Implementation of the NER 300 funding Programme

Final progress report

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EUROPEAN COMMISSION

Directorate-General for Climate-Action
Directorate C - Climate Strategy, governance and emissions from non-trading sectors
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Introduction

The NER 300 programme was set up as one of the largest funding schemes for the demonstration of low-carbon technologies at commercial scale and to contribute to the implementation of the following EU policies and strategies:

- The Strategic Energy Technology Plan (SET-Plan), the technology pillar of the EU energy and climate policy (COM(2009) 519)
- The 2030 framework for climate and energy policies (A policy framework for climate and energy in the period from 2020 to 2030 (COM(2014) 15)
- The Energy Roadmap 2050 (COM(2011) 885), aiming to decarbonise the EU power sector by 2050
- The Roadmap for moving to a competitive low carbon economy in 2050 (COM(2011) 112)

The NER 300 programme was established under Article 10a(8) of the Emissions Trading Directive 2003/87/EC and further developed through the NER 300 Decision (amended in February 2015 to extend the programme's deadlines and meet the projects' implementation needs). It aimed to co-fund both carbon capture and storage (CCS) and renewable energy (RES) demonstration projects in different technology sub-categories within the territories of EU Member States. The initiative is referred to as NER 300, because the funding was raised from the monetisation of 300 million allowances set aside in the New Entrant Reserve (NER) of the EU Emissions Trading System. The objective of the NER 300 programme was to provide financial support to carbon capture and storage (CCS) and to innovative renewable energy (RES) demonstration projects. The NER 300 Decision defined one CCS category and eight high-level RES technology categories. Within these high-level categories, four different sub-categories of CCS projects as well as 34 different sub-categories of RES technologies were defined.

NER 300 was set up as a very important instrument for promoting both the development and the deployment of low-carbon technologies in the EU, since it aimed at bridging the gap between their R&D and market uptake phases. To do so, it also sought to leverage a considerable amount of private investment and/or national co-funding across the EU.

€2.1bn of NER 300 funding was originally awarded to 39 innovative demonstration projects in renewable energy and carbon capture and storage in 20 Member States. 9 of the awarded projects are already operational as of December 2019 with 9 further projects still working towards entry into operation. One project shall be considered as completed, see Table 1.

Table 1 : Active NER 300 projects

Member State	Classification	Project Title	Comment
AT	WINe	Windpark Handalm	In operation
CY	CSPc	EOS GREEN ENERGY	
CY	DRMa	Green+	
DE	BIOh	Verbiostraw	In operation
DE	WINa	Nordsee One	In operation
DE	WINa	Veja Mate	In operation
EE	BIOb	TORR	
EL	CSPc	Minos	In operation
EL	CSPe	Maximus	
ES	WINd	BALEA	
ES	WINd	FloCan5	
FR	GEOc	GEOSTRAS	
FR	WINd	Vertimed	In operation
HR	GEOc	Geothermae	
HU	GEOb	South Hungarian Enhanced Geothermal System (EGS) Demonstration	

Member State	Classification	Project Title	Comment
IT	BIOg	BEST	Completed
IT	DRMa	Puglia Active Network	In operation
PT	WINd	Windfloat	In operation
SE	WINf	Windpark Blaiken	In operation

Scope of work

Following the adoption of the two NER 300 award decisions in December 2012 and July 2014 and in order to ensure the successful implementation of the programme, the Commission is:

- Coordinating the implementation of NER 300 programme and assessing any notifications of proposed changes to the projects submitted by Member States;
- Amending, when necessary, the two NER 300 award decisions to reflect significant changes to the awarded projects;
- Reacting to annual reports submitted by the Member States for the awarded NER 300 projects,
- Reacting to any technological and financial issues that awarded projects might encounter during their life-cycle.

A team led by Ricardo Energy & Environment, and including Lasting Values, TNO and Trinomics was tasked with providing technical assistance to the NER 300 Programme for the projects awarded under the first and second calls for proposals between January 2016 and December 2019. This report identifies a number of lessons learned that should be considered in the design of any future funding mechanism, such as the Innovation Fund, to make it as effective and efficient as possible.

Lessons Learned

It is important to learn lessons from the implementation of the NER 300 programme to make any future funding mechanism, such as the Innovation Fund, as effective and efficient as possible. These are summarised below together with further insight from the monitoring of projects and a review of the reasons why projects withdrew from NER300.

Review of reason for withdrawal

At the end of December 2019, 20 projects have withdrawn from NER300 funding since its start. Reasons for withdrawal as communicated by the Member State to the Commission have been analysed. In addition, a more detailed analysis was performed using the final annual progress reports submitted for each project and multiple reasons were identified for the withdrawal[1]. The table below shows a high-level analysis based on technology category. Numbers refer to the official reason analysis, numbers in brackets refer to the more detailed project report analysis.

Table 2: Analysis of reasons for withdrawal

Category	No of project approved	No of projects withdrawn	Finance	Policy/ Regulatory	Permits	Technical	Market/ Commercial
BIO	13	10	6 (8)	2 (5)	2 (2)	2 (5)	5 (8)
CCS	1	1[2]	1	1			
CSP	5	2	1 (2)	1 (2)			
DRM	3	1[3]					
GEO	3	0					
OCN	5	5	3 (3)	1 (2)	1 (1)	2 (3)	0 (1)
PV	1	1	0 (1)	0 (1)	0 (1)	1 (1)	
WIN	8	0					

It can be noted that none of the projects in the categories GEO and WIN have been withdrawn to date with a potential withdrawal of one of the GEO projects. This is maybe because WIN is a more mature technology and therefore perceived by investors as less risky.

Reasons for withdrawal are manifold and there is no real pattern to be seen. However, it can be noted that where regulatory or other issues arose this generally then resulted in difficulties in raising the private equity match funding.

We also looked to see if the amount of match funding was significant in the reason for withdrawal, but the projects which withdrew varied between 4M EUR and 300M EUR and no significant pattern could be identified.

Review of project change requests

In total 16 assessments of technical change requests (both formal and informal) were performed for nine projects over the course of the contract. Six of these projects continue to be live projects, while one is likely to withdraw and two have withdrawn despite the request for changes. The change requests were driven by a variety of factors including:

- Problems with technical suppliers either withdrawing from the project or going bankrupt
- Changes to optimise the performance of the plant
- Change of location of the plant
- Changes to ensure connection to the power grid.

[1] The two additional projects that may withdraw have not been included in the analysis.
[2] No annual progress report available for review in detailed analysis
[3] No annual progress report available for detailed analysis.

Specific lessons learned and recommendations Conclusions

NER 300 has funded 39 projects in various technology categories including bioenergy, concentrated solar power, geothermal, ocean, smart grids, photovoltaics and wind, but did not achieve its aim to support any carbon capture and storage (CCS) projects. In general, under the NER300 programme, the majority of projects faced difficulties, whether financial, commercial, or relating to the permitting process. The following is a summary of lessons learned from the overall NER 300 programme, from programme design through to the monitoring phase.

Lesson learned 1: Many of the difficulties were related to enabling investment decisions, rather than technical issues. The reasons for this are many but included changes or delays in the provision of financial support measures (referred to as Policy/Regulatory in Table 2) in the Member States, which are required to ensure sound project finances. In particular, it became more difficult and time consuming to raise the necessary debt and equity for the projects. Projects had to effectively cover the full costs of the project through debt finance or equity and were only able to claim costs back after operation of the plants started, however, this was also under the proviso that projects had to deliver a minimum of 75% of the energy forecast in their application. While upfront funding was available from the Commission, projects could have been asked to pay this back if the plant significantly underperformed.

***Recommendation 1*:** Removing the requirement of target achievement (as used under NER 300) and replacing it by a milestone-based approach could increase the effectiveness and efficiency of any future funding mechanism. At the start of the project a milestone-based timeline and grant disbursement will be agreed with the Commission, which will help projects with the management of cash flow. In addition, a number of stage gate review points will be included which could then trigger a "go/no-go" decision for the continuation of the project. This could then be coupled with securing funding for only the next stage of the project and would allow less risk averse investors to invest in the project at later, less risky stages and therefore help with securing capital for the complete project.

Lesson learned 2: Another important issue that emerged during the NER 300 programme was the lengthy application process (25 months for the 1st call from applications through to award), which discouraged project developers from applying or caused them to stop the procedure.

Recommendation 2: Streamlining the application process and reducing the timescales between application and entry into operation might encourage more potential applicants to apply.

Lesson learned 3: Projects applying at an early stage for NER 300 funding were allowed up to 60 months before the plant had to enter into operation. In addition, projects could also receive a one-year grace period prior to operation. Thus, from the application date, a project could be allowed six years until start of operations. During this time, parameters such as regulation and technology could significantly change and therefore make the project no longer viable.

Recommendation 3: The call for proposals should include criteria to ensure that projects are already at an advanced phase of preparations as this would most likely also mean that applicants are already at a more advanced stage in securing private investment and therefore might have an improved chance of succeeding.

Lesson learned 4: In regard to the governance and monitoring procedure, following the extensive work carried out on NER 300, the project team believes that areas of improvements can be identified. In particular, efficiency could be enhanced if the authority managing the progress and procedure of any new fund can be in direct contact with the projects. Under NER 300, the Commission was the only direct contact with Member States/projects, which, in turn, received updates from the national managing authority

which was in direct contact with the funded project. Therefore, the Commission had been managing and chasing reporting, which on occasions was very time consuming, and in future it would be better and more efficient if this task is performed by the same authority that is reviewing and assessing the reports. In addition, the annual reporting procedure set up under the NER 300 did not necessarily have the most appropriate timeframe.

Recommendation 4: Based on experience, we would recommend a direct relationship between the monitoring agent and the project. More frequent and perhaps more informal reporting procedures might be advantageous, particularly for those projects that are not progressing to plan, as this would allow corrective action at an earlier stage and closer monitoring.

Lesson learned 5: Based on our experience it is both effective and efficient to maintain continuity of assessors for each project across the duration of the project. This retains a level of knowledge about the project, which is not necessarily resubmitted in each annual report. It also helps for the same assessor to deal with any technical change requests as they are already familiar with the project.

Recommendation 5: Assign and retain the same assessor for each individual project and any associated technical change requests.

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