covered) and geographical coverage (a major part of the Netherlands and Flanders as well as the UK – East of England and Scotland). Nevertheless, the grant rate of the Programme is lower than NWE's and the approval rate equally low (65% of the budget is not yet attributed and the co-financing rate is 50%). Therefore, the gap analysis suggests that the Interreg Atlantic Area Programme, rather than North Sea, is perceived as a *competitor* to NWE. A 44% success rate for applicants under this programme supports this hypothesis.

In the cross-border strand, NWE covers the entire Interreg Two Seas territory. The funding rate for this programme is as high as for NWE, while 48% of the budget still has to be allocated. Thematic coverage is 80% of the NWE Programme's, which is why this programme seems to be the *main competitor*. The fairly high project success rate (42%) confirms this conclusion.

The EU funding environment is a strong determinant of a region's involvement in NWE and can have both positive and negative impacts. Generally, regions covered by several ETC programmes are very involved in NWE. However, overlaps also stimulate a 'comparative' applicant approach to ETC who may choose programmes with a better success rate, a better co-funding rate or simpler procedures.



The interviews with programme bodies, in particular with MC members, highlight a lack of complementarity (or 'passive complementarity') among programmes in the NWE area. As stated above, many programmes address the same themes and cover the same geographical areas. In the application phase, applicants select the most appropriate programme for their proposal.

Despite these consistent overlaps, most MC members consider that complementarity and mutual exchange with these programmes are not pro-actively pursued by NWE, leading to confusion for potential project applicants and possible difficulties in spending.

Conversely, NWE seems to attract rejected Horizon 2020 projects, especially under SO1 which covers similar thematic areas. NWE provides lower funding but is usually considered less demanding by project applicants while also allowing more room for exchange and interactions among partners.

The gap analyses and the interviews with applicants and MC Members indicate that other programmes in the NWE area are mainly seen as competitors. This focus on competition between programmes rather than on cooperation and coordination is worth considering. Many overlapping programmes in the area cannot be changed, so they should be exploited positively (looking for distinctive features, exploiting and communicating synergies for the benefit of the area). The fact that they tend to compete rather than cooperate and coordinate is considered a risk (less attractive, fewer projects, confusion for applicants, etc.).

3 Evaluation of project results and programme effectiveness

This chapter analyses and evaluates the contribution of projects to Programme Objectives. Several issues are reviewed, such as project relevance, partnership suitability, achievements in the form of output indicators, Programme performance as well as contributions to SOs and result indicators.

3.1 Project relevance and suitability

3.1.1 Summary of conclusions

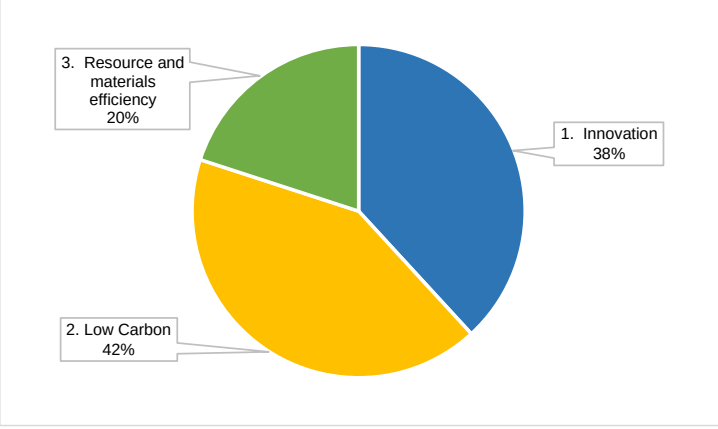
Evaluation question	Key findings	Recommendations
Are the projects implemented by NWE relevant and suitable to the Programme SOs and the challenges identified in the CP?	All projects implemented by NWE are relevant and suited to the SOs. Many themes of the Priority Axes and SOs are covered by approved projects. There is a balanced distribution between thematic areas within the priority fields.	More promotion or targeted calls would encourage projects for social innovation, creative, digital and design, CO2 capture, circular economy, optimised traffic management, textile, land/soils and plastics.

3.1.2 Analysis and evaluation

Are the projects implemented by NWE relevant and suitable to the Programme SOs and the challenges identified in the Cooperation Programme?

The 55 projects being implemented by the NWE Programme as of September 2018 adequately cover the three Priority Axes (PA) of the NWE Programme. 38% of the projects concern Priority Axis 1 on innovation, 42% cover Priority Axis 2 low carbon, and 20% Priority Axis 3 on resource and materials efficiency.

Figure 3.1 Distribution of Projects per Priority Axis (PA)

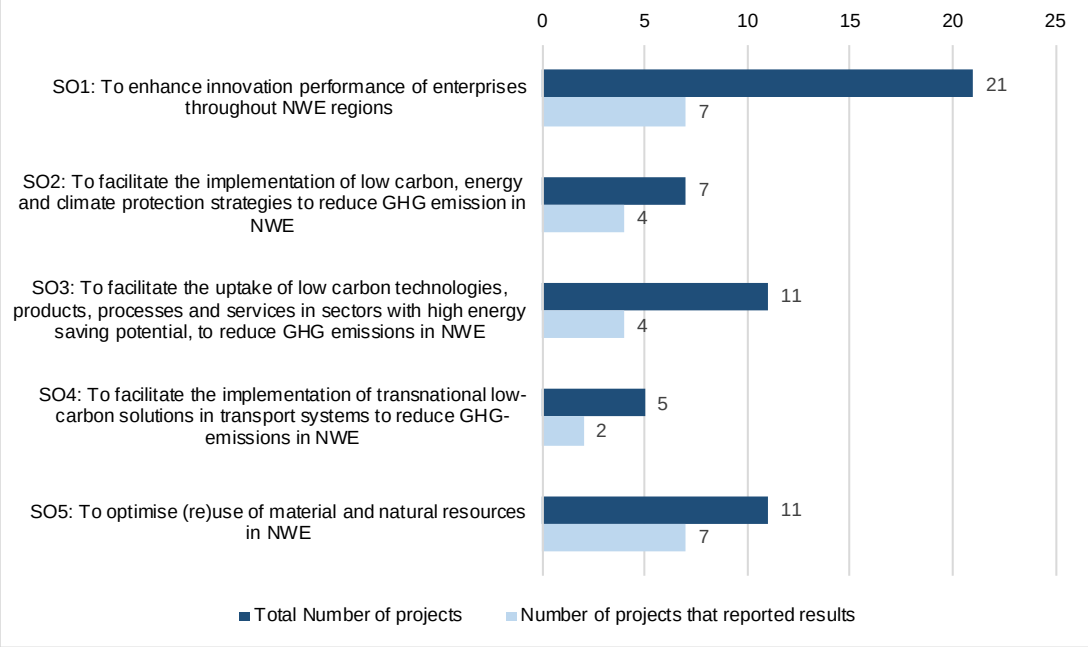


Source: Own elaboration on information on NWE Projects approved as of September 2018 (n=55)

Figure 3.2 shows projects are equally distributed among the SOs. SO4 is covered by the fewest projects (5), whereas SO1 is being implemented by 21 and SO5 by 11 projects. Notably, SO2, SO3 and SO4 all

belong to Priority Axis 2 as they aim to increase uptake of different facets of low-carbon technology and are covered by 23 projects in total.

Figure 3.2 Number of NWE Projects per SO



Source: Own elaboration of NWE Project information, approvals to September 2018 (n=55), projects reporting results to May 2018

In all SOs, some advanced projects had reported results by May 2018 and all SOs were covered.

For the key challenges identified in the Cooperation Programme, there are links between challenges in the NWE area and specific contributions of NWE projects. The following table displays the contribution expected by current NWE projects to the challenges (dark colour = large contribution, light colour = small contribution). The number of current projects that might tackle the challenge is also indicated.

Table 3.1 Challenges defined for NWE and project cover per SO

	Number of Projects attending the challenge				
	SO1	SO2	SO3	SO4	SO5
Challenge 1: Boosting knowledge flows	15				
Challenge 2: SMEs innovative capabilities	15				
Challenge 3: Resource and materials efficiency					11
Challenge 4: Energy security and supply		7	8	5	
Challenge 5: Vulnerability to climate change events		7	8	5	11
Challenge 6: Inclusion	2				

Source: Cooperation Programme and own elaboration on information on NWE Projects approved to May 2018 (n=46)

As shown, challenges 1-4 are directly covered by NWE projects. Challenge 5 on vulnerability to climate change events is tackled only indirectly by the combined results of several projects. Challenge 6 about inclusion is tackled indirectly by two projects under SO1 which concern social innovation and inclusion.

Box 3.1 Challenge 3 addressed

Phos4You addresses impediments to the recovery and use of secondary raw phosphorus from waste water. The project includes technical demonstrations to show the feasibility and efficiency of capturing phosphorus from waste water. Demonstration projects show how this can be done easily on a small-scale at competitive prices, which addresses the challenge of resources and material efficiency.

Box 3.2 Challenge 6 addressed

eMEN aims at increasing the use of e-mental health solutions in the Programme area. This indirectly contributes to economic performance as well as innovation capacity. In addition, it supports increased access to mental health care, addressing the challenge of social inclusion.

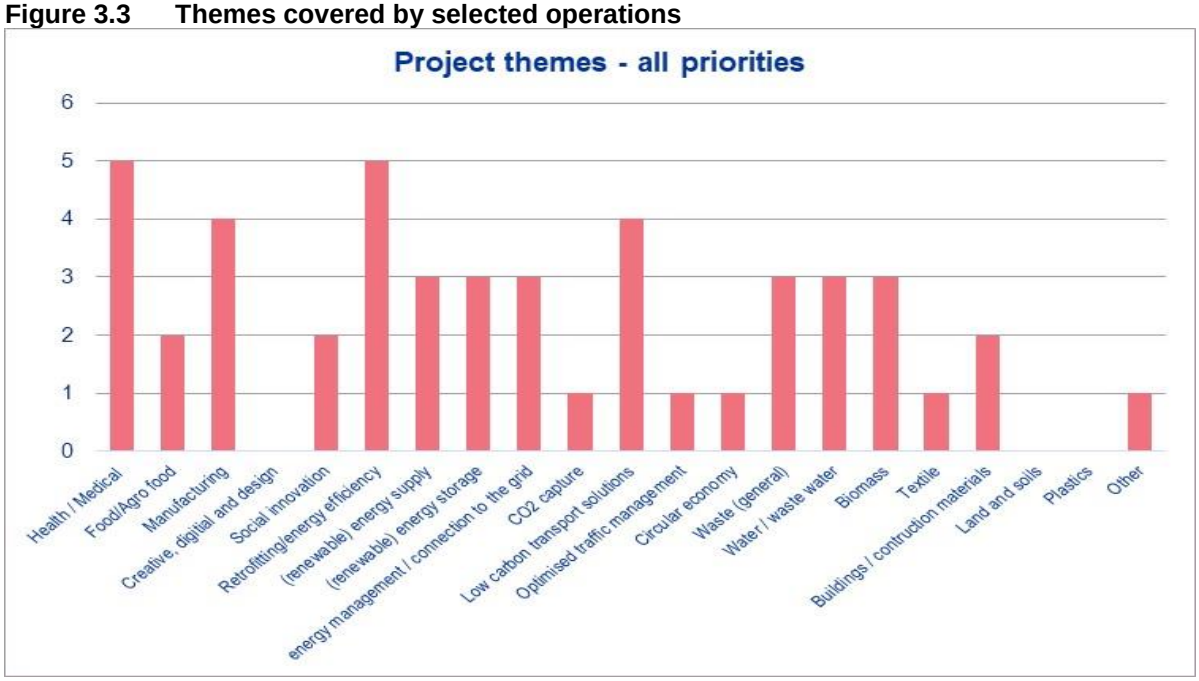
An analysis of approved projects shows that many different themes within priority axes and SOs are covered. There is a balanced distribution between thematic areas within the overall priority fields.

The internal gap analysis defined 21 themes from the AFs. The most recurrent are retrofitting and energy efficiency in buildings as well as health and medical projects. Moreover, manufacturing, low carbon transport solutions, energy supply, storage and management, as well as waste, waste water and biomass projects are well represented. As explained in the analysis, these themes are coherent with the most popular themes of Step 1 applications.

Figure 3.3 shows that some Programme themes are not (sufficiently) covered, including creative, digital and design, CO2 capture, circular economy, optimised traffic management, textile, land/soils and plastics. Social innovation is only covered by two projects, despite many applications.

The figures below illustrate a distinction between applications and approved projects.

Figure 3.3 Themes covered by selected operations



Source: Review of all approved projects (May 2018) by theme, included in the NWE internal gap analysis. Themes were identified from all themes in applications.

3.2 Partnership relevance and suitability

This part of the evaluation analysed the application forms and most recent progress reports of all projects approved as of May 2018. In addition, the NWE internal gap analysis, project development reports and other data sources for specific projects have been examined in more detail. Case study research confirms and specifies the findings.

3.2.1 Summary of conclusions

Evaluation question	Key findings	Recommendations
Do the implemented projects focus on the target groups of the SOs? How is this done (directly/indirectly)?	Projects generally address the target groups identified for each SO. In most cases, key target groups are represented in the project partnership. The expected outreach is primarily to the business sector (including SMEs, large enterprises and business support organisations). Outreach cannot be fully assessed but shows a bias to research institutes. SMEs are expected to be reached later in project implementation.	Direct involvement of the target groups could be further encouraged to improve project results within and beyond the project partnership. Monitoring outreach to target groups may improve with examples of quantifying it, to limit double counting.
Do projects have the right mix of beneficiaries to deliver their results?	Project partnerships are generally formed to address SOs. Partners also learn from each other and other territories. Complementarity could be further improved for a few partnerships.	For future projects, complementarity between partner experiences, governance levels, capacities and territorial relevance can be further improved. There could be more examples in the guidance or minimums for types of organisations in partnerships (however, this may lead to less flexibility and confusion for untypical partners).
Does the Programme have the right mix of beneficiaries to deliver SOs/priorities/SO results and result indicators? As an example, as far as Priority 1 is concerned – are there moderate innovators involved, or the right partners to increase SME innovation capacity?	Project partnerships largely reflect SO approaches. Only SO2 and SO3 partnerships are less ideal. SO2 projects lack lead partners from local and regional public authorities, risking impractical, non-practitioner solutions. The balance between research institutes and enterprises is sometimes limited for SO3 projects.	Project partnerships would benefit from clearer indications on the ideal partnership structure, with examples for each SO. This should lead to fewer flaws that hamper delivery as well as improved project partnership relevance and effectiveness.

3.2.2 Analysis and evaluation

Focus on SO target groups

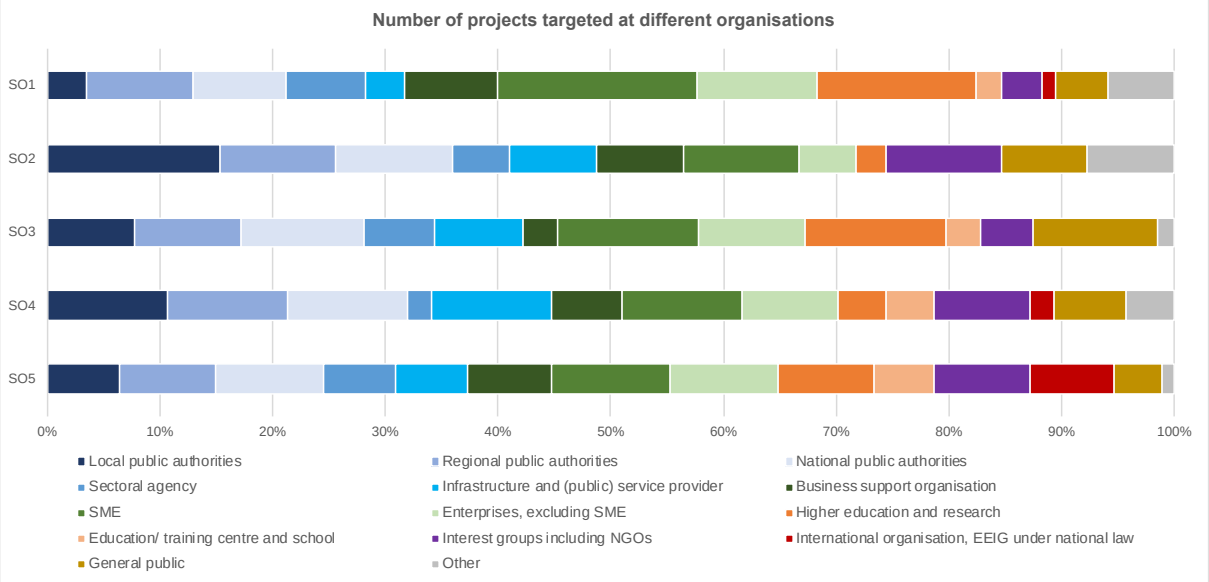
The Cooperation Programme defines the main target groups per SO. In addition, projects describe target groups in their applications and how they envisage reaching them.

- SO1 targets enterprises, innovation stakeholders, excluded population or population at risk of exclusion and communities under pressure.
- SO2 targets households, public organisations and social housing providers.
- SO3 targets enterprises, government organisations, civil society stakeholders, intermediate bodies, environmental and energy agencies and households.
- SO4 targets enterprises, public transport organisations, households and governmental organisations.
- SO5 targets enterprises, consumers, government organisations and civil society stakeholders.

Figure 3.4 illustrates SO target groups for projects. It confirms that SO1 is primarily targeted to enterprises, including SMEs (green in the figure). SO1 projects to May 2018 focus more on actions 1 and 2, so more on innovation and competitiveness than on social innovation. This is why the number of SO1 projects targeting the general public (gold) is relatively low compared to other SOs.

Projects under SO2 contribute largely to public organisations (blue) and the general public (gold). Compared to Cooperation Programme expectations, SO3 projects focus less on interest groups including NGOs (purple) and more on education and research (orange). Also, for SO4, there is slightly less focus on interest groups (purple) and more on households (gold). SO5 projects target the largest variety of groups, although a clearer focus was described in the Cooperation Programme.

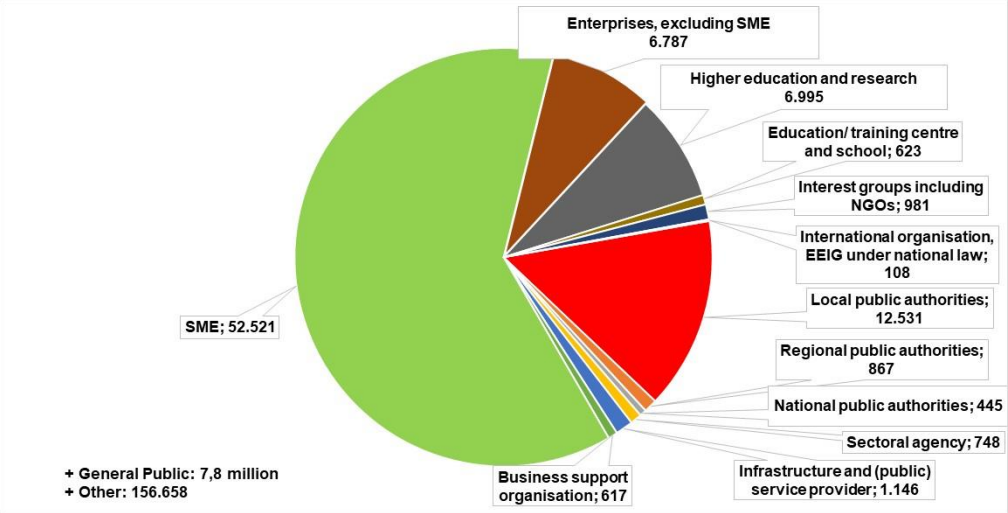
Figure 3.4 Number of projects targeting different organisations per SO



Source: Own elaboration on information on NWE Projects approved as of May 2018 (n=46)

The expected outreach is primarily to business including SMEs, large enterprises, and business support organisations. Public authorities, mainly local, but also regional and national authorities are also widely addressed. Other public or private bodies, such as sector agencies or infrastructure and service providers are also covered. A third group is education and training. Finally, international organisations, NGOs and interest groups, as well as the general public and other organisations (foundations, associations etc.) are addressed. As can be seen from Figure 3.5, the distribution is balanced, apart from the clear dominance of private enterprises.

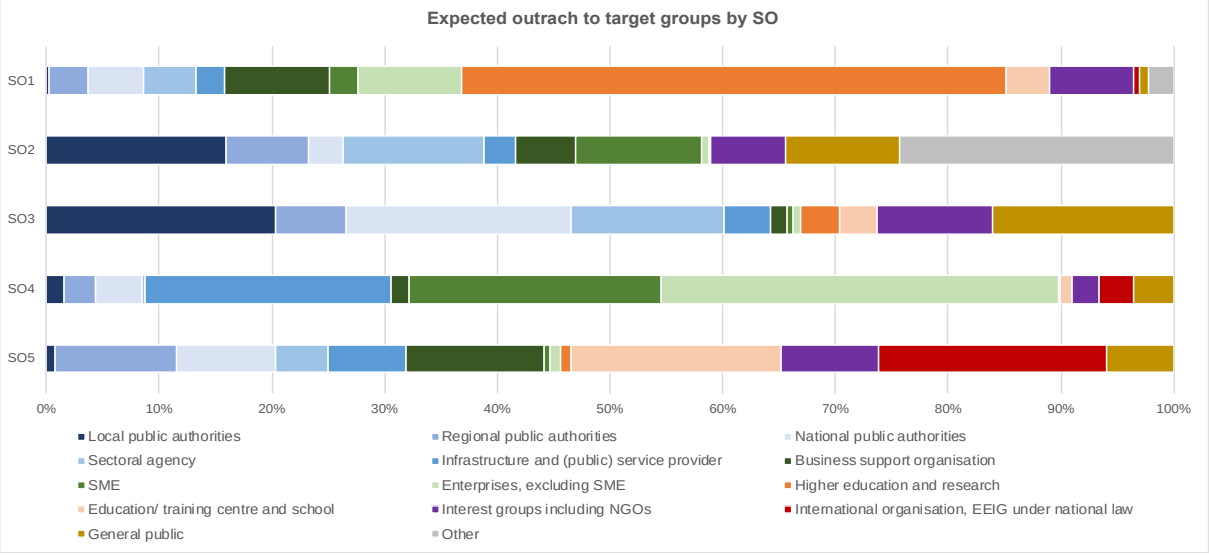
Figure 3.5 Expected project outreach to target groups



Source: Own elaboration on information on NWE Projects approved until May 2018 (n=46)

When comparing the expected outreach to target groups per SO (Figure 3.6), Programme targets are more pronounced. SO1 projects clearly target education and research institutes (orange), for SO2 the project focus is public organisations and households, for SO3 primarily public organisations (blue) and for SO4 it is mainly enterprises, both large companies and SMEs.

Figure 3.6 Expected outreach to target groups by SO

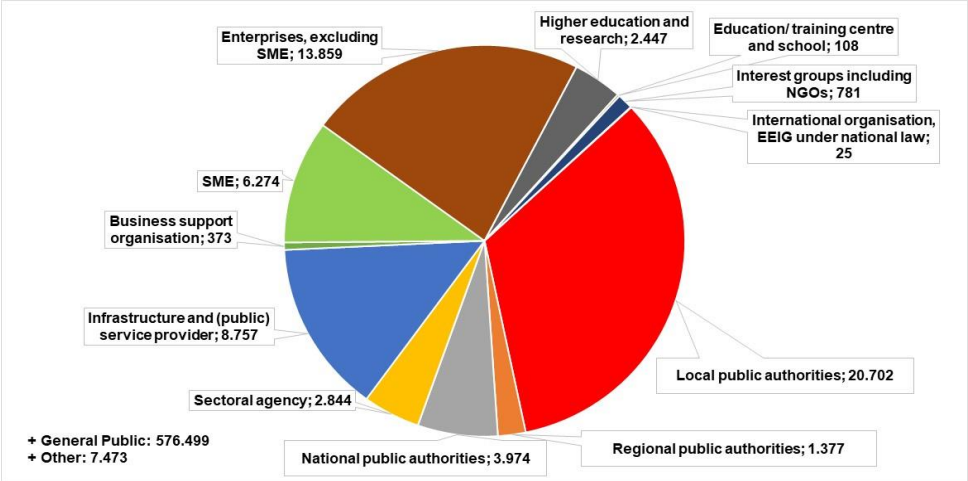


Source: Own elaboration on information on NWE Projects approved as of May 2018 (n=46)

The outreach to target groups by May 2018 differed from expectations. Projects have addressed local public authorities, infrastructure and service providers, enterprises and national public authorities to a much higher degree than expected. However, the initially expected target groups have also been widely addressed.

This comparison is biased by HeatNet NWE (SO2), as this project has reported an extraordinary large outreach to different target groups[7]. This outlier hides a more modest outreach by the 45 other projects and has also biased the initial figures on expected outreach as the project had not quantified these figures in its 'expected outreach'. This is an example of how one reporting inaccuracy can affect project data analysis and the whole evaluation.

Figure 3.7 Achieved project outreach to target groups



Source: Own elaboration on information on NWE Projects approved as of May 2018 (n=46)

Achievement differs largely per type of target group, as shown in **Error! Reference source not found.** which is based on 24 advanced projects as of May 2018. Projects reached more regional and national public authorities, enterprises and interest groups including NGOs than targeted.

However, more efforts are required to reach SMEs, higher education and research institutes, education and training centres as well as the general public. These general target groups are considered more important in later stages of project implementation, for example during testing and implementation of new solutions for RAWFILL, RE-DIRECT and ACE-RETROFITTING. For these projects progress seems in line with expectations. In ACE-RETROFITTING the outreach shifted focus slightly from SMEs who were the target group for building refurbishment. However, large enterprises in the building sector were at outreach events, which partly explains the current overachievement of 'enterprises', excluding SMEs.

[7] Local public authorities, national public authorities, infrastructure and service providers, sectoral agencies, higher education and research, enterprises, and general public.

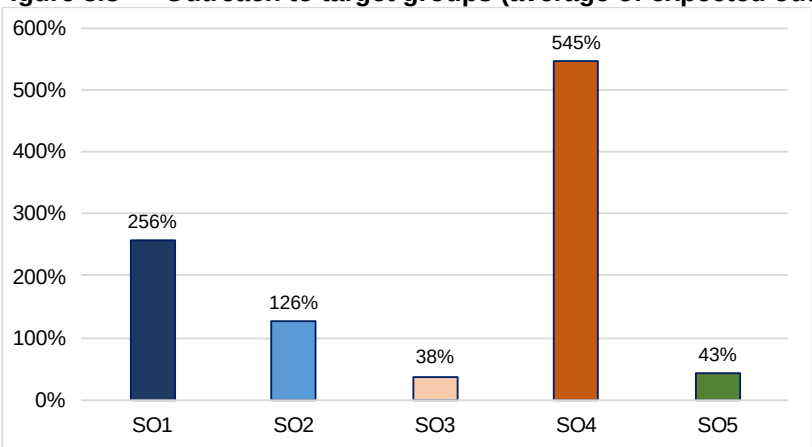
Table 3.2 Outreach to target groups*

Target Group	Projects reporting	Target	Achieved	Outreach % of expected
Local public authorities	14	11 233	9 522	85%
Regional public authorities	19	517	585	113%
National public authorities	20	236	282	120%
Sector agency	15	539	440	82%
Infrastructure and (public) service provider	12	393	223	57%
Business support organisation	14	330	284	86%
SME	22	21 994	2 622	12%
Enterprises, excluding SME	16	500	799	160%
Higher education and research	16	3 984	519	13%
Education/ training centre and school	8	581	34	6%
Interest groups including NGOs	11	571	781	137%
International organisation, EEIG under national law	5	78	25	32%
General public	13	2 425 921	407 309	17%
Other	8	155 034	7 473	5%

Source: Own elaboration on information from 24 advanced NWE Projects as of May 2018. *Excludes HeatNet

Comparing the target groups reached per SO highlights overachievement for SO1 and SO4. The large overachievement in SO4 is mainly due to considerably high values for CHIPS, though the accuracy of reporting for this project should be verified.

Figure 3.8 Outreach to target groups (average of expected outreach per SO)*



Source: Own elaboration on information from 24 advanced NWE Projects as of May 2018. * Excludes HeatNet

The case studies provide more detail on the involvement of target groups. In 8 of the 10 case studies target groups are directly involved in the project, either as partner or associated partner. This better aligns project activities to the needs of target groups. In the other cases target groups are represented by organisations as in Bio4SMEs where the partnership includes business support organisations to support outreach to SMEs. CAN primarily targets households, so including local authorities in the project partnership ensures the actions are close to target group needs.

In all 10 case studies part of the target group is not involved in the project partnership. In some cases, project partners have challenges in quantifying outreach to these target groups. Project partners wonder how to count target representatives, if this depends on the level of involvement (actively involved or they receive a newsletter) or whether persons or organisations should be counted.

Appropriate mix of beneficiaries to deliver results

Projects partners need to ensure an appropriate mix of partners. The Programme Manual contains general features for a strong and focused partnership, leaving applicants free to propose their idea of the best configuration to deliver a project successfully. The Programme Manual provides little explanation and no example for defining each attribute. As a result, an 'adequate' project partnership cannot be precisely predefined. For example, 36 partners are not necessarily more or less likely to deliver on the objective than eight partners.

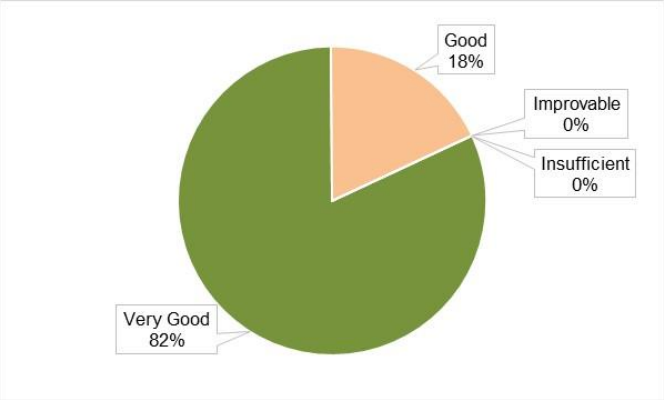
It appears that the current quality assessment process focuses on capacity to deliver outputs and is effective at ensuring satisfactory project partnerships.

With the possible exception of SO4, the Programme Manual does not define the 'right mix of beneficiaries' in detail, project partnerships are quite diverse and it can be difficult to assess the relevance of all proposed partners to the Programme's ambition. So, partnership 'relevance' has to be assessed case-by-case which leaves considerable margin for error and efficiency losses.

Analysis of quality assessments from the first four calls indicates that the average for the approved projects under examination is the minimum for approval (3). Less than half the approved projects scored 4 or 5 points (42%). These findings suggest that, even after the two project development steps, many partners may not clearly understand what a 'strong and focused' partnership configuration is.

82% of survey respondents assessed their project partnership as very good, while 18% considered it as good. The options 'improvable' or 'insufficient' received 0 responses.

Figure 3.9 Adequateness of mix or partners (Survey Question 20, n=44)



Source: Survey of Project Partners for this evaluation. June-August 2018.

Case studies confirm the survey findings. Project partners acknowledge building partnerships to serve project objectives. In addition to a well-balanced partnership, some partners highlight the added value of transnational partnerships. Last but not least, partners learn from one another, for example about practices applied to similar issues.

A quantitative and a qualitative analysis of the types of beneficiaries (project partners) for approved projects further assessed partnership relevance and suitability. Features[8] that the project partnership should ideally possess are presented in several parts of the Programme Manual[9] and can be summarised as:

- Territorially relevant[10] for the target results
- The 'right mix' of governance level, sector, experience and skills across partners
- The 'right level of involvement' of each partner
- The 'right size'.

A partnership with these four features can, in principle, be defined as relevant to deliver on project objectives, or 'strong' and 'focused', according to the Programme Manual terminology.

The approved projects analysed for this report[11] involved 434 partners with an average of about 10 per project, which is similar to the previous programming period (9). On average, there are six Member States in each project[12].

[8] *'A good project has a strong partnership. The partnership reflects the needs of the project and therefore a thorough territorial analysis needs to be conducted to select the most relevant partners either in advanced or less advanced regions. The partnership should involve the right types of organisations. This would normally be a diverse mix of stakeholders, representing different levels of governance (regional, national, European) or sectors (e.g. public, private, academic or end users). A strong partnership combines a different mix of experiences and skills to achieve the best result possible. All partners must be meaningfully and actively involved in the project.'*

[9] Programme Manual, page 24, and pages 27 to 31.

[10] Territorial relevance' seems to refer to being based in the NWE area, as well as to the level of development of a specific region. No specific mention is made of the relevance of partner location, which should be the most obvious feature to focus on.

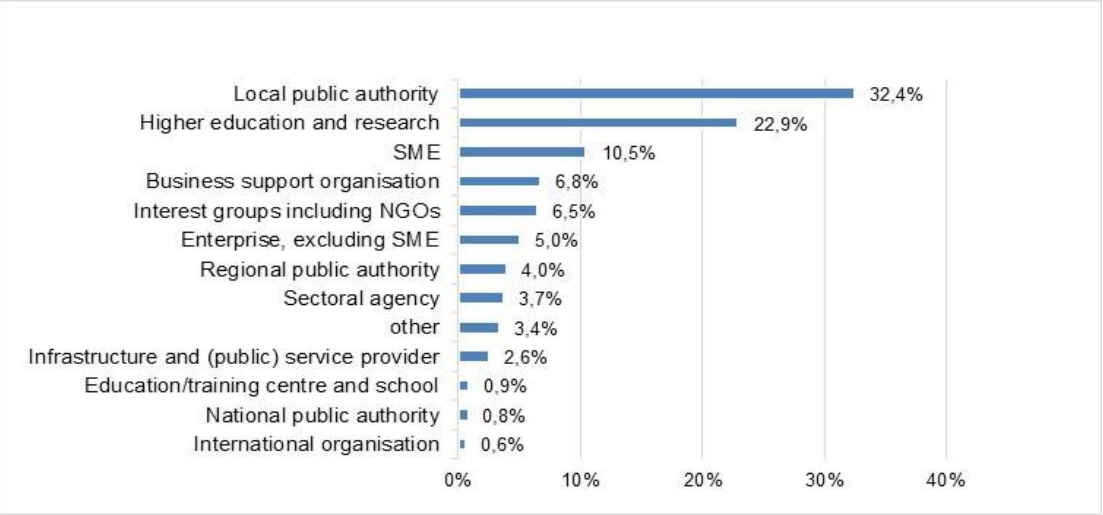
[11] From a JS list of projects, as of early May 2018, 45 projects with status 'CONTRACTED' or 'CR in progress' were analysed.

[12] Excluding Associate Partners.

There are 437 associated partners (observers), so many stakeholders are interested in results for several projects even before implementation has begun. The involvement of associated partners in projects is not uniform though, ranging from zero to 51, with a median[13] of seven.

66% of partners in approved projects come from only three categories; Local public authorities (32%), Higher education and research (23%), and SMEs (11%).

Figure 3.10 Types of partners in approved projects



Source: Own elaboration on information on NWE Projects approved as of May 2018

The **main virtues** in project partnerships are:

- Clear roles for each partner
- Capacity of each partner
- Complementarity of governance, sector and experience
- Involvement of end-users reflecting the sector and territory
- Territorial coverage
- Capacity to reach target groups
- Involvement of stakeholder organisations from other EU countries
- Involvement of European network and other high profile associated partners to boost dissemination and uptake of project results.

The **main flaws** for a project are:

- Any unclear role of partners
- Limited territorial coverage
- Involvement of partners with symbolic, unclear or no budget and/or matched funding
- Unclear processes for dissemination, uptake and transfer of project outputs within and beyond the project partnership
- Limited or no involvement of end-users

[13] The average is not considered representative as nine projects have more than 60% of the total Associated Partners.

- Lack of involvement of potential partners as associated partners
- Unclear role of associated partners or lack of associated partners for wider dissemination and uptake beyond the partnership
- Lack of (competent, territorial coverage, governance level, experienced) partners, including from outside the NWE area

A more in-depth analysis of the suitability of partnership in each SO is provided in annex A.3 at the end of this document.

3.3 Project outputs, programme indicators and performance framework

The analysis of project outputs, indicators and the programme performance framework builds on the latest figures provided by the Programme as of June 2018 (if not indicated otherwise).

3.3.1 Summary of conclusions

Evaluation question	Key findings	Recommendations
What is the level of absorption of the financial indicators, at the Programme level?	The implementation rate is low compared to previous programming periods. The pace is catching up, but delays will lead to an estimated decommitment of 13% at the end of the programme. The Programme already submitted a modification request to DG REGIO to address the issue of financial indicators.	The allocation of all funds is unlikely. The pace of calls and promotion of the Programme (e.g. through targeted calls) in areas with low absorption should be increased to avoid further decommitment.
What is the contribution of the funded projects to the Programme output indicators? Is it substantial?	The contribution of projects to Programme output indicators is satisfactory for the expected outputs. Many output indicators have seen targets exceeded. This is positive as roughly half the budget is still available for most SOs. SO4 is the only one with a delay in expected achievements.	Some Programme output indicators, mainly related to energy consumption or CO2 emissions, should have redefined targets. If possible, a single method to calculate baselines and targets should be used (please see 3.4.2 for more detail).

Evaluation question	Key findings	Recommendations
How efficient and effective are projects in output delivery as well as project spending?	Project spending is still very low. As of July 2018 expenditure claims are increasing fast, in line with the increased pace of implementation. Delays may be due to more complex management of larger projects in innovative areas and a wider focus on investments.	Monitoring project expenditure could improve. Forecasts of project expenditure should be more accurate. Projects could be asked to adjust forecasts in their payment claims on a regular basis.
How advanced is the Programme in terms of the Performance Framework delivery? Is the Programme likely to achieve its milestones envisaged for the year 2018? If not, why not? What are the areas of underperformance/ potential underachievement /overachievement? If so, what are the consequences/ how can issues be avoided?	Overall Programme performance is adequate for output-related indictors in the performance framework. Achievement for financial indicators is largely underperforming.	A review of programme targets is recommended. A modified Cooperation Programme was submitted to the European Commission in May 2018. The pace of programme implementation should be further increased, in particular for underperforming SOs, such as SO4.
What are the most useful/most negative aspects of the Programme performance framework? Should anything be changed and if so, what is it?	Indicators are useful to describe the performance and progress of implementation. Energy/CO2 indicators in SO2 and SO3 target values seem unrealistic based on the first results. Indicators related to jobs and enterprise support seem to be only partially adequate for projects under SO4 and SO5. This is the same for some projects under SO1 (in particular, for social innovation).	Targets for energy/CO2-related indicators should be updated in view of the first results.

3.3.2 Analysis and evaluation

Financial absorption at Programme level

The key points of NWE Programme budget monitoring are[14]:

- 51% of the Programme budget (EUR 188 million) has been allocated to 56 projects and 535 partners. EUR 184 million remain available.
- Priority 2 is the most successful priority, with 64% allocated.
- SO3 (to facilitate the uptake of low carbon technologies, products, processes and services in sectors with high energy saving potential, to reduce GHG emissions in NWE) is slightly overcommitted, whereas SO4 and SO5 could accelerate allocation.

Table 3.3 Financial progress per SO (allocated to selected operations)

		In EUR		In %
PA	**SO**	**Programmed ERDF budget**	**Allocated ERDF support to selected operations***	**Share of allocation covered with selected operations**
1	SO1	130 724 334	55 924 376	43%
2	SO2	47 536 121	29 257 087	62%
	SO3	51 497 464	51 829 541	100%
	SO4	47 536 121	13 411 108	28%
3	SO5	95 072 242	37 575 811	40%
	AVERAGE Total Programme	372 366 282	187 997 922	51%

Source: NWE Annual Implementation Report 2017; *based on data from the JS in July 2018 – covering 56 approved projects.

Comparing current programme allocations with IIIB and IVB shows a delay in implementation. In the fifth year of implementation, the IVB programme had allocated almost 80% and IIIB roughly 95%. The current programme is catching up and allocations are expected to increase even more with the next calls. The programme has already submitted an updated programme to DG REGIO, modifying 2018 milestones for financial indicators. However, it is unlikely that the programme will allocate all funds.

Analysis of project spending

Project spending is still at an early stage and implementation is limited.

By the end of 2017, most projects had submitted few payment claims, so certified expenditure is low, from 1% (in SO4) to 5% in SO2.

By July 2018 expenditure claims had increased fast, in line with the increased pace of implementation. 53 project progress reports have been submitted to the JS since the beginning of the Programme. Partnerships claimed nearly EUR 16.3 million, or 4.4% of the ERDF budget, with payments already at 2.7%.

[14] Data in this sub-chapter was provided by the JS and reflects the situation in September 2018 (with 56 projects approved).

Table 3.4 Financial progress of the projects per SO (certified expenditure by projects)

	In EUR	In EUR	In %
SO	**Programmed ERDF support**	**Eligible expenditure (reported and certified by CA)***	**Share of allocated ERDF spent**
SO1	130 724 334	2 719 109	2%
SO2	47 536 121	2 235 705	5%
SO3	51 497 464	948 398	2%
SO4	47 536 121	631 084	1%
SO5	95 072 242	1 361 178	1%
Total Programme	372 366 282	7 895 474	2%

Source: NWE Annual Implementation Report 2017; * based on project progress reports, only available for advanced projects (data to 21 December 2017).

For certified expenditure, three interim payment requests have been submitted to the European Commission, for EUR 13.9 million ERDF and the N+3 target for 2018 has been met. Decommitment at the end of the Programme could reach EUR 53 million (13% of the budget), which is substantial. Nevertheless, several actions will limit the decommitment. Firstly, implementation is accelerating, new calls are being launched and more projects are being approved. Secondly the programme has already submitted a modification request to the European Commission. Thirdly, the Monitoring Committee has agreed to extend the programme until the maximum end-date and projects can extend their life to the end of 2023.

To reduce decommitment in the future, the programme should monitor project spending more closely. Projects make forecasts of their expenditure and should update this in each progress report. However, forecasts are not always adjusted to changing situations so projects should update these with their payment claims.

Analysis of contribution of projects to Programme output indicators per SO

The expected contribution of projects to Programme output indicators is satisfactory for approved projects. For many output indicators, the target has already been exceeded. Roughly half the budget is still available for most SOs, so this is very positive. SO4 is the only one with a delay in achievements, which reflects the implementation pace of this SO. Programme specific indicators that are the same under each SO – number of jobs created and maintained in each sector and funding leveraged by the project – have the lowest expected and achieved effectiveness. Only a few projects contribute to these indicators. While projects can choose the most appropriate indicators to report on their activities, the Programme may consider less indicators in future to better illustrate its achievements. This would increase the number of projects reporting per indicator. The Programme should ensure all projects report on these indicators before their closure.

Project achievements for the SO indicators are less positive than expected. SO2 is most advanced, SO1 and SO3 have some achievements, but almost none are reported for SO4 and SO5. However, achievements are based on only seven advanced projects and there is a time gap between results being achieved and reported. So, low achievements against expectations cannot immediately be interpreted as negative. Most projects are still being implemented and others have only just started.

Table 3.5 Output indicator effectiveness per SO

SO	Effectiveness (expected compared to target)*	Effectiveness (achieved compared to expected)**
1	206%	6%
2	1 498%	20%
3	2 433%	8%
4	28%	1%
5	99%	2%

Source: *JS data as of July 2018 and own calculations. ** Project Progress Reports (as of March 2018)

When analysing SO1 data, effectiveness is high. Most indicator targets seem to be realistically defined and achievements are high for all indicators, except the two marked in red. These concern long-term impacts, such as jobs created and funding leveraged.

Table 3.6 Achievement and effectiveness of output indicators in SO1

Output indicator	Target (2023)	Expected for selected operations*	Effectiveness (of expected)	Achieved for selected projects**	Effectiveness (of achieved)
1.01 Number of new enhanced **transnational clusters or innovation networks**	27	45	167%	2	7%
1.02 Number of **technologies, products, services and processes** developed and tested in real life conditions	68	187	275%	13	9%
1.03 Number of **pilot actions** implemented focusing on social innovation	30	139	463%	0	0%
1.04 Number of **jobs** created in all economic sectors	860	245	29%	7	3%
1.05 Number of **jobs** maintained in all economic sectors	860	1,280	149%	0	0%
1.06 Amount of funding leveraged by the project (**in EUR)**	222 million	8 million	4%	0	0%
1.07 Number of **end-users** benefitting from social innovation	600	3,510	585%	0	0%
1.08 1.08 Number of pilot actions implemented, focusing on social innovation	30	16	53%	0	0%
CO01 Number of **enterprises** receiving support	540	1,291	239%	117	12%
CO26 Number of **enterprises** cooperating with research institutions	540	530	98%	16	4%
CO28 Number of **enterprises** supported to introduce new to the market products	340	496	146%	96	26%
CO29 Number of **enterprises** support to introduce new to the firm products	200	526	263%	0	0%

Source: *JS data as of July 2018 and own calculations. ** Project Progress Reports (as of March 2018)

In SO2 the level of effectiveness per output indicator is also fairly high. For three indicators, 'CO31 Number of households with improved energy classification', 'CO32. Decrease of annual primary energy consumption of public buildings' and 'CO34. Estimated annual decrease of GHG' the targets seem unrealistically high or low. This might be due to a lack of Programme experience with these energy and CO2-related indicators. The target values should be redefined based on information from projects (both likely and real achievements), to enable more meaningful evaluation.

Some indicators have lower achievements. These concern long-term impacts, such as created and maintained jobs or leveraged funding. It is still too early for projects to actively contribute to these indicators.

Table 3.7 Achievement and effectiveness of output indicators in SO2

Output indicator	Target (2023)	Expected for selected operations*	Effectiveness (of expected)	Achieved for selected projects**	Effectiveness (of achieved)
2.01 Number of **solutions** facilitating the delivery of existing or emerging low-carbon, energy or climate-protection strategies	18	44	244%	0	0%
2.02 Number of combined mitigation-relevant adaptation **solutions** implemented	15	8	53%	0	0%
2.03 Number of **jobs** created in all economic sectors	200	48	24%	10	21%
2.04 Number of **jobs** maintained in all economic sectors	200	55	28%	10	18%
2.05 Amount of funding leveraged by the project (**in EUR)**	80 811 405	19 500 000	24%	2 417 699	35%
CO31 Number of **households** with improved energy classification	450	16 192	3 598%	9 402	58%
CO32 Decrease of annual primary energy consumption of public buildings (**kWh/year**)	300 000	978	0.3%	0	0%
CO34 Estimated annual decrease of GHG (**tonnes of CO2eq**)	450	36 060	8 013%	9 402	26%

Source: *JS data as of July 2018 and own calculations. ** Project Progress Reports (as of March 2018)

For SO3, the effectiveness per output indicator is high. For three indicators, 'CO30 Additional capacity or renewable energy production (MW)', 'CO31 Number of households with improved energy classification', and 'CO34 Estimated annual decrease of GHG (tonnes of CO2eq)' the targets seem unrealistically low. This might be due to a lack of experience with these energy and CO2-related indicators. The targets should be redefined based on experience with possible achievements of projects, to enable meaningful evaluation[15].

Only one indicator has low achievement, CO29, which relates to indirect project outputs within this SO. It is not considered a risk for the overall achievement of Programme results.

[15] See also analysis of these indicators and the indicator system at the end of 3.4.

Table 3.8 Achievement and effectiveness of output indicators in SO3

Output indicator	Target (2023)	Expected for selected operations*	Effectiveness (of expected)	Achieved for selected projects**	Effectiveness (of achieved)
3.01 Number of adopted or applied low carbon **technologies**	44	74	168%	7	13%
3.02 Number of **jobs** created in all economic sectors	220	229	104%	70	33%
3.03 Number of **jobs** maintained in all economic sectors	220	680	309%	0	0%
3.04 Amount of funding leveraged by the project (**in EUR**)	87 545 688	146 000 000	167%	1 500 007	21%
CO26 Number of **enterprises** cooperating with research institutions	220	289	131%	7	5%
CO28 Number of **enterprises** supported to introduce new to the market products	220	135	61%	7	5%
CO29 Number of **enterprises** support to introduce new to the firm products	220	10	5%	0	0%
CO30 Additional capacity or renewable energy production (**MW**)	120	791	660%	0	0%
CO31 Number of **households** with improved energy classification	660	5 000	758%	0	0%
CO34 Estimated annual decrease of GHG (**tonnes of CO2eq**)	500	109 841	21 968%	0	0%

Source: *JS data as of July 2018 and own calculations. ** Project Progress Reports (as of March 2018)

Effectiveness with regard to SO4 is still low. Some indicator targets should be reached early, but six indicators, for wider impacts on jobs, leveraged funding or enterprises show very few achievements. Some indicators seem to be on track, so projects already implemented under SO4 simply do not contribute to some indicators and hence have no impact on them.

Table 3.9 Achievement and effectiveness of output indicators in SO4

Output indicator	Target (2023)	Expected for selected operations*	Effectiveness (of expected)	Achieved for selected projects**	Effectiveness (of achieved)
4.01 Number of implemented low carbon **solutions** in transport	20	20	100%	2	13%
4.02 Number of new or improved transport management **systems** leading to GHG reduction	10	6	60%	0	0%
4.03 Number of **transport operators** supported implementing low carbon solutions	200	6	3%	0	0%
4.04 Number of **jobs** created in all economic sectors	200	0	0%	0	0%
4.05 Number of **jobs** maintained in all economic sectors	200	0	0%	0	0%
4.06 Amount of funding leveraged by the project (**in EUR)**	80 811 405	0	0%	0	0%

Output indicator	Target (2023)	Expected for selected operations*	Effectiveness (of expected)	Achieved for selected projects**	Effectiveness (of achieved)
CO26 Number of **enterprises** cooperating with research institutions	200	57	29%	0	0%
CO28 Number of **enterprises** supported to introduce new to the market products	200	6	3%	0	0%
CO29 Number of **enterprises** support to introduce new to the firm products	200	0	0%	0	0%
CO34 Estimated annual decrease of GHG (**tonnes of CO2eq**)	500	400	80%	0	0%

Source: *JS data as of July 2018 and own calculations. ** Project Progress Reports (as of March 2018)

For SO5, the effectiveness per output indicator is high. Most indicators have already exceeded or should achieve their targets.

Some indicators concerning long-term impacts, such as created and maintained jobs or funding leveraged have low achievements. It is still too early for projects to actively contribute to these indicators.

Table 3.10 Achievement and effectiveness of output indicators in SO5

Output indicator	Target (2023)	Expected for selected operations*	Effectiveness (of expected)	Achieved for selected projects**	Effectiveness (of achieved)
5.01 Number of efficient natural and material **solutions** implemented and tested	42	80	191%	0	0%
5.02 Number of innovative uses of waste processes/products/services from waste materials (**solutions**)	18	76	422%	0	0%
5.03 Amount of funding leveraged by the project (**in EUR)**	161 622 811	2 000 000	1%	0	0%
5.04 Amount of decreased raw material use (**tonnes**)	1 000 000	470 000	47%	0	0%
5.05 Amount of increased material recovery, re-use and recycling (**tonnes**)	1 000 000	511 175	51%	0	0%
5.06 Number of **jobs** created in all economic sectors	400	73	18%	0	0%
5.07 Number of **jobs** maintained in all economic sectors	400	32	8%	0	0%
CO01 Number of **enterprises** receiving support	200	480	240%	47	10%
CO26 Number of **enterprises** cooperating with research institutions	200	105	53%	12	12%
CO28 Number of **enterprises** supported to introduce new to the market products	200	94	47%	0	0%

Output indicator	Target (2023)	Expected for selected operations*	Effectiveness (of expected)	Achieved for selected projects**	Effectiveness (of achieved)
CO29 Number of **enterprises** support to introduce new to the firm products	200	24	12%	0	0%

Source: *JS data as of July 2018 and own calculations. ** Project Progress Reports (as of March 2018)

The NWE indicator system is further evaluated in chapter 3.4 and analysed at the end of chapter 3.4.2.

Analysis of project output delivery

As mentioned above, most outputs will only be achieved at the end of implementation. Nevertheless, progress reports and survey results provide insights into project output delivery so far. Overall, delivery is satisfactory, with room for improvement for some indicators, in particular SO4.

Up to May 2018, the majority of advanced projects reported they had achieved some results for output delivery. 25% of the projects have not yet achieved any output, whereas another 25% had achieved most of their outputs. None of the projects has achieved all results, as they are still being implemented but more results can be expected in the coming months.

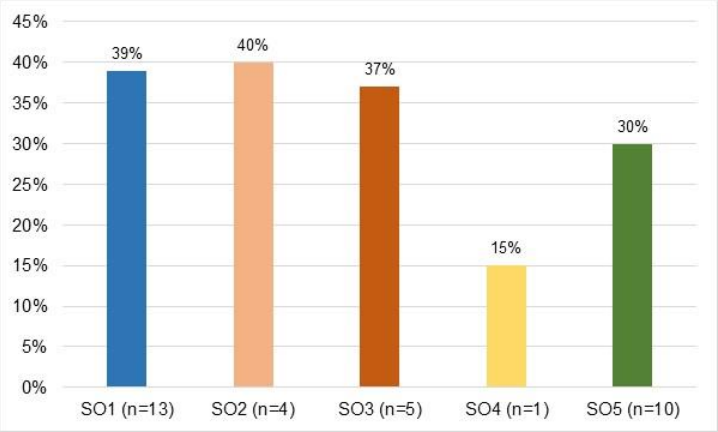
Assessing advanced projects indicates satisfactory output delivery. These projects have already achieved 18% of their targets, however there are considerable differences between SOs. Projects under SO5 reported the least achievements, with most indicators not reported on at all. Projects under SO1 and SO2 have delivered more outputs. The expected number of new transnational clusters or innovation networks and the expected number of enterprises cooperating with research institutes has already been achieved for SO1 projects. The expected leveraged funding has already been exceeded for SO2 projects.

This assessment of delivery against individual targets illustrates that projects are generally performing well and targets are suitable.

In the survey of projects, the partners were asked about their progress, estimated outreach to target groups and likelihood of achieving the expected results. All answers from projects approved under Calls 1-4 have been analysed and show that most projects say they are well on track for output and result delivery.

Progress is, of course, related to the stage of implementation and the call under which the project was approved. Call 1 projects reported progress of 60 to 85%, while Call 4 projects averaged 17%.

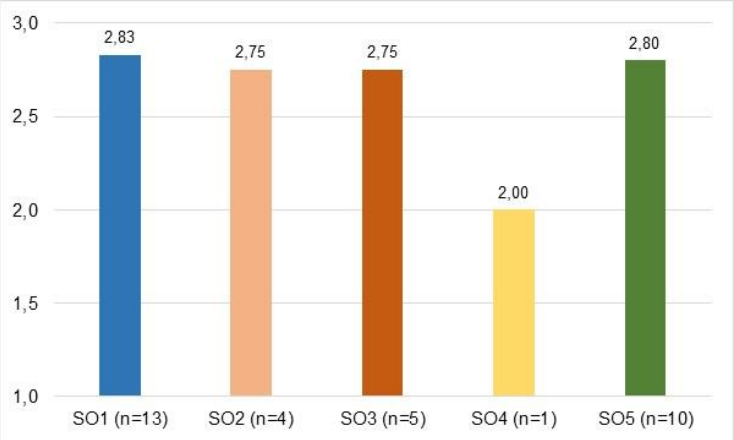
Figure 3.11 Estimated progress towards overall project results (Q13)



Source: Survey to Project Partners conducted for this evaluation. June-August 2018.

The average progress was most advanced for projects under SO2, followed closely by projects under SO1 and SO3 and then SO5. Only one SO4 project responded to the survey which was from Call 4, so this SO is less advanced.

Figure 3.12 Likelihood of achieving expected outputs and results (Q14) (1= Low, 2= Medium, 3= High)

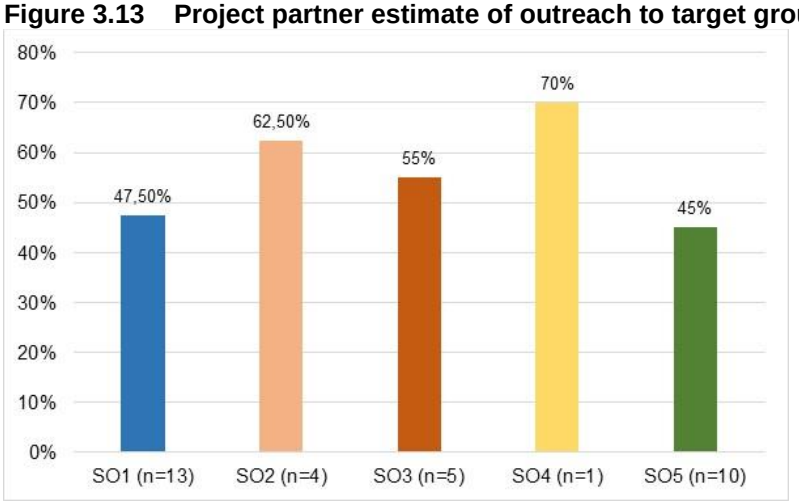


Source: Survey to Project Partners conducted for this evaluation. June-August 2018.

All projects, except the one under SO4, are convinced they will achieve their expected outputs and results, with the most confident being from SO1 and SO5.

The outreach to target groups seems to be less dependent on the stage and more dependent on the strategy of each project. So, the highest outreach was reported by the SO4 project, followed by SO2 and SO3 projects. This can also be linked to SOs under PA 2 (Energy and Low Carbon) requiring more involvement with the general public or other stakeholders. Estimated outreach is slightly lower for SO1 and SO5 projects.

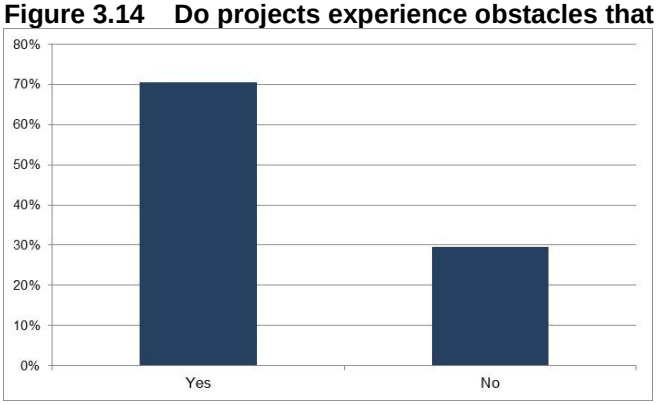
Figure 3.13 Project partner estimate of outreach to target groups as % of expected (Q15)



Source: Survey to Project Partners conducted for this evaluation. June-August 2018.

Micro level factors directly influence implementation and can hamper full or effective achievement of results and outputs. Some factors have been analysed in more detail through the survey of project partners where 71% of respondents say they experience obstacles that hamper implementation.

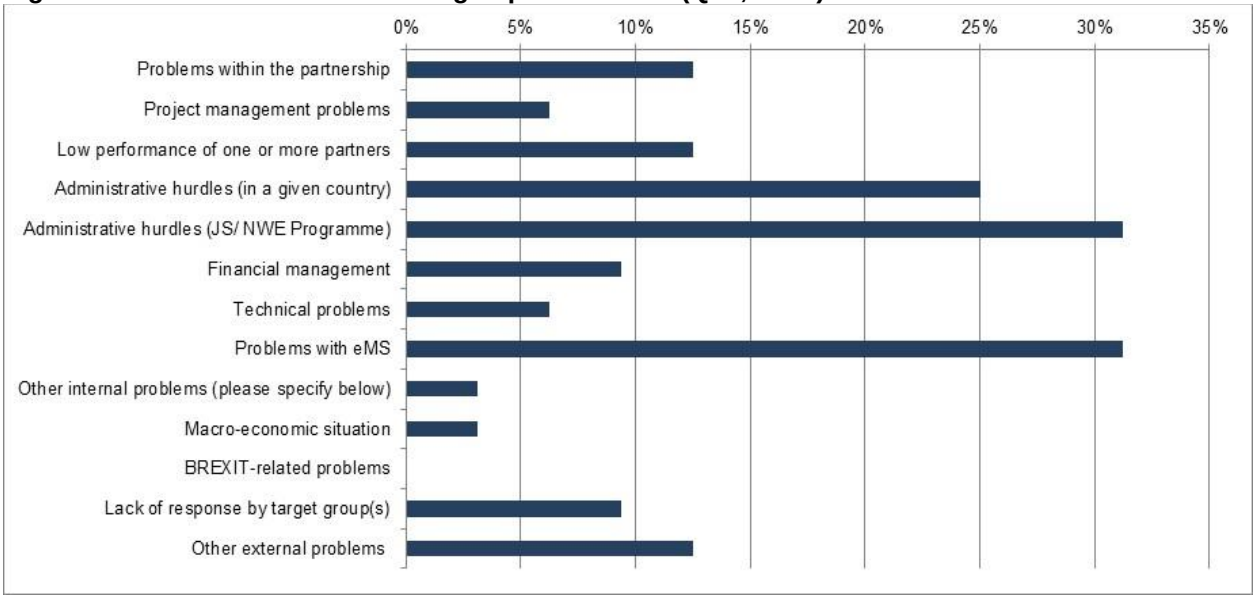
Figure 3.14 Do projects experience obstacles that hamper implementation? (Q16, n=44)



Source: Survey to Project Partners conducted for this evaluation. June-August 2018.

These obstacles are mostly related to Programme management, i.e. administrative hurdles with the JS/NWE Programme or within a country and with the eMS. Some have problems with the partnership or with partners, while other external problems are also seen as obstacles.

Figure 3.15 Obstacles faced during implementation (Q17, n=32)



Source: Survey to Project Partners conducted for this evaluation. June-August 2018.

The in-depth review of comments from projects show how external factors lead to implementation problems.

Table 3.11 Obstacles and external factors that hamper project implementation (Q16 and Q19, n=44/42)

Category of obstacles	Obstacles and external factors mentioned by project partners
Administrative hurdles, compliance with Interreg and NWE rules Delays	The start of the project was delayed due to administrative procedures. However, since the target group (i.e. festival organisers) is faced with strict seasonal activities, some months delay resulted in an overall delay of half a year. The beginning date of the project is the day the project receives approval. However, this is not actually true, since the approval comes a few months after. In our case it was almost 3 months later. This brings important calendar issues in the project, affects project coordination and the implication of partners. We are struggling with the fact that the 3 years for project duration count from the moment of its approval in September, that includes all technical requirements period, and not when the project factually gets off. This is a critical limiting factor for testing of such radical innovations as the ones supported by Interreg NWE. Due to the delayed start it will be difficult to meet the numbers of tests as we want to have as much diversity in the tests as possible. To face this, we are preparing a request for prolongation of the project with several months in order to be able to get a large diversity in test locations. Because more diversity in tests provides more insight and a better end result. Target Groups from German regions outside the NWE territory want to apply for Services and are difficult to include.
eMS	eMS has also been problematic -- Difficult to understand / not intuitive to use, potential technical issues during reporting (in the process of resolving them at this time). It would be good to receive more guidance within the application itself during the reporting process, especially regarding what steps each party must complete and what comes next. The written guidelines are slightly helpful, but the eMS process could be much, much easier.

Category of obstacles	Obstacles and external factors mentioned by project partners
	Special consideration of transnational costs in eMS leading to problem for some countries affording for the matching-funding (BE).
Partnership	Typical start-up problems of a new consortium, people need time to get to know each other and to learn how to work together efficiently
Financial Rules and management Audits FLC	The main problem is the two-level FLC requirement (not present in other INTERREG programmes such as 2Seas, for example), which leads to a long time of reporting, while not decreasing the risks of errors. In fact, having so many control layers diffuses the responsibility, leading to the Lead Partner assuming the entire burden, as the LP is the sole responsible towards the JS! Even if there is no grounds for the LP to access underlying cost documentation for its partners (confidential information), we are still responsible for any irregularities that may occur, that were not spotted by specialised auditors (two levels: Partner and Project). Not to mention the costs of all these audits, which at project level are considerable and could be put to a better use (R&D work, for example). In Wallonia region the regional rules oblige us to declare only staff costs for people involved in the project more than 15% of their time. Unfortunately, because of this, we can't declare some staff costs and we can't work with people from our company with very specific experience. But at the same time, we can't work with external experts if in our company we have people with the needed expertise for the project. At the end, we expect that the quality of some deliverables will suffer. And this fact is unfair, because our partners are allowed to declare staff cost even if the involvement of their employees in the project is less than 15%. The FLC does not approve the co-financing costs, although it was agreed upon by NWE in advance. This can hinder the project, because there is a risk we have to stop, if this problem is not solved. If the FLC will not approve the matching funding, the project will be severely hampered. Audit procedure (FLC Designation, time for FLC certification of Report in Ireland) There are unclear rules how to financial match the support from NWE. NWE did not express themselves clearly, so the First Level Controller is refusing our matching resources. Although, these are valid, to our opinion. Before the project the matching resources were communicated with NWE.
Legal and regulatory frameworks	Change of legal framework in participating countries One investment delay by merger and resulting ongoing organisational challenges and refocus. Mostly driven by ineffective UK regulatory framework. Compliance with GDPR regulations has reduced the size of our contact list. We are currently assessing the impact on our target engagement numbers. Again, this will not have a severe negative impact on benefits, but it could limit the number of individual companies we reach within the target groups.' Uncertainties related with regulatory frameworks that do not yet support innovations such as cVPP. We act upon assumption that this will change during the project. There are many signs of the will to expand laws but we are not there yet.
SME involvement	Involvement of SMEs is difficult - reimbursement mechanism in Flanders is unfavourable to impossible. Target group (SMEs) interest of some services not as high as expected. The level of administration required by Interreg is a barrier for some members of our consortium. SMEs have limited staff and need a lot of assistance and guidance in understanding the documentation requirements and completing the required tasks from a reporting standpoint. The time required to engage the number of SMEs defined in the application form is much higher than anticipated, which could hinder the number of individual companies we can work with to collect deep insights. This will not have a large impact on the benefits for

Category of obstacles	Obstacles and external factors mentioned by project partners
	target groups, however, it may mean fewer individual SMEs provide deep insights for deliverables in WP.LT.
Other external Related to Innovation Risks Market demand	The project depend on SMEs with innovative technology for xxx to be tested offshore, these technology developers are not always ready in time, often they are struggling to close their own budget (such as assembling of the technology) before getting to the testing. Consequently, the project can struggle to meet its targets in terms of low carbon tested, the partnership spend a lot of time to support the SMEs, also the partners made sure we had a strong pipeline of technology developed near ready for testing. Some delays with implementing our product pilots due to the complexity of the different mental health care systems and necessary multidisciplinary cooperation. There is a possibility that technical solutions being tested in the project are almost immediately superseded due to the range and pace of other technical improvements / innovations within the industry. Change of (economical) climate. Unwillingness or inability of the SMEs to participate.

Source: Survey of project partners for this evaluation. June-August 2018.

In summary, some projects face obstacles that are linked to a) delays in implementation caused by late approval or a long negotiation and contracting phase and b) financial rules, audits, uncertainty and unforeseen problems with FLC procedures and decisions. To a minor degree, working with SMEs is seen as an obstacle to effective implementation due to a lower level of interest in the projects, limited capacity or complex administrative rules related to SMEs.

Analysis of the Performance Framework delivery

The analysis reflects the situation in July 2018 and is based on 56 approved projects.

Overall, Programme performance is sufficient for the output-related indictors in the performance framework. The financial indicators are largely underperforming, which is why a review of the programme targets is recommended. A modified Cooperation Programme was already submitted to the European Commission in May 2018.

Priority 1 is performing well, with more projects delivering new or enhanced innovation networks than the final target. The number of projects providing business support is also satisfactory at this stage of implementation (17 of 27 expected projects approved). Projects focusing on ‘enterprises receiving support’ cover the areas of technology validation and social innovation within SO1. At least 10 more projects are required for the Programme to reach the target of 27 for 2023 and to allocate the Priority budget.

Priority 2 consists of three SOs. Only 5 projects have been approved under SO4 compared to the target of 10, which affects Priority 2 performance. No further SO2 projects are required as the Programme has already exceeded the target. The number of projects covering ‘enterprises co-operating with research institutions’, specific to SO3 and SO4, is satisfactory, with the Programme project pipeline at 76% of the target value. The project approval pace for these two SOs should be maintained as at least 5 more projects are needed to complete the already high contribution to the output indicator.

Priority 3 is also performing well and the number of approved projects has exceeded expectations for the 2018 milestone. The current project development and approval pace should be maintained, as at least 9 more projects are required for the Programme to meet the final target for the end of the Programme. Contribution of the project pipeline to the 2022 target for output indicator 3.B has been exceeded due to high contributions from two projects (RAWFILL and Food Heroes) relating to enterprise support. The accuracy of these projects should be monitored by the JS.

Financial indicator achievements for the three priorities are very low due to delays in Programme implementation. This has been acknowledged and a revision of the Programme was submitted to the European Commission in May 2018.

PA1	Indicator	Milestone 2018	Final target 2023	Achieved 2018	Progress to Milestone 2018	Progress to Target 2023
PA1						
KIS	Number of approved **projects** under Priority 1, focusing on new or enhanced transnational clusters and innovation networks	5	9	15	300%	167%
KIS	Number of approved **projects** under Priority 1,focusing on enterprises receiving support	14	27	17	121%	63%
output	Number of new or enhanced transnational **clusters and innovation networks** (1.01)	0	27	45	N/A	167%
output	Number of **enterprises** receiving support (CO001)	0	540	1 291	N/A	239%
financial	Total eligible expenditure certified to EC for Priority Axis 1 (**EUR**)	32 681 033	217 873 890	5 149 264	16%	2%
PA2						
KIS	Number of approved **projects** under Priority 2, leading to solutions facilitating the delivery of existing or emerging low carbon, energy or climate protection strategies	3	6	2	67%	33%
KIS	Number of approved **projects** under Priority 2, leading to enterprises cooperating with research institutions	11	21	10	91%	48%
output	Number of **solutions** facilitating the delivery of existing or emerging low carbon, energy or climate protection strategies	0	18	44	N/A	244%
output	Number of **enterprises** cooperating with research institutions	0	420	346	N/A	82%
financial	Total eligible expenditure certified to EC for Priority Axis 2 (**EUR**)	36 642 427	244 282 844	5 961 052	16%	2%
PA3						
KIS	Number of **projects** approved under Priority 3	10	20	6	60%	30%
output	Number of **enterprises** receiving support	0	400	480	N/A	120%
financial	Total eligible expenditure certified to EC for Priority Axis 3 (**EUR**)	23 768 061	158 453 737	2 708 599	11%	2%

Source: JS data as of July 2018 and own calculations. The figures cover the outputs of the contracted project pipeline.

3.4 Project results and contributions to the Programme

This chapter analyses the – still early and therefore weak – contribution of projects to Programme SOs, results and result indicators. The analysis can only be based on expected outputs and results in most cases, so the conclusions assume that projects produce results as currently expected. The analysis is based on project data and monitoring, as well as on the survey of project partners. Case studies add in-depth and qualitative information and highlight examples of contributions and other factors.

3.4.1 Summary of conclusions

Evaluation question	Key findings	Recommendations
Do the project results contribute to the Programme SOs and their results? (trend observation) Do the projects contribute to the Programme result indicators?	In general, SO1, SO2, SO3 and SO5 have benefitted from substantial contributions of projects and also indirect contributions of projects from other thematic areas. Contribution is less substantial for SO4 'To facilitate the implementation of transnational low-carbon solutions in transport systems to reduce GHG-emissions in NWE', which also has fewer synergies or cross-contributions from other SOs.	There is no further recommendation for this programming period. For the next period, more synergies between SOs should be assured to foster indirect contributions and cross-fertilisation of projects. Analysis of demand and potential in areas such as transport should be up-dated in the light of other funding opportunities.
Are the Programme results and result indicators achievable? If not, why not and what should be changed (efficiency and effectiveness wise)?	The Programme seems on its way to achieve expected results for SO1, SO2, SO3 and SO5, if the pace of implementation is maintained (or even increased). For the Programme Result and SO4, achievements are questionable, unless implementation accelerates considerably.	The pace of implementation should be increased, including through more targeted communication to stakeholders or targeted calls for SO4.
What is the potential influence of external factors and developments on change in the territory?	External macro factors (national policies, other ESIF programmes) influence changes in the territory. It is still too early to estimate the relevance such factors.	The Programme could ask projects in their mid-term quality appraisal or an interview at the end of the project about external factors that influenced the expected (contribution to) change in the territory.

Evaluation question	Key findings	Recommendations
What are the additional, unintended benefits (including cross-benefits on other SO) of implemented projects that multiply the Programme impact? If these cannot be identified at this stage of project implementation, is it possible to identify areas where the additional benefits could be identified?	Roughly one fifth of projects reported additional and unintended benefits (19%). These refer to wider outreach, additional learning effects or technological spin-offs of products and services. These benefits can be observed mainly through in-depth case studies of projects at this early stage of project implementation.	Unintended results and additional benefits should be collected via quality appraisals and interviews with project managers at project end. This demands structured analysis. The JS could already set an approach to assess contributions to programme objectives. Contribution analyses in this report may serve as inspiration.
What are the most useful/most negative aspects of the Programme indicator system? What improvements could be proposed?	The indicator system is consistent and captures progress in programme and project implementation. Valuable information from the output indicators can support reflection on programme implementation. Some target values of output indicators need to be updated/modified to provide realistic reference points for evaluation. Result indicators are complex and difficult to update . They need to be supported by other territorial indicators after this mid-term evaluation. More regional data at NUTS2 and NUTS3 levels is needed to better analyse and evaluate regional disparities in the environment, energy and low carbon, which are strategic areas for the NWE Programme. The same is true for social cohesion objectives, even if these have a minor role in the Programme.	Output indicator achievements should be collected and structured in a database (per SO) to facilitate monitoring and conclusions. Further research and in-depth analysis of experience with 2014-2020 indicators could help with setting realistic targets in the near future. For the next programming period, preparatory work on result indicators could help with defining more adequate indicators, if available at NUTS2/3 level.

3.4.2 Analysis and evaluation

Project contributions to Programme SOs and result indicators

An in-depth review of all projects analysed their direct and indirect contributions to Programme SOs. The results are displayed in a matrix (see Table 3.12).

Direct contributions to Programme SOs correlate with the number of projects approved under each SO. The evaluation also pulled out **'cross-thematic contributions'**, where a project can make contributions to SOs not directly related to the primary intervention. Some of those cross-thematic links were anticipated by the NWE programme to ensure synergies and more substantial contributions in general.

As shown in table 3.12, SO1 receives many direct contributions from SO1 projects, but few indirect contributions from projects in other thematic areas. SO2 and SO3 receive substantial direct contributions but also considerable indirect contributions from projects of other areas. There is an important synergy between projects under SO2 and SO3.

SO4 has less direct contributions and only minor indirect contributions as there are few projects and this transport-related SO has very few synergies or feedback loops with other SOs.

SO5 has important direct contributions and some indirect contributions. Synergies are mostly with SO1 when projects address the bioeconomy and promote innovative products or services, or the resource and material efficiency objective.

Table 3.12 Contribution of projects to SOs

Project name	Project general objective	SO1	SO2	SO3	SO4	SO5
B4H	Speed up the market introduction of new life science innovations and stimulate the creation of new jobs.	++	o	o	o	+
FORESEA	Facilitate the uptake of low carbon Ocean Renewable Energy across NWE which will reduce GHG emissions.	o	+	++	o	o
ACE-Retrofitting	Increase and accelerate the number of shared retrofitting measures in privately owned condominium buildings.	o	++	+	o	o
HeatNet NWE	Increase the installed heating capacity of DHC networks and the provision of affordable warmth.	o	++	+	o	o
CHIPS	Develop existing and planned bicycle highways into a high quality, transnational mobility product. This will lead to a reduction of CO2 emissions.	o	+	o	++	o
CAN	Reduce GHG emissions from older residential city districts by empowering bottom-up neighbourhood initiatives to reach EU reduction targets.	o	++	+	o	o
eMEN	Promote more affordable, accessible and effective mental health solutions.	++	o	o	o	o
BioBase4SME	Improve the competitiveness of NWE entrepreneurs interested in the bio based economy.	++	o	o	o	o
E=0	Create sustainable markets for net zero energy retrofits across NWE.	+	++	+	o	o
BE-GOOD	Enable innovative enterprises to develop and deliver solutions based on reusing public sector information on infrastructure and the environment.	++	o	o	o	o
ASPECT	Bring the productivity of metal forming production lines very close to the theoretical maximum.	++	o	o	o	o
LOGiC	Develop a generic model for decentralised hybrid energy systems (DHES) in NWE.	o	o	++	o	o
Phos4You	Increase phosphorus recovery from municipal waste water and guarantee food security in NWE.	o	o	o	o	++
RE-DIRECT	Increase the use of residual low value and waste biomass and its conversion into carbon products for use in filtration treatment and environmental management.	o	o	o	o	++
SeRaMCo	Increase the use of construction and demolition waste (concrete, bricks, tiles, ceramics) as recycled raw materials for cement and concrete production.	o	o	o	o	++

Project name	Project general objective	SO1	SO2	SO3	SO4	SO5
Fibersort	Enable development and growth of the market for high value recycling of low-grade recyclable post-consumer textiles in NWE.	o	o	o	o	++
GenComm	Validate and model the renewable H2 value chain and adapt it to a Decision Support Tool (DST) that leads to sustainable, local and autonomous energy matrices.	o	+	++	o	o
AFTB	Create conditions for increased uptake of adhesive free Engineered Wood Products by the construction industry.	o	o	o	o	++
Food Heroes	Reduce food waste in the first parts of the food chain, enhancing a more efficient use of resources and a circular economy in NWE.	o	o	o	o	++
QCAP	Boost innovation performance in storage and process control in fresh agri products.	++	o	o	o	+
H2Share	Facilitate the development of a market for low carbon heavy duty vehicles running on hydrogen for logistic applications.	o	o	+	++	o
RAWFILL	Provide knowledge & tools to screen land fill sites recovering huge amounts of dormant raw materials, energy carriers & land resources.	o	o	o	o	++
UP-Straw	Up-scale the use of straw for new buildings and for retrofitting existing ones	o	+	++	o	o
CleanMobil Energy	Significantly reduce GHG emissions in cities by combining renewable energy sources, energy storage and electric vehicles.	o	+	++	+	o
Codex4SMEs	Support innovative healthcare management in public healthcare.	++	o	o	o	o
SURICATES	Increase fine sediment reuse in coastal and erosion protection markets.	o	o	o	o	++
GROOF	Create a European market for integrated rooftop greenhouses.	o	o	++	o	+
SHICC	Support the establishment of more and successful Community Land Trusts (CLTs) in cities as democratic community-led organisations that take an innovative approach to developing and managing homes that are affordable for low and median income households.	++	o	o	o	o
ECCO	Accelerate the development of local Renewable Energy Community Co-Operatives (ECCOs) in rural areas.	o	++	o	o	o
BONE	Accelerate the valorisation of cost-effective 3D smart implants fabricated by electrospinning technology.	++	o	o	o	o
ALG-AD	Clean nutrient rich digestate produced from the anaerobic digestion of food/farm waste to prevent pollution risks.	o	o	o	o	++

Project name	Project general objective	SO1	SO2	SO3	SO4	SO5
PowerVIBES	Reduce CO2 emissions by replacing diesel generators at festivals by units that only use renewable resources to provide cost-effective energy with nearly zero CO2 emissions.	+	o	++	o	o
LL4WIDE	Give SMEs access to a transnational network of testing facilities and research know-how to test, demonstrate and develop new products for the water and wastewater sector.	++	o	o	o	o
river	Increase the use of oxyfuel CCS combustion in the inland waterway vessels and the conversion of carbon into bio-solvent products.	o	o	o	++	o
SMART TRACK 4 WATERWAY	Shift transport from roads to waterways in NWE, reducing GHG, with a particular focus on palleted freight.	o	o	o	++	o
VR4REHAB	Create new businesses by using regions' innovation potential from the intersection of state-of-the-art VR-technologies and demand from rehabilitation clinic specialists and patients.	++	o	o	o	o
UNEET	Support the professional integration of NEETs (young people not in Employment, Education and Training) by matching the recruitment needs of the hotel, restaurant and catering sector (HORECA) with the existing labour supply.	++	o	o	o	o
cVPP	Increase the number of communities that use community-based Virtual Power Plants to facilitate upscaling of low-carbon community-driven initiatives.	o	++	o	o	o
FCCP	Replace combustion engine vehicles in urban freight transport through all seasons by emission-free transport in the partner cities.	o	+	o	++	o
ReNu2Farm	Increase the use and production of recycled N, P and K for fertilizer in NWE.	o	o	o	o	++
ITEG	Develop a carbon-free, all-in-one solution for energy generation in poorly connected and remote areas.	o	+	++	+	o
CCONNECTS	Change traditional high GHG emitting land management practices to sustainable low carbon alternatives in peatland.	o	++	+	o	o
WOW!	Shift towards the recovery and reuse of carbon material from wastewater at WWTPs.	o	o	o	o	++
UV - ROBOT	Develop innovative autonomous UV-C vehicles and crop specific strategies for mildew control in horticulture.	++	o	+	o	o
COTEMACO	Maintain manufacturing activities by enabling SMEs to adopt cobots.	++	o	o	o	o
IDEA	Enable implementation of economically viable algae-based value chains.	++	o	o	o	++

NOTE: ++ very favourable + favourable o not relevant – neutral. Source: Own elaboration based on review of project application forms.

The following table shows links between SOs, Programme results and result indicators, which should show final achievements of the Programme.

Table 3.13 Links between Programme SOs and Result Indicators

Priority	SO	Programme result	Programme Result Indicators
1: Innovation	**SO1:** To enhance innovation performance in NWE through international cooperation	Increased SME innovation levels	1. Degree of SME involvement in collaboration with other institutions
2: Low Carbon	**SO2:** To reduce GHG emissions in NWE through international cooperation on implementing low carbon, energy or climate protection strategies	Increased capacity of public authorities in NWE to implement low carbon measures effectively.	2. Effectiveness of NWE public organisations to implement low-carbon strategies (% of urban population with low carbon strategies)
	SO3: To reduce GHG emissions in NWE through international cooperation on the uptake of low carbon technologies, products, processes and services	Removed barriers to adopting and improving conditions for low carbon technology deployment	3. Status of conditions for low-carbon technology deployment in NWE
	SO4: To reduce GHG emissions in NWE through international cooperation on transnational low carbon solutions in transport systems	Improved conception and coordination of low carbon transport and mobility solutions	4. Status of competence of the transport sector in using low-carbon transport solutions (% transport companies of all EMAS registered enterprises)
3: Resource and materials efficiency	**SO5**: To optimise (re)use of material and natural resources in NWE through international cooperation	Accelerated transition to a circular economy by enabling spill-over effects of eco-innovation in the resource intensive industry	5. Status of competences in NWE resource intensive sectors for eco-innovation diffusion (Eco-innovation activities in the Eco-Innovation Scoreboard)

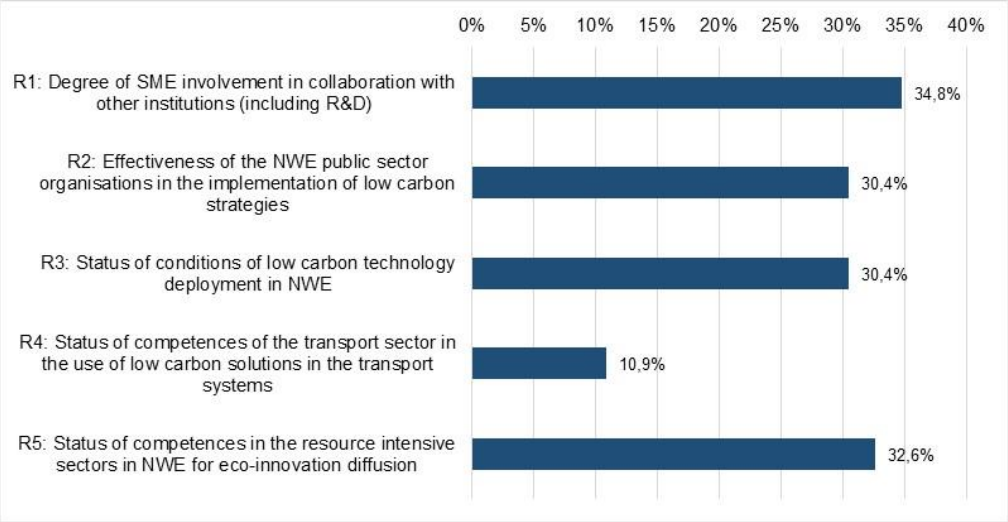
Source: NWE Cooperation Programme

It is still early to observe and analyse contributions to Programme results and Result Indicators in this evaluation, as few projects are in an advanced stage of implementation and no project has its final results and contribution to major changes in the territory.

However, at this intermediate stage, there are indications of contributions to Programme results as shown in the following table.

Analysis confirms the previous review with substantial contributions to result indicators 1, 2, 3 and 5, while contributions to indicator 4 ‘Status of competence of the transport sector in the use of low-carbon solutions in the transport system’ is considerably lower.

Figure 3.16 Contribution of projects to Programme Result Indicators (% of projects that contribute)



Source: Own calculation and elaboration on information on NWE Projects approved as of May 2018 (n=46)

It is still not possible to quantify any contribution to the Result Indicators or to assess the contribution through project outputs. However, case studies show that project results and outputs are highly likely to contribute to changes in the territory and Programme results and indicators (see boxes below).

Box 3.3 Expected contribution to Programme results by Project 'HeatNet'

The project aims to contribute to the SO facilitating implementation of low-carbon, energy and climate protection strategies to reduce GHG emissions in NWE. The shift towards District Heating and Cooling (DHC) systems can contribute to this objective. However, this long-term perspective can't be sustained if the DHC networks do not become commercially viable. To encourage citizens to shift to DHC from their 'traditional', fossil-based heating and cooling systems, the service needs a competitive price though DHC can currently be five times as expensive as other energy sources. To achieve competitiveness, all pilot action DHC networks should keep growing after the end of the project in 2020 (i.e. achieve economies of scale). Therefore, continued investments in the pilot areas and commitment from local public authorities will be crucial to guarantee the sustainability and development of the project beyond its duration, making it possible to contribute to the ambitious objective of reducing GHG emissions. In this sense, communication activities are planned to reach municipalities. The partners will try to involve citizen representatives to increase awareness of the project potential and visibility of the HeatNet model (i.e. to have a 'ripple effect' on local authorities).

Another example is from 'Phos4You'.

Box 3.4 Expected contribution to Programme Results by Project 'Phos4You'

The project output is expected to open up phosphorus recovery in the NWE area. At the end of the project, 3.5% of total sewage recovery potential should be connected to a facility able to recover phosphorus. In addition to the seven demonstrations, 20 new products will show innovative use of sewage waste processing. A total of 44 enterprises are supported until the end of the project. Five years after project termination, 35% of phosphorus recovery potential should be tapped and about 9 territories (regions) have implemented a phosphorus recovery solution. Ten years after the project ends, 90% of phosphorus recovery potential should be tapped, with processes in 21 countries. The dependency on imports for mineral phosphorus would fall from 100% to 45%. The main benefit of the project is the recovery of secondary phosphorus from wastewater treatment residues. Technical solutions will be applied and demonstrated from small- up to large-scale facilities. The objective is to increase recycled phosphorus for domestic use to become less dependent on imports. The project will demonstrate that secondary phosphorus recovery from wastewater treatment processes is possible, feasible and effective. Seven demonstrations will be built with the support of the NWE programme, with six new phosphorus products developed for integration in further production cycles.

For the final impact evaluation of the Programme, it will be important to ensure projects report on their achievements against baselines and expected results (at project end). Additional questions to facilitate the impact evaluation could cover unintended or additional benefits, unexpected negative effects and the role of external factors that hampered achievements.

At first sight, if the pace of implementation is maintained (or even increased) the Programme should achieve the expected results and contribute to result indicators for SO1, SO2, SO3 and SO5. For SO4, achievement is questionable, unless implementation accelerates considerably. This should be done through targeted communication to stakeholders or targeted calls for SO4. Transnational approaches may not be optimum for SO4, so shifting the budget to other SOs might be appropriate.

The potential impact on the territory can be seen in the long-term changes described by projects in their AF and progress reports. Each project determines its key impact at project end, after 5 years and after 10 years. Assessing the impacts then grouping and classifying them highlighted 13 themes where the Programme has an impact, even after projects end. These are depicted in the figure below with large circles around territorial cohesion, each with a different colour. The main projects that contribute to these themes are shown in the smaller circles. Each project contributes to at least one theme and there is some overlap between themes. Each project contributes to territorial cohesion in different ways, but the potential impact can be quantified. The main indicators per theme are shown by arrows pointing to territorial cohesion. The code for territorial cohesion indicators corresponds with the indicator codes in Chapter 5 and is detailed in the mapping annex to this report. This classification of long-term effect and potential territorial impact can help in assessing the qualitative information collected from project appraisals. It links project SOs, their long-term effects and indicators for territorial cohesion.

Figure 3.17 Projects and Territorial Impact

Potential influence of external factors and developments on change in the territory

External factors may positively or negatively influence project achievements and thus Programme results. Projects generally highlight micro level factors, such as delays, problems with partnerships and administrative hurdles, which are addressed in previous sections.

Macro level factors include macroeconomic conditions, other ESIF policies, as well as other national and regional policies and support that stimulate or hinder project outputs and results. These factors are difficult to quantify for the Programme area or for each SO, but they can clearly influence the impact of projects in their direct environment.

Case studies illustrate political decisions (Box 3.5), synergies with other projects (Box 3.6) and a combination of these for improving results (Box 3.7).

Box 3.5 External factors important to success for 'Biobase4SME'

Interviewees estimate that the project results and outputs will be achieved as expected. However, the contribution to change depends on external factors such as favourable support schemes to facilitate grants or further non-financial support to SMEs to develop innovative bio-based products. For example in Ireland, budget cuts and restricted public support for SMEs in the bioeconomy after the financial crisis of 2008 have not been helpful. The situation has not improved and this affects the influence that BioBase4SME might have in the country.

Box 3.6 Building synergies with other projects for 'RAWFILL'

RAWFILL can use synergies with other projects to ensure delivery. These include synergies with the Interreg Europe COCOON project via the project partner EURELCO, a consortium for a coherent European Landfill Management Strategy. The synergies contribute to an exchange of experience and knowledge and can be considered as a side effect of the project.

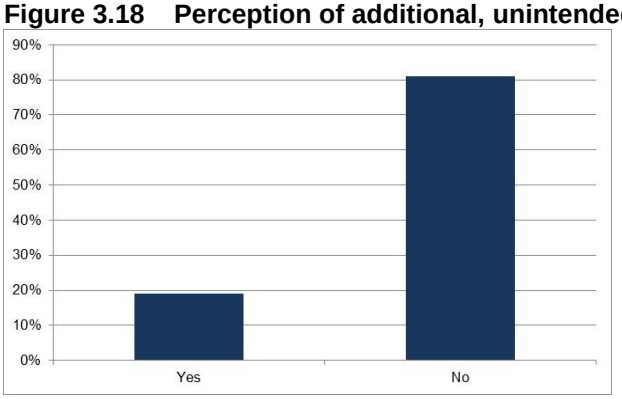
Box 3.7 Building synergies with other projects for 'CAN'

CAN currently receives a lot of attention from Dutch public authorities. Energy transition in the Netherlands, more specifically reducing the use of natural gas, should be achieved by promoting neighbourhood approaches. This is in line with the approach developed and promoted by CAN.

Additional, unintended benefits (including cross-benefits on other SOs) of projects

Only a few projects reported additional and unintended benefits (19%). This may be due to the early stage of implementation, but also to thorough planning of benefits and expected results.

Figure 3.18 Perception of additional, unintended benefits by project partners (Q18, n=42)



Source: Survey to Project Partners conducted for this evaluation. June-August 2018.

Some projects report unintended or additional benefits, compared to initially planned outputs and benefits for target groups.

Table 3.14 Additional and unintended benefits from projects (Q18, n=42)

Area of Benefits	Benefits reported by Project Partners
Additional Benefits	Initially in the AF we planned to conduct investigation studies on 2 landfills, but now we plan to do it on 7 landfills. The quality of the results will improve. The target group, innovative SMEs in Ocean Energy benefit from extra support from the partnership ('The whole is greater than the sum of its parts') because to secure all the low carbon technology testing the partners had to work on their pipeline together and support each other to assist the SMEs to successfully test. Increased scope of services (PROJECT standard bigger than individual partner usual offer) Learning from each other (SME workshop participants, SME coupon applicants, BioCamp Participants) in best-case practices Broader network/ecosystem of companies within the NWE region. The project seems to boost a lot of 'extra' effects, people tend to like the Hackathon concepts and are inspired by them.
Unintended Benefits	During the project's lifetime, the partners addressed the topic of energy poverty very intensively - this was not intended from the beginning. A major international conference was held on this matter and the target groups will benefit greatly from the results. With the tangible object that we are developing in the project, we will reach a large audience showing that generating sustainable energy on a large scale is very feasible. In our communication strategy we will focus more on the subject of creating awareness and we already notice that there is a high level of public interest in our ideas. Better competitive position of SMEs. Higher Exposure due to the successful branding of the Interreg project (more press, conference speaking slots, interviews etc.).

Source: Survey to Project Partners conducted for this evaluation. June-August 2018.

Most case studies have shown additional and/or unintended benefits of projects in their regions and countries or for additional groups. This is due to: 1) additional partnerships, activities or synergies not expected before with additional or more intense benefits 2) modifications to the project (during negotiation or between drafting and project start) that changed the initial outline and estimates.

Box 3.8 Example of unintended benefits for 'E=0'

While the Dutch concept Energiesprong was showing very tangible results, demonstration models were crucial to prove that E=0 retrofits could be delivered across NWE and beyond. The benefit for demonstration projects in France, the United Kingdom and Luxembourg is the possibility to overcome innovation risk during implementation (e.g. European funding can provide valuable support when there is no revenue at the beginning of innovative projects). The extra support was therefore useful to finance R&D and prototyping, so they could experiment with their prototypes and offer affordable solutions to retrofitting beneficiaries. The demonstration in France had unexpected support from social housing tenants and associations. This is particularly important since E=0 not only focuses on energy, it also aims to ensure living conditions by involving and raising awareness among the general public.

Box 3.9 Example of additional benefits for 'FORESEA'

From the beginning of the project more than two years ago, the partnership has enabled stronger collaboration between all test sites, which has also allowed partners to develop economies of scale. The transnational aspect has thus enabled project partners to better understand European best practices, to access a bigger market and to increase competitiveness between scientific centres and SMEs in the energy sector. This partnership allowed the company to demonstrate to the industry that their approach could produce clean and efficient, low cost energy. The FORESEA project has also enabled Scotrenewables to secure additional funds for its research and development programme, with ongoing private fundraising being one of the biggest challenges that the sector currently faces.

Box 3.10 Example of unintended benefit for 'GENCOMM'

Compared to other European countries, Ireland faces a delay in developing renewable energy. To produce hydrogen GENCOMM is willing to test solar, wind and biomass energy sources. This will be supported nationally, so Ireland could have energy backup and storage in the country. Indeed, GENCOMM aims at offering a stronger answer on the energy market by providing these products and services and Energy Co-operatives Ireland Ltd aims at committing decision-makers to this project. Throughout the project, Energy Co-operatives Ireland Ltd. will support the lead partner in disseminating project results at the political level. For example, they invited the Irish Ministry of Energy to attend a demonstration of hydrogen cars in Galway which showed the potential benefits of hydrogen technology. To pursue GENCOMM's objectives, they also invited the General Secretary of the Irish Ministry of Transport to a meeting at a farming exhibition. Energy Co-operatives Ireland Ltd had a stand to promote hydrogen technology at this important event in Ireland.

Most useful/most negative aspects of the Programme indicator system

Overall the indicator system is adequate and reflects long-standing experience with indicator monitoring in the NWE area.

The output indicators have already been discussed in chapter 3.3 and overall, these are adequate. Targets are realistic and in line with experience from previous programming periods. Monitoring is going smoothly. However, for three indicators, 'CO30 Additional capacity or renewable energy production (MW)', 'CO31 Number of households with improved energy classification', and 'CO34 Estimated annual decrease of GHG (tonnes of CO2eq)' the targets seem unrealistically low (or high). This might be due to a lack of experience with energy and CO2-related indicators. To offer a more meaningful picture during monitoring and evaluation, the targets should be re-defined in light of likely achievements for the

projects. The problem with these indicators is that there is little statistical data at regional (NUTS2 or 3) level for energy or CO2-related indicators. As a consequence, calculating energy savings, shifts in the energy production/consumption split, or reduced GHG emissions usually follow a top-down approach. This involves complicated calculations for a specific spatial unit, in particular at the national level. Usually these models and other indicators take into account the EU Directive on energy efficiency, in particular Annexes IV and V[16].

Bottom-up approaches to estimate results and benefits of projects, programmes or policies also follow complex models that integrate numerous factors into their indicator contributions. As conditions differ in each sector (housing, transport, industry, economy), it is difficult to use a single method to calculate expected outputs of the projects.

Existing methods and guidance[17] could be useful, however research in this field is too immature to propose a single method or approach. Further research and in-depth analysis of experience with 2014-2020 Programme indicators could help in setting realistic targets in the near future. Such research could cover the methods used by projects in NWE and other Interreg areas as well as observations and inventories of GHG emissions in the NWE area.

The intervention logic and indicator system effectively link project activities, project results, output indicators, programme outputs, programme results and programme result indicators (see Figure 3.18)[18]. For result indicators, it is still too early to show any achievements. This is mainly because the Programme's contribution to changes in the result indicators cannot yet be determined. Projects are not finished and have not yet contributed to major socio-economic variables. These Interreg projects also require more than a purely quantitative analysis of contribution to change. They are highly innovative in their respective fields and promote cooperation, coordination and governance for many different stakeholders.

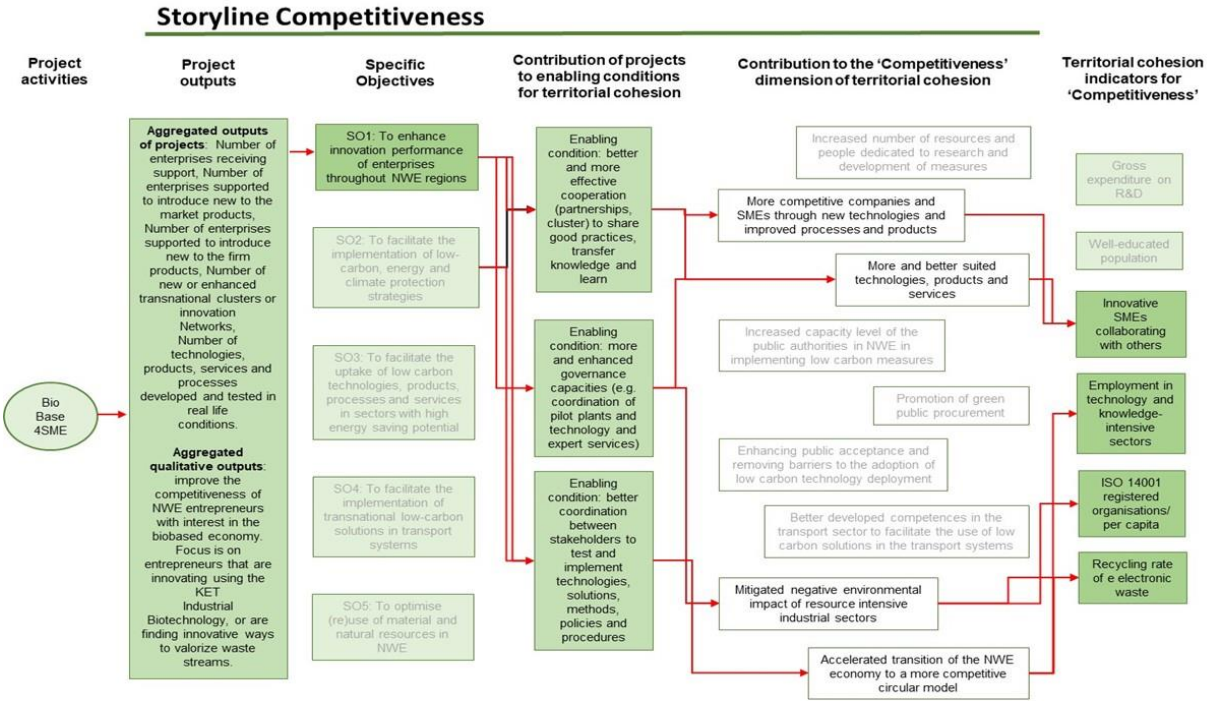
This leads to learning effects and increased decision-making capacities, but not always directly to observable change in the territory. NWE projects act indirectly, benefitting the technical, administrative, and cooperation capacities of public decision-makers, private companies, as well as sector agencies and service providers. This impact has been confirmed, for example, by case studies but not yet through Programme result indicators.

[16] Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency.

[17] https://www.ess.nsw.gov.au/Methods_for_calculating_energy_savings/Home_Energy_Efficiency_Retrofits ; https://www.vtt.fi/inf/pdf/tiedotteet/2011/T2581.pdf ; http://www.buildup.eu/en/free-tags/co2-reduction ; https://www.interregeurope.eu/fileadmin/user_upload/tx_tevprojects/library/file_1527778242.pdf ; https://bimpactassessment.net/sites/all/themes/bcorp_impact/pdfs/em_calculating_greenhouse_gas_emissions.pdf ; http://www.entranze.eu/files/downloads/D3_3/131015_ENTRANZE_D33_Cost_Energy_Curves_Calculation_v18.pdf ; https://www.madrid.es/UnidadesDescentralizadas/Sostenibilidad/EspeInf/EnergiayCC/04CambioClimatico/4aInventario/Ficheros/GHGemissions2016.pdf

[18] See more storylines that visualise the intervention logic for several projects in Annex 2 to this Final Report.

Figure 3.19 Intervention Logic and Storyline of an NWE project (BioBAse4SME)



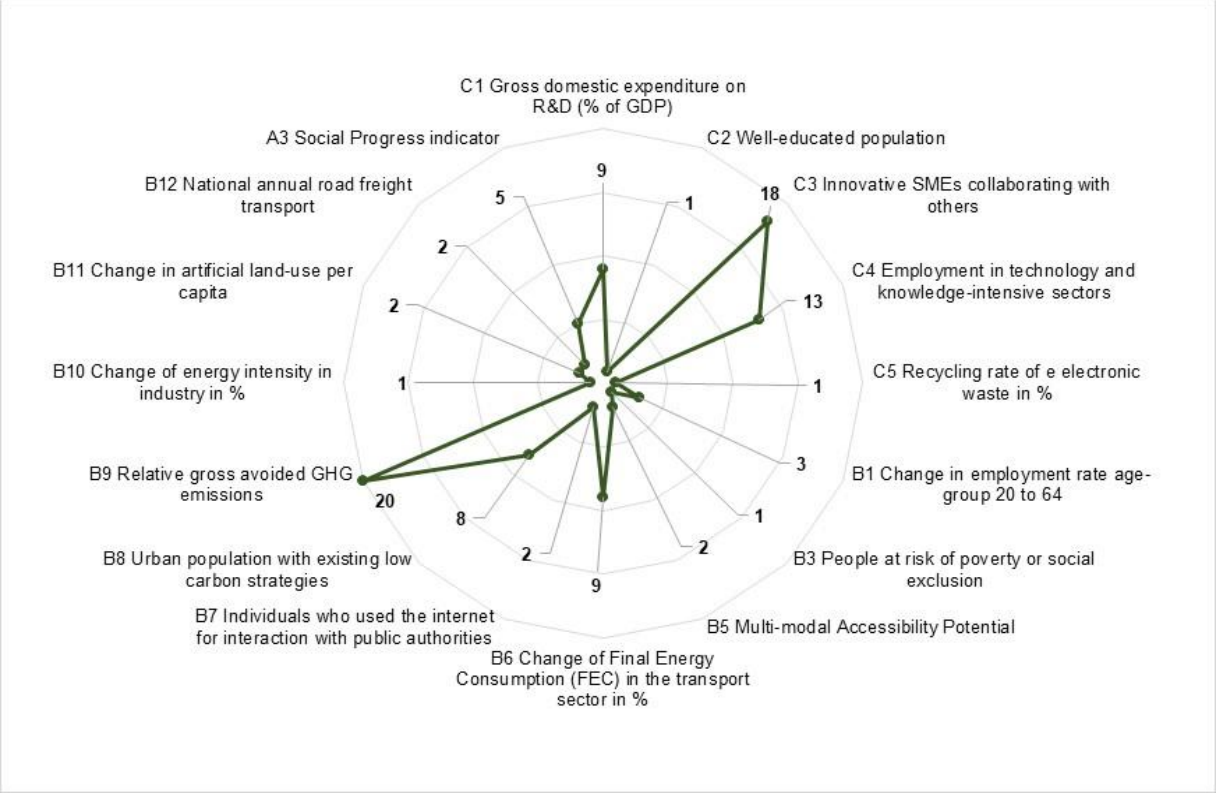
In general, the Programme opted for results and contributions to change, not only to institutional capacities and cooperation but also with regard to hard, socio-economic variables, such as competence for innovation and for implementing low-carbon policies. However, given the dimension of the NWE Programme in the area and the framework of public spending, the Programme contribution to socio-economic development will probably be limited. For example, the Programme expects to impact 5 000 households (0.007%), as well as 1 291 enterprises (0.016%) in the NWE area. Any impact on socio-economic variables might, therefore, be too small to be observable at the macro level. Result indicators should therefore demonstrate the quality of impact on target groups in addition to quantifying the size of impact.

NWE result indicator calculations are highly complex. Even if the reasoning is understandable and follows Programme intervention logic, complex indices hamper mid-term trend observations and the use of result indicators for monitoring and evaluation during implementation. Using territorial indicators could help, along with indicators for impact on enabling factors and capacities. Additional indicators for territorial cohesion showing the potential impact of NWE projects have been elaborated in cooperation with NWE Programme authorities[19] and are presented in chapter 5 and Annex 1 of this report.

[19] Report prepared by Spatial Foresight: Co-development of a territorial cohesion indicator system, facilitating the Programme performance and impact evaluation. FINAL REPORT. 24 August 2017. Framework Contract: Implementation of an integrated evaluation approach within the framework of a robust North-West Europe evaluation system (Reference 16B007) Subsequent Contract no. 1.

The following figure shows NWE projects and territorial cohesion indicators.

Figure 3.20 Approved NWE projects that relate to territorial cohesion indicators



Source: Own analysis based on Project Application Forms and Progress Reports of 46 approved projects (as of May 2018). Multiple nominations possible.

Indicators C3 ‘Innovative SMEs collaborating with others’ and B9 ‘Relative Gross avoided GHG emissions’ are the most relevant for NWE Programme impact. For many other territorial cohesion indicators, the contribution of NWE projects is limited or indirect. This analysis can be considered and deepened in the final evaluation. It can also provide useful information to assist planning for the next programming period.

Furthermore, there are limitations to indicators covering energy/low-carbon and resource efficiency. In general, not only for the NWE Programme, more specific regional indicators and data are needed covering energy consumption and production, renewable energies and energy efficiency, as well as GHG emissions. Indicators related to energy and GHG emissions, more specifically to energy consumption, production, innovation and investments as well as their follow-up activities, are a suitable proxy to measure the effects of sustainability and climate change protection policies. It is important to provide them at regional level to make them relevant for Programme authorities. A suitable indicator to express the development of territories towards a greener economy could be, for example, ‘renewable energy share of total energy production’. However, it is currently impossible to find comparable data on this type of indicator at regional level (NUTS2 or 3). The situation is similar for resource efficiency, where new regional indicators are needed (e.g. ‘share of companies with LCA systems’ or ‘share of products

that are recycled/re-used'). Moreover, there are currently insufficient indicators on social cohesion and inclusive growth as areas of social innovation impact.

For the next programming period better indicators are recommended. Other bodies (EUROSTAT, INTERACT, DG REGIO) should provide more in-depth energy and efficiency-related regional indicators (NUTS2 and 3) to facilitate linking projects, direct results and the overall situation in the NWE territory at regional (not only national) level. This will support better evaluation and analysis of the contribution to change in the fields of impact.

4 Analysis and evaluation of the contribution to Europe 2020

This chapter analyses and evaluates contributions of projects and the NWE programme to the three growth priorities of the Europe 2020 Strategy ('Europe 2020'). This follows-up on the analysis of contributions from projects presented in the final ex-ante evaluation for the NWE programme 2014-2020.

The ex-ante evaluation concluded that the **most important primary and direct contributions** are expected to emerge in relation to the **smart and sustainable growth priorities of Europe 2020.** SO1 on 'enhancing innovation performance of enterprises throughout NWE regions' will directly contribute to **smart growth,** mainly to the headline target on investing 3% of EU GDP in R&D and related thematic actions. Direct contributions to **sustainable growth** were expected from SOs enhancing low-carbon and resource efficiency directly (SO2 and SO3), from low-carbon solutions in NWE transport systems (SO4) and from optimising (re)use of material and natural resources (SO5). The most significant contributions to related headline targets were expected for a '20% increase in energy efficiency' (SO2, SO5) and for a '20% reduction in greenhouse gas emissions' (SO3). Moreover, several SOs will also make direct contributions to thematic actions mentioned in Europe 2020 (i.e. SO3, SO4 and SO5).

The ex-ante evaluation also observed **various 'cross-thematic contributions'.** This means that one Specific Objective can also make direct contributions to other growth priorities and thematic actions of Europe 2020 not directly related to the primary intervention theme it addresses. Such cross-thematic contributions were often deliberately foreseen by the NWE programme with a view to ensuring that contributions are also made to the inclusive growth priority of Europe 2020 (e.g. SO1, action 3 on 'delivering societal benefits through innovation').

This analysis generates a much more detailed and exact insight into NWE contributions to Europe 2020, both within each SO and across all SOs. Project data enables contributions to Europe 2020 to be quantified. This is at the level of 'planned and expected outputs' (What were the initial programme-level expectations and what contributions are there from the planned outputs of current projects if the latter are successful?).

4.1 Summary of conclusions

Evaluation question	Key findings	Recommendations
How substantial is the NWE contribution likely to be to Europe 2020 (based on both approved and running projects), via the Investment Priorities and SOs implemented by the Programme?	Substantial contributions can be expected to smart and sustainable growth. SO1 projects contribute to the smart growth headline target '3% of the EU's GDP invested in R&D', but their contribution to R&D/innovation thematic actions of Europe 2020 will be substantial. SO2, SO3 and SO4 will make a very substantial direct contribution to the 20-20-20 headline targets. Projects under SO2 and SO3 will also contribute to several Europe 2020 actions promoting a climate resilient, low-carbon and energy efficient economy. The contribution of SO4 projects to the thematic action 'modernising and decarbonising the transport sector' will be modest. Finally, SO5 projects will also make a moderate contribution to the Europe 2020 action on 'promoting a more resource efficient European economy'. Moreover, different cross-thematic contributions can be expected. In particular from projects under SO3, SO4 and SO5 to smart growth. Inclusive growth is exclusively promoted by 'cross-thematic contributions' coming from projects implemented under all five SOs. The direct contribution to employment increase will be moderate but substantial for employment preservation. Projects focusing on social innovation under SO1 will substantially contribute to the headline target on reducing the risk of poverty and social exclusion and the corresponding thematic action. However, up to May 2018 only few projects addressed social innovation.	Increase the pace of implementation to produce more substantial direct contributions to Europe 2020. Increase the implementation of projects and the contribution towards the 'Inclusive Growth' goal. This can be done by approving more projects for social innovation, and also by positively assessing (during project selection) the cross-thematic contribution of projects under all SOs.
Has there been any potential external factors facilitating the Programme contribution to Europe 2020?	Although not directly evidenced by the analysis, two external factors are potential facilitators for NWE contributions to Europe 2020: (1) other national / regional ESIF programmes in NWE and overlapping ETC programmes implementing similar activities and (2) other national or regional/local funding schemes and programmes for the concerned policy fields providing further (and more substantial) funding to related measures in NWE.	External factors can be macro-economic events or other EU and national funding that have a (larger) influence on the Europe 2020 goals. However, it is still too early to quantify any impacts of external factors.

Evaluation question	Key findings	Recommendations
Can we identify additional benefits that increase the NWE contribution to Europe 2020 – boosting competitiveness, green economy and inclusive growth in NWE? How?	There are some examples of additional benefits that can be observed in project examples, but it is still too early to observe a structure of additional benefits across all projects or SOs. Especially for inclusive growth, there are project outcomes that are not captured by NWE programme monitoring indicators.	Additional benefits can be more easily detected through the qualitative mid-term appraisal of projects (add the relevant questions) and through a final interview with project managers at the end of each project.
How can these additional benefits be integrated into the context of the Programme impact?	For some project outcomes, more specific indicators could capture additional benefits. More qualitative benefits are difficult to capture through indicators.	Improving the template for the final project report (i.e. include a related reporting field) or adding a final interview is recommended.

4.2 Analysis and evaluation

Likely NWE contribution to Europe 2020 targets and thematic actions

Following the approach developed for the ex-ante evaluation, the Programme's contribution to Europe 2020 has been assessed for the three growth priorities individually taking into account cross-thematic contributions. Table 4.1 depicts the relations between Europe 2020 and NWE programme output indicators.

Planned and actual contributions to 'smart growth'

SO1 projects predominantly contribute directly to the R&D headline target of smart growth (i.e. 3% of the EU's GDP invested in R&D). There are contributions to R&D related thematic actions from all SO1 projects as well as projects implemented under SO3, SO4 and SO5.

Box 4.1 Project example for 'Smart Growth'

The project BioBase4SME aims to develop a sustainable bio-based economy by capitalising on the Key Enabling Technology, Industrial Biotechnology. One strategy is to organise a knowledge flow from research centres and other intermediaries to SMEs. Project support is aimed towards SMEs to strengthen their innovation capacity. By August 2018, the project had reached over 525 SMEs with bio-innovation support for entrepreneurs throughout the NWE regions. It has granted innovation coupons to 47 SMEs for over € 1 million. AISO2 'Innovation Biocamps' with in total 37 young entrepreneurs from 33 different companies were organised.

Table 4.1 Relation between elements of Europe 2020 (i.e. headline targets, thematic actions) and NWE programme output indicators

Text elements of the Europe 2020 Strategy		Programme-specific and common output indicators		SO				
Growth priority	**Headline target and thematic action**	**ID**	**NWE programme indicator**	**SO1**	**SO2**	**SO3**	**SO4**	**SO5**
Smart Growth: developing an economy based on knowledge and innovation	3% of EU GDP should be invested in R&D.	1.06	Amount of funding leveraged by the project (in €)	X				
	Unleashing Europe's innovative capabilities and re-focussing R&D and innovation policy on the challenges facing our society. Promoting innovation and knowledge transfer throughout the EU, by making full use of ICTs and ensuring that innovative ideas can be turned into new products and services.	CO01	No. of enterprises receiving support	X				
		1.01	No. of new or enhanced transnational clusters or innovation networks	X				
		1.02	No. of technologies, products, services and processes developed and tested in real life conditions	X				
		CO26	No. of enterprises co-operating with research institutions	X		X	X	X
		CO28	No. of enterprises supported to introduce new to the market products	X		X	X	X
		CO29	No. of enterprises supported to introduce new to the firm products	X		X	X	X
Sustainable Growth: promoting a more resource efficient, greener and more competitive economy	20% reduction in greenhouse gas emissions	CO34	Estimated annual decrease of GHG		X	X	X	
		4.02	No. of new or improved transport management systems leading to GHG reduction				X	
	20% of energy from renewable sources	CO30	Additional capacity of renewable energy production			X		
	20% increase in energy efficiency	CO31	No. of households with improved energy classification		X	X		
		CO32	Decrease of annual primary energy consumption of public buildings		X			
	Strengthening the EU economy's resilience to climate risks and the capacity for disaster prevention and response. Achieving climate goals through fully exploiting the potential of new technologies and spreading innovative technological solutions, including the development of new green technologies. Helping SMEs and all sectors to adjusting their production processes and products to a low-carbon economy.	2.02	No. of combined mitigation-relevant adaptation solutions implemented		X			
		2.01	No. of solutions facilitating delivery of existing or emerging low-carbon, energy or climate-protection strategies		X			
		2.05 / 3.04 /	Amount of funding leveraged by the project (in €)		X	X		
		3.01	No. of adopted or applied low carbon technologies			X		

	Modernising and decarbonising the transport sector, thereby contributing to increase competitiveness.	4.01	No. of implemented low carbon solutions in transport				X	
		4.03	No. of transport operators supported implementing low carbon solutions				X	
		4.06	Amount of funding leveraged by the project (in €)				X	
	Becoming a more resource efficient economy, giving Europe a competitive advantage and reducing its dependency on foreign sources for raw materials and commodities. Maintaining the EU's lead in the market for green technologies for ensuring resource efficiency throughout the economy and boosting industrial competitiveness Assisting consumers to value resource efficiency.	5.01	No. of efficient natural and material resources solutions implemented and tested					X
		5.02	No. of innovative uses of waste processes / products / services from waste materials					X
		5.03	Amount of funding leveraged by the project (in €)					X
		5.04	Amount of decreased raw material use					X
		5.05	Amount of increased material recovery, re-use and recycling					X
		CO01	No. of enterprises receiving support					X
Inclusive Growth: fostering a high-employment economy delivering social and territorial cohesion	75% of the 20-64 year-old population to be employed. Building a cohesive society, by spreading the benefits of economic growth to all parts of the EU for strengthening territorial cohesion.	1.04 / 2.03 / 3.02 / 4.04 / 5.06	No. of jobs created in all economic sectors	X	X	X	X	X
		1.05 / 2.04 / 3.03 / 4.05 / 5.07	No. of jobs maintained in all economic sectors	X	X	X	X	X
	At least 20 million fewer people in or at-risk-of-poverty and social exclusion. Promoting social innovation for the most vulnerable, reducing health inequalities in society and promoting a healthy / active ageing population to allow for social cohesion and higher productivity	1.07	No. of end-users benefitting from social innovation	X				
		1.03	No. of pilot actions implemented, focusing on social innovation	X				

Future direct contribution of SO1 projects to smart growth in NWE can be substantial (see Table 4.2)**.** In particular planned contributions to the two actions of Europe 2020 will be very substantial. Most of the related output indicators are already at or clearly above the 2023 targets for the NWE programme. Only the number of enterprises cooperating with research institutions (CO26) has not yet fully reached the 2023 target (it is currently around 84%), but little progress has to be made in this respect.

The contribution to the R&D headline target is expected to be less substantial. Although NWE has set itself an ambitious target for the end of the programming period of € 222 million, the 15 approved SO1 projects have until now only reached about 30% of that.

Table 4.2 Contribution of SO1 projects to headline target and actions on R&D / innovation

ID	SO1 output indicators	Programme (target 2023)	15 projects (SO1)	
			Planned	Achieved
1.06	Amount of funding leveraged by the project (in €)	222,000,000 (*)	66,558,993 (**)	N/A
CO01	No. of enterprises receiving support	540	958	117
1.01	No. of new or enhanced transnational clusters or innovation networks	27	27	2
1.02	No. of technologies, products, services and processes developed and tested in real life conditions	68	148	13
CO26	No. of enterprises co-operating with research institutions	540	451	16
CO28	No. of enterprises supported to introduce new to the market products	340	366	96
CO29	No. of enterprises supported to introduce new to the firm products	200	446	0

(*) Assumed was € 130 724 333 of ERDF granted x 1.7 leverage expected = € 222 000 000
(**) Total cost of the 15 running projects as indicated in the database. With € 39 445 805 of ERDF granted, the leverage is 1.69

Source: Project Application Forms and Progress Reports of 46 approved projects (as of May 2018)

Project contribution to smart growth remains limited, as only around half of the 15 projects currently running under SO1 had reached an advanced stage of implementation by May 2018.

Also, projects under SO3, SO4 and SO5 are directly contributing to two thematic actions closely related to the smart growth headline target on R&D investment. The projects help re-focus R&D and innovation policy on major societal challenges (climate change, energy and resource efficiency) and also promote innovation and knowledge transfer throughout NWE so innovative ideas in these fields can be turned into new products and services.

Future cross-thematic contribution to both thematic actions will be moderate (see: Table 4.3)**.** The major part of this planned cross-contribution to smart growth will be generated by the 19 projects under SO3 and SO5, while the contribution of the few SO5 projects is expected to be very limited. All projects will help re-focus R&D and innovation policy on climate change and energy/resource efficiency and facilitate knowledge transfer in NWE, but probably not to the initially expected level. The 24 projects currently running under these three SOs plan to support cooperation between research institutions and a total of 313 enterprises in NWE, around half of the target to be reached by 2023. These enterprises also expect introducing new to the market products, but their planned output is currently only around 37% of the 2023 target value. The

situation is worse for the planned introduction of new to the firm products, which are currently only around 5% of the final 2023 target value.

Table 4.3 Cross-thematic contributions of SO3, SO4 and SO5 projects to 'smart growth'

SO	Output indicators and ID (SO3, SO4 and SO5)	Programme (target 2023)	All running projects	
			Planned	Achieved
SO3	No. of enterprises cooperating with research institutions (CO26)	220	155	7
SO4	No. of enterprises cooperating with research institutions (CO26)	200	57	0
SO5	No. of enterprises cooperating with research institutions (CO26)	200	101	12
	Sub-total	**620**	**313**	**19**
SO3	No. of enterprises supported to introduce new to the market products (CO28)	220	132	7
SO4	No. of enterprises supported to introduce new to the market products (CO28)	200	6	0
SO5	No. of enterprises supported to introduce new to the market products (CO28)	200	94	0
	Sub-total	**620**	**232**	**7**
SO3	No. of enterprises supported to introduce new to the firm products (CO29)	220	10	0
SO4	No. of enterprises supported to introduce new to the firm products (CO29)	200	0	0
SO5	No. of enterprises supported to introduce new to the firm products (CO29)	200	23	0
	Sub-total	**620**	**33**	**0**

Source: Project Application Forms and Progress Reports of 46 approved projects (as of May 2018)

Planned and actual contributions to 'sustainable growth'

Sustainable growth in NWE is promoted by the primary direct contribution of the 31 projects under SO2, SO3, SO4 and SO5.

Projects under SO2, SO3 and SO4 contribute substantially to the 20-20-20 headline targets (see: Table 4.4)**.** However, the three SOs and their projects contribute quite differently. For all three headline targets the planned achievements exceed the targets. Only the contribution to decreasing the annual primary energy consumption of public buildings will be low, as the planned outputs are far below the target for 2023. In most cases achievements remain behind planned contributions. This can be explained by the relatively early stages of project implementation. The progress reports generally state that the projects are progressing as expected.

Table 4.4 Contributions of SO2, SO3 and SO4 projects to '20-20-20 headline targets'

Headline target	SO	SO, output indicators and ID (SO2, SO3 and SO4)	Programme (target 2023)	All running projects	
				Planned	Achieved
20% reduction in greenhouse gas emissions	SO2	Estimated annual decrease of GHG, in tonnes of CO2eq (CO34)	450	36,060	9 401
	SO3	Estimated annual decrease of GHG, in tonnes of CO2eq (CO34)	500	105,400	0
	SO4	Estimated annual decrease of GHG, in tonnes of CO2eq (CO34)	500	400	0
	Sub-total CO34, estimated annual decrease of GHG		**1,450**	**141,860**	**9,401**
	SO4	No. of new or improved transport management systems leading to GHG reduction (4.02)	10	6	0

20% increase in energy efficiency	SO2	No. of households with improved energy classification (CO31)	450	16,192	9,401
	SO3	No. of households with improved energy classification (CO31)	660	5,793	0
	Sub-total CO31, households with improved energy classification		**1,120**	**21,991**	**9,401**
	SO2	Decrease of annual primary energy consumption of public buildings, in kWh/year (CO32)	300,000	978	0
20% of energy from renewable sources	SO3	Additional capacity of renewable energy production, in MW (CO30)	120	789	0

Source: Project Application Forms and Progress Reports of 46 approved projects (as of May 2018)

Box 4.2 Project example for 'Sustainable Growth'

The project CAN (Climate Active Neighbourhoods) focuses on delivering energy efficiency measures in underprivileged neighbourhoods that are in need of renovation in municipalities and regions of varying size throughout NWE. To build up capacity in the local authorities, neighbourhood approaches and synergies based on new governance models will be introduced. The project contributes measurably and directly to the Europe 2020 headline targets 'reduced greenhouse gas emissions' and 'improved energy efficiency'. By the end of the project, CAN expects to refurbish 1 100 households resulting in an improved energy classification and a reduction of GHG emissions for these units by 1 400 t CO2 equivalent per year. Investment in target group housing structure started in 2017 and 223 houses have already received energy saving refurbishment measures.

A clear direct contribution to promoting a climate resilient, low-carbon and energy efficient economy is expected (see: Table 4.5). Most SO2 projects implement solutions facilitating the delivery of existing or emerging low-carbon, energy or climate-protection strategies. Through this, the projects also directly contribute to climate goals by fully exploiting the potential of new technologies and by spreading innovative technological solutions. The number of planned solutions is already more than twice as high as the target for 2023. However, there are not yet any reported realisations although most projects are in an advanced stage of implementation. There is only one SO2 project (*CCONNECTS*) delivering combined mitigation-relevant adaptation solutions in NWE agricultural peatlands, which aim to preserve the high carbon storage potential of these areas and to prevent them from becoming a massive carbon emitter (i.e. when dried out). However, the planned number of combined solutions is only at about half the target for 2023.

All the 8 running SO3 projects contribute directly and fully to this objective, exploiting the potential of new technologies and spreading innovative technological solutions with a view to achieving climate goals. Some projects also contribute to supporting different sectors (or SMEs) in adjusting their production processes and products to a low-carbon economy. The planned number of adopted or applied low carbon technologies is already clearly above the final target for 2023, but reported realisations are still low because more than half these projects are still at an early stage of implementation.

Table 4.5 Contribution of SO2 and SO3 projects to 'promoting a climate resilient, low-carbon and energy efficient economy'

SO	Output indicators and ID (SO2 and SO3)	Programme (target 2023)	15 running projects	
			Planned	Achieved
SO2	Amount of funding leveraged by the project, in € (2.05)	80 811 405 (*)	48 881 773 (**)	N/A
SO3	Amount of funding leveraged by the project, in € (3.04)	87 545 688 (***)	59 648 973 (****)	N/A
Sub-total, funding leveraged in €		**168 357 093**	**108 530 746**	**N/A**
SO2	No. of solutions facilitating the delivery of existing or emerging low-carbon, energy or climate-protection strategies (2.01)	18	44	0
SO2	No. of combined mitigation-relevant adaptation solutions implemented (2.02)	15	8	0
SO3	No. of adopted or applied low carbon technologies (3.01)	44	54	7

(*) Assumed was € 47,536,121 of ERDF granted x 1.7 leverage expected = € 80,811,405
(**) Total cost of the 7 running projects as indicated in the database. With € 29,287,087of ERDF granted, this corresponds to an actual leverage of 1.67
(***) Assumed was € 51,497,464 of ERDF granted x 1.7 leverage expected = € 87,545,688
(****) Total cost of the 8 running projects as indicated in the database. With € 33,992,968 of ERDF granted, this corresponds to an actual leverage of 1.75

Source: Project Application Forms and Progress Reports of 46 approved projects (as of May 2018)

A modest direct contribution to the Europe 2020 action on 'modernising and decarbonising the transport sector' can be expected (see: Table 4.6)**.** Although the planned number of low carbon solutions in the transport sector is at the target value for 2023, the planned number of supported transport operators implementing low carbon solutions is still considerably below the final target. Moreover, project contributions to this thematic action are until now extremely limited. This is because only 2 projects are in an advanced implementation phase (i.e. *CHIPS, H2Share*), while the others are less advanced or new projects (i.e. *river, SMART TRACK 4 WATERWAY, FCCP*).

Table 4.6 Contribution of SO4 projects to 'modernising & decarbonising the transport sector'

ID	SO4 output indicators	Programme (target 2023)	5 running projects	
			Planned	Achieved
4.01	No. of implemented low carbon solutions in transport	20	20	2,5
4.03	No. of transport operators supported implementing low carbon solutions	200	6	0
4.06	Amount of funding leveraged by the project (in €)	80,811,405 (*)	23,116,606 (**)	N/A

(*) Assumed was € 47,536,121 of ERDF granted x 1.7 leverage expected = € 80,811,405
(**) Total cost of the 5 running projects as indicated in the database. With € 13,441,153 of ERDF granted, a leverage of 1.72

Source: Project Application Forms and Progress Reports of 46 approved projects (as of May 2018)

A moderate direct contribution to the Europe 2020 action on 'promoting a more resource efficient European economy' is expected (see: Table 4.7). The NWE programme has set itself very ambitious targets for 2023 with some already clearly surpassed by the planned project outputs. This is the case for the number of efficient natural and material resource solutions implemented and tested, the number of innovative uses of waste processes/products/services from waste materials and the number of enterprises receiving support. Nevertheless, the planned effects from these outputs are still significantly below the originally defined targets for 2023. The decrease in raw material use will reach around one fourth of the initially expected tonnage, but also the amount of recovered/re-used/recycled materials will not be significantly higher at the end of the programming period (i.e. 29% of the 2023 target).

Table 4.7 Contribution of SO5 projects to 'a more resource efficient European economy'

ID	SO5 output indicators	Programme (target 2023)	11 running projects	
			Planned	Achieved
5.01	No. of efficient natural and material resources solutions implemented and tested	42	74	0
5.02	No. of innovative uses of waste processes / products / services from waste materials	18	76	0
5.03	Amount of funding leveraged by the project (in €)	161,622,811 (*)	62,988,868 (**)	N/A
5.04	Amount of decreased raw material use, in tonnes	1,000,000	230,000	0
5.05	Amount of increased material recovery, re-use and recycling, in tonnes	1,000,000	291,175	0
CO01	No. of enterprises receiving support	200	476	47

(*) Assumed was € 95,072,242 of ERDF granted x 1.7 leverage expected = € 161,622,811
(**) Total cost of the 11 running projects as indicated in the database. With € 37,503,903 of ERDF granted, a leverage of 1.68

Source: Project Application Forms and Progress Reports of 46 approved projects (as of May 2018)

Planned and actual contributions to 'inclusive growth'

Inclusive growth is exclusively promoted by 'cross-thematic contributions' from projects implemented under all five SOs of the NWE programme.

The direct contribution of NWE to increased employment will be moderate but substantial for employment preservation (see: Table 4.8)**.** The NWE programme expects a total of 1 800 newly created jobs by 2023. The planned outputs of projects currently running under all SOs have already reached this ambitious final target for in case of 'maintained jobs'. For newly created jobs, however, the planned project outputs are still far from the final target value for 2023 (i.e. currently at 30%).

Projects under SO1 will make the strongest direct contribution to inclusive growth. The next strongest will be from projects facilitating an uptake of low carbon technologies, products, processes and services in sectors with high energy saving potential (SO3). They are followed by projects approved for SO2 and SO5, with both project groups making a significantly lower direct contribution. No direct contribution to the employment-related dimension of inclusive growth will emerge from projects under SO4.

Project contribution up to May 2018 to the employment related headline target of inclusive growth is still insignificant. It has only reached about 5% of the final target for newly created jobs and even less for preserved jobs (0.5%). This is again mostly because out of the 46 projects (all SOs), only 24 have

already reached an advanced stage of implementation while the other 22 are less advanced and some have only just started their implementation.

Table 4.8 Employment-related outputs contributing to 'inclusive growth' (all SOs)

SO	Output indicators and ID (SO1, SO2, SO3, SO4 and SO5)	Programme (target 2023)	All running projects	
			Planned	Achieved
SO1	No. of jobs created in all economic sectors (1.04)	860	240	7
SO2	No. of jobs created in all economic sectors (2.03)	200	48	10
SO3	No. of jobs created in all economic sectors (3.02)	220	209	70
SO4	No. of jobs created in all economic sectors (4.04)	200	0	0
SO5	No. of jobs created in all economic sectors (5.06)	400	73	0
	Sub-total, jobs created	**1,880**	**570**	**87**
SO1	No. of jobs maintained in all economic sectors (1.05)	860	1,250	0
SO2	No. of jobs maintained in all economic sectors (2.04)	200	55	10
SO3	No. of jobs maintained in all economic sectors (3.03)	220	560	0
SO4	No. of jobs maintained in all economic sectors (4.05)	200	0	0
SO5	No. of jobs maintained in all economic sectors (5.07)	400	32	0
	Sub-total, jobs maintained	**1,880**	**1,897**	**10**

Source: Project Application Forms and Progress Reports of 46 approved projects (as of May 2018)

Direct contributions of NWE to reducing the risk of poverty and social exclusion as well as to the corresponding thematic aspects **will be substantial** (see: Table 4.9). The planned outputs of SO1 projects under both indicators are already considerably above the 2023 target. This direct contribution will be from only 5 SO1 projects (i.e. *UNEET, SHICC, BE-GOOD, ASPECT, BioBase4SME*), of which UNEET and SHICC predominate.

The contribution up to May 2018 to this headline target and the related thematic action is still insignificant. This can again be mostly explained by the predominant projects being still at an early implementation stage (*SHICC*) and kicked off very recently (*UNEET*).

Table 4.9 Other SO1 project outputs contributing to 'inclusive growth'

ID	Output indicator and projects	Programme (target 2023)	Running projects	
			Planned	Achieved
1.07	Total end-users benefitting from social innovation	600	1 480	0
UNEET			750	0
SHICC			730	0
1.03	Total pilot actions implemented, focusing on social innovation	30	139	13
UNEET			126	0
BE-GOOD			5	5
ASPECT			5	5
BioBase4SME			3	3

Source: Project Application Forms and Progress Reports of 46 approved projects (as of May 2018)

External Factors

Although not directly evidenced by the following analysis, two external factors act as potential facilitators for NWE contributions to Europe 2020: (1) Other national / regional ESIF programmes in NWE and overlapping ETC programmes implementing similar activities and (2) other national or regional/local funding schemes and programmes for the policy fields providing further (and more substantial) funding to related measures in NWE.

External factors can be macro-economic events or other EU and national funding sources that have a (larger) influence on the Europe 2020 goals. However, it is still too early to quantify any impacts of external factors.

Additional benefits in support of Europe 2020

Beyond the above outputs, many other project outcomes promote inclusive growth in NWE but are not captured by the programme monitoring indicators. This can be illustrated by the project case study on *eMEN* (not having a significant contribution to the indicators) and also by short portraits of two strategically important projects *UNEET* and *SHICC* that are both still at a very early implementation stage (see: Box 4.3).

Box 4.3 Example contributions by 'eMEN', 'UNEET' and 'SHICC' to the Europe 2020 inclusive growth priority

eMEN directly contributes to the Europe 2020 goal of inclusive growth due to the project's overall intervention focus. By making tested and developed solutions for prevention and treatment of mental health conditions more accessible to a wider population, the project contributes to decreasing social exclusion of affected people and supports their participation in society. A brief look at the current output shows that the project has already exceeded the envisaged impact for all types of target groups, including patients (i.e. general public target 70 000; actually reached: 105 000). As the project also invests in SMEs developing and testing new products for e-mental health, jobs may also be created and/or maintained at a later stage.

The project **UNEET**[20] proposes an innovative approach to foster professional integration of NEETs (young adults Not in Education, Employment, or Training), by matching the recruitment needs of the hotel, restaurant and catering (HORECA) sector with the existing labour supply of young adults in 7 NWE regions. The alarming youth unemployment rates in NWE regions (on average 19% in the project regions) and the need for better and integral solutions to tackle this issue, have pushed partner organisations to join forces to conceive an ambitious employment driven project with a strong transnational dimension. This unprecedented social innovation project aims to reinforce the employability of 1 200 NEETs in 4 countries (France, UK, Ireland and Germany).

The project **Sustainable Housing for Inclusive and Cohesive Cities (SHICC)**[21] seeks to support the establishment of more successful Community Land Trusts (CLT) in cities across NWE. CLTs are non-profit, democratic, community-led organisations. They develop and manage homes that are affordable for low and median income households, as well as other assets that contribute to thriving local communities. They act as long-term stewards of these assets, ensuring they remain permanently affordable. Against the backdrop of a housing affordability crisis in NWE that seriously threatens social and economic sustainability in NWE cities, CLTs are an innovative and economically sustainable way of providing genuinely and permanently affordable homes. By the end

[20] http://www.nweurope.eu/projects/project-search/uneet/
[21] http://www.nweurope.eu/projects/project-search/shicc-sustainable-housing-for-inclusive-and-cohesive-cities/

of the project, it is expected that CLTs will be a widespread movement across NWE and are widely recognised as a mainstream option for housing supply and urban renewal in all countries.

As these additional benefits are not captured by the programme indicators, it is difficult to monitor them without a qualitative in-depth analysis. A recommendation to better capture additional benefits and contributions to EU2020 is to include space to ask projects to inform openly on any additional benefits that are not captured by the indicators proposed by the Programme in the quality appraisal and/or a final assessment procedure. However, this proposal would require additional monitoring resources with a qualitative analysis (not focussed only on indicators) on these additional benefits, e.g. by a programme evaluation or specific monitoring analysis.

5 Analysis and evaluation of the contribution to territorial cohesion

This implementation evaluation includes an assessment of the Programme's contribution to territorial cohesion. This assessment builds on work in 2017, identifying territorial cohesion indicators and constructing a baseline for future monitoring and evaluation. The present analysis examines up-dated territorial data as well as Programme internal data.

5.1 Summary of conclusions

Evaluation question	Key findings	Recommendations
What are the areas/benefitting most from the Programme (not in monetary terms only)?	Most partners are located in the Lille-Amsterdam-Dortmund triangle, followed by Ireland, Scotland and Northern France. There are still a number of regions where no project involvement can be observed. The focus on the triangle reduces when analysing the allocated Union co-funding per capita. In this case, the border region between France and Belgium, Wallonia, Southern Netherlands and Luxembourg stand out as areas where funding is concentrated. Also, Scotland has high funding per capita.	If a more balanced allocation of funding and Programme effects is desired, there should be more support and stimulus for peripheral regions. However, a focus on 'strong' regions with many potential applicants might be a natural bias of Interreg.
Has the Programme addressed the territorial needs, urban-rural divide, the more remote and less-populated areas, the leader-follower approach?	Support from the NWE programme is well-distributed between poor and well-performing NUTS regions. The same applies when correlating allocated investments per capita with the 'Social Progress Index'. The relative ESIF share per type of region shows that NWE funding support was, at the end of 2017, provided predominantly to urban and intermediate regions, and less to rural regions. 11 of 12 projects under SO1 applied the leader-follower approach with at least 33% 'following' regions within the project partnership.	If further and stronger support of rural regions is desired, a solution could be to target rural regions through thematic calls, or through the obligation to include at least one rural region within a partnership. However, this might limit the quality of applications even more or reduce the interest of urban and strong regions to participate.
How does the NWE contribute to territorial cohesion, in the context of the indicator work previously undertaken?	The analysis confirms the conclusions of the internal gap analysis for the distribution of project funding and project partners. No general trend for balanced territorial development can be observed. The only general pattern that can be noted is the consistent lead of economically well-performing urban regions.	The analytical work on territorial indicators should continue and deepen, in view of the upcoming impact evaluation and the need to draw on conclusions for the next programming phase.

Evaluation question	Key findings	Recommendations
Have there been any potential external factors facilitating the territorial cohesion in the area?	Other strong funding programmes in the area address competitiveness and balanced development, including national programmes and mainstream EU programmes. Furthermore, several factors influence quality of life, including governance, political stability, infant mortality, technological adoptions, patent applications, inaccessibility, isolation, pollution, exposure to natural and technological hazard, place stigma, etc.	A long-term NWE territorial observatory (based on the work on territorial indicators) would help to detect the evolution of territorial indicators. In the long run, this could be done for all EU Interreg areas (with the help of INTERACT, for example), to support Interreg programmes.
How has the programme applied the 'cohesion enablers': cooperation, governance, coordination?	The storylines show that cooperation was the key enabling condition for the success of all NWE projects. The interviews with stakeholders in the case studies helped understand why the cooperation aspect contributes to new ideas, learning, pilot actions and demonstration projects for policy-makers and for other public actors that provide services or define policies. The governance aspect was a useful enabler in projects under SO1, SO2 and SO5. Coordination was another useful enabler for the projects, as it helped to organise many different stakeholders with their expectations, capacities and experience in many given thematic fields, either along a value chain or within an innovative ecosystem.	Measurement of output and results could be complemented with measurement of cooperation (co-operation intensity and cooperation degree) through social network analysis and related qualitative tools.
Is the Programme likely to reduce disparities on its territory?	The Programme has an influence on reducing disparities, but mostly in the regions where NWE projects are active and have a direct influence. For several reasons (e.g. external factors, low spill-over effects), it is unlikely that NWE will have a substantial effect on disparities in the whole NWE area. However, despite its small size and, therefore, reduced impact on competitiveness and territorial development in the region, the NWE Programme fills a critical gap for cross-border / international cooperation. Some problems or issues are best solved through co-operation across borders as domestic funding programmes fail to provide support beyond some administrative boundaries.	The role of cooperation and coordination and useful tools like the leader-follower approach, or urban-rural mixed partnership, could be further analysed to learn more about the role of cooperation and soft factors in reducing territorial disparities.

Evaluation question	Key findings	Recommendations
Is the focus on competitiveness and growth sufficiently well-balanced by the territorial cohesion and balanced development aspects in the Programme?	There is a general balance of contributions to competitiveness and growth and to balanced development and cohesion. Projects contribute to both goals of territorial cohesion, individually or in parallel. However, there is tendency to value projects contributing to competitiveness and growth as more effective and successful, since their contributions are easier to quantify. A lack of available quantitative data and indicators at local and regional level for social inclusion, cohesion, environmental and efficiency-related performance hamper the development and approval of projects primarily targeting balanced development. Therefore, the Programme's focus on growth and competitiveness and its preference for quantification of large-scale impacts indirectly benefits projects in the competitiveness area, leaving less room for projects with a contribution to softer (unquantifiable) aspects of cohesion and development.	To fight the bias towards hard and quantifiable contributions to competitiveness, territorial indicators should be further strengthened and updated. In addition, analysis of additional qualitative impacts on inclusive growth and balanced development should continue.
How else can the Programme contribution to territorial cohesion be proven (using other means than the cohesion indicators)? In other words, how can the impact be proven in case of a limited context information?	Potential contributions by the NWE Programme to territorial cohesion are very small, particularly in comparison to other funding schemes. The Programme's main contribution remains on soft measures, such as cooperation, coordination and governance. Nevertheless, these elements and in particular, cooperation can be measured.	Measurement of output and results could be complemented with measurement of cooperation (cooperation intensity and degree) through social network analysis and related tools.

5.2 Analysis and evaluation

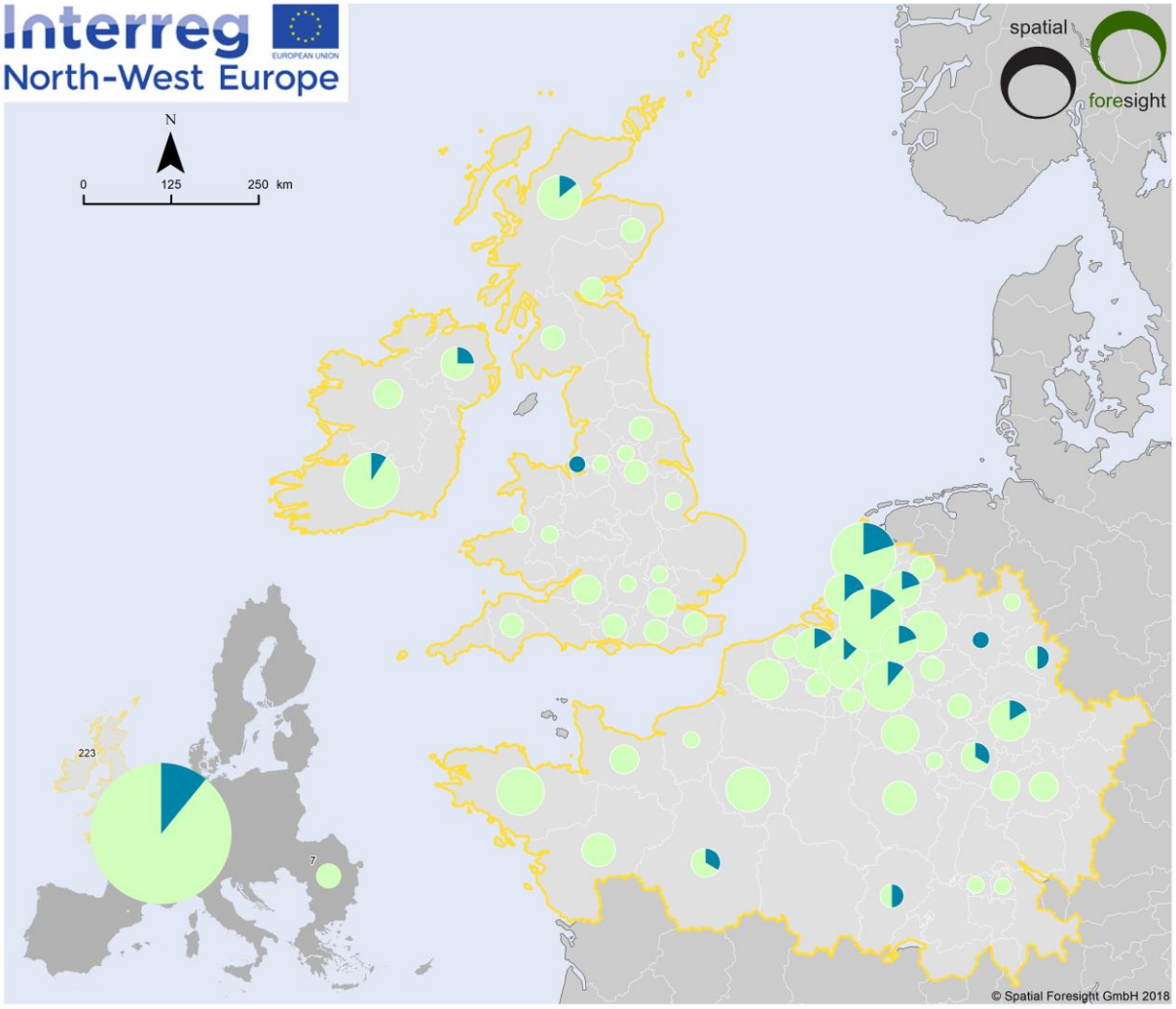
Areas most benefitting from the Programme

The NWE Programme implements its strategy through supporting projects. The territorial distribution of projects provides valuable information on where the Programme could have an impact and where not. Consequentially, regions with fewer lead and project partners benefit less from Programme support. Most partners of both categories are located in the Lille-Amsterdam-Dortmund triangle. Fewer project and lead partners are in Ireland, Scotland and Northern France.

There are still many regions which are not involved in the Programme. There are only seven beneficiaries from outside the NWE Programme area. The beneficiaries of projects are not equally

distributed in the programme area. Beneficiaries of different projects have different eligible costs and so receive different shares of Union co-financing through NWE. The distribution of beneficiaries alone is therefore not a reliable indicator.

Map 5.1 Distribution of lead and project partners



Administrative boundaries: Spatial Foresight and University of Geneva based on material from Eurostat GISCO, the GADM database and the EEA.
Data: NWE Programme Managing Authority (status May 2018).

Number of lead and project partners by NUTS2 region, early 2018

Number of lead partners and project partners of approved projects under (actual beneficiaries of the NWE Programme) by the end of 2017 (status May 2018)

Source: own representation, 2018. Situation of project partnerships in May 2018.

To facilitate more specific territorial conclusions, information on financial allocations to programme beneficiaries until May 2018 has been analysed[22]. The **NWE Programme had allocated EUR 146.6 million** Union funding, of which about 98 % within the programme area. Allocated investments of the NWE Programme in programme **area** NUTS regions **are however not evenly distributed**, as the Programme has little influence on project generation. Also, analysis by amount allocated does not reflect economic performance, quality of life nor demographic size of the NUTS regions. For a more standardised picture, the amount allocated to NWE Programme beneficiaries has been aggregated at NUTS2 level. The absolute investment was then standardised with demographic information on NUTS2 level from Eurostat to calculate the **allocated Union co-financing of the NWE Programme per capita** (EUR) within and outside the programme area. This indicator enables unbiased comparison with other indicators.

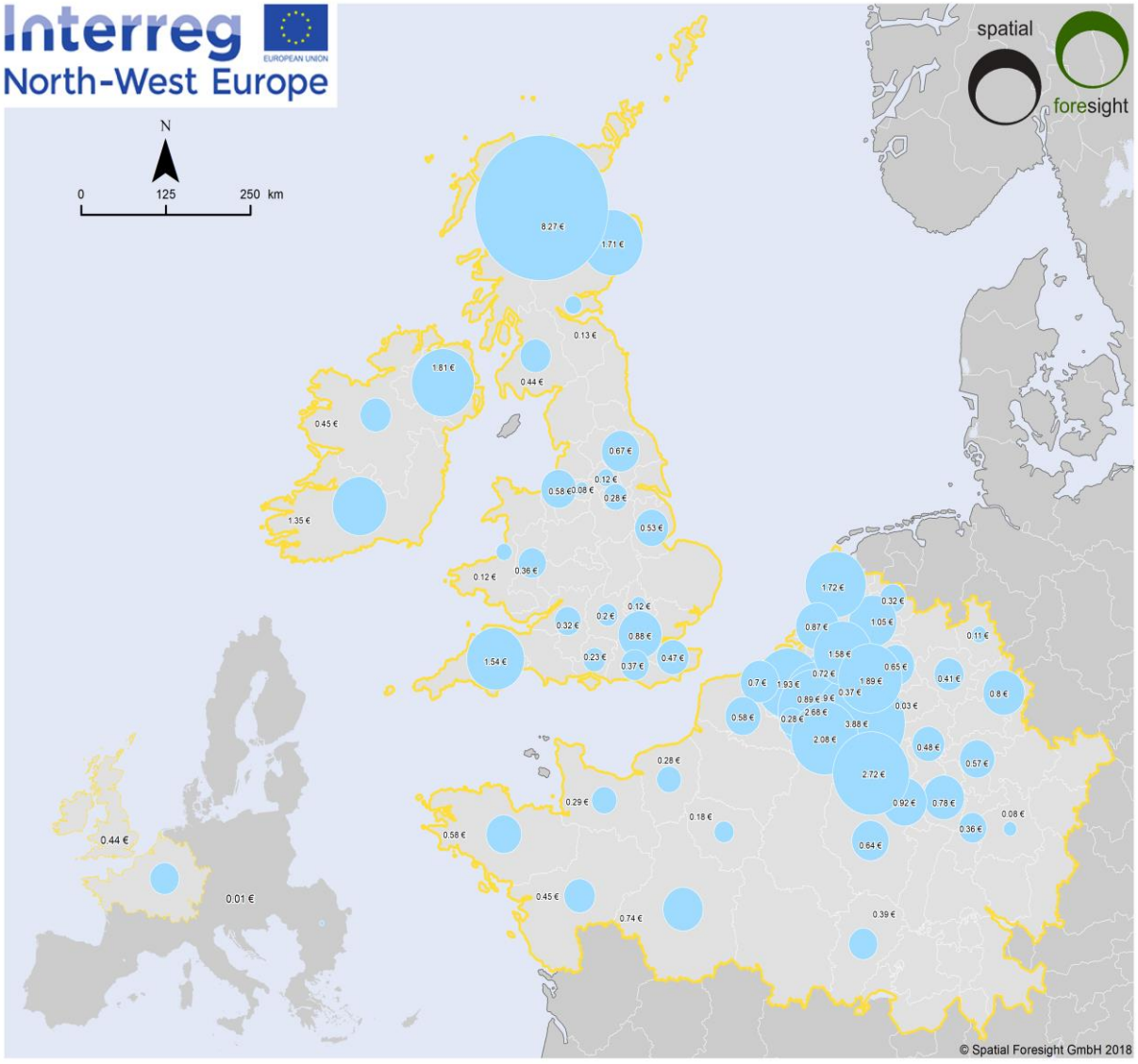
When observing the allocated Union co-funding per capita, the Lille-Amsterdam-Dortmund triangle is still notable but the size of the area receiving significant funding from the Programme has increased. The border region between France and Belgium, Wallonia, Southern Netherlands and Luxembourg stand out as areas where funding is concentrated. The picture remains similar for the distribution of support in France and the UK with the exception of Scotland which has the highest funding per capita in the programme area despite having few beneficiaries[23].

At first sight, when contrasting the information on **funding per capita and economic performance** of the NUTS regions, the economically well-performing regions dominate and receive most of the financial support from the Programme.

[22] Internal file, provided by the JS.

[23] See NOTE on Map 5.2. Redistribution effects are not covered in this analysis. For example, one beneficiary in Scotland redistributes funding to beneficiaries in other regions, so people beyond Scotland benefit from the project and from NWE.

Map 5.2 EUR per inhabitant allocated by the Programme NWE per NUTS2 region



Administrative boundaries: Spatial Foresight and University of Geneva based on material from Eurostat GISCO, the GADM database and the EEA.
Data: NWE Programme Managing Authority (status May 2018).

€ per inhabitant allocated by the NWE Programme

€ per inhabitant allocated by the NWE Programme as European Union co-financing (2014-2018), NUTS2 region

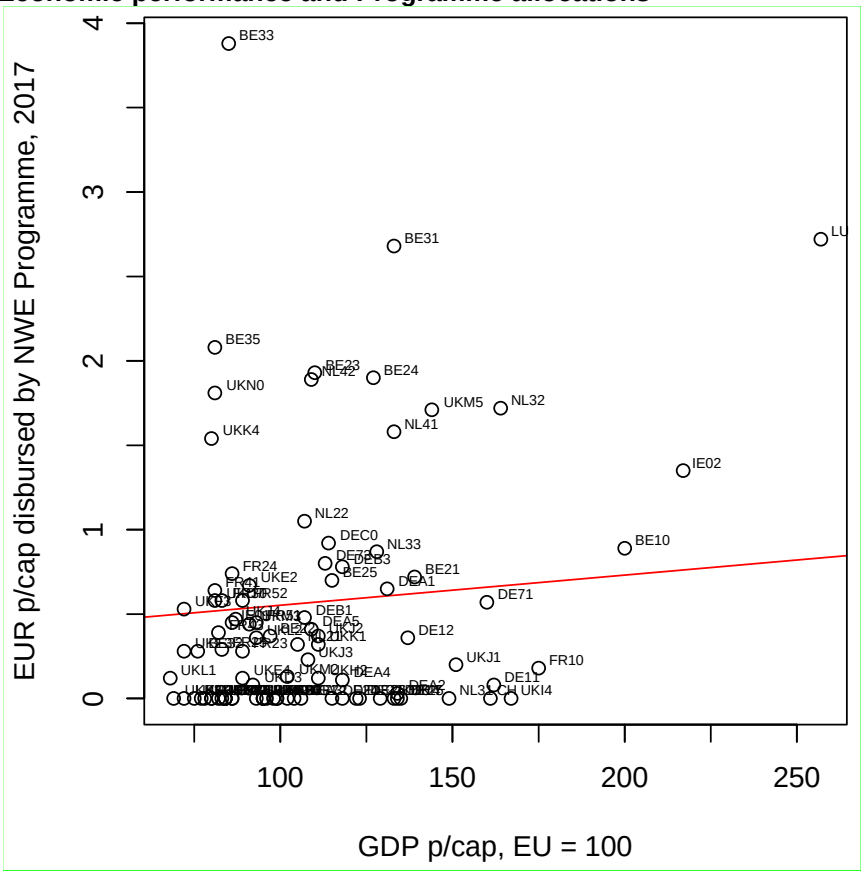
Source: own representation, 2018

NOTE: Funding is allocated to organisations in the different NUTS regions. However, this does not mean that only beneficiaries in the same NUTS region benefit from the project. Some projects work with voucher/funding schemes in which they re-allocate Programme funding to other beneficiaries that could come from other areas. This re-distribution is not covered by the map above or by the analysis, as data for this will only be available in later phases of project implementation and reporting.

When correlating economic performance and allocated investment per capita within the NWE area, the correlation is only marginally positive (see Figure 5.1). This means that a region receives only marginally more financial support through the NWE Programme when performs better economically.

Thus, the overall picture is well balanced, i.e. support from the NWE programme is equally distributed between poor and well-performing NUTS regions.

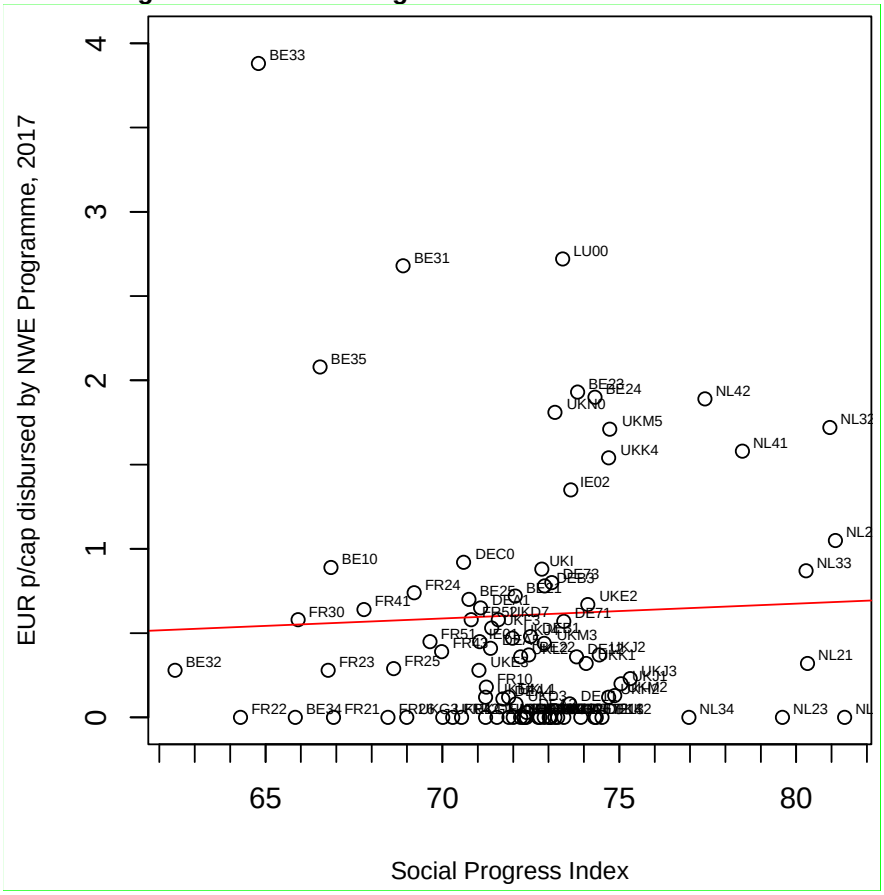
Figure 5.1 Economic performance and Programme allocations



Source: own representation, 2018. (Region UKM6 is not pictured, as it is an outlier. It is still included in the analysis.)

The same applies when correlating allocated investments per capita through the NWE Programme with the 'Social Progress Index'[24]. The correlation here is even weaker and investments through the Programme are equally distributed regardless of social progress. This can also be seen in Map 5.3.

Figure 5.2 Social Progress Index and Programme allocations



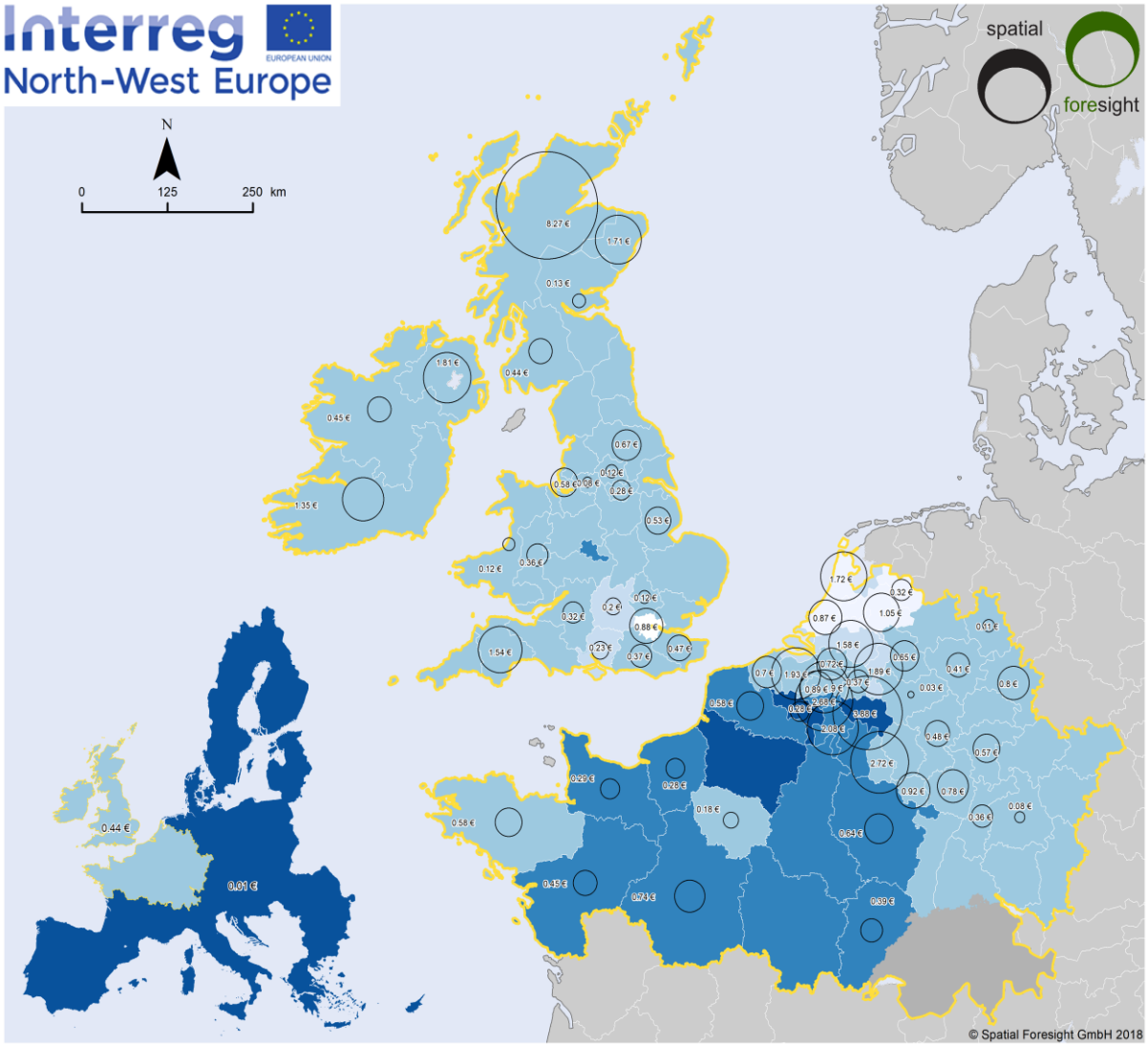
Source: own representation, 2018. (Region UKM6 is not pictured, as it is an outlier. It is still included in the analysis.)

In territorial terms, the performance of programme area NUTS2 regions in the EU Social Progress Index also shows territorial differences.

The well-performing regions are displayed in bright blue whereas weaker performing regions are in dark blue. The most developed areas are Inner and Outer London, and regions of the Netherlands. This is followed by Ireland, most of the UK, Luxembourg and most of the Germany regions in the Programme area. Larger differences within countries can be observed in France with well-performing regions in Brittany, Paris and Alsace as well as the Flanders region in Belgium. Weak performers are Liège and Hainaut in Belgium and the Picardy region in France.

[24] See: http://ec.europa.eu/regional_policy/en/information/maps/social_progress

Map 5.3 NWE regions and the EU Social Progress Index



Administrative boundaries: Spatial Foresight and University of Geneva based on material from Eurostat GISCO, the GADM database and the EEA.
Data: European Commission, European Social Progress Index, NUTS 2 (2013, UK: 2010) and data from the NWE Programme Managing Authority (status May 2018).

EU SPI (2016) and € per inhabitant allocated by the NWE Programme

EU Social Progress Index (EU SPI) (2016) in relation to the EU average (EU = 100) and € per inhabitant allocated by the NWE Programme (2014-2018), NUTS2 region

< 65
65 - 70
70 - 75
75 - 80
> 80
no data
Programme Area

0.43 € Total EUR allocated per capita between 2014 and 2018

8 €
3 €
2 €
1 €
0.5 €

Source: own representation, 2018

Please see able on page 83 for detailed figures.

The Map Annex (Annex 1) to this report provides a full graphical representation of economic performance in relation to the allocated funding per capita.

Addressing Territorial needs

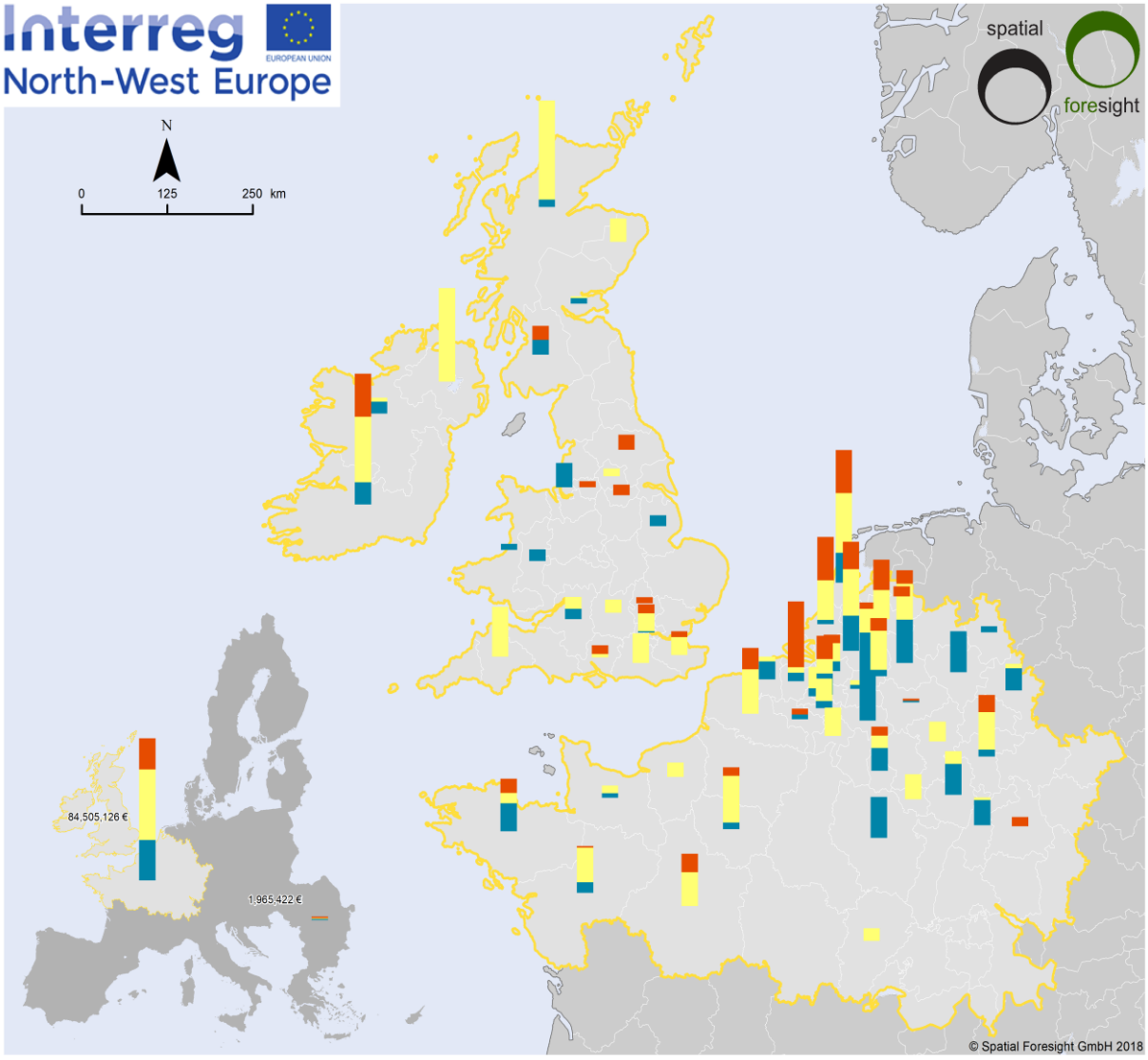
For the different supported priorities, the Priority Axis 'Low Carbon' received most support through projects under SO2, SO3 and SO4. About 47% of the Union funding allocated to project beneficiaries is provided to projects under these SOs. 26% is allocated to priority 'Resource and materials efficiency' or SO5 and about 27% to SO1 or priority 'Innovation'. Since the data analysed in this evaluation were collected, new calls for projects have been launched and new projects approved. The specific distribution between priorities and SOs has therefore changed.

As highlighted earlier, EU co-funding provided by the NWE Programme is concentrated in the Lille-Amsterdam-Dortmund triangle. This can also be seen when analysing the distribution of funding per priority.

Whilst 'Innovation' and 'Resource and materials efficiency' are clustered in the Benelux countries as well as in bordering areas of France and Germany, 'Low Carbon' tends to be more evenly spread among all regions (see Map 5.4). By May 2018, the already very competitive Benelux regions had the most success in acquiring EU co-financing through the Programme. The NWE Programme has however recognised this aspect and provides specific guidance to projects applying under the new call for projects[25]. The guidance, which is based on the Programme's internal gap analysis, provides recommendations to new projects that will help in designing a project to match territorial objectives of the Operational Programme.

[25] Please see here: http://www.nweurope.eu/news-events/latest-news/guidance-for-applicants-call-8-and-beyond/

Map 5.4 European Union co-financing total by priority and by NUTS2 region



Administrative boundaries: Spatial Foresight and University of Geneva based on material from Eurostat GISCO, the GADM database and the EEA.
Data: NWE Programme Managing Authority (status May 2018).

European Union co-financing total by priority and by NUTS2 region

Union co-financing total by priority and by NUTS2 in EUR, status May 2018

Innovation (SO1)
Low Carbon (SO2. SO3, SO4)
Resource and materials efficiency (SO5)
Programme Area

€ 5 million
€ 4 million
€ 2 million
€ 1 million

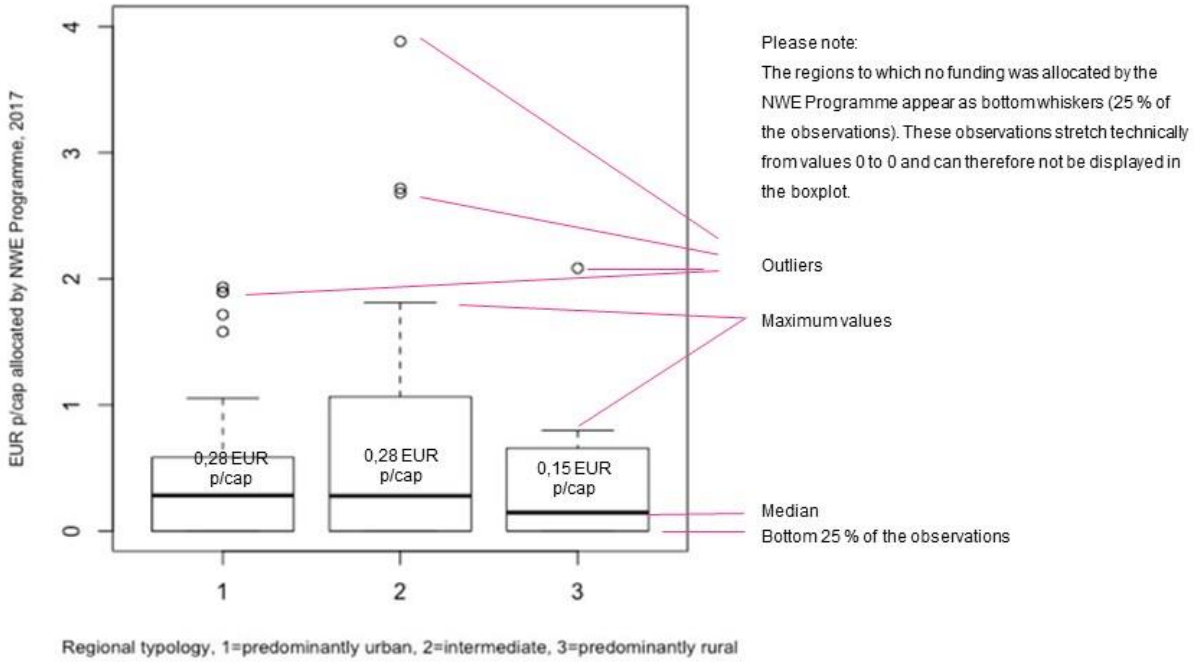
Source: own representation, 2018

Rural and urban regions supported by NWE

Regional typologies, discrete classifications of characteristics, highlight the main thematic features of regions. Typologies provided by Eurostat[26] are developed at NUTS3 level. De Beer et al. (2014) argue that regional policies are often based on data at NUTS2 level. This follows administrative delineations in Member States as it expresses the primary sub-national division for most EU countries. Consequentially, NUTS2[27] regions are the basic regions for applying regional policies. Smaller territorial divisions (such as NUTS3) therefore have less informative value.

Therefore NIDI[28] has developed a regional typology based on the NUTS2 delineation in 2014 (NUTS2 generation 2010). This enables comparison of NWE funding allocations in urban, rural and intermediate regions within the programme area. This typology was used to analyse the distribution of NWE programme support (see figure 5.3).

Figure 5.3 Regional typology and Programme disbursements



Source: own representation, 2018, one outlier (UKM 6.2, value of 8.3) was cut for a better visual representation of the whole.

The NWE territory is characterised by 53 predominantly urban, 27 intermediate and 16 predominantly rural NUTS2 regions. According to the median[29], the allocation of Union support is provided mostly to urban and intermediate regions (0.28 EUR per capita) and less to rural regions (0.15 EUR per capita).

Considering the relative share per region in each typology, the urban regions are supported most (average: EUR 1,710,876), followed by intermediate regions (EUR 1,478,464) and rural regions (EUR

[26] Please see: http://ec.europa.eu/eurostat/statistics-explained/index.php/Regional_typologies_overview
[27] Please see: http://ec.europa.eu/eurostat/web/nuts/background
[28] NIDI - the Netherlands Interdisciplinary Demographic Institute - is the national demographic institute of the Netherlands. www.nidi.nl
[29] The median divides a set of observed values in two equal halves, so that half of the values are below it, and half are above.

919,028). This shows that the NWE funding support was provided predominantly to urban and intermediate regions, and to a lesser extent to rural regions.

Table 5.1 Distribution of NWE Programme support by regional typologies

	Count	Investment total (EUR)	Share of total	Investment average per region (EUR)
Predominantly urban	53	90,676,423	64%	1,710,876
Intermediate	27	36,551,711	26%	1,353,767
Predominantly rural	16	14,704,443	10%	919,028
Total	96	141,932,576	100%	1,478,464

Source: based on NIDI (2014) and NWE Programme data, May 2018. Please note that there is no NIDI typology for Swiss regions, resulting in a differing total sum of the NEW contribution.

Leader-Follower approach under SO1

The Leader-Follower approach illustrates the idea of strong and innovative partners enabling innovation in cooperation with other partners in innovation related projects. The European Commission provides the RIS[30] (Regional Innovation Scoreboard) a regional composite indicator, measuring innovativeness in regions. The following analysis is based on the regional distribution of SO1 projects in combination with RIS data.

Table 5.2 Distribution of SO1 projects and their partners according to RIS scores

Projects/RIS	Leader +	Leader	Leader -	Leader total	Strong +	Strong	Strong -	Strong total
ASPECT	2	1	6	9	2		2	4
B4H	3	1	2	6		1	2	3
BE-GOOD			4	4	1	1	2	4
BioBase4SME		3	2	5	1	2	1	4
BONE		3	3	6	1		1	2
Codex4SMEs	1	2	2	5	1	3		4
eMEN	1	1	5	7	1	1	1	3
IDEA		1	6	7	2	1		3
QCAP	1	1	4	6			1	1
SHICC	2		2	4	1		1	2
UV - ROBOT	1	2	3	6			3	3
VR4REHAB	1	1	2	4	1	1	1	3

Source: own representation based on European Commission RIS, 2018.

NOTE: One project partner in the Spanish region of ES51 was excluded from the analysis as it is located outside of the programme territory and features a third grade RIS score. The analysis excludes Associated Partners as their role in project implementation and budget distribution is limited.

Table 5.2 shows the number and type of partners of the twelve SO1 projects. The first observation refers to only strong and very strong, as well as innovation leaders being located in the NWE territory. This

[30] Please see: http://ec.europa.eu/growth/industry/innovation/facts-figures/regional_en

means that differences in innovation performance are not so acute compared to other regions in Europe. There is already significant innovation coherence in NWE.

When observing the picture of broader RIS categories (Innovation Leaders and Strong Innovators excluding the sub-differentiation in +/ /-) (see table 5.2), one can see that only one of the 12 projects has a balanced number of Innovation Leaders and Strong Innovators. This means that 11 of the 12 projects have implemented the desired leader-follower approach, with more than 33% of their partnership coming from a follower region. A balance between innovation leaders and followers is generally desired to facilitate knowledge transfer from stronger to less advanced regions in the field of innovation support policies.

Map 5.5 shows that many NUTS regions in the NWE territory belong to the second class, Strong Innovators, which are not participating in a project under SO1. However, many first class regions, Innovation Leaders, are involved in at least one project under SO1. This analysis should be seen in the light of the strong performance of the NWE programme area in RIS scores. There are four RIS classes (Innovation Leaders, Strong Innovators, Moderate Innovators and Modest Innovators) while NWE NUTS2 and NUTS1 belong only to the upper two classes. This shows a strong performance in relation to the rest of the EU.

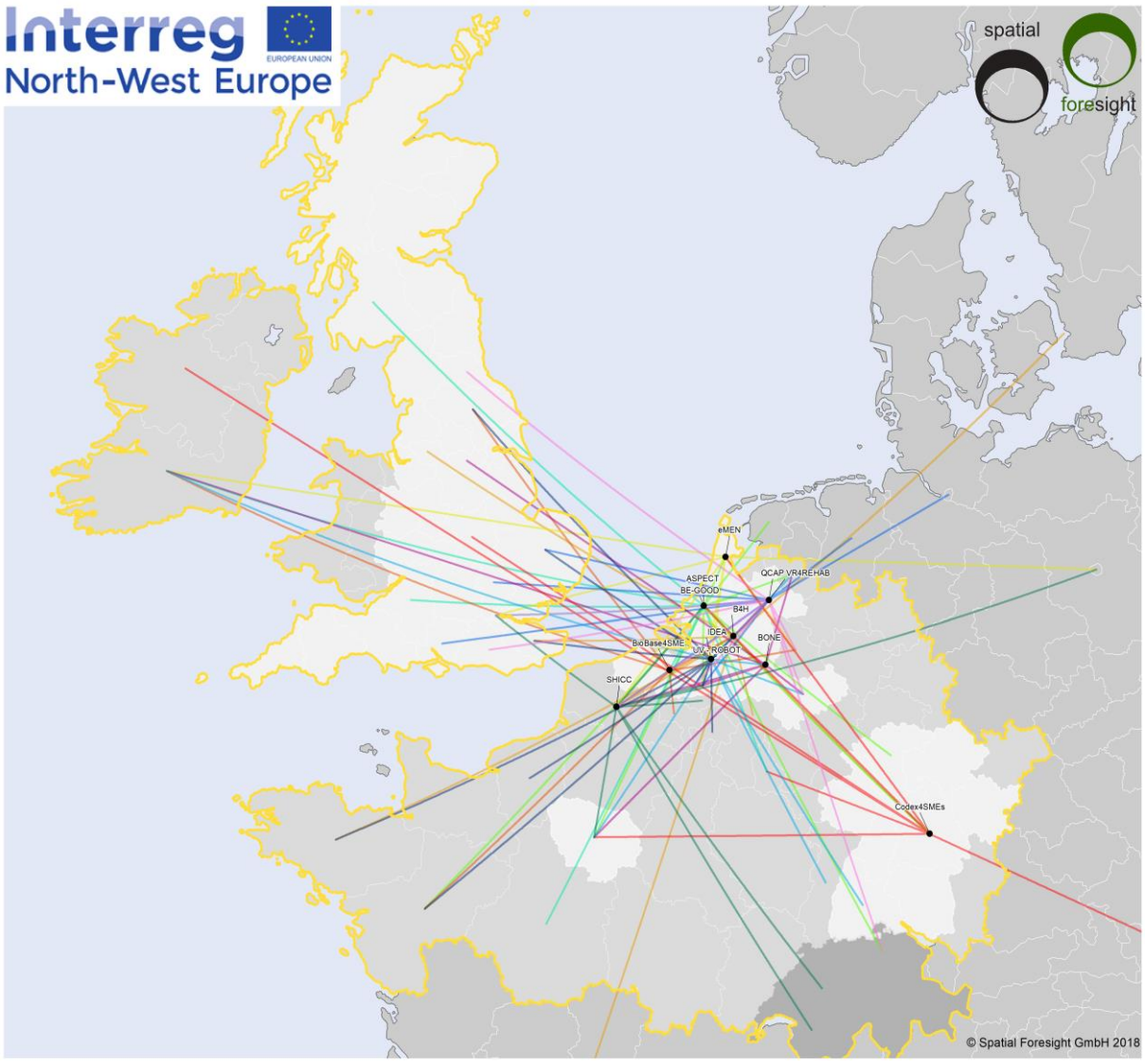
Innovation in regional development can be defined '… *in this sense [as] a continuous process of technical improvement* […]' (MacKinnon et al., 2002). For policy makers, the aspect of enterprise embeddedness becomes relevant, as it describes central features in how innovation can be supported or promoted. Embeddedness can be described as the result of '… *supporting innovation and entrepreneurship through the development of collaboration and trust between firms and organisations*' (MacKinnon et al., 2002). This highlights that innovation networks are exclusive structures that exclude parties who don't benefit from those in the network. In addition, innovation is highly complex, requiring highly sophisticated knowledge in the field, so more innovation could be generated by the cooperation of Innovation Leaders than by a diverse group cooperating.

This is also reflected in the territorial distribution of projects and partners under SO1. Only one project is balanced in terms of the number of Innovation Leaders and Strong Innovators. The map also shows that 11 of the 12 Lead Partners of projects under SO1 come from regions classified as Innovation Leaders. In general, project partners from these regions are LP in most of the NWE supported projects. While app. 70 project partners are classified as Innovation Leaders, only half of partners are Strong Innovators. This seems to be an adequate ratio to enable learning and transfer of experiences from leading to following regions. One example of the leader-follower approach within a specific thematic areas is highlighted below.

Box 5.1 Leader-follower approach in the BioBase4SME project

The project BioBase4SME is based intentionally on the leader-follower approach. In the NWE territory, the Netherlands, Belgium, Germany, the UK and France are regarded as innovation drivers, each with expertise in different aspects of the bio-economy. Ireland is an innovation follower, and Luxembourg and Switzerland currently only have a primary bio-economy. In the project partnership, the Irish partner is addressed as a follower, while the other more advanced partners exchange different experiences and learn from new and other solutions to common problems. Interviews with project partners confirm that each partner benefits from new knowledge that comes out of the project.

Map 5.5 Partnership networks of the twelve NWE projects under SO1



Administrative boundaries: Spatial Foresight and University of Geneva based on material from Eurostat GISCO, the GADM database and the EEA.
Data: European Commission, DG Growth, Regional Innovation Scoreboard, NUTS1/NUTS2 and data from the NWE Programme Managing Authority (status May 2018).

Follower-Leader characteristics under Specific Objective 1 of the NWE Programme

Partnership structures between Lead Partners and Project Partners of the 12 contracted projects under Specific Objective 1 of the NWE Interreg Programme and RIS score (higher scores indicate better performance)

- Innovation Leaders (RIS score between 120 and 150)
- Strong Innovators (RIS score between 90 and 120)
- Project partnership links
- no data
- Programme Area

Source: own representation, 2018

Territorial cohesion in the NWE area

An updated review was conducted for the NWE Programme territorial cohesion indicators in May 2018. The analysis is presented below. The numbering refers to the official numbering of indicators and maps in Annex 1 to this Report. Some indicators (C3, B5, B6, B8 and B11) cannot be monitored, as the data source was not updated yet. Below is a summary of progress made since the first monitoring exercise.

Territorial dimension: Competitiveness

(Map C2_ch) Research and Development, technology as well as knowledge-intensive technologies are an important economic engine in the programme area. In 2018, 4.3% of all employment in the programme area was in the technology and knowledge-intensive sector. In 2017, this employment had increased by 0.2% from 2014. The strongest increase was in the regions surrounding London and the most significant decrease was in Aberdeen, UK. Other regions where employment in the technology and knowledge-intensive sector decreased were scattered across the programming area. Apart from the decrease in northern Wallonia the evolution seems not to follow a specific pattern.

(Map C1_ch) Because of the relevance of the knowledge-intensive sector for the programming area, expenditure on R&D is important. Between 2014 and 2015, R&D expenditure as a share of GDP increased by 0.04%. Within the programme area, the picture looks stable with most regions having either stable or slightly increased R&D expenditure. Significant decreases were only in Aberdeen and the Gloucestershire, Wiltshire, Bristol/Bath area in the UK. Large parts of the NWE territory could unfortunately not be monitored due to a lack of data. The most recent values for France and Ireland date back to 2014.

(Map C4_ch) The technology and knowledge-intensive sector depends on well-educated employees. The education level is therefore important to monitor to understand developments in competitiveness for the NWE programming area. The overall trend is positive; since 2014. Nearly all NUTS2 regions managed to increase their share of well-educated active professionals. Only some regions decreased the number of educated employees. Noteworthy is the decrease in Northern Ireland, accompanied by a strong increase in the northern part of the Republic of Ireland. This development could be possibly explained by migration effects anticipating Brexit.

(Maps C5_ch and C6_ch) Recycling and the reuse of electrical and electronic equipment also increased within the NWE area. All countries in the NWE territory increased the kilograms of waste recycled or reused per capita with the exception of Germany. The number of ISO14001 certifications per 1 million inhabitants shows the opposite as Germany increased certifications, as did the Netherlands and Ireland, while the other countries reported a decrease.

The tendency towards strengthening competitiveness through R&D is very positive, observing the development of individual regions as well as comparing the Programme area with the rest of the EU. A few isolated regions tend to develop differently – either strongly upwards or strongly downwards – highlighting a balanced and mutual development of the regions, despite differences in EU co-funding absorption, as highlighted earlier.

Territorial dimension: Balanced Development

(Map A1) The NWE area includes some of the strongest performing regions economically in the EU. Because of this there are economic differences in the area, which features a well-buffered 'middle-class' of regions, between 80 and 120% of the EU average (including the UK). The over-performers are the well-known, wealthy and economically active regions, including capital city regions, Luxembourg, southern Netherlands, Baden-Wurttemberg in Germany and Switzerland. The under-performers are much less represented though they are dominant in the UK. Within the UK, underperformers are Cornwall and Wales, with less than 70% of the EU GDP average. On continental Europe and Ireland, only three regions are 70 – 80% of the EU average.

(Map A2_ch) The change of GDP per capita compared to the EU average is stable in the NWE programming territory. Between 2014 and 2016, most NUTS regions maintained a stable GDP. Simultaneously, Ireland had significant economic growth while many areas in France, Switzerland and the UK lost economic performance in comparison to other EU countries. The relative nature of the indicator is important as a country with no change in GDP per capita will still see a change in relative performance if other countries change.

(Map A3) Social progress, measured here through the Social Progress Indicator (SPI) complements an assessment of economic performance. Weak economic performance on the continental European part of NWE territory leads to weak performance in the social progress indicator. The UK shows a balanced performance in the upper segment of the range. The most developed areas are Northern Dutch regions and the weakest social progress is in Liège and Hainaut, Belgium and Picardy, France, while the latter two also underperform economically.

(Map B1_ch) The share of active population also increased in the programming area. During 2014, the 75.6% of the population between 25 and 64 in the NWE territory was economically active. This increased to 76.3% in 2017. Most regions reporting a low share in 2014 managed to increase employment. Nevertheless, there was still weak employment in Wallonia, Belgium, in the Champagne-Ardenne, France and the northern part of the Republic of Ireland. There was a significant decrease in employment in South Yorkshire, UK.

(Map 2_16 and B2_ch) NWE continues to attract residents from outside the territory with net migration in 2016 increasing the population by 3.8%. Regions shrinking because of emigration are Brussels, Belgium and Trier in Germany, bordering Luxembourg. There was more complex emigration in France. Paris had a similar emigration rate to Alsace, with less emigration in all regions between Nord-Pas-de-Calais and Franche-Comté. When comparing 2016 with 2014, the strong positive migrations into the area around London, UK, Luxembourg, Ruhr and Rhein as well as Tübingen, Germany, are starting to decelerate. Many parts of the UK are also experiencing emigration with Scotland and Northern Ireland being areas with immigration. Also Ireland benefits from a positive migration balance.

(Map B3) The share of people at risk of social exclusion decreased slightly in the territory with the strongest decrease in the UK and Ireland. The only increases were in Swiss regions.

(Map B4) The life expectancy of males decreased in most regions. Even though the change is not significant, only 32 regions had an increase for males and 44 report a decrease.

(Map B7) Approximately 70% of the population using the internet during the previous 12 months also used it for interacting with public authorities in the NWE territory in 2014. Developments to 2017 diverged, leading to the assumption that the indicator is heavily influenced by the frequency of interaction with public authorities.

(Map B12) On the way to a circular economy, high shares of road freight transport are one variable signalling low progress. Dependencies on road freight can be signs of limited local production, use and reuse. Even though some regions appear to be growing strongly (e.g. Picardy, France, Frankfurt region, Germany, northern part of Republic of Ireland) or shrinking rapidly (e.g. Alsace and Champagne-Ardennes, northern Scotland, UK, Luxembourg region, Belgium) the changes appear to be randomly distributed with no specific territorial pattern.

Programme contribution to territorial cohesion

Projects contribute to territorial cohesion objectives of regional competitiveness and balanced development in many ways (change of employment, innovation supported, EU2020 targets, etc. see chapters above). However, this contribution usually occurs at different levels and within a complex process. To facilitate a better understanding of the impact of the NWE Programme on territorial cohesion and its various dimensions, several stories of territorial cohesion have been developed and tested previously to ensure better work within the complexity of territorial cohesion (see Spatial Foresight 2017 and Böhme and Gløersen 2011). Each of the stories highlights different facets of territorial cohesion. They synthesise the causal processes that link project activities, outputs, project results, changes in target groups and expected contributions to territorial cohesion. For this evaluation and the case studies, ten NWE projects were analysed with the storyline tool to identify and explain the contribution of a single project to wider territorial cohesion indicators. Annex 2 to this report shows the storylines of ten projects.

The analysis shows that each project contributes along a pathway of causal effects to territorial cohesion. Some projects contribute to one specific goal of territorial cohesion, either competitiveness or balanced development. However, there some projects contribute to both dimensions, competitiveness and balanced development. Even if the final contribution is usually very limited, there is an effective contribution that can be visualised and justified with the storytelling tool.

It is also interesting to observe that many projects contribute to various layers of territorial cohesion. For example, the Project eMen contributes not only to male life expectancy and change in employment, but also indirectly to a wider use of the internet. This kind of indirect impact is usually not covered by the indicators.

As the projects are not finished yet, this analysis is based on assumptions of expected results and impacts. However, it offers a valuable tool for the impact evaluation, when the expected contributions can finally be verified and confirmed (or not).

Application of 'cohesion enablers': cooperation, governance, coordination

Likewise, the contribution analysis has helped to assess the role of the 'cohesion enablers': Cooperation, governance and coordination.

NWE projects, due to their specific character (relatively small, low investment in infrastructure, innovative, transnational) cannot be expected to have a large impact on socioeconomic development without other national and regional policies and investments. However, Interreg NWE projects are expected to have an important and highly unique contribution to increase and improve coordination among stakeholders, cooperation with peers in other regions and countries and governance within different thematic policy fields, facilitating the implementation of sector-specific and ESIF policies.

The storylines show that cooperation was the key enabling condition for the success of all NWE projects. Interviews with stakeholders in the case study analysis helped to understand how cooperation contributes to new ideas, learning, pilot actions and demonstration projects for policy-makers and other public actors. Governance was a useful enabler in projects under SO1, SO2 and SO5. Coordination was another useful enabler for projects, as it helped to organise different stakeholders with their expectations, capacities and experience in many thematic fields, either along a value chain or within an innovative ecosystem.

All projects analysed within the case studies and through storylines make use of cooperation and coordination. Most projects also use governance as an enabler to achieve results.

Box 5.2 Example of how 'cooperation' is important to achieve results

Interviewees from the BioBase4SME project confirm that Interreg is for them the best option to fund this kind of innovative and transnational development of SME support services. In particular, in bioeconomy there is need for a critical mass to invest in pilot plants and test equipment to reach a high level of use of new installations and machines. Therefore, it is key to combine efforts, to extend the client base to other countries and regions, and to exchange lessons on tests with new materials. In the bioeconomy, cooperation in services and coordinating policies and pilot actions is the only way to ensure quick progress in research and innovation. Interreg fits well, as development in the bioeconomy needs contact at the local level and where the entrepreneurs are, but also the regional cooperation to try new approaches.

Reducing territorial disparities

The analysis of territorial data confirms the internal gap analysis conclusions in terms of the distribution of project funding and project partners. It appears that there is no general trend towards balanced territorial development. Regions have managed to close a development gap but the same regions might have fallen behind with regard to other indicators.

The only general pattern that can be observed is the consistent lead of economically well-performing urban regions. But these over-performers are not very-well integrated with their surrounding territories and most appear to lead at the expense of surrounding, more rural areas.

This raises the question of specific support from the NWE Programme to these regions without losing scope of the urban regions that contribute significantly to the strong competitiveness of the NWE area. A long-term solution could be to target these rural regions through thematic calls. This could also be done through a specific SO for the next programming period addressing negative externalities induced by a neighbouring over-performer. This may lead in the long run to more projects being generated to benefit these regions, leading to more project partners from these areas.

Despite the high absorption of EU co-funding in the triangle between Lille, Amsterdam and Dortmund, the indicators do not provide any obvious specificities for this region. The EU Regional Competitiveness Index for 2016 shows that these areas were already well positioned. Their absorption rate might also be explained by the streamlined approach to acquire funding for activities. Research regimes in some parts of the programming area are more helpful in the acquisition of EU funding than in other parts of NWE.

Absorption in the Lille-Amsterdam-Dortmund triangle may be high as the Programme SOs match specifically well with national and regional political priority setting in these regions. Further analysis including the (regional) development policies of the member regions of the programming body could provide further insight.

In general, NWE Programme support cannot be seen as isolated. The NWE Programme lines up with a range of domestic funding programmes that are either national or EU mainstream programmes. These programmes provide support for investments providing a tangible and measurable output in a short timeframe. The NWE programme, funding co-operation activities, follows a significantly different approach. By enabling cooperation projects across borders, the Programme encourages more integrated and transferrable solutions than the domestic programmes could support.

Box 5.3 Example of how a project reduces disparities 'Phos4You'

An example is the Phos4You project whose results are challenging to measure using the defined indicators. It does not directly support SMEs or created jobs but addresses a more overarching problematic which faces all Member States in the NWE programme. Phos4You is still a good example of how NWE contributes to convergence between territories, as the final output of the project will enable tailor-made solutions from which all regions implementing the solutions will benefit. Phos4You contributes strongly to policy blueprinting problem-solving exchange between project partners. The project aggregates partners from regions with diverse levels of development in the objective the project pursues. This means less developed regions can quickly adopt new technologies while more developed regions can acquire an understanding of aggregated development. This means the NWE Programme contributes reducing disparities in the territory, but the impact is small scale and very difficult to measure effectively.

Despite its small size and, therefore, reduced impact on competitiveness and territorial development in the region, the NWE Programme fills a critical gap for cross-border / international cooperation. Some problems or issues are best solved through co-operation across borders as domestic funding programmes fail to provide support beyond some administrative boundaries.

Potential external factors

The European approach to territorial cohesion is defined in the 4th Cohesion Report from the European Commission. This specifies that ''*people should not be disadvantaged by wherever they happen to live or work in the Union*'' (European Commission, 2004, p. 27). This means that '*individuals […] are also shaped by where they live and work; in other words, by the location and quality of places and territories; by typical spatial risks (such as inaccessibility, isolation, pollution, exposure to natural and technological hazard, place stigma). It suggests that, the quality of places where people live and work in can influence their access to economic and social opportunities and the quality of their life*.' (Davoudi, 2005, p. 436). This shows that a wide range of influences impact the quality of life in regions so external factors can facilitate or hamper territorial cohesion in the area.

It is important to consider the impact of NWE support on the ground. Interreg finances cooperation projects in NWE, addressing joint developments for projects under the SO. The impact of cooperation support may be weaker than directly funding measures and other strong funding programmes address competitiveness and balanced development, including national programmes and also mainstream EU programmes.

The EU Regional Competitiveness Index shows, in addition to funding support for fostering competitiveness, several other factors come into play. These can be identified from the individual indicators making up the composite indicator on competitiveness. They cover governance, political stability, infant mortality, technological adoptions and patent applications (European Commission, 2017). The same applies for balanced development indicators.

How to improve Programme contribution measurement

Because of the way the NWE programme supports project partners, contributions to changes in mainstream indicators, as monitored by Eurostat, OECD, JRC and the National Statistics Institutions (NSI) are difficult to measure. There are differences in the size of domestic funding programmes and Interreg programmes in general. The contribution of Interreg to territorial cohesion is qualitative rather than quantitative.

When entering into dialogue with the supported projects, it becomes clear that some indicators do not adequately cover project achievements. For example, the indicator addressing the number of enterprises receiving support was mentioned during the case studies. The objective of NWE is to enable cooperation across borders and cannot act alone as a traditional business developer or only contribute to business development indirectly (e.g. creating new business models in the medium-term). It adds innovative support from a transnational perspective within new and pioneering activities to existing wider business support schemes. Therefore, it was difficult to attribute achievements for this indicator.

The impact of a project is not only reflected in output or result indicators, but also through the effect on thematic cooperation supported by NWE. Thematic cooperation across borders would not be possible under any other funding scheme and is the unique characteristic of Interreg. Appreciation for cooperation in Interreg projects among project partners is therefore very high. Complementing measurement of the outputs and results by measuring cooperation while monitoring territorial cohesion is supported by the ESPON INTERCO project. The INTERCO project has elaborated methods to measure territorial cohesion. Under an integrated polycentric territorial development objective, two indicators address co-operation intensity and degree in the INTERREG Programming period 2000-2006 (ESPON, 2012, p. 110 ff.). Territorial cohesion and contributions through the NWE Programme could also be measured by analysing the degree and intensity of co-operation activities in projects and among stakeholders.

ANNEXES

The annexes describe the different methods used for data gathering and analysis for this evaluation.

A.1 Bibliography

Böhme, K. and E. Gløersen (2011). Territorial Cohesion Storylines: Understanding a Policy Concept. Spatial Foresight Briefing 2011:1. Luxembourg. www.spatialforesight.eu

Davoudi, S., 2005. Understanding Territorial Cohesion. Plan. Pract. Res. 20, 433–441.

De Beer, J., van der Gaag, N., van der Erf, R., 2014. New classification of urban and rural NUTS 2 regions in Europe, NIDI Working Paper no. 2014/3.

ESPON, 2012. INTERCO - Indicators of territorial cohesion (Final Report). ESPON, Luxembourg.

European Commission, 2017. The EU Regional Competitiveness Index 2016.

European Commission, 2004. Third Report on Economic and Social Cohesion.

Interreg Programme NWE 2014-2020 Cooperation Programme

Interreg Programme NWE 2014-2020 Programme Manual.

Interreg Programme NWE 2014-2020 Ex ante Evaluation. Final Report.

MacKinnon, D., A. Cumbers & K. Chapman (2002) Learning, Innovation and Regional Development: A critical appraisal of recent debates. Progress in Human Geography 26. pp. 293-311.

Spatial Foresight and t33: Evaluation of the Two-Step Approach. FINAL REPORT. Version 24 March 2017.

Spatial Foresight: Co-development of a territorial cohesion indicator system, facilitating the Programme performance and impact evaluation. FINAL REPORT. 24 August 2017.

A.2 Methodology Details

Interviews with Programme Bodies

Name	MS/Body	Role	Interview carried out
Fabrice Falvo	MA	MA	05/07/2018
Ruut Louwers	JS – Management level	Programme Director	06/07/2018
Julia Eripret	JS – Management level	Project Unit Coordinator	06/07/2018
Alexandre Colombani	JS – Management level	Contact Point Coordinator	06/07/2018
Fabian Kiehlmann	JS – Support unit	Programme Finance Officer	06/07/2018
Sarine Baroumian	JS – Project Unit	Project Officer, Priority 1	06/07/2018
Anke Mollers	JS – Project Unit	Project Officer, Priority 2	06/07/2018
Matthew Thompson	JS – Project Unit	Project Officer, Priority 3	06/07/2018
Frank Everaarts	NL	Monitoring Committee	17/7/2018
Laurence Geradon	BE	Monitoring Committee	4/7/2018
Petra Schelkmann	DE	Monitoring Committee	3/7/2018
Amendine Dupont	FR	Monitoring Committee	31/7/2018
David Kelly	IE	Monitoring Committee	26/07/2018
Sabine Stoelb	LUX	Monitoring Committee	5/7/2018
Sebastien Rieben	SWI	Monitoring Committee	23/7/2018
Enfys DIXEY	UK	Monitoring Committee	1/8/2018
Ge Huismans	NL	Contact Point	25/07/2018

Interviews with Project Applicants

No.	Project Acronym	SO	Lead Partner	Main Contact
Approved				
1	ASPECT	SO1	NL	Iulia Degeratu i.degeratu@m2i.nl.
2	B4H	SO1	NL	Maria Hein rhein@bom.nl (not yet answered to interview request, but answered survey)
3	BE-GOOD	SO1	NL	Natalie Oonk-Abrahams atalie.oonk@rws.nl
4	AFTB	SO5	UK	Zhongwei Guan zguan@liverpool.ac.uk
5	FIBERSORT	SO5	NL	Traci Kinden traci@circle-economy.com
6	FOOD HEROES	SO5	NL	Marjon Krol marjon.krol@zlto.nl
7	QCAP	SO1	NL	Frans Harren f.harren@science.ru.nl
8	RE-DIRECT	SO5	DE	Michael Wachendorf mwach@uni-kassel.de
9	H2SHARE	SO4	BE	Wouter van der Laak wouter.vanderlaak@waterstofnet.eu
10	UP-STRAW	SO3	FR	Alex Goullet alex.goullet@cncp-feuillette.fr
Rejected				
1	FOOD FITT	Call 1 – Step 2	NL	Astrid Vandeelen a.vandeelen@brainportdevelopment.nl Laszlo Bax l.bax@baxcompany.com (given by Astrid van Deelen)
2	EcoWins	Call 1 – Step 2	BE	Stevie Swenne s.swenne@vmm.be
3	REVIVE	Call 2 – Step 2	DE	Roland Balkenhol r.balkenhol@altena.de
4	GREENGO	Call 3 and 4 – Step 2	BE	Claudia Neculau c.neculau@spaque.be
5	BASIC	Call 3 and 4 – Step 2	UK	Andrew Mair andrew.mair@midlandsaerospace.org.uk

Survey of Projects

The survey of project partners ran from 21 June 2018 and collected responses until 2 August 2018. A total of 51 complete and useful responses were collected and analysed. The survey was aimed at project managers, project partners, and stakeholders, who were asked to respond to different sections of the questionnaire.

The survey was originally sent to 83 projects who submitted their applications at Step 2 of the application process, in the first 5 calls for proposals. Reminders were sent out during the survey on three different occasions.

There were 75 responses, including incomplete and invalid responses, a response rate of 90%. 51 of these were valid (61%) and used for the purpose of this evaluation. For two projects, two answers per project were received, so the final response rate for projects is 59%.

Case Study Analysis

The following ten projects have been analysed in more detail to detect qualitative and unintended outputs and results, effects of partnership and contribution to territorial cohesion and EU2020 goals.

Project Acronym	SO	Lead Partner Country	Short description
eMEN	1	NL	The main aims of the eMEN platform are gathering and exchanging knowledge on the topic of eMental health, particularly for eMental health implementation. On top of that, eMEN aims to raise awareness, influence attitudes, change behaviour, and maintain behaviour changes on eMental health and its implementation among eMEN's multiple stakeholders.
BIOBASE4SME	1	BE	The BioBase4SME network, representing many leading bio-based economy experts, will advise SMEs from across North-West Europe on how to develop new ideas into marketable products. The BioBase4SME project intends to help Start-ups and SMEs to overcome technological and non-technological barriers to bring their innovations to market. The project offers free workshops and professional training, Innovation Biocamps, and innovation vouchers worth up to EUR 100 000.
CAN	2	DE	The Climate Active Neighbourhoods project (CAN) focuses on underprivileged neighbourhoods that are in need of renovation in municipalities and regions of varying size throughout North-West Europe. To build capacity in participating local authorities, neighbourhood approaches and synergies based on new governance models will be introduced.
HeatNet NWE	2	IE	HeatNet is an EUR 11.5 million project promoting roll-out of the most advanced form of district heating, known as 4th Generation District Heating and Cooling, across North-West Europe.
E=0	2	NL	E=0 will address poor energy performance of residential buildings by generating a new mass market for net zero energy retrofits across NWE. Current retrofit measures are piecemeal and not integrated to deliver whole-house warrantied performance.

Project Acronym	SO	Lead Partner Country	Short description
FORESEA	3	UK	FORESEA (Funding Ocean Renewable Energy through Strategic European Action) is an EUR 11 million Interreg North-West Europe project. Its helps bring offshore renewable energy technologies to the market by providing free access to North-West Europe's world-leading network of test centres.
GENCOMM	3	UK	GENCOMM will address the energy sustainability challenges of NWE communities through the implementation of smart hydrogen-based energy matrixes. The project validates the maturity of hydrogen technologies by implementing 3 pilot plants that link the 3 main North-West European renewable sources (Solar Power, Wind Power, and Bioenergy) with energy storage and the main forms of energy demand (Heat, Power and Transportation fuels).
CHIPS	4	BE	CHIPS (Cycle Highways Innovation for smarter People Transport and Spatial Planning) will develop and promote cycle highways as an effective and cost efficient low carbon solution for commuting to and from urban employment poles. CHIPS will demonstrate that, especially in combination with the growing number of e-bikes, cycle highway innovation can effectively get commuters out of their cars.
RAWFILL	5	BE	The focus of RAWFILL is on the solid waste sector in North-West Europe, with a concentration on landfills and institutions responsible for waste and landfill management in the region. For landfill mining to be widely implemented in North-West Europe several barriers need to be overcome. Up to now, there has been no general or standard framework for developing enhanced landfill inventories that would allow public authorities and/or private sector partners to make economically informed decisions about launching a landfill mining project for a given landfill site.
PHOS4YOU	5	DE	Phos4You (P4Y) addresses the phosphorus (P) challenge. P is a nutrient essential for all living organisms. Though it is a finite resource on earth, P is largely wasted today. The EU acknowledged this by adding phosphate rock to its list of critical raw materials in 2014. There is a need to boost the use of secondary raw P. The project addresses rural, urban and port areas in NWE.

The selection represents advanced projects under all the programme SOs, but does not represent particularly successful or unsuccessful projects, rather the reality of project implementation.

The case study methodology was based on a thorough desk research on each project (application form, progress reports, websites, project documents and reports, etc.), as well as on at least two interviews with project partners and/or target group representatives.

Focus Group discussions with the Evaluation Task Force

The evaluator team met with the Evaluation Task Force of the NWE Programme in two occasions, on 28 May and 6 September 2018. The Evaluation Task Force integrates members of the JS, CPs, MA and the Monitoring Committee Members from different Member States. It is a natural focus group that can offer additional valuable insights into the evaluation process.

During the first meeting, the evaluators presented the methodology. In addition, the key issues of the evaluation process were discussed.

In the second meeting, an early draft of the final report was presented to discuss first results and working hypotheses.

Contribution Analysis using Performance Mapping and Storylines

Contribution Analysis (COA) is a method that helps reconstruct and verify theories of change and an existing intervention logic through seeking evidence and analysing the robustness of the 'contribution story'. It was used to assess the likely contribution of projects to impact (result indicators and expected results), in particular to establish likely project and programme contributions to territorial cohesion and integration. Contribution Analysis followed these steps:

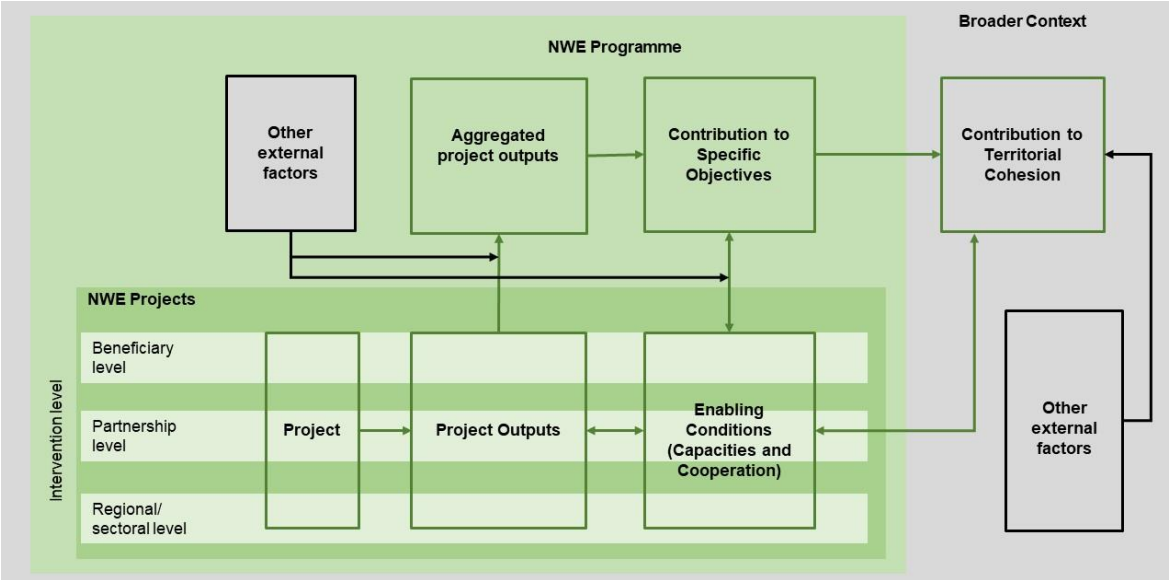
- Step 1: Identification of Challenges
- Step 2: (Re-)construction of theory of change and impact logic of the different SOs
- Step 3: Empirical review and search for evidence, identifying external factors and challenges
- Step 4: Assessment (verification of impact hypotheses and contribution claim)
- Step 5: Contribution story with related evidence and other explaining factors.

For the empirical review of the 'Theory of Change', a specific set of both qualitative and quantitative methods was used to answer the evaluation questions in a holistic way based on the evidence review and the assessment. The qualitative methods include a descriptive analysis of monitoring data, as well as interviews with projects and case study research. The cause-and-effect relationship was approximated as much as possible leading to a statement about the measurability of the effect of the interventions. There was an analysis of how and under what conditions the respective interventions work and why they lead to desired (or undesired) effects. Based on this analysis, the respective intervention logic was reviewed and suggestions made for improvement in implementing the intervention.

To facilitate the analysis, the following conceptual models was used, as defined in the 2017 study by Spatial Foresight on territorial impact indicators (within this Evaluation Framework contract).

First, the overall theory of change that establishes how contributions are expected to take place:

Figure 3.1: Theory of Change of the NWE 2014-2020 Programme



Source: Spatial Foresight: Co-development of a territorial cohesion indicator system, facilitating the Programme performance and impact evaluation. FINAL REPORT. 24 August 2017.

In addition, two specific 'Contribution to Impact' models were used to analyse case study projects and show how contributions to change takes place in the programme.

A contribution analysis was carried out for the case study projects, covering all SOs. It enabled identification of the direct contributions of projects, contributions of projects on enabling conditions, and indirect contributions of the programme to territorial cohesion and integration. Performance mapping supported the contribution analysis by unpacking the theory of change of projects and providing a framework to collect, structure and assess data on immediate, basic changes that lead to longer, more transformative change.

A.3 Evaluation of Partnership relevance and suitability – in-depth analysis

Appropriateness of Programme beneficiaries to deliver SOs priorities / SO results

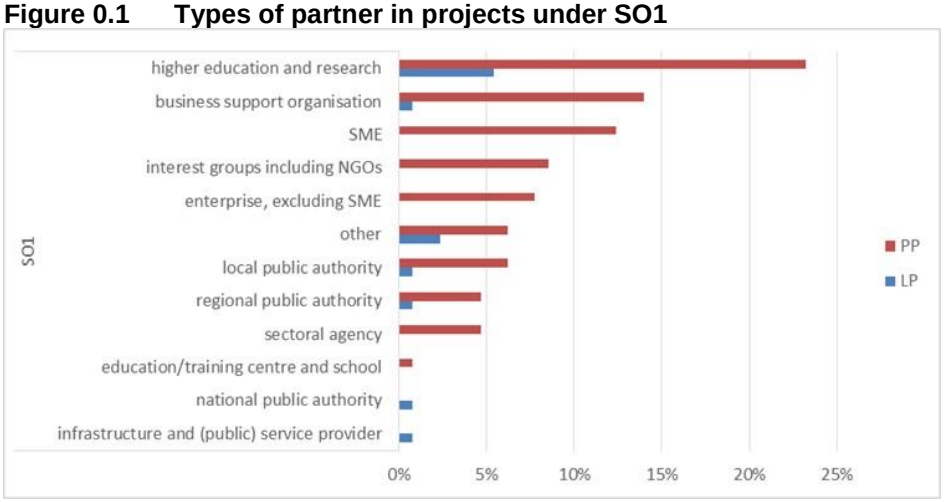
As for the profiles of project partnerships under each SO, the Cooperation Programme provides indications of their 'ideal' composition. Below we have reviewed how well profiles of the 'ideal' partnership' for each SO match the actual partnerships of approved projects.

SO1 aims to tackle the territorial gap between areas with high innovation potential and areas hosting some of Europe's top innovation performers. Projects should reflect this in their partnership by including innovation leaders and followers, following RIS definitions. In addition, the Programme Manual describes the need for a mix of innovation stakeholders (e.g. enterprises, researchers, education institutions, training organisations, policy makers and private investors).

The majority (64%) of Partners involved in the 15 projects approved under SO1[31] are higher education and research entities, with many business support organisations, SMEs and other enterprises involved (34%).

The relatively high participation of local public authorities as associated partners (97, or 43% of the partners involved under this SO) indicates a positive interest in closely observing the development of these projects from this group of stakeholders. It also potentially helps in rolling out project results beyond the territories and sectors directly covered by the partnerships.

Figure 0.1 Types of partner in projects under SO1

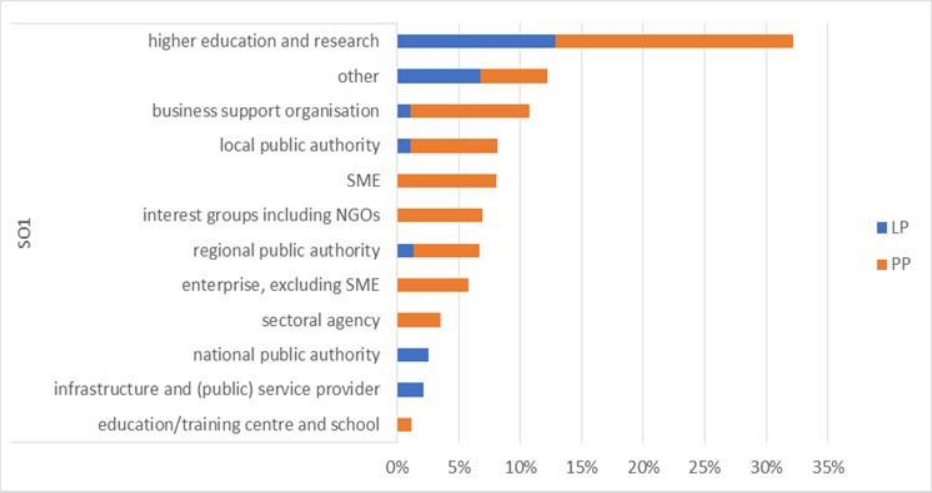


Source: Own elaboration on information on NWE Projects approved as of May 2018

Analysis of the types of partners combined with the distribution of ERDF per partner reveals a concentration of resources on the 'ideal partners'. **On SO1 approved projects, most of the budget (56%) is allocated to partners indicated in the Cooperation Programme as 'innovation stakeholders'**, with 30% of the ERDF earmarked to entities from higher education and research, 12% to SMEs, 8% to business support organisations, and 6% to enterprises not including SMEs.

[31] Until May 2018: ASPECT, B4H, BE-GOOD, BioBase4SME, eMEN, QCAP, BONE, Codex4SMEs, SHICC, COTEMACO, IDEA, LL4WIDE, UNEET, UV – ROBOT, VR4REHAB.

Figure 0.2 Budget allocation per type of partner in projects under SO1



Source: Own elaboration on information on NWE Projects approved as of May 2018

Assessing the location of the partners against the Regional Innovation Performance of their region shows a balance between partners from 'innovation leaders' and 'strong innovator' regions. On average a project partnership includes twice as many partners from 'innovation leaders' as from 'strong innovator' regions which can support bridging the territorial innovation gap described in the Cooperation Programme. Only UNEET includes more partners from 'strong innovator' regions than from 'innovation leaders', which seems more adequate to the project's objectives. The project QCAP has in this sense the least balanced partnership with only one partner from a 'strong innovator' region. This does not mean that the project is weaker than other projects.

Going more in detail on the individual partnership highlights strengths and weaknesses illustrated in the table below which covers a sample of approved projects from SO1[32].

SO1: To enhance innovation performance of enterprises throughout NWE regions *Based on analysis of projects: Aspect, BeGood (Call1); Qcap (Call2); SHICC, Bone (Call3); Cotemaco, LL4wide, UV-Robot (Call4).*	
Strengths	**Weaknesses**
• Use of networks for knowledge-sharing (BE-GOOD) • Main R&D project development assigned to competent LP (QCAP, SHICC) or PP (ASPECT) • Complementary expertise of the partners (SHICC, UV-ROBOT) • Capacity to reach target groups (LL4WIDE, COTEMACO) • Tailored selection of associated partners being strategic or technical advisers, and networks of potential end-users. (BONE, QCAP, COTEMACO, UV-ROBOT)	• Lack of regional and national public authorities to align project outputs with national and regional practices in place (UV-ROBOT) • Weak SME access (BE-GOOD) • Uptake of prototypes not identified (BE-GOOD) • Unclear role of associated partners in dissemination, uptake, or connection to target groups (ASPECT, SHICC) • Undemonstrated relevance of having a partner from outside the NWE area (QCAP, LL4WIRE) • Lack of partners with specific expertise on all the topics covered by the project (COTEMACO)

[32] Sample of 8 (53%) of 15 projects selected randomly, making sure it is representative of the first 5 calls, and different project budget sizes.

- Lack of European / transnational network to sustain roll-out in other NWE regions (UV-ROBOT).

SO2 aims to facilitate low carbon strategies by increasing the capacities of public institutions. The Cooperation Programme suggests including experienced partners in charge of existing strategies as well as partners in the process of setting them up. This may imply building a partnership linking urban and rural areas. The Programme Manual requires the involvement of all key stakeholders from the field in question (low carbon, energy and climate protection strategies) and ensuring an integrated approach. The involvement of local and/or regional public authorities is a basic prerequisite.

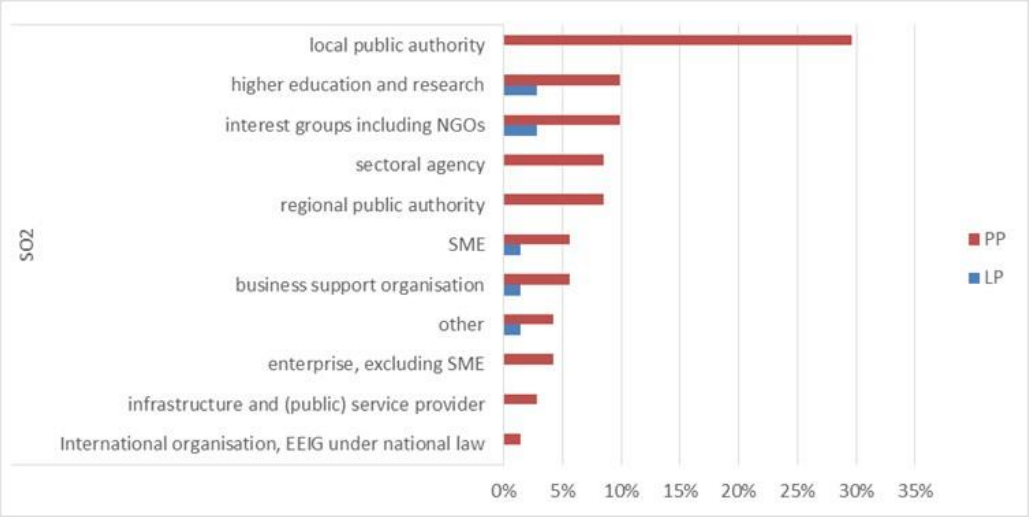
The overall majority (69%) of partners involved in the 7 projects approved under SO2[33] are in line with the profile suggested by the Cooperation Programme. Notably, a bit more than one third (38%) are local public authorities or regional public authorities. However, this share is not uniform in all projects, as it ranges from about 25% (HeatNetNWE, ACE-Retrofitting, and CAN) to less than 10% (E=0 and ECCO), with an average of 12%. In addition, no lead partner in those projects comes from either local or regional public authorities. The Cooperation Programme explains that the involvement of this type of partner is 'a basic prerequisite' for this SO, although it does not provide any additional details regarding the quantity or quality of such involvement. This notwithstanding, it seems logical to assume that **lower involvement of public partners– notably a lack of lead partners from local and regional authorities, will increase the risk of the partnership capacity being unable to deliver the results envisaged for SO2**.

Another third of partners (30%) consists of entities from interest groups including NGOs (13%), from higher education and research (13%) or from other entities. Partners from the private sector (SMEs, business support organisations and other enterprises) are about 18% of the total.

The participation of 84 local public authorities as associated partners (51 in one project - ECCO) confirms a genuine interest from a significant number of stakeholders to observe how these projects are going to deliver. It also signals the potential for uptake on these projects' results beyond the territories and sectors directly covered by the respective partnerships.

[33] CAN, E=0, ACE-Retrofitting, HeatNet NWE, ECCO, CConnects, cVPP.

Figure 0.3 Types of partner in projects under SO2

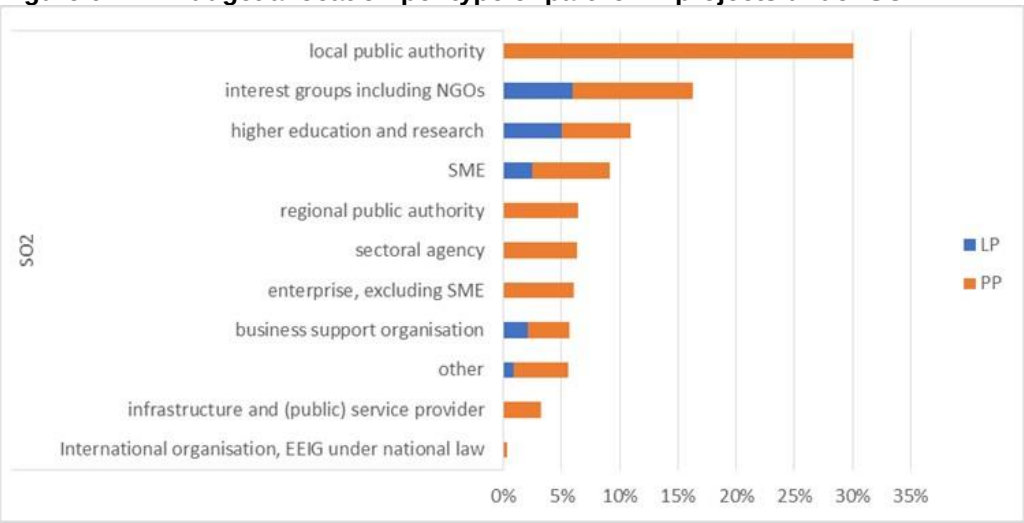


Source: Own elaboration on information on NWE Projects approved as of May 2018

Analysis of the distribution of partners combined with the distribution of ERDF per partner produces a slightly different conclusion. **Most of the resources available for SO2 projects (69%) are allocated to 'ideal partners'**.

Local public authorities receive 30% of the budget allocated under this SO, whereas 6% was allocated to regional public authorities, 11% to entities from higher education and research, and 16% to interest groups including NGOs. 20% of the budget is earmarked for SMEs, business support organisations, and enterprises not including SMEs.

Figure 0.4 Budget allocation per type of partner in projects under SO2



Source: Own elaboration on information on NWE Projects approved as of May 2018

The share of partners from predominantly urban, intermediate or rural regions is generally balanced per project. Only projects E=0 and ECCO have partners from predominantly urban areas. For E=0 this imbalance does not ignore the SO description. In fact, the partnership considers the inclusion of experienced and less experienced actors with respect to strategies to retrofit buildings. For ECCO this

is less reflected in the partnership description in the AF with arguments for a 'strong and focused partnership' rather than focusing on the underlying rationale of the SO.

Going more into detail on individual partnerships highlights strengths and weaknesses in the table below for a sample of the approved projects from SO2[34].

SO2: To facilitate the implementation of low carbon, energy and climate protection strategies to reduce GHG emission in NWE	
Based on analysis of projects: E=0 (Call1); HeatnetNWE (Call2); ECCO (Call3); CConnects (Call4).	
Strengths	**Weaknesses**
• Coverage of all the sectors and governance levels, with complementary experience (E=0; HEATNETNWE; CCONNECTS; WOW!) • Significant number of high profile associated partners to support uptake and upscale (E=0; CCONNECTS; ECCO) • Clear roles assigned to each Partner (CCONNECTS; WOW!) • Wide territorial coverage of NWE area (ECCO)	• Unclear role of Associated Partners (HEATNET NWE) • Limited or no involvement of end-users (WOW!)

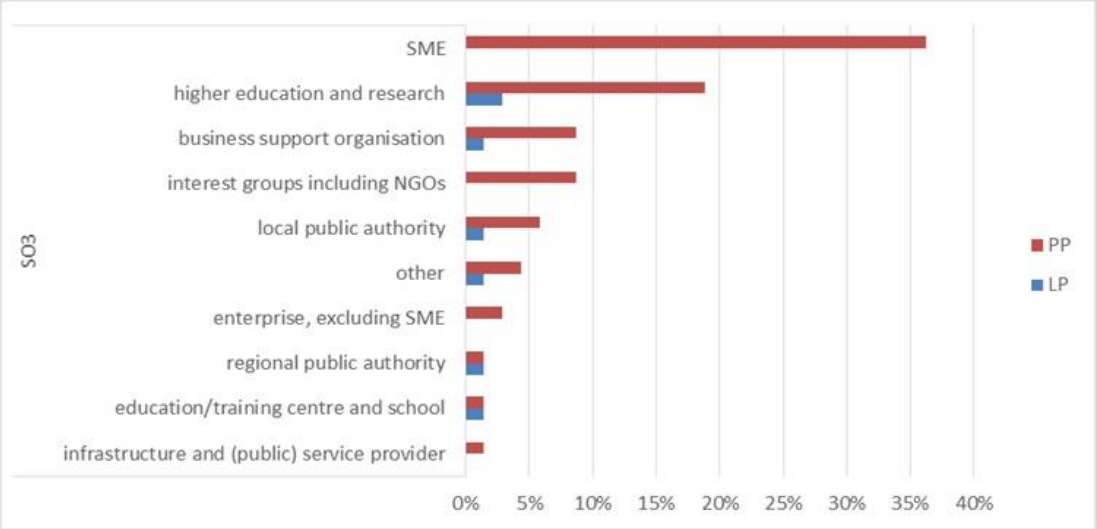
SO3 aims at removing barriers to the adoption and improvement of low carbon technology by enterprises. In order to facilitate it, the Cooperation Programme suggests partnerships that support cooperation between enterprises, public authorities and research institutes. In addition, the Programme Manual encourages partnerships involving all key stakeholders from the field in question (uptake of low carbon technologies, products, processes and services), particularly from territories and sectors with high energy saving potential.

The majority (77%) of partners involved in the 7 projects approved under SO3[35] are SMEs (36%), entities from higher education and research (22%), with a good number of business support organisations (10%) and interest groups including NGOs (9%). Limited information is available on the specific capacity and territorial relevance of project partners for sectors and territories with high energy saving potential. Compared to projects in other SOs, the participation of national, regional and local public authorities is relatively low (10%).

There are associated partners (66), although more than three-quarters of these are concentrated in two projects (CHIPS; and SMART TRACK 4 WATERWAY). This shows a positive interest in closely observing development of these two projects and the potential for rolling out project results beyond the territories and sectors directly covered by the respective partnerships.

[34] Sample of 4 (57%) of 7 projects selected randomly but making sure it is representative of all first 4 calls, and different project financial sizes.
[35] FORESEA, LOGiC, UP-Straw, GenComm, CleanMobilEnergy, GROOF, PowerVIBES.

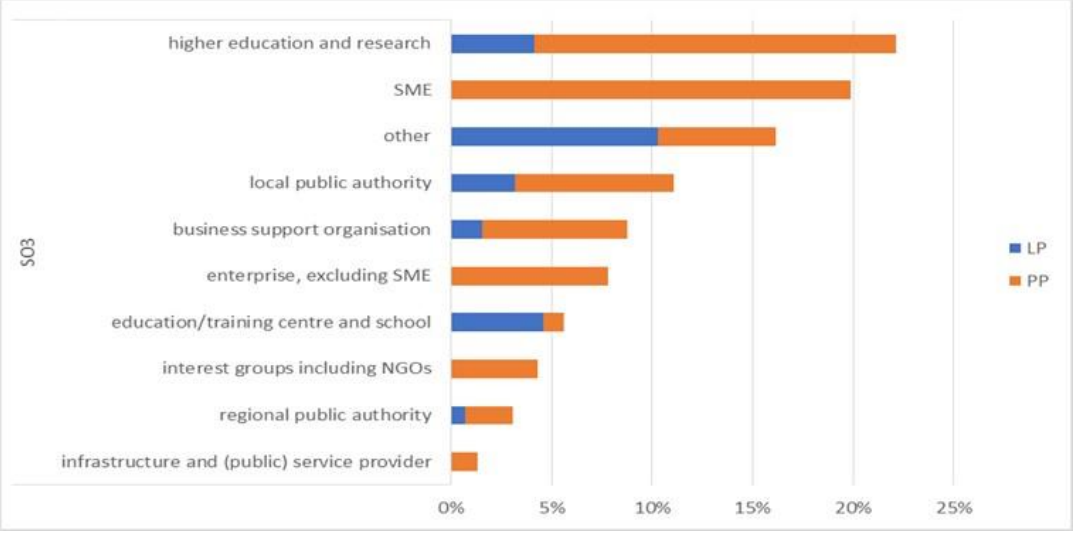
Figure 0.5 Types of partner in projects under SO3



Source: Own elaboration on information on NWE Projects approved as of May 2018

Analysis of the distribution of partners combined with the distribution of ERDF per partner confirms **a concentration of resources on 'ideal partners' for SO3**. Most of the budget (58%) is allocated to partners indicated in the Cooperation Programme as 'innovation stakeholders', with 22% of the ERDF earmarked to entities from higher education and research, 20% to SMEs, 9% to business support organisations, and 8% to enterprises not including SMEs. Partners from Education training and schools conclude the list with 5.6%.

Figure 0.6 Budget allocation per type of partner in projects under SO3



Source: Own elaboration on information on NWE Projects approved as of May 2018

Generally, projects under SO3 consider cooperating with research institutes. In some cases, this includes a partnership built around one research institute, for example in PowerVIBES or UP-Straw.

These cases show however that knowledge is not only transferred from research institutes but also from other organisations such as NGOs.

A detailed assessment of a sample[36] of approved projects from SO3, based on the available AFs, project development reports and quality assessments, highlights strengths and weaknesses illustrated in the table below.

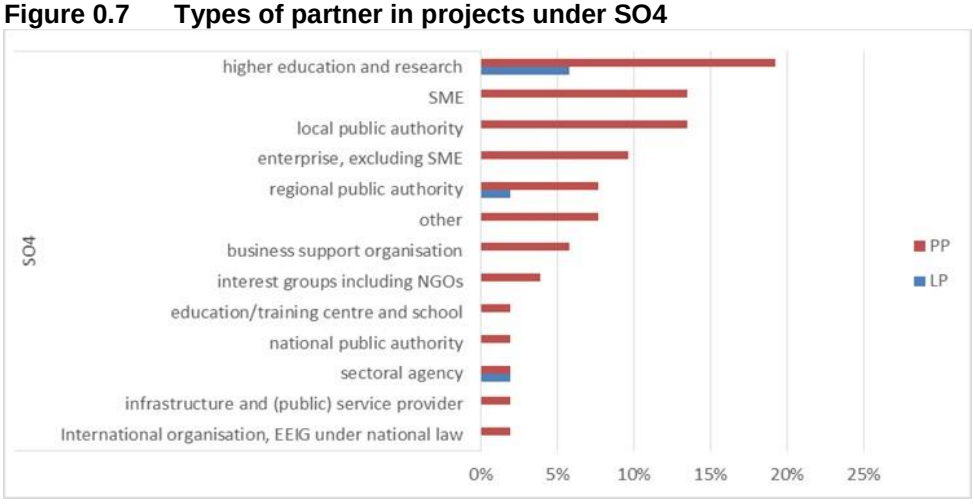
SO3: To facilitate the uptake of low carbon technologies, products, processes and services in sectors with high energy saving potential, to reduce GHG emissions in NWE	
Based on analysis of projects: FORESEA (Call1); UP-straw (Call2); CleanMobilEnergy, PowerVIBES (Call3).	
Strengths	**Weaknesses**
• Complementarity of Partners' experience/roles (FORESEA; UP-Straw); • Defined roles of the Partners (PowerVIBES); • Capacity of Partners (CleanMobilEnergy); • Involvement of European network to boost project results' dissemination (FORESEA); • Appropriate dissemination partners are involved as full partners (CleanMobilEnergy).	• Match-funding not identified for some partners (UP-Straw); • Unclear budget of some Partners (CleanMobilEnergy); • Unclear role of some Partners (CleanMobilEnergy); • Lack of end-users from all relevant sectors (PowerVIBES).

SO4 aims to improve the conception and coordination of low carbon transport and mobility solutions by increasing institutional capacity. For SO4 the Programme Manual specifies that partnerships must involve a diversified mix of innovation stakeholders active in the transport sector (e.g. enterprises, researchers, education institutions, training organisations, policy-makers, and private investors).

The majority (81%) of Partners involved in the 5 projects approved under SO4[37] are SMEs or other enterprises (23%), business support organisations (6%), entities from higher education and research (25%), education/training centres and schools (2%), or local or regional public authorities (23%). 66 local public authorities are also involved as associated partners confirming the overall positive trend in the other SOs. However, they are mostly concentrated in two projects (CHIPS and SMART TRACK 4 WATERWAY).

[36] Sample of 4 (57%) out of 7 projects selected randomly but making sure that it is representative of all the first 4 calls, and of different project financial sizes.
[37] CHIPS, H2Share, River, FCCP, SMART TRACK 4 WATERWAY (ST4W).

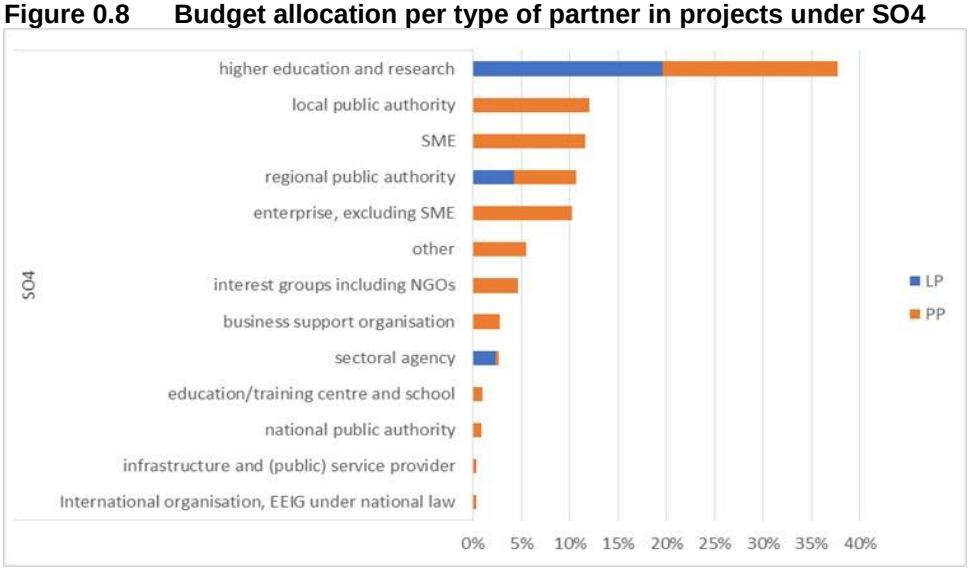
Figure 0.7 Types of partner in projects under SO4



Source: Own elaboration on information on NWE Projects approved as of May 2018

Analysis of the different types of partners combined with the distribution of ERDF per partner reveals a concentration of resources on 'ideal partners' for SO4. Most of the budget (83%) is allocated to partners indicated in the Cooperation Programme as 'innovation stakeholders', with respectively 38% of the ERDF earmarked to entities from higher education and research, 22% to regional and local public authorities, 22% to SMEs or other enterprises, and 1% to education and training centres or schools.

Figure 0.8 Budget allocation per type of partner in projects under SO4



Source: Own elaboration on information on NWE Projects approved as of May 2018

In addition, a detailed assessment of a sample[38] of approved projects from SO4, based on the available AFs, development reports and quality assessments highlights strengths and weaknesses illustrated in the table below.

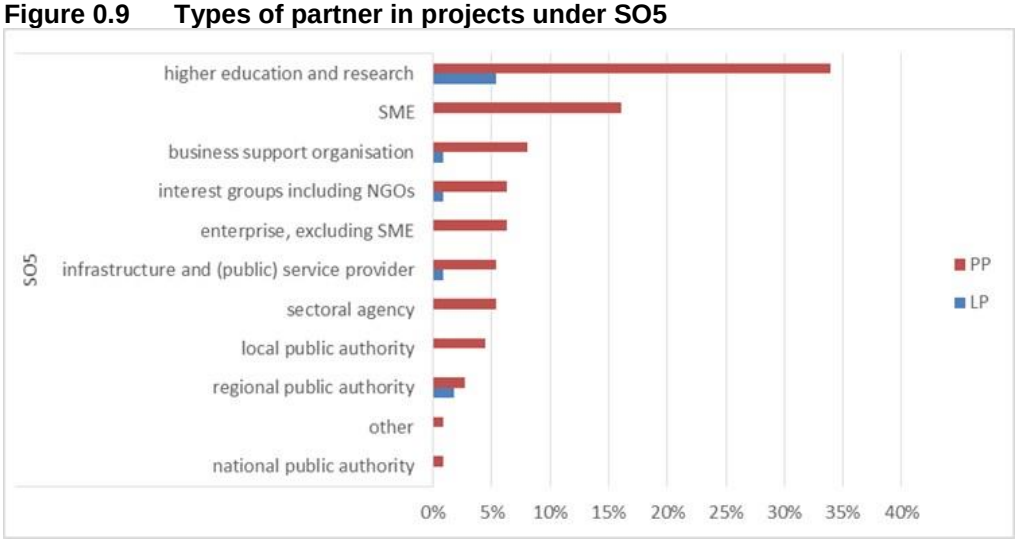
[38] Sample of **4 (80%) out of 5** projects selected randomly but making sure it is representative of the first 4 calls, and different project financial sizes.

SO4: To facilitate the implementation of transnational low-carbon solutions in transport to reduce GHG emissions in NWE	
Based on analysis of projects: Chips (Call1); H2Share (Call2); river (Call3); FCCP (Call4).	
Strengths	**Weaknesses**
• Complementarity of governance level, sector and experience of partners (Chips; H2Share; FCCP)	• Involvement of partners with a symbolic or no budget (H2Share) • Lack of European network organisations that could be in charge of dissemination (river) • Lack of Partners (river) • Unclear relevance of a partner from outside the NWE area (FCCP) • Unclear territorial relevance of some Partners (FCCP)

SO5 encourages collaboration among innovation stakeholders on the development and testing of innovations and/or innovative solutions that are less material intensive than those currently on the market for the (re)use of material and natural resources. The Programme Manual specifies for SO5 that partnerships must involve a diversified mix of innovation stakeholders active in the field of resource efficiency, waste management, industrial production or any other water and/or land-intensive sectors.

The majority (71%) of partners involved in the 11 projects approved under SO5[39] are entities from Higher Education and Research, with a good number of business support organisations, SMEs, and interest groups including NGOs. The associated partners are 123 local public authorities, which is similar to the trend in the other SOs, at least for quantity.

Figure 0.9 Types of partner in projects under SO5



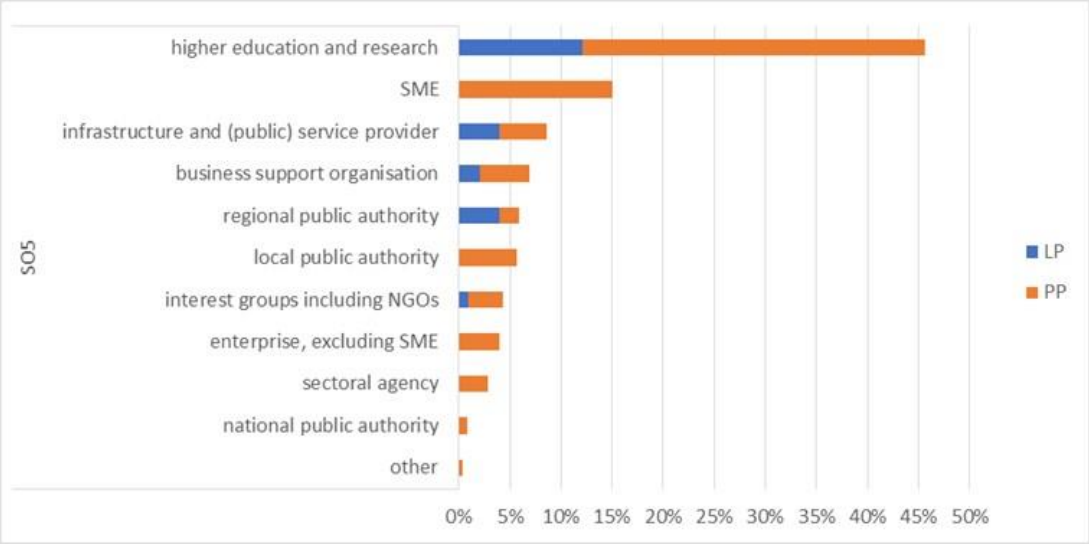
Source: Own elaboration on information on NWE Projects approved as of May 2018

Analysis of the different types of partners combined with the distribution of ERDF per partner, highlights that NGOs have less than 5% of the budget, although they represent more than 7% of all partners. Almost 80% of the resources are thus concentrated on 'innovation stakeholders', with 45% of the ERDF earmarked to entities from higher education and research, 15% to SMEs, almost 9% to infrastructure

[39] AFTB, Fibersort, Food Heroes, Phos4You, RE-DIRECT, SeRaMCo, RAWFILL, ALG-AD, SURICATES, ReNu2Farm, WOW!

and (public) service provider, and 7% to business support organisations. Regional, local and national authorities receive 12% altogether.

Figure 0.10 Budget allocation per type of partner in projects under SO5



Source: Own elaboration on information on NWE Projects approved as of May 2018

Generally, the projects have balanced partnerships allowing for collaboration among innovative stakeholders for development and testing of resource efficient solutions. In some cases, the partnership includes only one or two research institutes. Here the partnership is adequate since these projects focus more on testing than development. The partnership of AFTB shows the opposite balance, with a strong focus on research institutes. In this case other types of partners are involved as associated partners. A detailed assessment of a sample[40] of approved projects from SO5, based on the available AFs, development reports, and quality assessments highlights strengths and weaknesses illustrated in the table below.

SO5: To optimise (re)use of material and natural resources in NWE	
Based on analysis of projects: Phos4You, Rawfill (Call2); Alg-Ad; Suricates (Call3); ReNu2Farm, WOW! (Call4). No projects were approved under Call1 for SO5.	
Strengths	**Weaknesses**
• Involvement of end-users (ReNu2Farm) • Coverage of all the relevant sectors and governance levels, with complementary experience (WOW!) • Territorial coverage of NWE area (ReNu2Farm) • Involvement of stakeholder organisations from other EU countries (RAWFILL) • Clear roles assigned to each Partner (WOW!)	• Involvement of potential Partners as Associated Partners (Phos4You) • Limited or no involvement of end-users (WOW!; SURICATES; ALG-AD) • Limited relevance of Associated Partners (ALG-AD; SURICATES) • Limited territorial coverage (RAWFILL) • Lack of wider networks beyond the partnership (SURICATES).

[40] Sample of 6 (55%) out of 11 projects selected randomly but making sure it is representative of the first 4 calls, and different project financial sizes.