
# Ex post Evaluation of Cohesion Policy Programmes 2007-2013, focusing on the European Regional Development Fund (ERDF) and Cohesion Fund (CF) – Work Package 6: Environment

*Final Inception Report, 18 March 2015*

# CONTENTS



# APPENDICES

# Appendix E Guidance for Task 3, Water and wastewater projects

# 1 Introduction

This is the revised inception report of the project 'Ex-post evaluation of Cohesion Policy Programmes 2007-2013, Work Package 6 – Environment'. The project was initiated upon contract signature 12 December 2014. The kick-off meeting was held in Brussels on 18 December 2014. The first version of the inception report was submitted on 28 January 2015. The report was discussed at the Steering Group meeting on 18 February 2015. This revised inception report takes into account the comments received during the meeting as well as the written comments received from DG REGIO on 23 February 2015. A final revision of the report took place subsequent to dialogue with DG REGIO on the timetable of the project in mid-March. Hence, this final version of the report takes into account the agreement reached and the status of the project as per 16 March 2015.

## 1.1 Purpose and main contents of this report

The report provides the methodology for the project, further developed compared to that presented in the proposal. The report does not repeat each detailed element of the proposal, but highlights the main points and describes how the methodology has been further developed. Also, it points to a few elements of the proposal, which have been excluded – and thus do not form part of the basis for implementing the project.

## 1.2 Structure of the report

The report consists of five chapters.

This first chapter provides the introduction and an overview of main changes compared to the proposal.

Chapter 2 describes the methodology for each task

Chapter 3 presents the detailed time schedule and activity plan

Chapter 4 includes key points about how we will organise and manage the project in the relations to key project stakeholders

Chapter 5 describes the proposed selection of 20 projects to be subject to analysis in tasks 2 and 3.

## 1.3 Brief overview of main changes compared to proposal

Table 1-1 provides an overview of the main changes compared to the proposal.

*Table 1-1 Main changes compared to the proposal*

| Task | Change description |
|---|---|
| Task 1 | Methodology further elaborated, including how the effect of the financial crisis during the evaluation period will be considered |
| Task 2 | More information included on how assumptions can be assessed against a 'best practise' benchmark. Guidelines for Task 2 developed in the form of a commented template to be filled in for each project. |
| Task 3 | Methodology for data collection, quantitative analysis and recalculation described in more detail. It was agreed during the kick-off meeting that task 3 should encompass operational projects only. The methodology for task 3 thus rests on this principle. |
| Task 4 | More specific information on how (and when) case study manual will be developed. Chapter 4 contains more details on organisation of the studies. |
| Task 5 | No major changes. |
| Task 6 | Methodology for organising the day further developed and more specific suggestions for invitees |
| Task 7 | It was agreed during the kick-off meeting that the suggestion in the proposal to use evaluation criteria for structuring of the final report will not be applied. The detailed table of contents developed in this inception report thus does not include this element. |

# 2 Refined methodology

This chapter describes the methodology as it has been further developed based on the proposal and the discussions during the kick-off meeting and the Steering Group meeting on 18 February. The description of each task includes the key elements from the proposal and the additional items added during the inception phase. It focuses on the operational aspects of how to accomplish the tasks. For more information on the conceptual understanding of the tasks, reference is made to the proposal.

Each task is described in terms of **how** it will be accomplished and **what** the end **result** will be. The activities and their timing and sequence is described in Chapter 3. The organisation of the work to accomplish the tasks is described in Chapter 4.

## 2.1 Task 1: Summary of achievements

The main objective of Task 1, as per the tender specifications, is to present the contribution of the Cohesion Policy in the period 2007-2013 to meeting the requirements of the *acquis communautaire* in the fields of management of household and industrial waste (priority theme 44), management and distribution of drinking water (priority theme 45), and wastewater treatment (priority theme 46). This task can be divided in three main components:

- Providing a summary of the state and development of the European environmental legislation between 2007 and 2013;
- Providing an overview of the main trends and developments within this period including technology and finance;
- Identifying the contribution of Cohesion Policy to the above-mentioned developments.

Discussions at the kick-off meeting noted several issues to be considered within the scope of the evaluation.[1] These include:

- Impact of the financial crisis. From 2009, the financial crisis can be seen as an explanatory factor for at least some of the Member States, potentially contributing to delays in implementation of the investments supported from the CP funding. The role and magnitude of this factor will be considered mainly while analysing financial developments[2].

- Time period. The evaluation covers interventions supported by the European Regional Development Fund (ERDF) and the Cohesion Fund (CF) allocated within the financial perspective 2007-2013. The available financial data

[2] The role of the financial crisis will also be considered while verifying the assumptions (task 3) and carrying out the case studies (task 4).

cover Operational Programme allocations and allocation of funds to specific projects up to 2013 . Data on core indicators is also available up to 2013. Consequently, 2013 will be the standard cut-off year for evaluation of Cohesion Policy financial support within Task 1.

- Geographical scope. An overview of the development of the environmental legislation and technological trends will cover all the Member States that have allocated Cohesion Policy funding for water and waste. Data available on Infoview indicates that 19 Member States allocated funding for the three priority themes in their Operational Programmes – these countries will therefore be in focus while analysing Cohesion Policy spending.

Task 1 will be implemented in three main steps referring directly to the three main components indicated at the beginning of this section. The sections below summarise the methodological approach to be taken in each of them, describe the data and sources to be used and point out the main data risks/challenges together with the proposed ways to tackle them. (This report thus updates and elaborates the approach described in the proposal.) The output of this work will be the Task 1 Report, which will be integrated into the project final report. A draft Task 1 report will be provided as part of the interim report. This draft report will also note gaps in data that will be filled later in the year.

Task 1 will use several main data and information sources: these include in particular Eurostat data and cross-country data and information on the implementation of Cohesion Policy. Reports on the implementation of EU Directives will provide a source of information. We will also review Operational Programmes in selected Member States. The box on the following page provides an overview of the main sources to be used, based on the literature review carried out so far. We will supplement this information with a further literature review. A preliminary review of academic literature, however, identified mainly articles concerning the previous (2000-2006) spending cycle; moreover, few of these sources considered environmental themes.

*Table 2-1 Summary of data, literature and reports to be used in Task 1*

| **Summary of literature and reports to be used in Task 1** |
|---|
| **Reports on environmental status and progress in the EU**<br>▪ Synthesis Report on the Quality of Drinking Water in the EU examining the Member States' reports for the period 2005-2007 under Directive 98/83/EC<br>▪ Synthesis Report on the Quality of Drinking Water in the EU examining the Member States' reports for the period 2008-2010 under Directive 98/83/EC (COM(2014) 363 final) and background technical reports<br>▪ Seventh Report on the Implementation of the Urban Waste Water Treatment Directive (91/271/EEC) (COM (2013) 574 final)<br>▪ Eighth Report on the Implementation of the Urban Waste Water Treatment Directive (91/271/EEC) (to be published in 2015)<br>▪ Technical assessment of the implementation of Council Directive concerning Urban Waste Water Treatment (91/271/EEC) |

- EEA report 'Managing municipal solid waste – a review of achievements in 32 European countries' plus country reports

**Information on infringement procedures in the years 2007-2013**

- Internal list provided by the European Commission
- European Commission press releases of infringements (available at: http://ec.europa.eu/environment/legal/law/press_en.htm)

**Data on funding needs for the 2007-2013 period**

- GHK (2006), Strategic evaluation on environment and risk prevention under structural and cohesion funds for the period 2007-2013.

**Cohesion Policy programming documents and reports for selected Member States**

- Operational Programmes for environmental infrastructure 2007-2013
- Operational Programmes for environmental infrastructure 2014-2020
- List of project beneficiaries for 2007-2013

**Member State evaluation reports for the 2007-2013 period**

- Expert evaluation network delivering policy analysis on the performance of Cohesion Policy 2007-2013 (2013), Synthesis of National Reports 2012, for DG Regional and Urban Policy (+ national reports)
- Expert evaluation network delivering policy analysis on the performance of Cohesion Policy 2007-2013 (2013), - Country reports for selected Member States
- National-level evaluations from Member States if identified through the EEN reports as particularly relevant for environment

**Studies and reports on Cohesion Policy and environment**

- European Court of Auditors (2009) The effectiveness of structural measures spending on waste water treatment for the 1994-99 and 2000-06 programme periods
- European Court of Auditors (2010), Is EU Structural Measures Spending on the Supply of Water for Domestic Consumption Used to Best Effects?, Special Report No 9
- COWI (2010) Compliance costs of the Urban Waste Water Treatment Directive;
- Milieu Ltd (2011) Funding needs in the waste sector
- ADE (2009) Ex post Evaluation of Cohesion Policy Programmes 2000-2006 co-Financed by the ERDF (objectives 1 and 2) – Work Package 5b: Environment and Climate Change
- RGL Forensics (2011) Ex-post Evaluation of Cohesion Policy Interventions 2000-2006 Financed by the Cohesion Fund (including former ISPA)
- IEEP et al (2010) Cohesion Policy and Sustainable Development: A Literature Review, Supporting Paper 1
- IEEP et al (2010) Cohesion Policy and Sustainable Development: Cohesion Policy Performance, Supporting Paper 2
- University of Strathclyde (2013) European Commission Perspectives on the 2014-2020 Partnership Agreements and Programmes: A Comparative Review of the Commission's Position Papers
- CEE Bankwatch Network (2013) No time to waste – Cohesion Funds programming for a resource-efficient Europe

- DG Regional Policy (2009) Cohesion Policy: response to the economic crisis
- Smail, Robin/EIPA (2010) The response of Cohesion Policy to the economic crisis
- European Commission (2013) Cohesion Policy: Strategic Report 2013, COM(2013) 210 final; SWD(2013)129 final and Factsheet: Environment

**Detailed Member State data**

We will gather and assess qualitative data and information for six selected Member States to supplement the quantitative data gathered systematically for the 19 Member States using the Cohesion Policy funding in the three priority themes. For each of these six Member States, we will select the largest Operational Programmes providing support for the three priority themes. We propose the following criteria to choose the six Member States:

- Geographical balance: EU13 and EU15; northern and southern Europe; as well as both larger and smaller Member States
- Member States where Cohesion Policy plays an important role in the priority themes

On this basis, we propose the following Member States: Bulgaria, Estonia, Spain (Andalusia), Italy (Campania), Poland, Slovenia. The main information to be collected is as follows:

- Summary of the 2007 baseline situation as set out in the 2007-2013 Operational Programme
- Lists of projects funded in each sector, based on the list of beneficiaries available on the Operational Programme authorities' web sites, and a brief summary of the types of infrastructural solutions implemented
- Description of the baseline situation from the 2014-2020 programming period to provide a picture of situation at the end of the 2007-2013 cycle

### 2.1.1 Step 1: State and development of EU legislation

This step will focus on assessment of the legislative state of play in the environmental sector in 2007 and subsequent legislative changes within the period 2007-2013. The step will thus provide an overview of the key targets and objectives set in EU legislation across the three priority themes. Table 2-2 below lists the key questions which will guide this step.

*Table 2-2 Key questions to be used in step 1*

| Key questions |
| --- |
| 1. For each of the three subject areas, what EU legislation was in place by 2007 and how did the legislation develop in the period 2007-2013?<br>▪ Listing of key objectives / targets/ key requirements to implementation in the Member States<br>▪ Transposition of legislation (mentioning any transitional periods agreed, e.g. in connection with implementation in new Member States)<br><br>2. Is there evidence that transposition of key directives has been late in the 19 Member States? |

The main **sources** for Task 1 will be EU legislation:

- Drinking Water Directive (98/83/EC), as well as the Water Framework Directive (2000/60/EC)
- Urban Wastewater Directive (91/271/EEC)
- In the field of solid waste management, the following legislation: Waste Framework Directive (2006/12/EC); Landfill Directive (99/31/EC); Hazardous Waste Directive (91/689/EEC); Incineration of Waste Directive (2000/76/EC)

In addition, the Treaties of Accession for the EU13 will be used to identify specific deadlines negotiated with these Member States. Finally, as explained below, data on infringement cases will provide some further information for Step 1.

The main development in the area of environmental law during the period 2007-2013 happened in the sector of waste management in relation to the adoption of the Waste Framework Directive (2008/98/EC). The new objectives of this directive will be described, with special focus on the revised hierarchy of waste management.

For a comprehensive presentation of the legislative objectives, tables will be created describing legislative targets and deadlines (including transitional periods) regarding the key directives.

This information will be supplemented with data on infringement cases related to their transposition, as this will provide an indicator of legal delays across Member States. The underlying data, which has been supplied by DG Environment, is sensitive and the link between infringement cases and national implementation may be indirect; for these reasons, this data will be presented on a broad, cross-country scale.

### 2.1.2 Step 2: Overview of main trends and developments to 2013

This step will provide an overview of the overall trends and developments in Member States in the period from 2007 to 2013, across the three priority themes. It will describe: the baseline situation with regard to environmental status in the three priority themes; trends and developments in each sector with regard to the key EU targets and technological approaches used; and environmental investment trends across the EU during the period. The overview will be based on a combination of quantitative and qualitative data from various sources. Table 2-3 below lists the key questions which will guide this step.

*Table 2-3 Key questions and data sources to be used in step 2*

| Key questions |
|---|
| 1. For each of the three priority themes, what have been the main trends and developments with regard to the relevant EU legislative targets? What is the level of progress towards the key targets? |
| 2. What was the overall level of environmental infrastructure investment in the Member States during 2007-2013? What was the level of infrastructure investment for each of the three priority themes? |

The main **sources** to be used for Step 2 are as follows:

1. Eurostat data on environmental investments and on key environmental trends for the three priority themes

2. Commission implementation reports on the main directives for the priority themes

3. Other literature sources, including EEA reports on key issues for waste management and data on infringement cases

4. Information collected from 2007-2013 and 2014-2020 Operational Programmes for selected Member States

We will also review the 2014-2020 result indicators to see if they provide data that can supplement and update Eurostat data on environmental trends for the three priority themes.

In terms of investments, we will also gather information for one additional major source of financing, European Investment Bank loans. Information on finance contracts signed per country and sector (solid waste and water & sewerage) is available on the European Investment Bank website[3]; this will be summarised and included in the analysis.

[3] http://www.eib.org/projects/loans/regions/index.htm

In addition, we will supplement the sources listed above with overview information on infringement cases related to poor application of the directives, presented by priority theme. The results will provide indications on the distance to full implementation of the directives.

The following paragraphs provide further discussion for each priority theme.

For **priority theme 44** (management of household and industrial waste), the focus of analysis will be on municipal solid waste, as this is a key area for EU policy objectives and for Cohesion Policy spending. An overview of qualitative information available on other waste streams (industrial and hazardous waste) will also be provided. Key information sources to be used are listed in Table 2-4.

*Table 2-4 Data sources for priority theme 44 (Management of household and industrial waste)*

| Indicator | Comments |
|---|---|
| Eurostat Indicators | |
| Investments in waste management sector | Data available to 2012<br>We will use the yearly averages available in the period 2007-2013 as a basis of comparison. Data are missing for Greece[4]. |
| Municipal solid waste generated, treated, landfilled, incinerated, recycled, composted | Data available to for 18 of the 19 Member State for 2007 and 2012 (data for 2013 expected by April 2015 – to be included in the final Task 1 report) |
| Key implementation reports and studies | |
| European Commission | Report on the implementation of the EU waste legislation, COM(2013) 6 and background documents |
| European Environment Agency | EEA, Managing municipal solid waste - a review of achievements in 32 European countries, 2013<br>An overview by country to 2010 |

The Eurostat indicators will provide an overview of the main trends in the sector for each Member State. The indicators on investment will provide an overview of the trends in this area.

The indicators on municipal solid waste will be used to focus on implementation of the waste hierarchy for municipal solid waste (MSW) and the investments for the sector. Regarding the waste sector, trends in shifting away from the landfills and moving up the waste hierarchy ladder will be in focus of the indicator

[4] Preliminary attempts to obtain national data have not been successful.

analysis. Indicators for the share of municipal solid waste treated by incineration, recycling and composting will show Member State progress in terms of implementing the waste hierarchy.

Eurostat data does not cover all key targets in the legislation – a key example is the closure of municipal solid waste landfills that do not meet standards, an action that has been supported by Cohesion Policy resources in several Member States. Literature sources (e.g. European Environment Agency reports) may provide some missing information, but data may not be fully comparable across Member States and some information may be only qualitative. For this reason, it probably will not be possible to provide a clear trend in terms of meeting this target.

The European Commission's implementation reports on key waste directives may provide some further information to fill gaps where Eurostat data do not directly relate to municipal solid waste targets in the EU directives. New implementation reports are currently in preparation based on recent reporting by Member States: these will include, among others, the former Hazardous Waste Directive, the Landfill Directive and Sewage Sludge Directive. We understand that this will be available by July 2015. However, a preliminary review of previous implementation reports found information mainly related to legislative and policy actions rather than infrastructure and technology trends. For this reason, we expect that a more valuable source will be the European Environment Agency's 2013 country studies: these provide an overview, for each Member State, of key areas where attention is needed to improve municipal solid waste management and thus provide indications in terms of the distance to meeting EU targets. These studies, however, focus on the situation at the mid-point (2010) and thus will not provide a trend over the period.

The review of 2007-2013 Operational Programmes in selected Member States (described at the end of Table 2-1) will provide further information, in particular an overview of key areas where investment was needed in 2007 to meet EU targets. We will draw on the 2014-2020 Operational Programmes for these Member States for an overview of areas where investment in the sector was needed at the beginning of this period (and thus the end of the 2007-2013 period). We will also provide indicative information from the GHK (2010) study on the estimated funding needs for the sector for the 2007-2013 period, as this provides a further, though rough, indication of the distance to meeting the targets in EU directives.

With regard to technologies, we will consult with technical experts on the team who will provide input regarding whether there have been major technological developments that have been introduced in Europe. This information, however, may not be available for the draft task 1 report (interim report).

For **priority theme 45** (management and distribution of drinking water) we will provide data on population connected to public water supply as a key indicator

(also to be linked to the related CP core indicator). Unfortunately, Eurostat data on this indicator are available for only 10 of the 19 Member States. Data are available to 2011; by August 2015, data for 2012 should be available. The Eurostat indicator will be used to provide an overview of the trend.

The European Commission's implementation reports for the Drinking Water Directive provide data on the quality of drinking water for 2007 and 2010 for 18 of the 19 Member States. This information is valuable as it relates to key requirements and targets under the Drinking Water Directive to ensure clean water. These trends will be presented for 2007 and 2010, and will show progress towards the water quality targets of the Drinking Water Directive.[5]

These reports also provide data on population connected to major water supply sources (those for 5000 population or more). This data can supplement the Eurostat data on population connected, as it covers more Member States.[6]

In addition to the requirements under the Drinking Water Directive, the Water Framework Directive (WFD) calls for the designation and protection of water bodies used for the abstraction of drinking water (Art. 7). The 2012 implementation report for the Water Framework Directive will be used to provide data on the number of water bodies designated in 2009 and an overview of progress towards these requirements.

Investment data for this sector are not provided separately in Eurostat's series on environmental investments.[7] We will search for investment data for the sector, for example from industry sources, but preliminary contacts suggest that this may not be available. As a result, it probably will not be possible to present overall investment data for this priority theme. We will also ask industry and experts to provide a qualitative overview of investment trends. It is possible, however, that this will not be available for the draft task 1 report (interim report).

*Table 2-5 Data sources for priority theme 45 (drinking water)*

| Indicator | Comments |
|---|---|
| Eurostat data | |
| Population | Data available for 2007 and 2011 for 10 of the 19 Member States (Data |

[5] A more recent update of the information is not expected, as reporting is carried out every three years; moreover, via a recent project on reporting for the Drinking Water Directive, we have seen that national reporting is not up to date in many Member States as it is required only every three years under the Directive.

[6] The data from the Commission implementation reports can only provide a supplement, as they do not include population connected to small water sources (exempted from reporting under Art. 13 of the Directive) and thus not total population connected.

[7] Eurostat data on general government expenditure by function (COFOG) for gross fixed capital formation has a category for water supply – but data have been found for only four of the 19 Member States with OP allocations for the three priority themes.

| Indicator | Comments |
|---|---|
| connected to public water supply | for 2012 to be available by August 2015 – updates to be included in the final Task 1 report) |
| Key implementation reports and studies | |
| Drinking Water Directive | European Commission, Implementation of the Drinking Water Directive 2005-2007 Synthesis Report, 2010<br>Data for 2007<br>European Commission, Implementation of the Drinking Water Directive 2008-2010 Synthesis Report, 2013<br>Data for 2010 |

An analysis of 2007-2013 Operational Programmes in selected Member States, similar to that for solid waste, will provide an overview of the situation and the key areas where investment was needed in 2007 and, using the 2014-2020 Operational Programmes, an overview of the situation and remaining areas for investment as seen at the end of the 2007-2013 period. For this priority theme, the qualitative information from the Operational Programmes will be more important due to the lack of quantitative information compared to the other two priority themes. In addition, we will provide indicative information from the GHK (2010) study on investment needs for the priority theme, as a rough indicator of the gap in terms of meeting EU targets.

It can be noted that in the drinking water sectors, technologies are largely tried and tested so no major technological barriers and developments are expected. We will consult with technical experts on the team who will provide input regarding if there have been major technological developments that have been introduced in Europe. This information, however, may not be available for the draft task 1 report (interim report).

For **priority theme 46** (wastewater treatment) Eurostat data on total investments in the sector will be used. However, data on population connected in 2007 and 2011 is available for only 10 Member States.[8] This indicator will nonetheless be used, as it can be linked to the Cohesion Policy core indicator (as described in step 3).

The European Commission's implementation reports contain a range of further data, including the following indicators:

- Share of generated load connected to collecting (i.e. sewer) system

[8] Eurostat data will be updated, where Member States have reported, in the course of 2015.

- Share of generated load connected to treatment plants

These indicators will also be presented; here, data for these indicators are available for 2010 for all the 27 Member States at the time; 2007 data, however, are available for only 10 Member States.

The implementation reports moreover provide a range of further analysis on the implementation of the Urban Wastewater Treatment Directive, including progress to the main targets under the Directive (i.e. the requirements to have collecting systems for agglomerations above 2000 population equivalent and requirements for secondary and tertiary treatments). The information on progress to targets appears to be fairly complete for 2010, though not for 2007.

In addition, Member States have provided new reporting on implementation to DG Environment in 2014 – this covers data for 2012 and, where available, 2013. We are aware, via ongoing projects with DG Environment, that preliminary EU-wide results should be available by August 2015. This can be used to provide an overview that reaches near the end of the 2007-2013 spending period. The most recent reporting cycle now also asks for information on investments in the sector; if this data is available, it can be used to supplement Eurostat data on investments. Consequently, for this priority theme, the information base is expected to be significantly stronger for the final Task 1 report.

*Table 2-6 Data sources for priority theme 46 (wastewater treatment)*

| Indicator | Comments |
|---|---|
| Eurostat indicators | |
| Investments in wastewater treatment | Data available to 2012<br>Data are missing for Greece. [9] |
| Population connected to wastewater treatment plants | Data available for 2007 and 2011 for 6 of the 19 Member States (Data for 2012 to be available by August 2015 – to be included in the final Task 1 report)<br>Secondary treatment and tertiary treatment separately but data for many Member States missing |
| Population connected to wastewater treatment plants with secondary and tertiary treatment | Data available for 2007 and 2011 for 10 of the 19 Member States (Data for 2012 to be available by August 2015 – to be included in the final Task 1 report)<br>Secondary treatment and tertiary treatment separately but data for many Member States missing. |
| Wastewater treatment (Priority Theme 46) | |

[9] Preliminary attempts to obtain national data have not been successful.

| Indicator | Comments |
|---|---|
| Urban Wastewater Treatment Directive | Sixth Report on the Implementation of the Urban Waste Water Treatment Directive (91/271/EEC)<br>Data for 2007/2008<br>Seventh Report on the Implementation of the Urban Waste Water Treatment Directive (91/271/EEC)<br>Data for 2009/2010 |

It can be noted that in the wastewater treatment sectors, technologies are largely tried and tested so no major technological barriers and developments are expected. We will consult with technical experts on the team who will provide input regarding if there have been major technological developments that have been introduced in Europe. This information, however, may not be available for the draft task 1 report (interim report).

Using a similar analysis as for the other two priority themes, the review of 2007-2013 Operational Programmes in selected Member States will provide an overview of key areas of investment needs in 2007 and, using the 2014-2020 Operational Programmes, an overview of the remaining areas as seen at the end of the 2007-2013 period. We will also provide indicative information from the GHK (2010) study on estimated funding needs for the priority theme for 2007-2013.

### 2.1.3 Step 3: Assessment of Cohesion Policy contribution

The third step will assess the contribution of Cohesion Policy spending to the overall progress in the three themes, as outlined in step 2. This final activity will thus synthesise data and information previously gathered and analysed and compare this with information available on Cohesion Policy contributions to the three priority themes.

Table 2-7 below lists the key questions and data sources to be used within this step.

*Table 2-7 Key questions and data sources to be used in step 3*

| Key questions |
|---|
| 1. What was the level of Cohesion Policy allocations by priority theme and by Member State? How do allocations compare across Member States and sectors and as a % of overall environmental investment and overall Cohesion Policy allocations? |
| 2. What have been the key outputs and results of Cohesion Policy allocations in these areas? What types of projects have been chosen in each sector? |
| 3. What has been the impact of the financial crisis on Cohesion Policy investment in environmental infrastructure? |
| 4. Based on the different sources of evidence, what has been the contribution of Cohesion Policy to Member States implementation of environmental directives? |

For Step 3, we will draw on sources used in Steps 1 and 2. We will also use the following:

1. Data from DG Regio on Cohesion Policy allocations

2. WP0 data on core indicators and programme specific indicators

3. For selected Member States, project titles from lists of beneficiaries and information from the Operational Programmes

First, we will make **broad comparisons** across all 19 Member States. One element will be a comparison with Cohesion Policy allocations:

- Total allocations to projects from 2007 to 2013 for the three priority themes, by Member State, compared to total Cohesion Policy allocations for this period

This will show relative importance of these sectors for Cohesion Policy operations in each Member State as background information for the analysis.

A second element will be a comparison, across the three priority themes, of the data available for Cohesion Policy and that from Eurostat gathered in Step 2:

- Overall investment in environmental infrastructure from Eurostat vs Cohesion Policy allocations to projects (Eurostat data available for priority themes 44 and 46)

- The relevant results of the core indicators compared to overall results for priority themes 45 and 46 and to targets (data available, as the core indicator for priority theme 44 is not comparable with Eurostat data)

The results will provide one important indication of the role of Cohesion Policy compared to overall environmental investments and trends. (As noted in Step 2, the Eurostat data and these comparisons have some limitations, for example in terms of time period: this will be noted when discussing the results; moreover, results will be updated later in the year when further data are available.)

Supplementary information will also be used. This will include:

- Programme-specific indicators compared to targets across the priority themes

These results will vary by country, as Member States choose which programme-specific indicators to use. In addition, any relevant results from the literature review will be incorporated into the analysis.

Second, we will supplement the broad-based quantitative results described thus far with **analysis at Member State level**, drawing on the qualitative data gathered for the six selected Member States. The main goal of this analysis will be to provide an overview of the technological developments/ infrastructural solutions supported by the Operational Programmes, based on the lists of beneficiaries available on the Managing Authority websites.

The information will be summarised in qualitative form in a table for each priority theme. The table below provides an example of the approach (the actual tables will be presented in landscape format to allow space for sufficient information).

*Table 2-8 Outline for the summary table of Member State actions for each priority theme*

| Selected Member State | Key areas for action (2007) | OP 2007-13 focus in sector | Summary of projects funded | Key areas for action (2013) |
|---|---|---|---|---|
| | | | | |
| | | | | |

The results of this analysis will provide a more detailed description of the actions taken under Cohesion Policy in each of the three areas, including the types of projects (i.e. technological/infrastructural solutions) supported. A second source will be used to provide an overview of the technological/infrastructural solutions used in the 173 major projects identified across the three priority themes. The analysis will draw on both these sources to provide conclusions regarding the main technological/infrastructural solutions supported by Cohesion Policy for each of the three priority areas.

Third, we will consider how the **financial crisis** has influenced Cohesion Policy spending for the three priority themes. We will review the following data for the 19 Member States:

- Member State allocations to projects as reported in 2013 Annual Implementation Reports compared to planned spending by priority theme
- Member State thematic reprogramming of funds and the impact on funding for environment
- Basic indicators (e.g. GDP and unemployment) during the period that indicate the extent of the overall impact of the financial crisis on the 19 Member States

We will assess the results in the light of recent analyses by the European Commission[10], and see in particular whether they show a reprogramming of resources away from one or more of the three priority themes. We will also seek to determine the extent to which the financial crisis may be related to any absorption capacity/rate of spending issues in the environmental sector.

In addition to this indicator, for the final Task 1 report we will bring in results from Tasks 3 and 4 that provide insight into the impacts that the crisis may have had on the use of Cohesion Policy funds for environmental investment. These will include: whether the crisis led to any changes to the assumptions or to inaccurate assumptions (Task 3); and evidence found in the interviews and other case study research in Task 4.

### 2.1.4 Deliverable

The output of this activity will be Task 1 report, which will present the results across all Task activities. This report will bring together all the results and information, both quantitative and qualitative, from the three steps of work. A preliminary report outline is provided below.

The draft to be submitted on 1 April will provide a first presentation of all the data and information collected and a description of trends and developments on this basis. We will also include preliminary analytical conclusions in this draft. We will analyse the information further in a second draft, following comments from the steering group meeting.

As described in sections 2.1.1 to 2.1.3, new data and information is expected in the coming months. Moreover, information from Tasks 3 and 4 will be used when available, in particular for the assessment of the impact of the financial crisis. We propose to incorporate the new data and information in a revised, final draft of the Task 1 report on 18 September, the same date as the draft catalogue of challenges, so that it can be included as background material for the seminar.

[10] For example, Cohesion policy: Strategic report 2013 on programme implementation 2007-2013, COM(2013) 210 final and the EEN synthesis report of national evaluations 2012, both of which review thematic mid-term reallocations of Cohesion Policy funds within Member States. The economic crisis has been an important factor in mid-term reallocations by Member States.

OUTLINE OF THE TASK 1 REPORT

1. Introduction
   - 1.1. Objectives of the evaluation
   - 1.2. Scope of the evaluation
   - 1.3. Methodological approach
2. Legislative objectives and targets
   - 2.1. State of the legislation in 2007
   - 2.2. Development of legislation to 2013
3. Main trends and developments 2007-2013 (by priority theme)
   - 3.1. Environmental financing trends
   - 3.2. Evolution of key environmental indicators and progress towards targets in the Member States
4. Contribution of Cohesion Policy
   - 4.1. Broad comparisons: Cohesion Policy allocations by Member States 2007-2013 and compared to total Member State investment by priority theme; core indicator results compared to Eurostat data
   - 4.2. Results regarding the impact of the financial crisis
   - 4.3. Cohesion Policy actions: results from OPs of selected Member State and from a review of the major projects
   - 4.4. Conclusions regarding Cohesion Policy contribution in terms of trends and developments in each priority theme

## 2.2 Task 2: Review financial analysis

As outlined in our proposal, the activities of Task 2 cover the preparatory work for the financial analysis review and the carrying out the reviews as per the description of Tasks 2.a-2.c in the tender specifications. The preparatory work comprises the preparation of a proposal for the DG REGIO selection of 20 projects for review and the elaboration of checklists and templates for the review work and for the reporting. The 20 projects were selected during the inception phase based on a note submitted to DG REGIO and approved on 6 February 2014. The project selection note is included as Appendix A to this report. This section therefore concerns the checklists and templates for the review work.

The proposal presented overall checklists for the project level demand analysis judgment of Task 2.a and the financial analysis judgment of Task 2.b. The findings from these two tasks will feed into the portfolio level analysis of Task 2.c.

In line with the proposal, we have developed separate checklists for waste management respectively water and wastewater projects. The reason for this is the downstream linkage of waste supply for treatment/disposal and the upstream linkage of sales of treated waste an inherent feature of any waste

management project covering waste treatment and/or disposal. In line with this we would develop different reporting templates for the two main project types.

Appendix B and C present the combined checklists and templates for waste management and water and wastewater projects, respectively[11].

We found that an effective way to structure the checklists was to reflect the table of contents of the reporting template. As such the checklists are in the form of commented checklists for experts to peruse. This is not only be more efficient but also addresses the comment of DG REGIO of ensuring as much homogeneity as possible in reporting given that different experts would be involved.

The 'check boxes' in each section/sub-section of the commented templates include and expand on the elements of the checklists of the proposal. The particular character of waste management projects is taken into account, e.g. by adding a separate sub-section on off-take markets for recyclable and treated waste.

At the kick-off meeting DG REGIO requested more information with respect to how the assumptions of the financial analysis in the project applications reviewed would be assessed against what in the proposal is termed a 'best practice' benchmark.

This request has been addressed in the commented templates by including guidance to experts on the comparison base for judging quality of assumptions and methodology in the financial analysis of the project applications. In doing so we have deliberately refrained from the use of the term 'benchmark' but instead referred to what is convention for a methodology.

For specific mention is how tariff affordability is foreseen reviewed. As a starting point, the assessment will be based on any affordability thresholds defined at national level. If none defined, then the affordability is judged from the 'conventionally' assumed affordability ratios as established in literature.

A standard reference work for defining and assessing affordability for water and wastewater services is an European Bank for Reconstruction and Development (EBRD) paper on affordability in transition countries[12]. The authors set an indicative benchmark for water and wastewater at 5% of household expenditure (p. 5 of paper). They also present benchmarks used by other organisations: World Bank 3-5%, UK Government 3%, US Government 2.5% and the Asian Development Bank 5%. The DG REGIO guidance note for 2007-2013 "Working

[11] Note! These have been updated compared to the versions submitted with the first version of the inception report, taking into account comments received and drawing on the experience of conducting the first pilot reviews under Task 2.

[12] Fankhauser, S. and Tepic S.: "Can poor consumers pay for energy and water An affordability analysis for transition countries (EBRD Working Paper No. 92, May 2005)

Document 4 Guidance on the methodology for carrying out Cost-Benefit Analysis states (p. 15) that a commonly accepted affordability ratio for water and wastewater is 4%. The note also encourages Member States to provide information in own guidance documents on the affordability ratio benchmark.

The recent European Investment Bank (EIB) guide on "The Economic Appraisal of Investment Projects at the EIB" (published in 2013) states (p. 217) the most commonly internationally quoted affordability threshold for water and wastewater combined to be 5% of average household income. This is the threshold used by the EIB in ACP (African, Caribbean and Pacific) countries with national standards used elsewhere provided reasonable (mention of thresholds of 3½-4% in Hungary, 2½% in Czech/Slovak Republics and 3% in Poland). With respect to solid waste management the EIB does not give 'own' thresholds used. Referred to (p. 212) is a threshold of DG REGIO for assessing 'major project' applications of 1.5% in terms of eligibility of EU grant support. This threshold is the one followed by the EIB for judging the affordability of solid waste management services.

Building on the 'international practice' outlined above, and the experience of the Consultant, the guidance notes have set 'benchmark' affordability thresholds for water/wastewater and waste management at 3½-4% respectively 1½-2% of average household income. These benchmarks should be referred to in the financial analysis review to the extent that the application does not present national benchmarks.

We have also chosen to be specific on guidance with respect to the kind of methodology /assumption justifications experts should be expected to find if the financial analysis is to be considered sound. The guidance may be found mainly in the introductory parts of the various sections/sub-sections of the commented templates. This specific guidance should also help address the issue of homogeneity in the review work and in the reporting of experts.

## 2.3 Task 3: Verifying assumptions

The verification of assumptions of Task 3 covers the projects that are in operation only. DG REGIO has defined operational projects as those completed by end 2014. Possibly, for some projects with 'late' completion, operations may not yet have started.

### 2.3.1 Data availability for the 11 completed projects

Our proposal to DG REGIO for the selection of the 20 projects for the financial analysis review included 11 of such operational projects. These are the only projects in the entire list of major projects, which are completed and which can therefore be used for verification of assumptions under Task 3. Table 2-9 presents the 11 projects in overview form.

The last column of the table shows the type and scope of the financial information for update in Task 3. The documents referred to in this column include those that are additional to the information entered in the major project application form. They include documents/information, which are either required to be submitted with the application form or can optionally be submitted in support of the application form:

*Feasibility study:* This report will include information to demonstrate the financial feasibility of the project hereunder its financial sustainability. Report submission is optional. In addition, and applying to all 'operational' (and 'non-operational) projects selected, the application form contains a summary of the feasibility study in its section C.

*Full CBA report:* This report is the full cost-benefit analysis (CBA) document that mandatorily is to be provided as Annex II to the major project application (whereas Section E of the application form requires a summary CBA only). The application form requires both a financial and an economic CBA.

*Excel model:* The model may be optionally submitted in support of the financial and/or the economic CBA report. In the experience of the Consultant the model is sometimes submitted as being the full cost-benefit analysis document. The file review showed model quality to vary from being a transparent and fully functional one with all formulae to ones where figures were in the form of values copied from the 'real' Excel model, i.e an example of a model that in the table is termed 'not functional'.

**For all 11 projects, the application form, including the summary feasibility study (Section C) and summary CBA report (Section E), is available. The table illustrates financial information in addition to that provided in these sections.**

*Table 2-9 The 11 operational projects*

| No. | Country | CCI number | Title | Financial information Apart from summary CBA |
|---|---|---|---|---|
| 2 | Portugal | 2008PT161PR004 | Treatment Project. Valorization and final disposal of urban solid waste of the inter-municipal system of the Litoral Centro | Brief feasibilty study with few tables, no full CBA report and no Excel model |
| 10 | Poland | 2007PL161PR002 | Modernization of municipal waste management in Gdansk | Full CBA report, feasibility study and Excel model |
| 21 | Czech Rep. | 2009CZ161PR005 | Improving water quality in rivers Jihlava and Svratka above tanks of Nové Mlýny | Full CBA report but no Excel model |

| No. | Country | CCI number | Title | Financial information Apart from summary CBA |
|---|---|---|---|---|
| 22 | Estonia | 2009EE161PR003 | Renovation of Water Supply Systems in Kohtla-Järve Area | Full CBA report and Excel model |
| 26 | Poland | 2009PL161PR004 | Comprehensive organization of water - sewage mgt. in Żory | Full CBA report, Feasibility study and Excel model |
| 27 | Poland | 2007PL161PR005 | Water and wastewater management in Nova Sol and neighboring municipalities | CBA report/ Excel model, Feasibility study |
| 37 | Portugal | 2009PT162PR001 | SIMARSUL – Sanitation sub-systems of Barreiro/Moita and Seixal | CBA report (brief) and no Excel model |
| 46 | Czech Republic | 2009CZ161PR009 | Renovation and construction of sewerage system in Brno | Full CBA report and Excel model that is not functional |
| 49 | Lithuania | 2009LT161PR001 | Sludge Treatment Facility at Vilnius Wastewater treatment plant | Full CBA report and Excel model |
| 50 | Malta | 2007MT161PR001 | Malta South Sewage Treatment Infrastructure | Full CBA report but no Excel model |
| 52 | Poland | 2007PL161PR003 | Construction of sewage and storm water collection systems and municipal wastewater treatment plant Tarnow mountains - phase 1 | Full CBA report and Excel model |

For the purpose of the financial analysis update of this Task 3 the 'optimal' information available is the feasibility study and a functioning model. However, this does not mean that projects without these documents cannot be analysed at all. The CBA information included in the application form in section E.1 (financial analysis) can also provide relevant information.

Referring also to Table 2-9, our general impression is that the availability of financial information for the 20 projects is generally quite good. However, there is variance between the projects. The new Member States tend to supply project applications with many more supporting documents including those of a financial nature. The availability of a functioning Excel model (with formulae) is a prerequisite for the 'formal' recalculation of the financial analysis foreseen in the tender specifications to be an activity of Task 3 in the cases where the work of Task 2 has identified methodological errors. This was stressed already in our proposal (section 3.4 p. 44).

### 2.3.2 Task 3 activities

The activities of Task 3 comprise:

1. Data collection
2. Comparison of ex-ante with ex-post data
3. Conclusions on data comparison
4. Recalculation of financial analysis

The proposal outlined the work of the various activities. At the kick-off meeting DG REGIO requested a detailing of the methodology for the quantitative analysis and the recalculation of the financial analysis including the document reviews, the way the interviews would be carried out, and for a specification of the ex-post data required for the comparison with ex-ante data.

The 'interviews' referred to are those questionnaires foreseen sent out to the Implementing Bodies and/or final beneficiaries for update.

Data collection

As derivable from our comments above, the form and scope of data collection for the verification of assumptions will depend entirely on the type and volume of ex-ante data found in the application files.

The data collection will aim at achieving the necessary inputs for an update of the key assumptions behind the cash flow projections of the application. This includes the demand development assumptions, the investment budget, financing terms, operating costs (if project in actual operation) and tariffs.

Guidance for the experts has been developed for waste and water/water projects, respectively. These are included as Appendix D and E, respectively. The guidance notes present envisaged data collection for 'standard' projects. Both guidance notes call for the expert involved to adjust data collection to specific project circumstances.

The data collection work will comprise the following steps (see also chapter 4.4 on managing relations with the Managing Authorities and other bodies):

1 Obtain support letter from DG REGIO for contact to the relevant Member State authority (this letter has been obtained)

2 Contact to the Implementing Body to establish mode of contact with the project beneficiary and, if relevant, to request the Excel financial model made available. We note that this request may not be accommodated due to the passage of time since project preparation and due to the possibility that the model may be considered intellectual property by the developer. (implementing bodies have been contacted)

3 Preparation of the Excel-based questionnaire on the basis of the financial documentation available and restricting the questionnaire to those data only that cannot be obtained from other sources (as outlined in the proposal). We assume the application information to show the data sources used in the compiling of financial information. Table 2-10 exemplifies a simple form of questionnaire for a combined water and wastewater project for update of selected financial and operational data shown in the feasibility study. The guidance documents contain more detailed instructions.

*Table 2-10 Example of a questionnaire table*

| Feas. Study ref. | Category | Item | Value in AF | Updated value |
|---|---|---|---|---|
| | Tariffs (ex VAT) | *Water:* | | |
| x.x.x | | Households | | |
| x.x.x | | Other | | |
| | | *Wastewater:* | | |
| x.x.x | | Households | | |
| x.x.x | | Other | | |
| x.x.x | Tariff collection rate | Households | | |
| x.x.x | | Other | | |
| x.x.x | Water billed | Households | | |
| x.x.x | | Other | | |
| x.x.x | Wastewater billed | Households | | |
| x.x.x | | Other | | |

To ease the work of completing the questionnaire and to optimise data quality the table refers to the section of the feasibility study where the statistic is shown and reproduces the last year of historical data shown in the feasibility study.

4 Submission of questionnaire to party agreed with Implementing Body

5 Collection of data from other sources for the update of key data.

Comparison of ex-ante and ex-post data

In the proposal, we outlined some of the data comparisons we aim at performing. The scope of comparison will depend entirely on the data supplied in the application. The guidance notes mentioned above shows foreseen data comparisons for 'standard' project types.

Conclusions on data comparison

The conclusions will be drawn on the basis of the data available for the comparison. Given the variations in quality and scope of ex-ante data the conclusions may need to be mainly project specific although we continue to

target financial sustainability with the identification of the systematic biases referred to in the tender specifications and in our proposal.

Recalculation of the financial analysis

For the potential recalculation of the financial analysis three variants may be envisaged each reflecting the degree of information availability.

1. The formal recalculation of the model financial analysis: This is a recalculation showing the impact on overall cash flows and financial sustainability arising e.g. from a change in the per capita service demand assumption of the project. This variant enables assessing in full the impact on financial sustainability, also in the cases where more than one methodological error has been identified.

2. 'Indicative recalculation' of the financial analysis: a functioning model is not available but the application elsewhere (feasibility study, CBA report, CBA of application form) contains information on the precise unit values /values assumed for identified methodological errors. The impact on financial sustainability may be assessed on an 'other things equal' assuming a cash flow table to be available in the application documents. As an example this could be a 10% deviation in service demand. The analysis is partial as e.g the operating cost impact from a changed service demand cannot be reasonably established without a model (or detailed cost tables in Excel)

3. 'Tentative recalculation' of the financial analysis: for those cases where neither a model nor detailed financial tables are available in the application form. The impact on overall financial sustainability will be assessed in a tentative manner to reflect the quality of data for the assessment.

The findings from the financial analysis review in the area of risk and sensitivity analysis will point to the key variable that may impact 'ex post' financial sustainability.

## 2.4 Task 4: Case studies

### 2.4.1 Purpose of case studies

The overall objective of Task 4 is to identify and analyse the framework conditions and the context in which the projects are implemented and how the new infrastructure operates. This will entail a scrutiny of the 10 case study projects and provides for an assessment of the extent to which these conditions, context and infrastructure operations may have led to problematic financial performance in terms of financial non-sustainability. Hence, the issue of the financial sustainability of the case study projects will be addressed at three levels:

- Framework conditions (macro level and regulatory set-up)
- Project context (local settings including local economic development)

- Project design/implementation (including financial data – assumptions versus realised figures to the extent the project has been completed)

Examination of the three levels will provide inputs to the "Catalogue of challenges" (Task 5) by giving a contextual understanding of how problems in relation to financial sustainability occurred and the reasons behind biases and errors in financial analysis, and by considering how problems encountered have been dealt with, and not the least how the problems can (or could have) been addressed.

### 2.4.2 Criteria for selection of case studies

The 10 case studies will be selected based criteria related to geography and sector and considering the inclusion of projects that are operational. Additionally, the selection will consider the findings on the 20 projects reviewed in Task 2.

As only 11 projects are operational and there is a preference for including operational projects, there is limited scope for consideration of other criteria. Four out of the 11 operational projects are Polish, so in order to ensure the best country balance, it is considered relevant to include three Polish projects and the remaining operational projects. An alternative could also be to select one or two non-operational projects *en lieu* of one or two Polish projects.

Following the comments on the first version of the inception report, it is suggested to make the final decision on project selection when task 2 is finalised. Regarding timing of the selection procedure and the case study process as a whole, see Chapter 3.

### 2.4.3 Main issues to be explored

Table 2-11 shows the list of questions which will guide the case studies. The focus is on aspects that may impact the project's financial sustainability and the timeliness of project implementation. This list will be used as a basis for developing the more precise questions for interview guides. However, the exact questions to be asked in each case study will differ depending on the findings in Task 2 and, if relevant, also Task 3.

*Table 2-11 Project level issues of case studies (basis for interview guide)*

| Issue | Questions guiding the case studies / Hypotheses to test |
|---|---|
| Human resource challenge | Is the experience and availability of project planners, project managers and operational staff adequate or does it pose a risk to project implementation and/or operation?<br><br>Are processes and systems in place to mitigate the risks of lack of experience and high staff turnover? |
| Stakeholder interface | Do project stakeholder interface and the management of interface risks impact financial performance given their sometimes conflicting interests? The interface |

| Issue | Questions guiding the case studies / Hypotheses to test |
|---|---|
| | may be e.g. technical or organizational |
| Front-end project planning | Have sufficient resources and time been committed to adequate project preparation broadly understood? Any impact on the project implementation schedule? |
| Planning fallacy | Has the complexity and challenges of project planning and preparation been understood? This could be particularly relevant for integrated projects notably in waste management |
| Strategic misrepresentation | Is optimism bias in terms of timing and of underestimating costs and overestimating benefits involved? Could the principle of Hirschman's Hiding Hand be involved in terms of an incentive to hide the real costs of the project given that the benefits of environmental acquis compliance are not individualized to those who pay for the service provision? Which are the reasons for any misrepresentation (e.g. technical, financial or political-institutional)? |
| Principal-agent relationship | Has the fact that the project is one required for acquis compliance and decided implemented at national level impacted adversely on financial performance and timely implementation? |
| Cost overruns and delays | What were the reasons for any cost overruns and delays? What were the cost changing factors and their relative importance? Could the overruns could have been prevented (e.g. through more attention to mobilisation of finance)? |
| Risk management | How have (financial) risks been identified? How was (financial) risk management organised within the project organisation? When identified, which mitigating actions/ solutions were put in place to eliminate the risk of the project turning out non-financially sustainable? |

### 2.4.4 Interviews

Table 2-12 provides an indicative overview of interview persons and estimated number of interviews per case study. The indicative number of interviews is based on our experience with regard to the typical organisation in the implementing bodies and service operators and the assumption that we would interview one person from each of the relevant organisational units. Depending on the actual organisation in the cases to be analysed, the number of interviews could deviate from the estimated number of eight interviews per case given in the table.

*Table 2-12 Interview persons per case study*

| Interview group | Interview persons | Approx. no. of interviews |
|---|---|---|
| Managing Authority<br>Implementing Body | Unit/person responsible for project selection (member of monitoring committee)<br>Unit/person responsible for review of financial analyses<br>Unit/person responsible project oversight | 3[13] |
| Beneficiaries/service operators (municipal utility company) | General manager<br>Head of Technical Department<br>Head of Finance Department<br>Representatives of municipality | 5 |

### 2.4.5 Case study manual

The case study manual will be developed to ensure consistency in approach across case studies. The draft manual will be presented in the interim report. It will consist of three parts:

1. A general introduction (to provide the background and to ensure correct use of the template and interview guide for the national experts involved)

2. A reporting template which shall be applied in each case study (forming the basis for the case study reports of max. 14 pages)

3. Interview guides and template for reporting of interview data

The reporting template shall be used consistently across case studies. It shall, as far as possible, be pre-filled with information derived from tasks 2 and 3, so that the persons responsible for task 4 are fully informed about the results of the analyses already conducted and can concentrate on filling gaps and performing additional analyses.

The interview guide will be developed from a common template drawing on the questions in Table 2-11 above. This will also ensure consistency across cases. However, to this will be added case-specific questions (and some questions may also be slightly reworded to reflect the specifics of the case). A guide on reporting of interview data will also be part of the manual. This will ensure that the raw data from the interview are available to the team so that consistency

[13] The number of interviews with Managing Authorities / Implementing Bodies may be less if there is no staff who have detailed knowledge about the project (due to turnover of staff).

between data collected and findings presented in the case study report can be checked.

### 2.4.6 Pilot case studies

The two pilot case studies will test the initial case study manual. The lessons learnt may lead to amendments of the case study approach for the remaining eight projects. In order to optimise the lessons learnt dimension from this activity, we propose to have one case study from each of the two main sectors of the assignment, water/wastewater management and waste management.

### 2.4.7 Output

The immediate output of task 4 is the max. 14 pages case study reports including a 1 page summary as per tender specifications. The pilot case studies will also include a 1 page overview of lessons learned serving as input to the revision of the case study manual.

On the organisation for the case studies and use of national experts, see chapter 4.

## 2.5 Task 5: "Catalogue of Challenges"

### 2.5.1 Purpose

The objective of Task 5 is to prepare a guidance note on the most common problems encountered in financial analysis and solutions to avoid them. These problems include the common patterns identified in Task 2c and the systematic biases from Task 3.

This involves first, the identification of the 'most common problems' based on the findings in Task 2 and 3. This is followed by a description of the problem and an analysis of the impact that the problem has on overall financial performance of a project and in particular on its financial sustainability. This will draw on the findings in Task 4, which will also contribute to a description of the identified good practises with regarding to mitigating actions. This description enables the presentation - in a condensed format – of what may be 'warning signs' for reviewers of the financial analyses.

Consequently, we envisage that the catalogue will include the following three parts:

1. A general introduction explaining the background, purpose and potential use of the catalogue.

2. A condensed description of key warning signs for reviewers of financial analyses with references to relevant types of problems in part 3.

3. A description of each common problem along the following structure:

- Sector(s) of common problem (water, wastewater, waste)
- Project phase of common problem (in project cycle)
- Description of common problem
- Assessment and rating of likely impact on financial performance and financial sustainability
- 'Owner(s)' of risk related to a common problem
- Type of common problem (e.g. institutional, technical or demand related)
- Good practice actions to mitigate scope of common problem.

The third part will include examples from among the 10 case projects studied in the form of text boxes or similar.

## 2.6 Task 6: Seminar

The seminar will be arranged when draft findings of the 10 case studies have been generated and a draft "Catalogue of challenges" has been produced. See chapter 3 on detailed activities and scheduling.

### 2.6.1 Purpose

The purpose of the seminar is to discuss the findings of the project and the draft catalogue of challenges in order to further deepen the analysis. This will assist in arriving at more qualified findings and conclusions as well as a catalogue of challenges, which is constructed in a way, which is considered helpful by the Managing Authorities.

### 2.6.2 Participants

Approximately 30 persons will be invited for the seminar. The participants will include representatives of the implementing bodies from the ten case studies, external experts and Commission officials. Below is a more detailed list of proposed participants. This list will be further developed during the next phase and comments and suggestions from DG REGIO, external experts and the Steering Group will be taken into account when finalising the list of invitees. The interim report will thus include a more specific list of participants.

*Table 2-13 Participants in the seminar*

| Group | Approx. no. of persons | Organisation | Persons / comments |
|---|---|---|---|
| Implementing bodies | 15 | Implementing bodies | To be identified in the course of implementing the 10 case studies.<br>Emphasis on identifying representatives which have good English speaking skills combined with insight into financial analysis |
| Experts | 10 | IFIs: European Investment Bank, JASPERS, European Bank for Reconstruction and Development<br>Knowledge institutions: OECD, universities<br>Associations: European Union of Water Management Associations, European Water Association, European Federation of Waste Management and Environmental Services, Municipal Waste Europe | This group also includes the two external experts associated with the project |
| Commission services | 5 | DG REGIO | DG REGIO to inform |

### 2.6.3 Programme

The programme for the seminar will be guided by a set of questions, which the seminar will address. The questions relate to two main points: 1) emerging findings and conclusions on quality and use of financial analysis (where the participants will receive a 5-10 page paper describing main results of the projects in advance of the seminar), and 2) the catalogue of challenges (where the participants will receive the draft catalogue in advance of the seminar). In addition, the participants will also receive the case study reports from the 10 case studies. The proposed guiding questions are listed in Box 2-1.

*Box 2-1 Guiding questions for the seminar (draft)*

To which extent do the findings from the case studies give a representative view of the main types of problems encountered in relation to financial sustainability – and what should be done at the policy level (national and EU) to overcome these problems?

- How do the findings of the case study analysis compare with the general experience of the participants? Are the identified problems and issues with regard to financial analysis relevant in relation to environmental infrastructure projects in general?
- What are the policy implications – what steps should be taken to ensure better financial sustainability in future projects supported by Cohesion Policy programmes?

To which extent is the catalogue helpful in that it can meaningfully assist Managing Authorities and reviewers of financial analyses in the Member States in identifying problems in financial analyses carried out as part of project preparation and coming up with suggestions for how to deal with them?

- Is the catalogue sufficiently targeted at the main user group: The financial reviewers in Member States?
- Does the catalogue focus on the most relevant problems?
- Are the solutions to avoiding the problems presented in the catalogue relevant and sufficient?
- What are the suggestions for improvement of the catalogue?

The programme shall be designed in such a way that the participants are engaged in discussion and offered plenty of opportunity to present their views. For this reason, a key element is break-out sessions as smaller groups are often more conducive to a lively discussion with active participation from all involved.

A first draft of the programme is indicated in the box below. We will further develop the programme in the interim report.

*Box 2-2 Draft seminar programme*

| Timing | Programme |
|---|---|
| 9h00-9h30 | Seminar rooms opens and possibility for having breakfast / informal dialogue |
| 9h30-10h00 | Welcome (by DG REGIO) and round of presentation |
| 10h00-11h00 | Presentation by the contractor – key findings:<br>1. Findings from the case studies<br>2. Draft catalogue of challenges<br>Comments from the experts on the two subjects<br>Introduction to break-out sessions |
| 11h00-12h00 | Discussion (break-out sessions, 4 groups of 8-9 persons each)<br>Each group to discuss a pre-defined set of questions (see Box 2-1). Each group will have a facilitator from the contractor and a rapporteur (a participant who will be appointed prior to the seminar)<br>2 groups discuss the findings and policy implications and 2 groups discuss the catalogue of challenges |

| Timing | Programme |
|---|---|
| 12h00-13h00 | Same as above, but the groups switch subjects so that each participant has discussed both main subjects |
| 13h00-14h00 | Lunch |
| 14h00-15h00 | Discussion of findings and policy implications in plenum<br>14h00-14h15: The rapporteur of each group presents the main results of the discussions in the group.<br>14h15-15h00: Discussion in plenum facilitated by contractor based on asking participants to comment on:<br>- patterns in the findings across the four groups<br>- areas where groups seem to disagree (and exploring these in the discussion to see whether common ground can be found)<br>- unclear elements (asking clarifying questions between members of groups) |
| 15h00-16h00 | Discussion of the catalogue<br>Same as above |
| 16h00-16h15 | Coffee break |
| 16h15-17h00 | The two external experts will be asked to give a short comment regarding what they see as the most important outcomes of the discussions and the floor will then be opened for comments and iterations in a final debate. |
| 17h00-17h10 | Thank you and good bye (DG REGIO) |

According to the tender specifications (p. 14), the programme for the seminar should include a presentation of each case study (max. 10 minutes per case). We suggest that this approach is not applied as it would take up valuable time which could be used on getting the input from the participants. Instead, we propose that the general presentation (scheduled for 10h00 to 11h00 in the draft programme) will include illustrative examples and references to cases in a more cross-cutting manner.

### 2.6.4 Output

The proceedings of the seminar in the form of copies of slides presented, points reported from group discussions as well as key points from the panel debate will be reported in a separate document, which will be annexed to the main report.

The findings of the seminar will be used as an input to finalise the catalogue of challenges. In addition, the findings of the seminar will be incorporated into the results of the study through a final consolidated analysis, which will be documented in the (draft) final report.

## 2.7 Task 7: Final report

### 2.7.1 Purpose

The purpose of the final report is to document and communicate the results of the study. Our priority is on providing observations, findings, analysis, conclusions and recommendations in a clear language and in a way such that the logical argumentation from observations and analysis to conclusions is clear. (Based on the comments received during the kick-off meeting, the final report will not reflect on the EU evaluation criteria, as suggested in the proposal).

### 2.7.2 Consolidating inputs from tasks 1-6

The final report will present the consolidated findings of all the tasks. The report will have three main parts drawing on the results of various tasks. In addition, the report will include a non-technical summary, in particular summarising Task 1, but also introducing the catalogue of challenges. Table 2-14 indicates how the various tasks will be consolidated into the main parts of the final report and provides some reflections on how the report can be communicated.

The final report will be language-edited taking into account the Commission's styleguide.

*Table 2-14 Main parts of the final report*

| Part | Content and input from tasks | Possible communication alleys |
|---|---|---|
| Non-technical summary | One page abstract providing the key results of the study in a non-technical language (English, French, German)<br>Links to:<br>- One common executive summary (max. 6 pages, English, French, German)<br>- summary of Part 1<br>- summary of Part 2<br>- the catalogue of challenges (Part 3)<br>- 1 page summaries of 10 case studies | Suitable for a web-page<br>1 page summaries of 10 case studies can be shown on a clickable map, which could feature key project data |
| Part 1 – Overview of contribution of Cohesion Policy to EU environmental policy objectives | This will mainly be the Task 1 report (see section 2.1). The report will be updated with experience from the 10 case studies, which provide examples to illustrate the points of the report. This will take the form of text boxes inserted in the report.<br>The report part will include a summary of 2-3 pages in non-technical language (available as part of the report as well as a separate document). | For Task 1, a clickable map could provide a pop-up summary for each Member State.<br>Text box content can also be featured on clickable map. Text box subjects could be further explored in videos where relevant. |
| Part 2 – Overview of the quality and use of financial analysis | This part will report include 3 main sections:<br>A. Problem identification: Results of the review conducted under task 2 and 3. Main problems in financial analysis.<br>B. Problem understanding and solutions: Based on the case studies, provide explanations and solutions to the identified problems. This will draw in particular on Task 4 and Task 6.<br>C. Case study reports with the 1 page summaries in the main text and the full case study reports in Appendix.<br>The report part will include a summary of 2-3 pages in non-technical language (available as part of the report as well as a separate document). | |
| Part 3 – the catalogue of challenges | The catalogue with its three main components (see section 2.5). The catalogue will be derived from the results of tasks 1-4 and 6 and will therefore also be consistent with Parts 2A and 2B listed above. | The part of the catalogue showing a condensed description of warning signs could be shown as a separate web-page with links to relevant project experiences |

| | | |
|---|---|---|
| | | drawn from the catalogue and the catalogue as a whole |

As also emphasised during the Steering Group meeting on 18 February, it is important that the results of the different tasks are integrated and used in combination to create the final report. This is reflected in Table 2-14, which highlights key areas where the tasks feed into each other. The interdependencies should, however, not only be secured at the reporting stage. It is equally important that this happens in the process of implementing the tasks. We have given some thoughts to this in the methodology of the tasks in sections 2-1 to 2-6 above. Table 2-15 provides an overview of where we see key interactions.

*Table 2-15 Key interactions between tasks*

| Task | Interactions with other tasks |
|---|---|
| **1** | Use findings from case studies (Task 4) to provide illustrative examples of projects within the three priority themes when discussing contributions from Cohesion Policy and impact of the financial crisis. |
| **2** | Generate findings on quality of demand and financial analysis, which will be discussed in Task 4 and 5 and used as the point of departure for developing the draft catalogue (Task 5).<br>Use results of seminar (Task 6) to reflect on extent to which projects analysed are representative or not. Feed into Part 2A of final report. |
| **3** | Generate hypotheses about explanations for deviations between planned and actual values, which can be tested in the case studies (Task 4)<br>Use results of seminar (Task 6) to reflect on extent to which projects analysed are representative or not. Feed into Part 2A of final report. |
| **4** | Discussion of problems identified in Task 2 with stakeholders. Testing of hypotheses from Task 3. Recalculations of financial analysis (Task 3) to be discussed with stakeholders.<br>Use results of seminar (Task 6) to reflect on extent to which projects analysed are representative or not and further adding to the understanding of problems identified. Feed into Part 2B of final report. |
| **5** | Draw on the results of Task 2 (2c in particular) to identify most common problems. Draw on Task 4 to identify solutions together with stakeholders. Draw on seminar (Task 6) to reflect more on nature of problems and relevant solutions for finalisation of the catalogue.<br>Result of integrated analysis to feed into Part 3 of final report (Task 7). |
| **6** | Present and discuss main findings from Task 4 in particular (but can also draw on Task 2 and 3). Present and discuss draft catalogue (Task 5). |
| **7** | Draw on all tasks and present results of the integrated analysis |

# 3 Detailed time schedule and activity plan

This chapter provides an overview of the activities already conducted (section 3.1) and the schedule for the execution of the project (section 3.2).

## 3.1 Key activities undertaken during the inception phase

*Table 3-1 Activities undertaken during the inception phase*

| Activity | Comment |
|---|---|
| Kick-off meeting held in Brussels | See minutes of meeting (13 January) |
| Analysis of list of 58 projects preselected by DG REGIO with a view to selecting 20 projects for analysis in Task 2 and 3 | Considering that the list received included 58 projects (and not 40 projects as stated in the tender specifications), our approach to selection was based on two phases:<br>1. Selecting 40 projects based on key indicators included in the excel-sheet provided by DG REGIO<br>2. From the list of 40 projects, selecting 20 projects based on a more detailed review based on the selection criteria included in the proposal |
| Draft and submit list of 20 selected projects | List submitted 23 January (see chapter 5). Comments from DG REGIO received 26 January. Note under revision and will be resubmitted 29 January. |
| Initial assessment of data. Revision of methodology and development of data collection tools. Drafting of inception report | Inception report submitted 28 January<br>Chapter 2 provides revised methodology and tools. |
| Mobilisation and agreement with 2 external experts<br>(Giles Atkinson and Sandor Kerekes) | The two external experts suggested by DG REGIO (ref. minutes from kick-off meeting) have been contacted and have both confirmed their interest in participating in the study. Contract dialogue advanced with one expert (Giles Atkinson) and we expect the agreement to be concluded by the end of January. Contract proposal sent to Sandor Kerekes, but response as per 28 January. |
| Team mobilisation and planning of the project | Internal meetings held<br>Project plan submitted together with inception report. See below. |

*Table 3-2 Key activities under taken in the period 6 February to 16 March*

| Activity | Status per 4 March | Comment |
|---|---|---|
| After having received approval of list of 20 selected | Completed | Each of the 20 projects has been assigned to an expert. 8 projects where the documentation is mainly in English are assigned to the financial |

| Activity | Status per 4 March | Comment |
|---|---|---|
| projects for analysis in Task 2 on 6 February, the mobilisation of experts to perform the analysis was initiated | | experts on the core team or team of experts. The remaining 12 projects where the documentation is primarily in the national language have been assigned to country experts.<br>Mobilisation of country experts proved to be a challenge due to the need to identify well-qualified experts, with no conflict of interest in relation to the projects and who were available at short notice.<br>A letter has been sent to DG REGIO requesting the approval of the experts. |
| Meeting with DG REGIO and Steering Group on 18 February to discuss inception report | Completed | Ref. minutes of meeting and written comments on the inception report received from DG REGIO. |
| Revision of inception report based on comments received at meeting 18 February and written comments received 23 February | On-going | Revised inception report submitted 5 March. Report subsequently finalised based on revised timetable agreed with DG REGIO 16 March. |
| Mobilisation and agreement with 2 external experts<br>(Giles Atkinson and Sandor Kerekes) | On-going | Contracts have been drawn up and confirmed. |
| Task 1: In connection with the further development of the inception report / methodology for Task 1, further data reviews have been conducted. | On-going | Further review of country specific data available on Cohesion Policy funding in the period 2007-2013 – and data on baselines in the new programming period 2014-2020<br>Clarification of availability of data from Eurostat and implementation reports on the Directives<br>Literature review of available research and publications |
| Task 2: Finalisation of guidelines and templates and review of 20 projects according to these guidelines | On-going | The guidelines (for waste projects and water/wastewater projects, respectively) for review of the 20 projects have been finalised and reporting templates developed and sent to the involved experts. Further instructions have been given to the experts by mail or phone as relevant.<br>Project reviews are now being undertaken and it is expected that all reviews will be finalised by the submission of the interim report. |
| Task 3: Guidelines and reporting templates developed. Contact | On-going | Guidelines, including templates for data requests of ex-post data, and reporting templates for Task 3 implementation by the experts have been developed and sent to the experts. Further |

| Activity | Status per 4 March | Comment |
|---|---|---|
| to implementing bodies initiated. Questionnaires for requests of ex-post data under development. | | instructions have been given to the experts by mail or phone as relevant.<br>Implementing bodies for the 11 operational projects have been contacted by e-mail in order to warn them that a data request will be sent and to enquire about the correct contact person. For the four Polish projects, the Polish National Fund has also been contacted with a specific data request.<br>There are challenges with identifying the correct contact persons and establishing an understanding that they are ready and willing to respond to data requests. DG REGIO has been informed and a solution is being sought involving the relevant country units. |

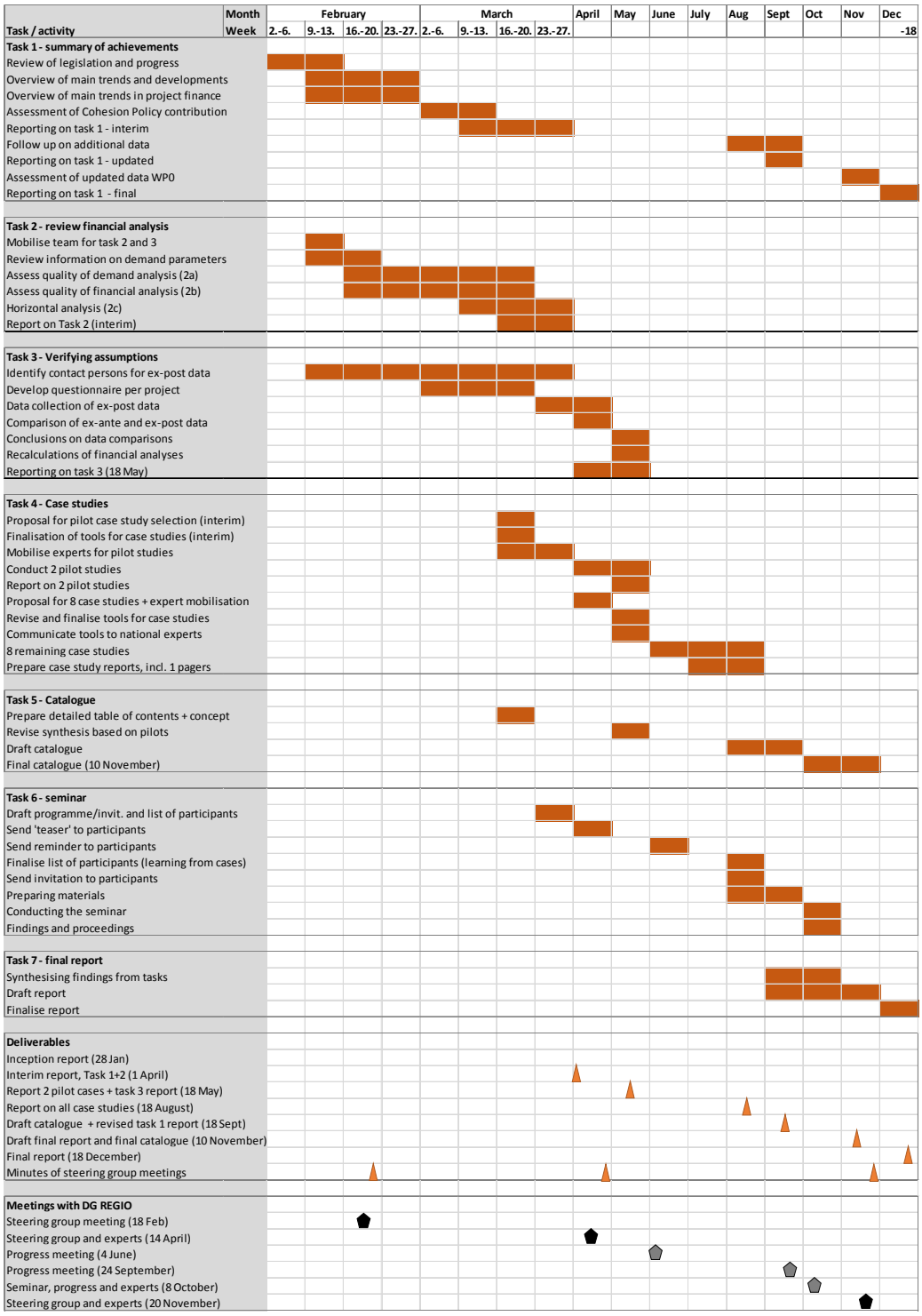
## 3.2 Time schedule and activity plan

The time schedule for the project is shown in Figure 3-1 below. Further, Table 3-3 gives an overview of key deadlines and meetings.

*Table 3-3 Overview of key deadlines and meetings*

| Deliverable / meeting | Deadline |
|---|---|
| Inception report | 28th January |
| SG | 18th February |
| Interim report (task 1 and 2) and proposal for two pilot case studies | 1st April |
| SG + experts | 14th April |
| 2 pilot case studies and task 3 report | 18th May |
| Progress meeting | 4th June |
| All case studies | 18th August |
| Draft 'catalogue of challenges' | 18th September |
| Progress meeting | 24th September |
| Seminar + experts | 8th October |
| Draft final report and final 'catalogue of challenges' | 10th November |
| SG + experts | 20th November |
| Final report | 18th December |

*Figure 3-1 Time schedule*




### 3.2.1 Risks and critical dependencies

**Task 1 – summary of achievements**

The time period allocated for the draft task 1 report in the tender specifications is limited as the report is due with the interim report. Here, there is a risk that some information may not be available: of particular concern are data on investments and technology trends related to water supply. Also, as indicated in chapter 2.1, more data is expected to become available by July-August 2015.

The draft submitted with the interim report will clearly indicate areas where information is missing, where data and information can be addressed following comments from the steering group, and where data and information are expected to be available later in the year (e.g. Eurostat data and background information for Commission implementation reports on solid waste and wastewater treatment).

In order to accommodate for additional data, we suggest to deliver a revised and updated version of the task 1 report together with the draft catalogue of challenges by 18 September 2015. This will also allow us to integrate results from Task 4 into the report.

**Task 2 and 3 – review of financial analyses and verification of assumptions**

The time period to perform tasks 2 and 3 is limited. Work on the tasks was initiated as soon as approval of the list of 20 projects was received from DG REGIO. However, mobilisation of the team of experts did pose some challenges as reported in Table 3-2 above.

Due to the time limitations and the challenges in establishing contacts for the 11 projects to be included under Task 3, a revised time table was established in dialogue with DG REGIO in mid-March, following a progress report delivered 16 March. This is reflected in the above time schedule, whereby the Task 2 report will be delivered with the interim report (1 April 2015) and Task 3 will be reported together with the two pilot studies under Task 4 (18 May 2015).

**Task 4 – 10 case studies**

Task 4 will be implemented in the period April to August. Two pilots will be conducted during April-May with a mission (tentatively scheduled for Mid-End April) to the case study location and case study reports to be submitted on 18 May. This will allow for the testing and refinement of the tools and guidelines applied in the case studies. Subsequently, the remaining eight case studies will be conducted in June-August. Considering that this is a holiday period, good planning is absolutely essential.

The projects to be studied have to be selected well in advance so that we can contact the relevant interview persons and schedule the interviews. We therefore envisage the following regarding the selection procedure:

- The two pilot studies will be identified as early as possible during the implementation of tasks 2 and 3 and a note providing the rationale for their

selection and requesting approval will be prepared and submitted to DG REGIO (preferably prior to submission of the interim report, but at the very latest together with the submission of the interim report)

- A similar note on the selection of the eight remaining case studies will be prepared and submitted to DG REGIO on 18 April the latest (but preferably by submission of the interim report)

**Task 5 – catalogue**

Task 5 depends on inputs from the analysis conducted in tasks 2, 3 and 4. In particular, the results of the horizontal analysis under task 2 and systematic biases identified under task 3. The development of the catalogue will therefore involve a preliminary draft stage following the interim report (in April) followed by more detailed drafting drawing on the additional learning points from the 10 case studies (in August-September).

**Task 6 – seminar**

A successful seminar depends on attracting the right participants. There is a risk of lack of participation – due to lack of interest or availability (the relevant persons not being invited in time). To mitigate this risk, we will establish, and continue to build, a list of participants whom we will contact with reminders to keep the date of the seminar reserved in their calendar.

A first version of the list of participants will be provided with the interim report. The list will be expanded based on persons encountered during the execution of the 10 case studies. Updated versions of the list will be submitted to DG REGIO along with the two case study reports (18 May) and eight case study reports (18 August).

This will then be followed up with the formal invitation to be sent out by the end of August.

Regarding the timing of the seminar, the kick-off meeting suggested 8 October. We have found that this coincides with the 15th International Waste Management and Landfill Symposium (Sardinia 5-9 October). Potentially, this could pose a conflict for persons invited to the seminar, although the Symposium is less likely to attract the stakeholders involved in financial analysis. Together with DG REGIO we have assessed that the date of 8 October should be maintained.

### 3.2.2 Deliverables and meetings

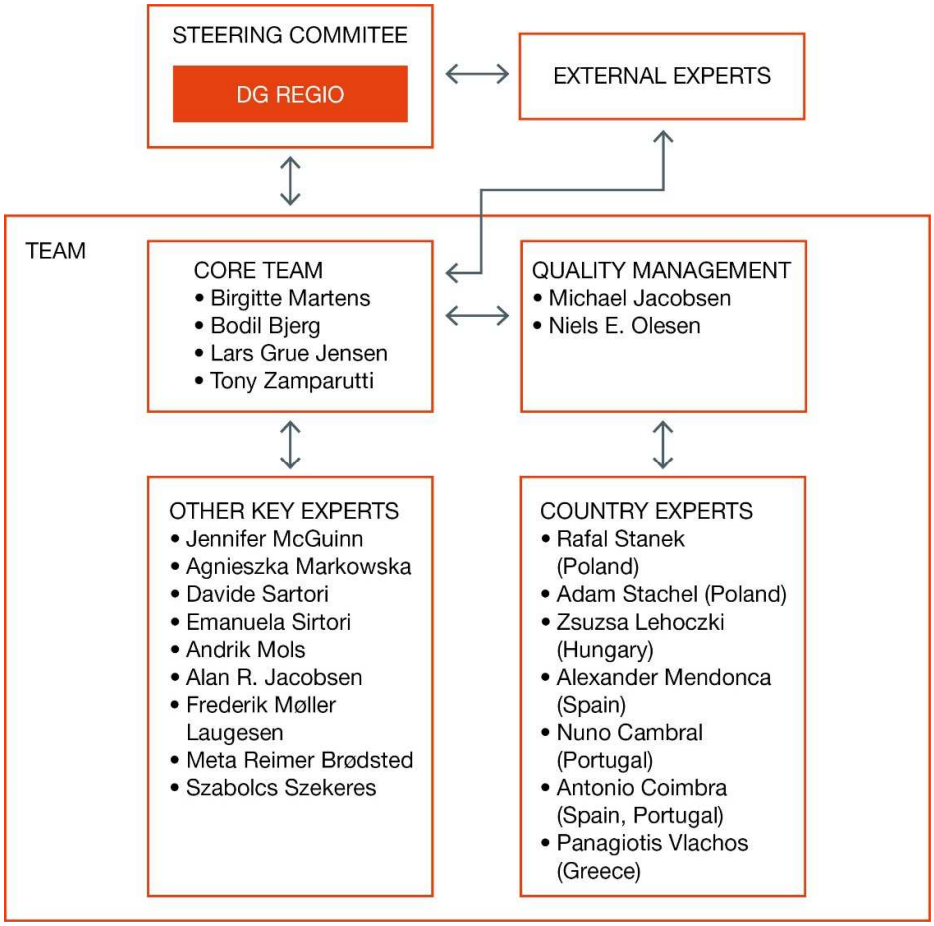
Figure 3-1 above provides a list of deliverables and meetings and the key deadlines based on the agreements during the kick-off meeting. The schedule for submission of deliverables is considered fixed whereas dates for Steering Group meetings and progress meetings may be slightly altered in dialogue with DG REGIO.

# 4 Organisation and management

## 4.1 Organisation and staffing

The project organisation is depicted in Figure 4-1 below. There have been minor changes and clarifications compared to the organisation presented in the proposal. The members of the core team are the same as those presented in the proposal.

*Figure 4-1 Organisation*




The members of the core team will have the following main tasks and responsibilities:

- Birgitte Martens will act as project manager being overall responsible for the project and the relations to DG REGIO. She will furthermore act as task leader for tasks 5, 6 and 7.

- Bodil Bjerg will act as task leader for tasks 2, 3 and 4 (in the absence of Birgitte Martens, she takes charge of project management and acts as

contact person to DG REGIO). She will be responsible for the analysis of approx. half of the projects under tasks 2, 3 and 4.

- Lars Grue Jensen will act as key expert in relation to tasks 2, 3 and 4 and will be responsible for the analysis the other half of the projects (with focus on water and wastewater projects).

- Tony Zamparutti will be Task Leader for Task 1

The role of other key experts have been clarified as follows:

- Jennifer Ann McQuinn and Agnieszka Markowska will support the implementation of Task 1

- Frederik Møller Laugesen and Meta Brødsted will support the implementation of Tasks 2-3 in a supportive junior role to the key financial experts, e.g. data mining, coordinating contacts and data requests, etc.

- Davide Santoni and Emanuela Sitori will support the implementation of Tasks 2-5. They support development guidelines for Tasks 2, 3 and 4, the horizontal analysis (Task 2c), the implementation of 1-2 case studies, and the development of the catalogue.

- Szabolcs Szekeres will support the implementation of Tasks 2 and 3, providing reviews of 3 projects and QA of reviews conducted by other experts

- Mr Andrik Mols acts as technical expert on waste management and will provide ad-hoc technical advice to the team when required

- Mr Alan R. Jacobsen acts as technical expert on water and wastewater management and will provide ad-hoc technical advice to the team when required

Concerning the national experts, the extent to which their mobilisation will be needed depends on several factors:

- The extent to which the relevant documents and data (e.g. national statistics) exist in national language only or in English

- The extent to which stakeholders in the countries concerned can be contacted and interviewed using English or national language

- The extent to which core team and key experts understand and speak the relevant national languages

For the implementation of Tasks 2 and 3, the team has been set and each project allocated to a team member. The allocation of projects is shown in the table below.

*Table 4-1 Allocation of projects to experts for Tasks 2 and 3*

| Expert | Project |
|---|---|
| Bodil Bjerg | 4 (Bulgaria)<br>13 (Romania)<br>50 (Malta) |
| Lars G. Jensen | 22 (Estonia)<br>24 (Latvia)<br>46 (Czech Republic) |
| Szabolcs Szekeres | 21 (Czech Republic)<br>28 (Romania)<br>49 (Lithuania) |
| Rafal Stanek | 10, 26, 52 (Poland) |
| Adam Stachel | 27 (Poland) |
| Nuno Cambral<br>Alexander Mendonca<br>Antonio Coimbra | 2, 37 (Portugal<br>38 ( Spain) |
| Zsuzsa Lehoczski | 7, 48 (Hungary) |
| Panagiotis Vlachos | 34 (Greece)<br>56 (Slovakia) |

* The numbers of the projects refer to the project list included in Appendix A

For task 4, more substantial input from national experts is relevant as they will have better understanding of the national and regional contexts and also will communicate better during interviews. However, we still foresee that the core team will take a very active role in the implementation of task 4 (see section 4.2 below). The possible need to include additional national experts on the team to implement Task 4 will be assessed once the 10 projects have been selected.

Table 4-2

*Table 4-2 Resource allocation, days per task for each team member*

| Expert/Task | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Total |
|---|---|---|---|---|---|---|---|---|
| Birgitte Martens | 5 | 5 | 1 | 7 | 6 | 8 | 14 | 46 |
| Bodil Bjerg | | 18 | 3 | 15 | 7 | 2 | 2 | 47 |

| Expert/Task | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Total |
|---|---|---|---|---|---|---|---|---|
| Lars G. Jensen | | 14 | 4 | 10 | 1 | | | 29 |
| Tony Zamparutti | 10 | | | | | 1 | 5 | 16 |
| Jennifer McGuinn | 15 | | | | | | | 15 |
| Agnieszka Markowska | 18 | | | | | | 5 | 23 |
| Davide Sartori | | 6 | | 3 | 2 | 3 | 3 | 17 |
| Emanuela Sirtori | | | | | 3 | | 3 | 6 |
| Frederik M. Laugesen | | 2 | 2 | | | | | 4 |
| Meta Brødsted | | 2 | 2 | | | | | 4 |
| Andrik Mols | 2 | 3 | | | | | | 5 |
| Alan R. Jacobsen | 3 | 3 | | | | | | 6 |
| Szabolcs Szekeres | | 14 | 3 | | | | | 17 |
| Rafal Stanek | | 12 | 5 | | | | | 17 |
| Adam Stachel | | 4 | 2 | | | | | 6 |
| Nuno Cambral | | 5 | 3 | | | | | 8 |
| Alexander Mendonca | | 4 | | | | | | 4 |
| Antonio Coimbra | | 2 | | | | | | 2 |
| Zsuzsa Lehoczski | | 8 | | | | | | 8 |
| Panagiotis Vlachos | | 8 | | | | | | 8 |
| Unspecified* | | | | 87 | | | | 87 |
| **Total** | **53** | **110** | **25** | **122** | **19** | **14** | **32** | **375** |

* The working days for Task 4 will be distributed when the 10 projects are selected

## 4.2 Management of national experts

The national experts are sub-contracted – either through their firm or as individual consultants. Work orders for their contribution to task 2/3 and,

separately, for task 4 will be issued. Input from experts to tasks 2 and 3 are shown in section 4.1 above.

The expert is provided with comprehensive guidance and will also be introduced to the task through further guidance as requested by mail or a video /telephone conferencing. In any case, the core team expert will work together with the national expert and there will be a continuous dialogue on the inputs provided.

For contributions to task 4, the input from national experts will also vary. Two main models are foreseen:

1. The core team expert will do most of the work. Interviews will be conducted in English. A national expert may assist in providing and summarising relevant background material, in setting up interviews and drafting the case study report.

2. The national expert will do most of the work. Interviews will be conducted in the national language. The core team expert may have a short mission to the relevant country and conduct some selected interviews in English where possible. The national expert will draft the main part of the case study report, but in close dialogue with the core team expert. The core team expert will draft the summary.

For the two pilot studies, we foresee that model 1 will be used. No matter which model is applied, the national expert will be provided with the case study manual as well as clear instructions about the work to be done by the expert. This shall be communicated in writing (the work order) and there will be a start-up meeting via video or telephone to ensure that instructions are clear. Furthermore, the work of the national expert will be followed closely by the core team member in charge of the case study.

For the remaining eight case studies, we envisage that model 1 will be used for projects in Malta, Lithuania, and Estonia, whereas projects in the Czech Republic, Poland and Portugal will most likely be analysed via model 2.

## 4.3 Managing inputs from the external experts

The external experts will be engaged through a contract, which will specify the expected contribution per deliverable. The terms of the contract will follow the outline below (as agreed at the kick-off meeting).

The role of the experts is to comment on each deliverable, based on their area(s) of expertise. This includes:

- Assessing the quality of the deliverable
- Making brief, specific, constructive suggestions for change or improvement, again based on their expertise.

Experts comment, but are not responsible for the final deliverable, which remains in all cases the responsibility of the contractor. In this sense, experts can be said to play the role of "critical friend".

Most of the time, experts comment on each deliverable in one of the following ways:

- Written procedure: the consultants copy the report to the experts, either at the same time as it goes to DG Regio or in the week before. Expert comments are then copied to DG Regio at least 2 days before the steering committee.

- In person: an expert meeting is held, usually around the same time as the steering group. Experts deliver comments there.

- Both written and oral: the experts come for a meeting, but also provide written comments before or after the meeting.

Following the tender specifications, the experts will take part in three meetings in Brussels. Table 4-3 indicates the expected contributions, recognising that this may need to be changed later in the contract in the light of circumstances and by prior agreement with DG Regio. As appears from the table, the three meetings are scheduled for 14 April, 8 October (TBC), and 20 November.

*Table 4-3* Contribution of experts to the deliverables

| Deliverable | Due date | Giles Atkinson Sandor Kerekes |
|---|---|---|
| Inception report | 28 January | Written comments (report submitted to experts 28 January and comments received by 7 February) |
| Interim report (task 1 and 2) | 1 April | Participation in Steering Group meeting 14 April. Comments delivered at meeting. |
| 2 pilot case studies and task 3 | 18 May | Written comments after submission of report. Precise date for submission of comments to be agreed. |
| All case studies | 18 August | Comments delivered at meeting held back-to-back with seminar. Each expert will review 4 cases. |
| Draft catalogue of challenges | 18 September | Written comments prior to submission to DG REGIO. Draft catalogue sent to experts by 1 September. Comments by 8 September.<br>Oral comments on version submitted to DG REGIO delivered at seminar. |
| Seminar | 8 October | Participation in seminar and providing comments on draft catalogue of challenges and other material submitted. |
| Draft final report and final catalogue of challenges | 10 November | Oral comments on draft final report at meeting 20 November. |

| Deliverable | Due date | Giles Atkinson | Sandor Kerekes |
|---|---|---|---|
| Final report | 18 December | None | |

## 4.4 Managing relations with Managing Authorities and other bodies at the Member State level

As agreed during the kick-off meeting, we will make an effort to contact implementing bodies and/or project managers directly rather than organising this through the Managing Authorities. However, contact to the Managing Authorities will be necessary in connection with implementation of the 10 case studies as Managing Authorities are among the interviewees. There will two main occasions where contact to Member State stakeholders will be organised.

*1. round of contact*

The first occasion will be in connection with implementation of Task 3. The purpose will be to collect ex-post data comparable to the ex-ante assumptions analysed in Task 2. For this purpose, we will devise a questionnaire to be sent to project holders. The questionnaire will include the ex-ante information and ask the stakeholder to fill in relevant ex-post information (which cannot be found in official sources, e.g. web-sites) and to confirm data extracted from official sources (see description in section 2.3).

*2. round of contact*

The second occasion where national stakeholders will be contacted will be in connection with the 10 case studies (Task 4). Here, a broader range of stakeholders will be contacted. The point of departure will be the contact person already identified as part of implementing Task 3, however contact with the Managing Authority and Implementing Body and/ or relevant Utility Company will also be made to establish whether relevant interview persons can be identified.

# Appendix A Project selection note

# Appendix B Guidance for Task 2 Review - Waste Management

# Appendix C Guidance for Task 2 Review – Water and Wastewater

# Appendix D Guidance for Task 3, Waste management projects

# Appendix E Guidance for Task 3, Water and wastewater projects


# Ex post Evaluation of Cohesion Policy Programmes 2007-2013, focusing on the European Regional Development Fund (ERDF) and Cohesion Fund (CF) – Work Package 6: Environment

*Final Inception Report, 18 March 2015*

# Appendix A Project selection note

COWI

DG REGIO

# SELECTION OF 20 PROJECTS FOR REVIEW OF FINANCIAL ANALYSIS IN TASK 2

NOTE FOR DG REGIO APPROVAL, 23 JANUARY 2015

ADDRESS COWI A/S
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2800 Kongens Lyngby
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WWW cowi.com

## CONTENTS



## 1 Background to selection

The tender specifications establish that the review of ex-ante financial analyses will be carried out for 20 projects selected from a long list of approximately 40 major projects. DG REGIO would supply the available application documents for each of these 40 projects. At the kick-off meeting, DG REGIO pointed out that the selection could be expected to cover the 2007-2013 financial framework only.

Taking this modification into account, the criteria for our selection of the projects for the ex-ante review, as detailed in our proposal, may be summarised as follows:

| | |
|---|---|
| 1. | Geographic balance |
| 2. | Sector balance |
| 3. | Integrated projects |
| 4. | Availability of information |
| 5. | Stage of advancement |
| 6. | Likelihood delays / cost overruns |

PROJECT NO. A059298
DOCUMENT NO. 1
VERSION 1
DATE OF ISSUE 230115
PREPARED bbg
CHECKED lgj, bim
APPROVED bim

## 2 Establishment of list of 20 selected projects

Information from DG REGIO was received for altogether 58 projects as compared to the estimated total in the tender specifications of about 40. Table 1 shows the country and sector breakdown of the Operational Programme allocations as well as for the 58 projects.

*Table 1 Country and sector breakdown of list of 58 projects*

| | OP allocations | | Project list | |
|---|---|---|---|---|
| | Waste | Water/ww. | Waste | Water/ww. |
| | pct. | pct. | no. | no. |
| *Country / Sector* | | | | |
| France | 2% | 2% | 1 | 1 |
| Greece | 8% | 6% | | 1 |
| Italy | 4% | 3% | | 2 |
| Portugal | 6% | 5% | 1 | 3 |
| Spain | 7% | 18% | 1 | 5 |
| | | | | |
| Bulgaria | 5% | 3% | 1 | 1 |
| Croatia | 1% | 1% | 1 | 2 |
| Cyprus | 1% | 0% | 1 | 1 |
| Czech Republic | 9% | 7% | | 6 |
| Estonia | 1% | 2% | 1 | 2 |
| Hungary | 6% | 9% | 1 | 1 |
| Lithuania | 4% | 2% | | 1 |
| Latvia | 2% | 3% | | 1 |
| Malta | 1% | 0% | 1 | 1 |
| Poland | 21% | 18% | 2 | 6 |
| Romania | 13% | 13% | 3 | 1 |
| Slovenia | 3% | 2% | 1 | 3 |
| Slovakia | 6% | 4% | | 5 |
| Other | 1% | 2% | n.a. | n.a. |
| **Total** | **100%** | **100%** | **15** | **43** |
| (pct.) | (22%) | (78%) | (26%) | (74%) |
| *Of which:* | | | | |
| EU-12 | 28% | 36% | 20% | 28% |
| EU-16 | 72% | 64% | 80% | 72% |

During the initial review we found that a distinction between Priority Themes 45 (water) and 46 (wastewater) in the selection would be misleading in terms of sector balancing. Reviewing project titles, and later on confirmed by application information on project scope, showed that 'water' projects might equally well be combined water and wastewater projects and in some cases even with wastewater management their main content. For this reason the table shows water and wastewater allocations and projects combined.

Two-step selection

As indicated already in the first progress report, the larger number of projects than foreseen necessitated the introduction of a two-step project selection procedure.

First, the project list (of 58 projects received) was reduced to the long list of 40 projects foreseen. Emphasis in this first step was on achieving the geographic and sector balance, which is emphasised in the tender specifications. For this purpose, we perused the information of the project overview list of DG REGIO as well as available DG REGIO website information on Major Project summaries.

The second step was then the reduction of this list to 20 projects based on the criteria summarised above. This involved consultation of application documents on the ftp server.

### Long list of 40 projects

As can be seen in Table 1, the sector balance of the list of 58 projects corresponds well to the OP allocations, whereas the country balance is skewed with a comparatively large number of projects in countries as Czech Republic, Slovakia and Slovenia.

The main focus in the long list establishment was therefore on country balancing. Furthermore, the initial review showed that not all projects were the 'conventional' revenue generating environmental infrastructure projects serving mainly households in terms of water/wastewater treatment and water distribution /wastewater collection. An additional criterion introduced was therefore to give priority to these 'conventional' projects (see Appendix 1 for concrete examples of the 'non-conventional' types of projects which were not included in the list of 40 projects).

Appendix 1 presents all 58 projects by Priority Theme and country as well as the justification for their inclusion/exclusion from the long list of 40 projects.

### Short list of 20 projects

Appendix 1 similarly shows the arguments for the inclusion / exclusion of the long listed projects on the short list. Other than concerns about country and sector balance, the establishment of this short list has additionally included regard to their stage of advancement, their integrated nature, the likelihood of delays, and information availability.

The indicator for the stage of advancement is the information on completion separately supplied by DG REGIO (and shown in Appendix 1). Two waste projects are completed and we suggest that both are selected. Nine of the 15 water/wastewater projects are proposed for selection. The non-selected projects are in Portugal (1), Czech Republic (2) and Poland (3). We suggest to exclude the Portuguese project as it is not 'conventional' (dam construction). The Czech and Polish projects are excluded to preserve a geographic balance. In addition, it appears from the review of project documentation that the non-selected projects are similar in project and application scope as compared to the (also completed) selected ones.

Consideration of the criterion to include integrated projects is reflected in the inclusion of fully integrated waste and combined water/wastewater management projects (cf. Appendix 1).

Integrated projects may also be complex and, therefore, an indicator for the risk of delay. A further indicator for this risk is the decision date of the project as compared to its current state of completion. The suggested list thus includes projects approved in 2009 and not yet completed.

Information availability has turned out to be a more important consideration than initially anticipated. The review of project files on the server showed that the information on Spanish projects in general was very limited. For most, a cost-benefit analysis (CBA) report is not among the application documents provided. In one project (no. 40 on the list), we have noted that the Commission sent a letter to the Member State expressing strong doubts about the validity of cost information (citing that two different project components were shown to have identical costs).

Therefore, we strongly doubt whether a review of ex-ante financial analysis will add any significant value for any of the six Spanish projects on the list of 58 projects. All six projects were on the long list of 40 projects for a more comprehensive project review. A CBA report was available for one of these projects only (no. 38). The main reason for including this project in the short list is the regard to country balance.

A further information indicator applied was, as suggested in our proposal, the availability of a (functioning) Excel model. This criterion has been fulfilled to a variable degree cf. Appendix 1.

Finally, an additional consideration in the selection has been the level of grant support and funding gap rate (FGR) for these revenue generating environmental infrastructure projects. The project overview table of DG REGIO showed, surprising to us, that some such projects did not, in effect, generate any/much net revenue (e.g. the Greek and the Maltese projects selected). This indicates that the cost recovery principle of the environmental acquis has not been applied in tariff setting. In the context of financial sustainability, this could give reason for concern.

Table 2 reiterates the Operational Programme allocations of Table 1 (columns 2 and 3) and presents the country/sector breakdown of the proposed short list of 20 projects for review of ex-ante financial analysis in Task 2.

*Table 2: Country and sector breakdown of proposed short list of 20 projects*

| | OP allocations | | Short list | |
|---|---|---|---|---|
| | **Waste** | **Water/ww.** | **Waste** | **Water/ww.** |
| | pct. | pct. | no. | no. |
| *Country / PT* | | | | |
| France | 2% | 2% | | |
| Greece | 8% | 6% | | 1 |
| Italy | 4% | 3% | | |
| Portugal | 6% | 5% | 1 | 1 |
| Spain | 7% | 18% | | 1 |
| | | | | |
| Bulgaria | 5% | 3% | 1 | |
| Croatia | 1% | 1% | | |
| Cyprus | 1% | 0% | | |
| Czech Republic | 9% | 7% | | 2 |
| Estonia | 1% | 2% | | 1 |
| Hungary | 6% | 9% | 1 | 1 |
| Lithuania | 4% | 2% | | 1 |
| Latvia | 2% | 3% | | 1 |
| Malta | 1% | 0% | | 1 |
| Poland | 21% | 18% | 1 | 3 |
| Romania | 13% | 13% | 1 | 1 |
| Slovenia | 3% | 2% | | |
| Slovakia | 6% | 4% | | 1 |
| Other | 1% | 2% | | |
| **Total** | **100%** | **100%** | **5** | **15** |
| (pct.) | (22%) | (78%) | | |
| *Of which:* | | | pct. | pct. |
| EU-12 | 28% | 36% | 20% | 20% |
| EU-16 | 72% | 64% | 80% | 80% |

The country group balance (EU-12/EU-16) for waste projects is seen to correspond to that of the list of 58 projects and reasonably well also to that of the OP allocations. The balance for water/wastewater projects is skewed against EU-12. This is due only to a lack of suitable projects especially from Spain.

Finally, Table 3 presents summary information on the 20 projects of the proposed short list.

*Table 3: Proposed short list of 20 projects for ex-ante financial analysis*

| No. | Country | CCI | Title | Compl. status |
|---|---|---|---|---|
| *Waste sector:* | | | | |
| 2 | Portugal | 2008PT161PR004 | Treatment Project. Valorization and final disposal of urban solid waste of the inter-municipal system of the Litoral Centro | End 2014 |
| 4 | Bulgaria | 2011BG161PR007 | Integrated System of Municipal Waste Treatment Facilities for Sofia Municipality – Phase II | - |
| 7 | Hungary | 2008HU161PR008 | Development of solid waste management system in the operation area of the Association of Municipalities for Solid Waste Management of Győr Region | - |
| 10 | Poland | 2007PL161PR002 | Modernization of municipal waste management in Gdansk | End 2014 |
| 13 | Romania | 2009RO161PR036 | Integrated Waste Management System in Cluj County | End 2015 |
| *Water and wastewater sectors:* | | | | |
| 21 | Czech R. | 2009CZ161PR005 | Improving water quality in rivers Jihlava and Svratka above tanks of Nové Mlýny | End 2014 |
| 22 | Estonia | 2009EE161PR003 | Renovation of Water Supply Systems in Kohtla-Järve Area | End 2014 |
| 24 | Latvia | 2012LV161PR001 | Development of water management in Riga, stage 4 | End 2015 |
| 26 | Poland | 2009PL161PR004 | Comprehensive organization of water - sewage mgt. in Żory | End 2014 |
| 27 | Poland | 2007PL161PR005 | Water and ww. mngt. in Nova Sol and neighb. municipalities | End 2014 |
| 28 | Romania | 2009RO161PR012 | Extension and rehabilitation of water and wastewater infrastructure in Jiu Valley Area, Hunedoara County | End 2015 |
| 34 | Greece | 2013GR161PR007 | Collection, transport, treatment and disposal of sewage in Koropiou and Paianias areas | - |
| 37 | Portugal | 2009PT162PR001 | SIMARSUL – Sanitation sub-systems of Barreiro/Moita and Seixal | End 2014 |
| 38 | Spain | 2009ES161PR008 | Sanitation of Vigo | - |
| 46 | Czech Rep. | 2009CZ161PR009 | Renovation and constr. of sewerage system in Brno | End 2014 |
| 48 | Hungary | 2008HU161PR011 | Nagykanizsa and surrounding areas - sewage coll. and WWTP development | - |
| 49 | Lithuania | 2009LT161PR001 | Sludge Treatment Facility at Vilnius WWTP | End 2014 |
| 50 | Malta | 2007MT161PR001 | Malta South Sewage Treatment Infrastructure | End 2014 |
| 52 | Poland | 2007PL161PR003 | Construction of sewage and stormwater collection systems and municipal WWTP communal in Tarnow mountains - phase 1 | End 2014 |
| 56 | Slovakia | 2010SK161PR002 | Sewage collection system and upgrade of Liptovská Tepla WWTP | End 2015 |

The project numbers of the first column of Table 3 are those of the project list in Appendix 1.

| No. | Priority Theme | CCI | Title | Compl. | Long list | Short list | Comments |
|---|---|---|---|---|---|---|---|
| | *Priority Theme 44: Waste* | | | | | | |
| 1 | France | 2009FR161PR003 | Environmental platform multi-process treatment of household and similar waste of Pointoise agglomeration | - | | | No long list as low country share and also far from completion |
| 2 | Portugal | 2008PT161PR004 | Treatment Project. Valorization and final disposal of urban solid waste of the inter-municipal system of the Litoral Centro | End 2014 | Y | Y | Long and short list as only EU-12 project on short list, completed |
| 3 | Spain | 2010ES161PR001 | Elimination of chemical pollution in Flix reservoir | End 2015 | | | No long list as not 'real' waste project: construct landfill to deposit water reservoir dried sludge |
| 4 | Bulgaria | 2011BG161PR007 | Integrated System of Municipal Waste Treatment Facilities for Sofia Municipality – Phase II | - | Y | Y | Long and short list wit country share and with mech. biol. waste treatment and landfill. Excel model. |
| 5 | Croatia | 2013HR161PR005 | County Waste management Centre KAŠTIJUN | - | Y | | Long list as mech. biol. waste treatment and landfill. No shortlist as initially IPA application and low country share. |
| 6 | Cyprus | 2013CY161PR001 | Integrated facilities for dom. solid waste mgt. in Limassol | End 2015 | | | Very low country share and other similar projects |
| 7 | Hungary | 2008HU161PR008 | Development of solid waste management system in the operation area of the Association of Municipalities for Solid Waste Management of Győr Region | - | Y | Y | Long/short list as integrated and inter-municipal waste project. Also approved 2009 and still far from completion. No Excel model. |
| 8 | Malta | 2009MT161PR003 | Mechanical Biological Treatment Plant | End 2015 | Y | | On long list as MBT plant construction. Low country share and no Excel model, tables only. |
| 9 | | 2009MT161PR005 | Rehabilitation and Restoration of closed landfills | End 2015 | | | Not shortlist as not revenue generating |
| 10 | Poland | 2007PL161PR002 | Modernization of municipal waste management in Gdansk | End 2014 | Y | Y | Long list with country share. Short list as integrated project and completed. Appr. 2009. Excel model. |
| 11 | | 2013PL161PR008 | Municipal waste man. system in Olsztyn. Construction of waste management facility | - | Y | | Long list with country share. Waste treatment/landfill only. Other better projects and 2 Polish waste projects not needed for balancing |
| 12 | Romania | 2010RO161PR005 | Integrated Waste Management System in Iasi County | End 2015 | | | No shortlist as 3 RO waste projects would be excessive for balancing |
| 13 | | 2009RO161PR036 | Integrated Waste Management System in Cluj County | End 2015 | Y | Y | Long and short list for cuntry balance. Integrated project. Excel model. |
| 14 | | 2009RO161PR037 | Integrated Waste Management System in Sibiu County | End 2015 | Y | | Integrated project. Non-transparent Excel model. Same project type and contractor as Cluj County project so no shortlist |
| 15 | Slovenia | 2007SI161PR001 | Upgrading of Regional Waste Management Centre Ljubljana | - | | | No long list as low country share and upgrading only. |
| | **Total Priority Theme 44** | | | | **9** | **5** | |

| No. | Priority Theme | CCI | Title | Compl. | Long list | Short list | Comments |
|---|---|---|---|---|---|---|---|
| | *Priority Theme 45: Water* | | | | | | |
| 15 | Italy | 2009IT161PR002 | Desalinated water aqueduct Gela Aragon (Sicily) | - | Y | | On long list for EU/non-EU balance. Atypical water project to refurbish water aqueduct /water pipeline, water reservoirs upgrade/ construction, lay distrib. pipes. Far from completion as well so no shortlist |
| 16 | Portugal | 2009PT161PR009 | Link Pisão-Roxo | End 2014 | Y | | On long list for EU/non-EU balance and FGR of 97%. Atypical water project to construct new dam and extend local water canal system, so no shortlist. |
| 17 | Spain | 2009ES161PR023 | Presa de la Breña II pumping station and turbine /new water channel | End 2015 | Y | | On long list as large country share. No short list as mainly irrigation demand, very brief financial analysis, no Excel model |
| 18 | | 2009ES162PR002 | Lower canal of Los Payuelos, phase II | End 2015 | Y | | On long list as large country share. No short list as to construct water channels, short SF, no CBA and no Excel model. |
| 19 | Bulgaria | 2008BG161PR002 | Gabrovo Integrated Water Project | End 2015 | | | No long list as low country share |
| 20 | Croatia | 2013HR161PR007 | Water Supply and Sewerage Improvements with WWTP in Knin | - | | | No long list as low country share + IPA project initally |
| 21 | Czech R. | 2009CZ161PR005 | Improving water quality in rivers Jihlava and Svratka above tanks of Nové Mlýny | End 2014 | Y | Y | Long list as CZ. Short list as fully integrated project (Water/wastewater) and grant rate of 85%. No Excel model though. |
| 22 | Estonia | 2009EE161PR003 | Renovation of Water Supply Systems in Kohtla-Järve Area | End 2014 | Y | Y | Long list as water only and balancing problems for ES. Short list as completed. |
| 23 | | 2009EE161PR001 | Narva City - reconstruction of water and sewage systems | End 2015 | | | No long list as low country share and not completed |
| 24 | Latvia | 2012LV161PR001 | Development of water management in Riga, stage 4 | End 2015 | Y | Y | Long list with short implementation period and country share. Short list as water supply, ww. coll. and waste treatment plant construction. Excel model |
| 25 | Poland | 2009PL161PR019 | Expansion and modernization of water supply and sewerage system in municipalities of Bialystok and Wasilkow | End 2014 | Y | | Long list as Polish project. No short list for country balance |
| 26 | | 2009PL161PR004 | Comprehensive organization of water - sewage mgt. in Żory | End 2014 | Y | Y | Long list as Polish project. Docs in PL. Short list as water supply, sewage, storm water, WWTP, completed, and including land purchase. |
| 27 | | 2007PL161PR005 | Water and ww. mngt. in Nova Sol and neighb. munic. | End 2014 | Y | Y | Long list as Polish project. Short list as water and ww. treatments as well as network project and completed |
| 28 | Romania | 2009RO161PR012 | Extension and rehabilitation of water and wastewater infrastructure in Jiu Valley Area, Hunedoara County | End 2015 | Y | Y | Long and short list for country balance and lack of other RO projects |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 29 | Slovenia | 2009SI161PR004 | Integral potable water supply in Šalek valley | End 2015 | Y | | Long list as water treatment and suppply only. No short list with low country share and no Excel model found. |
| 30 | Slovakia | 2010SK161PR005 | WWTP, sewerage and drinking water supply in Trencin region | End 2015 | Y | | Long list for country balance and balancing problems for ES. No short list as not completed. Also Excel model w/o formulae |
| 31 | | 2013SK161PR002 | Drinking water supply and sewerage municipalities in the microregion Bodva | End 2015 | | | No long list for country balance |
| 32 | | 2010SK161PR003 | Water supply, sewerage and waste water in district Llave | End 2015 | | | No long list for country balance |

| | | | |
|---|---|---|---|
| **Total Priority Theme 45** | **13** | **6** | |

| No. | Priority Theme | CCI | Title | Compl. | Long list | Short list | Comments |
|---|---|---|---|---|---|---|---|
| | *Priority Theme 46: Wastewater* | | | | | | |
| 33 | France | 2011FR161PR002 | Treatment plant Grand Prado | - | | | No long list as low country share and also far from completion |
| 34 | Greece | 2013GR161PR007 | Collection, transport, treatment and disposal of sewage in Koropiou and Paianias areas | - | Y | Y | Long/short list for country balance although recent (only Greek project). Also 85% grant rate. No Excel model. |
| 35 | Italy | 2011IT161PR010 | Environmental restoration and enhancement of the lakes of the Campi Flegrei | - | Y | | Long list for EU-12 balance. No shortlist as project also environmental restoration |
| 36 | Portugal | 2009PT161PR002 | Águas do Ave - Extension of sanitation system | End 2015 | Y | | Long list for country balance. Project is WWTP and coll. syst. construction. No short list as other PT project completed + country balance. No Excel model |
| 37 | | 2009PT162PR001 | SIMARSUL – Sanitation sub-systems of Barreiro/Moita and Seixal | End 2014 | Y | Y | Long and short list for country balance. Selected as completed although only brief AF and CBA. No feas. study report.Is WWTP and sewage collection |
| 38 | Spain | 2009ES161PR008 | Sanitation of Vigo | - | Y | Y | Long list for country balance. Few files. Brief AF. Short list as CBA although brief (28 p). No Excel. WWTP upgrade |
| 39 | | 2009ES161PR015 | Capacity improvement in the ww. collection system of the Abronigal Basin. Relocation of Abronigal collector and actions in the networks of the basins of Pilillas and Moratalaz | - | Y | | Long list for country balance. Few docs. No short list as no FS and no CBA found. Simplistic Excel model. Sewage collection |
| 40 | | 2010ES161PR002 | Extension of Segovia WWTP | End 2015 | Y | | Long list for country balance. Very few docs. No short list as no FS and no CBA. COM letter w/serious doubts on CBA quality |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 41 | Croatia | 2013HR161PR008 | Sisak Waste Water Programme | - | | | No long list as low country share |
| 42 | Cyprus | 2009CY161PR001 | Construction of sewers for ww. collection in Famagusta and Larnaca | End 2015 | | | No long list as low country share |
| 43 | Czech R. | 2009CZ161PR002 | Improving water quality of the upper Morava river basin - phase II | End 2015 | | | No long list as need for fewer CZ projects and not completed |
| 44 | | 2010CZ161PR004 | Clean River Bečva | End 2015 | | | No long list as need for fewer CZ projects and not completed |
| 45 | | 2009CZ161PR001 | Project for river basin protection of river Dyje - phase II | End 2014 | Y | | Long list as completed, no short list for country balance as better project in CZ |
| 46 | | 2009CZ161PR009 | Renovation and constr. of sewerage system in Brno | End 2014 | Y | Y | Long list as completed, short list for country balance, completed and Excel model |
| 47 | | 2009CZ161PR004 | Cheb - environmental measures | End 2014 | Y | | Long list as completed, no short list for country balance and no Excel model |
| 48 | Hungary | 2008HU161PR011 | Nagykanizsa and surrounding areas - sewage coll. and WWTP development | - | Y | Y | Long and short list for country balance (only Hungarian for water/ww.) Approved 2010 already |
| 49 | Lithuania | 2009LT161PR001 | Sludge Treatment Facility at Vilnius WWTP | End 2014 | Y | Y | Long list as regional project for sludge mgt., short list also as completed with approval 2013 |
| 50 | Malta | 2007MT161PR001 | Malta South Sewage Treatment Infrastructure | End 2014 | Y | Y | Long list as 85% grant rate. Reason also for short list combined being completed and with lack of Spanish projects |
| 51 | Poland | 2009PL161PR008 | Improvement of water and wastewater City of Sochaczew - Phase I | End 2014 | Y | | Long list for country balance. Extensive documentation. No short list for country balance. |
| 52 | | 2007PL161PR003 | Construction of sewage and stormwater collection systems and municipal WWTP communal in Tarnow mountains - phase 1 | End 2014 | Y | Y | Long list for country balance. Extensive documentation. Short list with wide scope, approval back in 2009 and completion in 2013 |
| 53 | | 2010PL161PR033 | Construction of sewage system in the agglomeration of the city Marki | End 2014 | Y | | Long list for country balance. Extensive documentation. No short list for country balance. |
| 54 | Slovenia | 2013SI161PR004 | Collection and treatment of waste water in the Upper Sava River Basin and in the Area of Kranjsko and Sorsko Polje – Phase 2 | End 2015 | | | No long list as low country share |
| 55 | | 2013SI161PR003 | WWTP Nova Gorica | End 2015 | | | No long list as low country share |
| 56 | Slovakia | 2010SK161PR002 | Sewage collection system and upgrade of Liptovská Tepla WWTP | End 2015 | Y | Y | Long and short list for country balance. Excel model. Sewage coll. and WWTP upgrade |
| 57 | | 2011SK161PR001 | Water supply and sewerage Orava region, phase 2 | End 2015 | Y | | Long and short list for country balance. No short list as Excel model w/o formulae and no FS. Sewage coll. and WWTP upgrade + water supply |
| | **Total Priority Theme 46** | | | | **18** | **9** | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Total for Priority Themes 44-46** | | | | | **40** | **20** | |

# Appendix B Guidance for Task 2 Review - Waste Management

DG REGIO

# TASK 2 GUIDANCE AND CHECK LIST FOR REVIEW OF FINANCIAL ANALYSIS – Waste management projects

MARCH 2015

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DG REGIO

# TASK 2 GUIDANCE AND CHECK LIST FOR REVIEW OF FINANCIAL ANALYSIS – Waste management projects

MARCH 2015

PROJECT NO.
DOCUMENT NO.
VERSION
DATE OF ISSUE
PREPARED
CHECKED
APPROVED

# CONTENTS

# 1 Introduction

The objective of the financial analysis review of the 'major project' application is to identify and assess the assumptions behind the financial projections for the project that demonstrates its forecast *financial sustainability*. The project is financially sustainable if cumulated total cash flows are non-negative in each year of the project's lifetime. The application form (AF) template for major projects requires financial sustainability to be demonstrated.

The documents for review are in principle all those placed on the dedicated ftp server, being the documents submitted by the applicant to DG REGIO. The financial information that the applicant is mandatorily to submit is the summary part of the financial CBA included in the application and the full CBA report to be attached as Annex II of the AF. Other key documents for review are, if available, the feasibility study report and the Excel model for the project. If JASPERS has supplied technical assistance, their completion note may be attached and provide useful reading as reference. Any other relevant documents must be identified individually.

This introductory section of the report will cover the elements of the box below.

| | |
|---|---|
| Project description | - Present a summary project description at a level sufficient to understand project scope and the context of the financial analysis review.<br>- Inform whether JASPERS was involved in project preparation (see section I.4 of AF) |
| Application information available | - Present in overview form the information presented for assessing financial sustainability. Apart from a general mention of the AF information cover any documents that directly or indirectly link to the project financial analysis (e.g. feasibility study report and any other directly or indirectly relating to financial issues e.g. investment cost budget and justification.<br>- Specify the extent to which a feasibility study report, a separate CBA report and an Excel financial model were submitted with the AF. Include annex with list of documents reviewed. |
| Assessment of | - To which extent does the project information |

| | |
|---|---|
| information | supplied provide a 'reasonable base' for judging the ex-ante financial sustainability of the project? - If not providing a reasonable base, which is the missing information preventing such assessment? |

The financial analysis of the AF and supporting documents will be carried in line with the guidance and checklists provided in sections 2 and 3. Please cover all of the aspects specified in the text boxes of the sections as well as any additional ones you find relevant. In the reporting of findings, an answer to the questions / issues raised may be that it is not covered in the AF and supporting documents. When this is the case, please state so in the project report. As pointed to above, such answer may possibly be relevant for applications where the documents submitted in support of the application are few and/or of below standard quality.

### List of projects for review under this ex-post evaluation

In all 20 projects are reviewed among which 5 in waste management. The list shows country, CCI no., title, and completion status for these projects as informed by DG REGIO.

| Country | CCI | Title | Compl. |
|---|---|---|---|
| Portugal | 2008PT161PR004 | Treatment Project. Valorisation and final disposal of urban solid waste of the inter-municipal system of the Litoral Centro | End 2014 |
| Bulgaria | 2011BG161PR007 | Integrated System of Municipal Waste Treatment Facilities for Sofia Municipality – Phase II | None given |
| Hungary | 2008HU161PR008 | Development of solid waste management system in the operation area of the Association of Municipalities for Solid Waste Management of Győr Region | None given |
| Poland | 2007PL161PR002 | Modernization of municipal waste management in Gdansk | End 2014 |
| Romania | 2009RO161PR036 | Integrated Waste Management System in Cluj County | End 2015 |

# 2 Judgement on demand analysis

## 2.1 Service demand projections

This section is to cover only waste *generation* and waste *collection*. The demand for the treated waste of the project is to be addressed as part in section 3.2.2.

### 2.1.1 Demand baseline

The aim of this section is to judge whether the baseline for preparing waste generation and waste collection projections has been soundly established.

Preparing a baseline for a waste management project is a challenge since the starting point for this work in many cases is poor quality or even absent estimates of the amounts and volumes of waste currently generated.

In the 'better' case situations waste amounts will have been weighed at weighbridges at waste treatment /disposal facilities in the project area and waste composition will have been estimates through waste sampling. Household waste generation estimates per capita (usually kg/yr.) should also distinguish between urban and rural areas, if relevant, as experience shows amounts being lower in rural areas with use of e.g. organic waste as feedstock.

Waste composition should be explicitly addressed for the demand baseline as the types of waste impact directly on the need for treatment capacity for different types, on recycled amounts, and on waste disposal capacity. The composition will differ for the two main categories of municipal solid waste generation, households and non-households.

To cover also is the waste collection rates of the baseline. In the general case, waste collection rates of close to 100% may be reasonably assumed. Otherwise, the project definition will show whether improved collection is foreseen. Particular attention is to be paid to the projects /countries with competition in the market for waste collection. In such cases waste collection amounts for treatment / disposal are not necessarily under the control of the project beneficiary. In turn this gives

rise to uncertainty about waste amounts, and eventually the validity of the financial forecasts. The application should address this risk (cf. guidelines to section 3.3).

| | |
|---|---|
| Baseline year | 1) Identify the baseline year for establishing the (per capita) waste generation and collection estimates - which should not be too far from the year of project preparation / application submission.<br>2) Assess how current specific waste. generation/collection has been projected until the time of project preparation. |
| Household solid waste generation | 1) Identify and assess the basis for estimating waste generation per person. The basis should be justified (e.g. waste characterization studies or experience from other parts of the country). This applies also if the data source is stated to be a Regional Waste Management Plan.<br>2) If applicable, assess how specific waste generation in different parts of the project area has been estimated (e.g. rural/urban). Assess impact on estimated waste generation amounts if no distinction has been made. |
| Non-household solid waste generation | 1) Identify and assess the basis for estimating waste generation for non-households. Assessment is to include the estimated non-household share of the total solid waste generation. If data source is stated to be a Regional Waste Management Plan, validate if possible the validity of data of that plan. |
| Waste composition | 1) Are estimates of waste composition included in the baseline?<br>2) If so, is distinction made between households and non-households?<br>3) Assess also quality of data for estimating waste composition including which fractions are included. |
| Waste collection | 1) Check and assess estimated collection rates e.g. justified by information on area covered by waste collection services.<br>2) Is the waste generated for collection in the catchment area fully controlled by the beneficiary of the waste management facilities of the project? If not, establish and assess the degree of competition in the waste collection market and the extent of this 'downstream' risk for supply of waste to the waste treatment/disposal facility.<br>4) Which are the quantities and composition of waste assumed imported from outside the project area, if any?<br>5) Assess here also the assumptions behind the *projected* waste collection rates for the project. |
| Other | Any other relevant issues not covered above |

### 2.1.2 Demographics

The soundness of waste projections depends also on the validity of the demographic forecasts. These forecasts have their starting point in the baseline population of the project catchment area. Ideally, the population base should be established on the basis of recent census data with adequate justification for update to base year. Ideally also the forecast population growth should link to the project area. If relevant, separate projections should be made for urban and rural areas as growth rates may be expected to differ with lower/no growth in rural areas.

| | |
|---|---|
| Population base | 1) How has the population in the project catchment area been estimated? Is it based on reliable and recent census data? How old are census data and have short cuts been made to arrive at the population estimate?<br>2) Is the population figure a fair estimate of the number of residents in the waste catchment area?<br>3) If the project includes urban and rural areas does population information distinguish between the two? |
| Population projections | 1) Determine the source for the projected population growth e.g. is it based on official national/regional projections or on own estimates?<br>2) Assess validity of the growth assumptions. This will include the incorporation, if relevant, of different growth rates in urban and rural areas. |
| Other | Any other relevant issues not covered above |

### 2.1.3 Consumer behaviour

In the analysis of 'consumer behaviour' you will address the justifications for the assumed development in the baseline estimate for per capita waste generation for households and in the total waste generation of non-households over the reference period. The forecasts of the application should provide justifications for both and be particular to the project catchment area.

The forecasts should take into account the projected economic growth in the catchment area as waste generation and waste composition has been found correlated to income levels. The review of the affordability analysis (section 2.3) will explicitly address whether the financial forecasts have assumed changes in real household income. If so, this should be mirrored also in the waste generation forecasts.

According to article 4 of the Waste Framework Directive, Member States are to take measures to promote waste prevention, re-use, recycling, and other waste recovery. Actions in these areas may then affect consumer behaviour and therefore the amounts of waste generated and for collection as well as the composition of waste for collection. Such actions could e.g. include those that impact willingness to segregate waste at source into recyclable and non-recyclable fractions.

| | |
|---|---|
| Price elasticity | The project may be expected to lead to tariff increases and thus affect waste generation. |

| | |
|---|---|
| | However, for waste projects such price sensitivity has been found low, if identified at all.<br><br>1) Do projections include formal assumptions with respect to price responsiveness? If so, assess the assumptions. |
| Income elasticity, waste amounts | 1) Do projections include formal assumptions with respect to income growth responsiveness?<br>2) If so, assess the assumptions. |
| Income elasticity, waste composition | 1) Do forecasts include assumed changes in the waste composition of households and non-households?<br>2) If so, are these forecasts well founded and reasonable for the project area? |
| Waste awareness campaigns | 1) Does the application foresee campaigns initiated to minimize waste generation and/or promote reuse/recycling, and if so when?<br>2) Is the impact of these campaigns reasonable in terms of timing and of per capita waste generation change?<br>3) Are the impacts of campaigns included in the forecasts for change in waste composition? |
| Other justifications | 1) Identify and review validity of any other assumptions (e.g. technological, product and business model innovations) made that may affect future specific waste generation of households and the waste generation of non-households. |

## 2.2 Tariffing

In the setting of tariffs, the full cost recovery principle and the polluter pays principle are to be applied as per Article 14 of the Waste Framework Directive.

Full cost recovery means that tariff and other operating revenues, e.g. from sales of recyclable/treated waste are to cover all operating costs including allowances (depreciation amounts) for asset renewals over time. The polluter pays principle implies that tariffs for each customer group are to be set in accordance with the costs of waste collection and transport (if part of the project) and the costs of treatment and final disposal of the collected waste.

Member States may also take social impacts into account in tariff setting (Article 4 of Directive). This allows for an element of cross-subsidisation in tariff setting.

The application of the polluter pays principle is of some importance in waste management projects as different densities of waste (t/m³) impacts on the needs for waste collection and waste disposal capacity. Typically densities would be higher for rural areas than for urban areas (more organic waste) with less scope for compacting. Conversely, for non-households, waste has less organic content and thus lower average waste density. Application of the two principles is an important means for ensuring financial sustainability.

Compliance with the two principles should be accommodated by the regulatory framework and the financial autonomy of the utility company that is the project beneficiary. Therefore these aspects are also to be addressed.

Phasing-in of tariffs to their cost recovery levels is an often used, and recommended, tool for ensuring the acceptability of the tariffs that follow from project implementation. Phasing in prevents too abrupt tariff increases at the time of project operation start.

| | |
|---|---|
| Regulatory framework | 1) Identification and assessment of regulatory framework with respect to tariff setting (if relevant) |
| Tariff autonomy | 1) Assess how the overall waste tariff if set (collection, transport, gate fee for treatment/disposal). Assess the extent to which the project beneficiary controls the setting of the service fee for these components.<br>2) Does the project address the entire waste cycle or just a segment of it? Are tariffs set at final user or at gate fee level?<br>3) Does the utility have autonomy in tariff setting? If not, does it affect tariffing?<br>4) To which extent is political acceptability and social concerns an issue?<br>5) If relevant, is the setting of the part of the tariff that covers waste collection services affected by competition in the market (and ultimately with potential negative impact on financial sustainability)? |
| Full cost recovery | 1) Verify that all relevant costs for existing and new project assets (O&M, financial) and depreciation allowances for timely asset renewals) are adequately included in the cost base. If not, address whether needed cash resources will be channelled from other sources to preserve financial sustainability.<br>2) Check whether the full cost recovery principle is applied in tariffing. If not, assess extent of deviation and any justification. Assess here also the extent the availability of operating subsidies are foreseen. |
| Polluter pays | 1) If relevant, verify whether the polluter pays principle is consistently applied and comment on any deviation.<br>2) If relevant, assess extent of cross-subsidisation and its degree of elimination over time |
| Phasing-in of tariffs | 1) Is the initial pricing policy and level of charges paid by the users analysed?<br>2) Is there an analysis of the scope and implications of tariff increases after project implementation?<br>3) Does the tariffing policy foresee phasing in?<br>4a) If not, is this reasonable for ensuring cost recovery tariffs and tariff acceptability at the start |

| | |
|---|---|
| | of project implementation?<br>4b) If so, does the phasing in target cost recovery tariffs? |
| Other | Any other relevant issues not covered above |

## 2.3 Affordability

'Affordability' addresses the waste tariff affordability of households. Conventionally, affordability is to be calculated as the ratio of the monthly (annual) household bill to the monthly (annual) disposable (after tax) income. The size of the bill then depends on the number of *persons* in the household. The level of disposable household income depends on the number of *income earners* and on the assumed development in real incomes over the reference period.

The definition of affordability threshold is subjective. The Member State may have set such threshold. If this is not done in the AF, then the 'conventional' maximum of 1½-2% of average disposable household income in the project area may be taken as reference point. For the project area, and if relevant, a distinction may and should be made between urban and rural areas as income levels differ.

| | |
|---|---|
| Affordability ratio calculation | 1) Verify that calculation has been performed in either constant or current price terms.<br>2) Check whether the affordability ratio has been calculated in accordance with the adopted methodology, whether reflecting national standards or 'convention'.<br>3) If methodology has not been followed, explain differences and assess how the deviations may impact the assessment of tariff affordability. |
| Data quality for affordability calculation (income statistics) | 1) Check data sources for income data in the calculation to be valid for project area. Identify and assess the source of (household) income used in the affordability calculation. Is it representative for the project area e.g. including adjustments for differences between national and project area income levels?<br>2) Verify also that real growth in income is explicitly considered in projections (as impacting future affordability) |
| Affordability threshold | 1) Which is the affordability threshold defined? Does it reflect national standards or conventional practice? Does it consider the specific socio-economic situation of the project catchment area?<br>2) Is a distinction made between more and less affluent areas within the project e.g. urban and rural areas? If not, should such distinction have been made? |
| Acceptability of tariffs | 1) Are measures foreseen to enhance the acceptability of tariffs e.g. linked to any waste awareness campaigns?<br>2) In case the projected tariffs are not affordable |

| | |
|---|---|
| | for low income population, are measures foreseen to ensure social affordability, e.g. progressive tariffs, vouchers or subsidies? |
| Other | Any other relevant issues not covered above |

## 2.4 Conclusions

In this section, summarise findings from sections 2.1-2.3 and generate conclusions in the following way:

- First, identify by section the key areas where the assumptions and methodology for demand, tariff and affordability analysis applied in the project can be considered below standard and provide justification for each area.

- Secondly, make a judgement on what the consequences of using better methods and approaches in the demand analysis, tariff, and affordability analysis would have been on the ex-ante demonstration of financial sustainability. In particular would the project have remained financially sustainable if sound assumptions and methodology and the constraints of the project's socio-economic context had been adequately taken into account in projections?

# 3 Judgement on financial analysis

The preparation of this chapter may require the financial expert overall responsible for the project financial analysis to draw on the expertise of a technical expert in the field of the project. Supplementary / alternatively, the *JASPERS completion note* may possibly contain the technical assessments that could be needed. The guidance below will specify in which areas and in which way the technical expert should be consulted. In most areas, the assistance is not needed and own experience from 'major project' work may be drawn upon.

## 3.1 Project implementation phase

### 3.1.1 Implementation plan

The foreseen implementation plan should be assessed mainly/fully against the (own) experience from the (timely) implementation of similar projects. Often major projects have been found to underestimate the need for project implementation activities and at times also to establish contracts for tender in a form that is not in the best interest of the project. The assessment of the implementation relates to the concept of financial sustainability as broadly interpreted, namely with the taking into account of the risk of delay to affect this form of financial performance.

To the extent external finance is needed for the project, the time for obtaining outside financing should be included in the time schedule. This covers other grant funds, borrowings and any loan guarantees needed.

| | |
|---|---|
| Institutional arrangements overall | 1) Do the overall arrangements foreseen for project implementation lend evidence to timeliness and to eventual sustainable project operation? This includes arrangements for capacity building of operational staff. |
| Tender process | 1) Assess proposed procurement strategy in the context of the technical solution. Are the lots for tender appropriate to the project?<br>2) Is sufficient time set aside for the tender process from preparation to contract award? |

| | |
|---|---|
| | 3) Is the expertise available (internally / externally) for tendering?<br><br>*If need for technical back-up on 1) and/or 2):*<br>In e-mail give brief project presentation including chosen technology, present lots in tabular form/time frame and request assessment of lot composition and/or tender process time frame. |
| Arrangements for land acquisition | 1) If land is needed for the project, assess time frame and the taking into account of any needs for expropriation (to include waste treatment facilities as well any transfer stations needed). |
| Arrangements for EIA process and permitting | 1) If an EIA is required assess adequacy of time frame including the holding of public consultations<br>2) Does the application information address the risk of delay due to objections of the public to the construction of facilities?<br>3) Verify the implementation schedule to include permitting and assess time frame |
| Arrangements for mobilization of finance | 1) Has the time frame for obtaining external funding been considered by the project promoter? If so, is the time frame reasonable? |
| Implementation period | 1) Assess overall whether the planned for implementation period may be considered realistic<br>2) If project not yet completed: The table of section D.1 of the AF shows in point 8 the expected end date for the construction phase. Please comment on this end date as compared to the information in Section 1 on any expected completion date as of now for your project. |
| Dependence on other projects | 1) Check whether project implementation according to schedule depends on the implementation of other projects<br>2) If so, assess whether the implementation plan has taken this into account<br><br>This is an important aspect to check and assess since any delay will impact the present project |
| Other | Any other relevant issues not covered above |

### 3.1.2 Investment cost budget

| | |
|---|---|
| Project technological solutions | 1) Are the chosen solutions sound and appropriate to project objectives and context with respect to sustainable project operation?<br><br>*If need for technical back-up on 1):*<br>In e-mail give brief project presentation, outline technological solution and ask for assessment of relevance |
| Design capacity | 1) If relevant, is the design capacity (t/yr.) reasonable given the capacity needs derivable |

| | |
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| | from the service demand projections? If not, assess extent of deviation.<br>This assessment may be simply made from comparison of capacity with forecast demand<br>2) If landfill construction involved, is the proposed cell size and life time sound also against annual capacity needs? |
| Cost components | 1) Verify that the project includes all relevant cost components for project implementation including project access and consultancy services.<br>2) Verify the sufficiency of the level of price and technical contingencies as against the length of the implementation period / year of budget preparation respectively the technical complexity of the project. |
| Cost levels | 1) Benchmark and assess any unit construction cost presented against similar projects adjusted for differences in cost level in the country and the year of cost estimate – or assess against country averages for similar projects.<br>2) Benchmark and assess the share of design and supervision costs of total base costs against typical shares for the project type in question.<br><br>*If need for technical back-up on 1) and 2):*<br>In e-mail give brief project presentation, present tables with the relevant unit costs in EUR/percentage shares and ask for outline assessment (only) of whether assumptions are reasonable. Do not ask for any comprehensive assessment. |
| Other | Any other relevant issues not covered above |

### 3.1.3 Financing plan

In the narrow understanding of financial sustainability, unrealistic assumptions with respect to loan conditions (if relevant) may jeopardize the financial sustainability of the project: too favourable terms will lead to an understatement of required tariff increases and the planned financial sustainability will not be based on realistic assumptions.

In the broader understanding of financial sustainability, lack of finance may delay or even prevent project implementation. Key point to assess is borrowings and any loan guarantees foreseen needed in the financing plan.

| | |
|---|---|
| Own funds | 1) Is the financial capacity of the beneficiary analysed in light the foreseen size of the own funds contribution?<br>2) If relevant, do the financial projections up to and for the implementation period demonstrate the own funds contribution to be available in a timely manner? |
| National co-funding | 1) If relevant, are the arrangements for receiving |

| | |
|---|---|
| | national co-funding in support of the realism of the financing plan? |
| Borrowings | 1) If relevant, are the assumed loan terms (fees, interest rate, grace period, time to maturity) realistic given the type of lender assumed?<br>2) If not, how would this impact the planned financial sustainability of the project? |
| Loan guarantees | 1) If relevant, assess whether assumptions for obtaining loan guarantees are realistic. |
| Other | Any other relevant issues not covered above |

## 3.2 Operating phase of project

### 3.2.1 Operating cost budget and cash flow statement

The assessment of the operating cost budget should be made against the background of the chosen technology option.

| | |
|---|---|
| Budget components | Does the budget include all relevant cost items including maintenance? If not, identify the ones not included and assess the impact of their omission on the overall budget |
| Unit consumption values | 1) Are unit consumption values reasonable as compared to the selected technology option(s)? If not, assess differences and impact on overall budget.<br><br>*If need for technical back-up on 1):*<br>In e-mail give brief project presentation, present table with relevant unit values and request assessment |
| Unit operating costs | 1) If presented, are the unit costs well justified and in line with national/regional benchmarks? |
| Maintenance costs and depreciation | 1) Is the level of maintenance costs reasonable as against the expected level for the technological solutions of the project? If not, assess impact of underestimation on needed tariffs and on financial sustainability<br>2) Are the allowances for depreciation based on realistic depreciation periods as against the type of project proposed?<br><br>If need for technical back-up on 1):<br>In e-mail give brief project presentation, present table with maintenance costs share as a percentage of project investment costs and request assessment |
| Staffing | 1) Is the number of new staff foreseen appropriate?<br>2) Is the capacity available for sustainable project operation? |
| Real cost developments | 1) Has the budget adequately incorporated real |

| | |
|---|---|
| | cost increases over time, which are to be expected at least for wage costs? |
| Cash flow statement | 1) Check that the cash flow statement includes all recurrent items including loan amortization |
| Other | Any other relevant issues not covered above |

### 3.2.2 Off-take markets for recyclable and treated waste

In the project's upstream part, income from sales of recyclable and/or treated waste may constitute an important part of total operating revenues. The income from sales serves to lower required tariffs for the application of the cost recovery principle. If the sales fail to materialize at the prices and volumes foreseen in the forecasts, this constitutes an important risk to financial sustainability.

| | |
|---|---|
| Sales volumes | 1) Identify the types of revenues for the sales of recyclable and/or treated waste (e.g. recycled materials, compost/compost like output, Refuse Derived Fuel (RDF) or solid-recovered fuel) and of any energy (power, heat) produced<br>2) Is an analysis of the markets for recyclable or treated waste included to the extent relevant?<br>3) If so, does the analysis point to sales being feasible in the volumes foreseen? Does the analysis address whether demand is affected by special characteristics of the treated waste, e.g. uncertainty about compost quality or the calorific value of Refuse Derived Fuel<br>4) If relevant, does the application address the need for storage of recyclable/treated waste and how it will be transported to the point of sales? |
| Sales prices | 1) Is an adequate analysis of current and anticipated sales prices included? Are prices net of transport costs if for delivery at point of sales?<br>2) Do prices incorporate uncertainty about product quality and any need for additional investments at the buyer (e.g. in the case of RDF)? |
| Other | Any other relevant issues not covered above |

### 3.2.3 Operating revenue budget and cash flow statement

Section 3.2.1 addressed the analysis with respect to non-tariff revenues. The focus area for this part of the operating revenue budget review is then tariff collection rates and bad debts. The experience is that major projects have tended to neglect incorporating in the cash flow forecasts that the tariff increases required with the project will very likely have a negative effect on tariff collectability.

| | |
|---|---|
| Tariff revenues | 1) If possible, verify and assess correctness of the calculation of tariff revenues. |
| Tariff collection rates and bad debts | 1) Verify whether the financial forecasts include assumptions with respect to tariff collection rates. |

| | |
|---|---|
| | 2) If not, assess impact on realistically projected tariffs and financial sustainability. |
| Cash flow statement | 1) Check that the cash flow statement reflects changes assumed in tariff collection rates through corresponding working capital changes.<br>2) Verify whether the cash flow statement includes adequate provisions for needed asset renewals in the reference period. If not, assess likely impact on needed tariffs and on financial sustainability. |
| Other | Any other relevant issues not covered above |

## 3.3 Risk and sensitivity analysis

The risk and sensitivity analysis of the major project AF requires an assessment of the impact of identified key variables on the *incremental* project's financial and economic performance. The concept of 'performance' is defined only in the context of profitability.

This dimension is not relevant in the financial sustainability context of this assignment. Of relevance, however are the variables identified for the testing and the tested probability ranges. The variables that impact financial performance will also impact financial sustainability. The likely probability ranges for variation from their respective base values will also be the same.

Experience from appraisal of major project applications points to that often neither the relevant key variables nor the probable ranges have been identified. The former has been found to include e.g. testing the level of tariffs. However, tariffs are a project outcome, not an exogenous variable for testing. The issue of probable ranges has been found to include testing only simple 5% or 10% deviations from the base case values without consideration of whether larger deviations are within a probable range.

The review of the risk and sensitivity analysis of the application will therefore focus on the selection of variables for testing and on the tested range. This will enable an assessment of the extent to which the project's financial sustainability may be preserved in case of deviations from the assumptions of the financial analysis.

In the *implementation phase* the key risk to financial sustainability in the narrow sense is the investment cost budget, cf. the addressing of cost overruns in section 3.1 above. In the broad sense they include the risk of lengthened implementation period and the non-availability of investment finance in a timely manner.

In the project's *operating phase* the key variables potentially impacting financial sustainability is the per capita water demand assumption, the projected non-household service demand levels, the level of maintenance costs and the overall level of operating costs.

The above key variables would be expected identified in the financial performance testing for the purpose of an adequate risk and sensitivity analysis.

The application should also propose risk mitigating measures in the qualitative risk assessment part of the application in so far as risks are found of medium/high probability and of medium/high impact.

| | |
|---|---|
| Implementation phase risks | 1) Check whether investment costs have been identified as a key variable for testing<br>2) If so, assess the realism of the tested probability range<br>3) If relevant, assess impact on financial sustainability of higher investments costs (through higher debt service costs to finance investments and/or higher O&M costs because investment costs are higher) |
| Operating phase risks | 1) Check whether the key variables listed above have been identified for testing.<br>2) Assess in general how and to which extent possible deviations from the assumptions of the AF would impact financial sustainability (e.g. relatively large impact if non-household demand is a relatively large share of the total).<br>3) Assess the realism of the tested probability range, if any tested |
| Qualitative risk analysis | 1) Assess whether adequate risk mitigating measures have been proposed. This assessment is to include measures to ensure timely implementation and to ensure timely availability of co-finance. |
| Other | Any other relevant issues not covered above |

## 3.4 Conclusions

In this section, summarise findings from sections 3.1-3.3 and generate conclusions in the following way:

- First, identify by section the key areas where the assumptions and methodology of the financial analysis applied in the project can be considered below standard and provide justification for each area.

- Secondly, make a judgement on what the consequences of using better methodologies and approaches in the financial analysis would have been on the ex-ante assessment of financial sustainability. In particular assess whether the project would have retained its financial sustainability if sound assumptions and methodology had been adequately taken into account?

# 4 Overall conclusions

Based on sections 2.4 and 3.4 draw up the combined assessment and conclusions for the overall financial analysis of the application:

- First, identify the key areas where the methodologies and assumptions of the overall financial analysis of the project can be considered below standard.
- Make a judgement on the combined consequences of using more appropriate methods and approaches in the overall financial analysis would have been on the ex-ante assessment of financial sustainability.
- State the most pertinent questions to be further explored if the project is selected as a case project (Task 4 of the TOR)
- Identify the main issues in financial analysis to be further investigated if the project is selected as case project and/or which may serve as inputs to the development of the Catalogue of Challenges (Task 5).

# Appendix C Guidance for Task 2 Review – Water and Wastewater

DG REGIO

# TASK 2 GUIDANCE AND CHECK LIST FOR REVIEW OF FINANCIAL ANALYSIS – Water and wastewater projects

MARCH 2015

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DG REGIO

# TASK 2 GUIDANCE AND CHECK LIST FOR REVIEW OF FINANCIAL ANALYSIS – Water and wastewater projects

MARCH 2015

PROJECT NO.
DOCUMENT NO.
VERSION
DATE OF ISSUE
PREPARED
CHECKED
APPROVED

# CONTENTS

# 1 Introduction

The objective of the financial analysis review of the 'major project' application is to identify and assess the assumptions behind the financial projections for the project that demonstrates its forecast *financial sustainability*. The project is financially sustainable if cumulated total cash flows are non-negative in each year of the project's lifetime. The application form (AF) template for major projects requires financial sustainability to be demonstrated.

The documents for review are in principle all those placed on the dedicated ftp server, being the documents submitted by the applicant to DG REGIO. The financial information that the applicant is mandatorily to submit is the summary part of the financial CBA included in the application and the full CBA report to be attached as Annex II of the AF. Other key documents for review are, if available, the feasibility study report and the Excel model for the project. If JASPERS has supplied technical assistance, their completion note may be attached and provide useful reading as reference. Any other relevant documents must be identified individually.

This introductory section of the report will cover the elements of the box below.

| | |
|---|---|
| Project description | - Present a summary project description at a level sufficient to understand project scope and the context of the financial analysis review.<br>- Inform whether JASPERS was involved in project preparation (see section I.4 of AF) |
| Application information available | - Present in overview form the information presented for assessing financial sustainability. Apart from a general mention of the AF information cover any documents that directly or indirectly link to the project financial analysis (e.g. feasibility study report and any other directly or indirectly relating to financial issues e.g. investment cost budget and justification.<br>- Specify the extent to which a feasibility study report, a separate CBA report and an Excel financial model were submitted with the AF. Include annex with list of documents reviewed. |
| Assessment of | - To which extent does the project information |

| | |
|---|---|
| information | supplied provide a 'reasonable base' for judging the ex-ante financial sustainability of the project? - If not providing a reasonable base, which is the missing information preventing such assessment? |

The financial analysis of the AF and supporting documents will be carried in line with the guidance and checklists provided in sections 2 and 3. Please cover all of the aspects specified in the text boxes of the sections as well as any additional ones you find relevant. In the reporting of findings, an answer to the questions / issues raised may be that it is not covered in the AF and supporting documents. When this is the case, please state so in the project report. As pointed to above, such answer may possibly be relevant for applications where the documents submitted in support of the application are few and/or of below standard quality.

### List of projects for review under this ex-post evaluation

In all 20 projects are reviewed among which 15 in water/wastewater. The list shows country, CCI no., title, and completion status for these projects as informed by DG REGIO.

| Country | CCI | Title | Compl. |
|---|---|---|---|
| Czech Rep. | 2009CZ161PR005 | Improving water quality in rivers Jihlava and Svratka above tanks of Nové Mlýny | End 2014 |
| Estonia | 2009EE161PR003 | Renovation of Water Supply Systems in Kohtla-Järve Area | End 2014 |
| Latvia | 2012LV161PR001 | Development of water management in Riga, stage 4 | End 2015 |
| Poland | 2009PL161PR004 | Comprehensive organization of water - sewage mgt. in Żory | End 2014 |
| Poland | 2007PL161PR005 | Water and ww. management in Nova Sol and neighbouring municipalities | End 2014 |
| Romania | 2009RO161PR012 | Extension and rehabilitation of water and wastewater infrastructure in Jiu Valley Area, Hunedoara County | End 2015 |
| Greece | 2013GR161PR007 | Collection, transport, treatment and disposal of sewage in Koropiou and Paianias areas | None given |
| Portugal | 2009PT162PR001 | SIMARSUL – Sanitation sub-systems of Barreiro/Moita and Seixal | End 2014 |
| Spain | 2009ES161PR008 | Sanitation of Vigo | None given |
| Czech Rep. | 2009CZ161PR009 | Renovation and constr. of sewerage system in Brno | End 2014 |
| Hungary | 2008HU161PR011 | Nagykanizsa and surrounding areas - sewage coll. and WWTP development | None given |
| Lithuania | 2009LT161PR001 | Sludge Treatment Facility at Vilnius WWTP | End 2014 |
| Malta | 2007MT161PR001 | Malta South Sewage Treatment Infrastructure | End 2014 |
| Poland | 2007PL161PR003 | Construction of sewage and storm water collection systems and municipal WWTP in Tarnow mountains - phase 1 | End 2014 |
| Slovakia | 2010SK161PR002 | Sewage collection system and upgrade of Liptovská Tepla WWTP | End 2015 |

# 2 Judgement on demand analysis

## 2.1 Service demand projections

### 2.1.1 Demand baseline

The aim of this section is to judge whether the baseline for preparing water and (if relevant) wastewater demand projections has been soundly established.

| | |
|---|---|
| Baseline year | 1) Identify the baseline year for establishing the actual current service demand - which should not be too far from the year of project preparation / application submission.<br>2) Is this fulfilled for the project such that current demand data may not be considered outdated?<br>3) If not assess how current demand has been projected until the time of project preparation. |
| Household demand for water | 1) Do reliable data exist for estimating overall baseline household demand?<br>2) To which extent are meters used (network, individual household clients)?<br>3) If the project includes urban and rural areas, does current demand information distinguish between the two? This is prudent as per capita demand may differ. |
| Non-household demand for water | 1) Do reliable data exist for estimating baseline non-household demand?<br>2) To which extent are meters used? |
| Wastewater discharge | 1) If relevant, how is discharge measured and how does it link to water demand?<br>2) Verify, also to the extent relevant, that discharge volumes are below water supply demand (rate of 10% is conventionally assumed) |
| Other | Any other relevant issues not covered above |

### 2.1.2 Demographics

The soundness of service demand projections depends also on the validity of the demographic forecasts. These forecasts have their starting point in the baseline population of the project catchment area. Ideally, the population base should be established on the basis of recent census data with adequate justification for update to base year. Ideally also the forecast population growth should link to the project area. If relevant, separate projections should be made for urban and rural areas as growth rates may be expected to differ with lower/no growth in rural areas.

| | |
|---|---|
| Population base | 1) Is the extension and population coverage of the water and wastewater systems adequately described?<br>2) How has the population in the project catchment area been estimated? Is it based on reliable and recent census data? How old are census data and have short cuts been made to arrive at the population estimate?<br>3) Is the population figure a fair estimate of the number of residents in the catchment area e.g. does it include only those resident in the area and connected to the supply system only?<br>4) If the project includes urban and rural areas does population information distinguish between the two? |
| Population projections | 1) Determine the source for the projected population growth e.g. is it based on official national/regional projections or on own estimates?<br>2) Assess validity of the growth assumptions. This will include the incorporation, if relevant, of different growth rates in urban and rural areas. |
| Per capita demand from households in the baseline | Per capita demand, usually expressed in terms of population equivalent, is best established from the metered water sales to household customers divided by the population base.<br><br>1) Against this background assess the reliability of estimated baseline per capita demand. This involves combining the findings from this and the previous sub-section. |
| Other | Any other relevant issues not covered above |

### 2.1.3 Consumer behaviour

In the analysis of 'consumer behaviour' you will address the justifications for the assumed development in per capita water demand for households (usually l/day) and in total water demand from non-households over the reference period. The forecasts of the application should provide justifications for both and be particular to the project catchment area.

Also to address are the assumptions behind the projected service demand from non-households. This part of demand may potentially constitute a comparatively large share of overall demand.

The review of the affordability analysis (section 2.3) will explicitly address whether the financial forecasts have assumed changes in real household income. For the water/wastewater sector though experience points to low income elasticity. Therefore disregard of economic growth in projections is not a serious omission.

| | |
|---|---|
| Price elasticity | The project may be expected to lead to tariff increases and thus affect demand. The impact may be considerable as tariffs increases could be high.<br><br>1) Do projections include formal assumptions with respect to demand price responsiveness? If so, assess the assumptions. |
| Income elasticity | 1) Do projections include formal assumptions with respect to income growth responsiveness? If so, assess the assumptions. |
| Water saving campaigns | 1) Does the application foresee campaigns initiated to save water and if so when?<br>2) Is the impact of these campaigns reasonable in terms of timing and of per capita water demand reductions? |
| Meters and number of water connections | 1) If malfunctioning water meters are an issue, are assumptions made with respect to the impact on billed water demand? If so, are these assumptions reasonable?<br>2) If illegal household water connections are a current problem, what are the assumptions with respect to reducing the problem? If so, what is the projected impact on billed water demand? |
| Non-household demand for water | 1) Identify and assess the reasoning behind (if any) the projections for service demand from non-households.<br>2) In the case of agriculture use, is demand forecasting based on analysis of the surfaces that are expected to be irrigated and the types of crops?<br>3) In the case of industrial use, is demand forecasting based on analysis of the hydro-needs of the concerned production units, broken down by type of production? |
| Other justifications | 1) Identify and review validity of any other assumptions made that may affect future water demand from households and or non-households.<br><br>This includes the cases where the projections have incorporated none of the above measures for affecting water demand. |

## 2.2 Tariffing

In the setting of tariffs, the full cost recovery principle and the polluter pays principle are to be applied as per Article 9 of the Water Framework Directive.

Full cost recovery means that tariff and other operating revenues are to cover all operating costs including allowances (depreciation amounts) for asset renewals over time. The polluter pays principle implies that tariffs for each customer group are to be set in accordance with the costs of water use and/or for the collection and treatment of discharged wastewater.

The same article establishes that Member States in their cost recovery may have regard to the social, environmental and economic effects of the recovery. This relates to the affordability considerations in the following section and allows an element of cross-subsidisation in tariff setting. Application of the two principles is an important means for ensuring financial sustainability.

Compliance with the two principles should be accommodated by the regulatory framework and the financial autonomy of the utility company that is the project beneficiary. Therefore these aspects are also to be addressed.

Phasing-in of tariffs to their cost recovery levels is an often used, and recommended, tool for ensuring the acceptability of the tariffs that follow from project implementation. Phasing in prevents too abrupt tariff increases at the time of project operation start.

| | |
|---|---|
| Regulatory framework | 1) Identification and assessment of regulatory framework with respect to tariff setting (if relevant) |
| Tariff autonomy | 1) Does the utility have autonomy in tariff setting? If not, does it affect tariffing?<br>2) To which extent is political acceptability and social concerns an issue? |
| Full cost recovery | 1) Verify that all relevant costs for existing and new project assets (O&M, financial) and depreciation allowances for timely asset renewals) are adequately included in the cost base. If not, address whether needed cash resources will be channelled from other sources to preserve financial sustainability.<br>2) Check whether the full cost recovery principle is applied in tariffing. If not, assess extent of deviation and any justification. Assess here also the extent the availability of operating subsidies are foreseen. |
| Polluter pays | 1) If relevant, verify whether the polluter pays principle is consistently applied and comment on any deviation.<br>2) If relevant, assess extent of cross-subsidisation and its degree of elimination over time |
| Phasing-in of tariffs | 1) Is the initial pricing policy and level of charges paid by the users analysed?<br>2) Is there an analysis of the scope and implications of tariff increases after project implementation?<br>3) Does the tariffing policy foresee phasing in?<br>4a) If not, is this reasonable for ensuring cost |

| | |
|---|---|
| | recovery tariffs and tariff acceptability at the start of project implementation?<br>4b) If so, does the phasing in target cost recovery tariffs? |
| Other | Any other relevant issues not covered above |

## 2.3 Affordability

'Affordability' addresses the combined water and wastewater tariff affordability of households. Conventionally, affordability is to be calculated as the ratio of the monthly (annual) household bill to the monthly (annual) disposable (after tax) income. The size of the bill then depends on the number of *persons* in the household. The level of disposable household income depends on the number of *income earners* and on the assumed development in real incomes over the reference period.

The definition of affordability threshold is subjective. The Member State may have set such threshold. If this is not done in the AF, then the 'conventional' maximum of 3½-4% of average disposable household income in the project area may be taken as reference point. For the project area, and if relevant, a distinction may and should be made between urban and rural areas as income levels differ.

| | |
|---|---|
| Affordability ratio calculation | 1) Verify that calculation has been performed in either constant or current price terms.<br>2) Check whether the affordability ratio has been calculated in accordance with the adopted methodology, whether reflecting national standards or 'convention'.<br>3) If methodology has not been followed, explain differences and assess how the deviations may impact the assessment of tariff affordability. |
| Data quality for affordability calculation (income statistics) | 1) Check data sources for income data in the calculation to be valid for project area. Identify and assess the source of (household) income used in the affordability calculation. Is it representative for the project area e.g. including adjustments for differences between national and project area income levels?<br>2) Verify also that real growth in income is explicitly considered in projections (as impacting future affordability) |
| Affordability threshold | 1) Which is the affordability threshold defined? Does it reflect national standards or conventional practice? Does it consider the specific socio-economic situation of the project catchment area?<br>2) Is a distinction made between more and less affluent areas within the project e.g. urban and rural areas? If not, should such distinction have been made? |
| Acceptability of tariffs | 1) Are measures foreseen to enhance the acceptability of tariffs e.g. explaining the wider |

| | |
|---|---|
| | benefits of wastewater treatment?<br>2) In case the projected tariffs are not affordable for low income population, are measures foreseen to ensure social affordability, e.g. progressive tariffs, vouchers or subsidies? |
| Other | Any other relevant issues not covered above |

## 2.4 Conclusions

In this section, summarise findings from sections 2.1 – 2.3 and generate conclusions in the following way:

- First, identify by section the key areas where the assumptions and methodology for demand, tariff and affordability analysis applied in the project can be considered below standard and provide justification for each area

- Secondly, make a judgement on what the consequences of using better methods and approaches in the demand analysis, tariff, and affordability analysis would have been on the ex-ante demonstration of financial sustainability. In particular would the project have remained financially sustainable if sound assumptions and methodology and the constraints of the project's socio-economic context had been adequately taken into account in projections?

# 3 Judgement on financial analysis

The preparation of this chapter may require the financial expert overall responsible for the project financial analysis to draw on the expertise of a technical expert in the field of the project. Supplementary / alternatively, the *JASPERS completion note* may possibly contain the technical assessments that could be needed. The guidance below will specify in which areas and in which way the technical expert should be consulted. In most areas, the assistance is not needed and own experience from 'major project' work may be drawn upon.

## 3.1 Project implementation phase

### 3.1.1 Implementation plan

The foreseen implementation plan should be assessed mainly/fully against the (own) experience from the (timely) implementation of similar projects. Often major projects have been found to underestimate the need for project implementation activities and at times also to establish contracts for tender in a form that is not in the best interest of the project. The assessment of the implementation relates to the concept of financial sustainability as broadly interpreted, namely with the taking into account of the risk of delay to affect this form of financial performance.

To the extent external finance is needed for the project, the time for obtaining outside financing should be included in the time schedule. This covers other grant funds, borrowings and any loan guarantees needed.

| | |
|---|---|
| Institutional arrangements overall | 1) Do the overall arrangements foreseen for project implementation lend evidence to timeliness and to eventual sustainable project operation? This includes arrangements for capacity building of operational staff. |
| Tender process | 1) Assess proposed procurement strategy in the context of the technical solution. Are the lots for tender appropriate to the project?<br>2) Is sufficient time set aside for the tender process from preparation to contract award? |

| | |
|---|---|
| | 3) Is the expertise available (internally / externally) for tendering?<br><br>*If need for technical back-up on 1) and/or 2):*<br>In e-mail give brief project presentation including chosen technology, present lots in tabular form/time frame and request assessment of lot composition and/or tender process time frame. |
| Arrangements for land acquisition | 1) If land is needed for the project, assess time frame and the taking into account of any needs for expropriation |
| Arrangements for EIA process and permitting | 1) If an EIA is required assess adequacy of time frame including the holding of public consultations<br>2) Verify the implementation schedule to include permitting and assess time frame |
| Arrangements for mobilization of finance | 1) Has the time frame for obtaining external funding been considered by the project promoter? If so, is the time frame reasonable? |
| Implementation period | 1) Assess overall whether the planned for implementation period may be considered realistic<br>2) If project not yet completed: The table of section D.1 of the AF shows in point 8 the expected end date for the construction phase. Please comment on this end date as compared to the information in Section 1 on any expected completion date as of now for your project. |
| Dependence on other projects | 1) Check whether project implementation according to schedule depends on the implementation of other projects<br>2) If so, assess whether the implementation plan has taken this into account<br><br>This is an important aspect to check and assess since any delay will impact the present project |
| Other | Any other relevant issues not covered above |

### 3.1.2 Investment cost budget

| | |
|---|---|
| Project technological solutions | 1) Are the chosen solutions sound and appropriate to project objectives and context with respect to sustainable project operation?<br><br>*If need for technical back-up on 1):*<br>In e-mail give brief project presentation, outline technological solution and ask for assessment of relevance |
| Design capacity | 1) If relevant, is the design capacity (no of PE) reasonable given the capacity needs derivable from the service demand projections? If not, assess extent of deviation.<br>This assessment may be simply made from |

| | |
|---|---|
| | comparison of capacity with forecast demand. |
| Cost components | 1) Verify that the project includes all relevant cost components for project implementation including project access and consultancy services.<br>2) Verify the sufficiency of the level of price and technical contingencies as against the length of the implementation period / year of budget preparation respectively the technical complexity of the project. |
| Cost levels | 1) Benchmark and assess any unit construction cost presented against similar projects adjusted for differences in cost level in the country and the year of cost estimate – or assess against country averages for similar projects<br>2) Benchmark and assess the share of design and supervision costs of total base costs against typical shares for the project type in question.<br><br>*If need for technical back-up on 1) and 2):*<br>In e-mail give brief project presentation, present tables with the relevant unit costs in EUR/percentage shares and ask for outline assessment (only) of whether assumptions are reasonable. Do not ask for any comprehensive assessment. |
| Other | Any other relevant issues not covered above |

### 3.1.3 Financing plan

In the narrow understanding of financial sustainability, unrealistic assumptions with respect to loan conditions (if relevant) may jeopardize the financial sustainability of the project: too favourable terms will lead to an understatement of required tariff increases and the planned financial sustainability will not be based on realistic assumptions.

In the broader understanding of financial sustainability, lack of finance may delay or even prevent project implementation. Key point to assess is borrowings and any loan guarantees foreseen needed in the financing plan.

| | |
|---|---|
| Own funds | 1) Is the financial capacity of the beneficiary analysed in light the foreseen size of the own funds contribution?<br>2) If relevant, do the financial projections up to and for the implementation period demonstrate the own funds contribution to be available in a timely manner? |
| National co-funding | 1) If relevant, are the arrangements for receiving national co-funding in support of the realism of the financing plan? |
| Borrowings | 1) If relevant, are the assumed loan terms (fees, interest rate, grace period, time to maturity) realistic given the type of lender assumed? |

| | |
|---|---|
| | 2) If not, how would this impact the planned financial sustainability of the project? |
| Loan guarantees | 1) If relevant, assess whether assumptions for obtaining loan guarantees are realistic. |
| Other | Any other relevant issues not covered above |

## 3.2 Operating phase of project

### 3.2.1 Operating cost budget and cash flow statement

The assessment of the operating cost budget should be made against the background of the chosen technology option.

| | |
|---|---|
| Budget components | 1) Does the budget include all relevant cost items including maintenance? If not, identify the ones not included and assess the impact of their omission on the overall budget |
| Unit consumption values | 1) Are unit consumption values reasonable as compared to the selected technology option(s)? If not, assess differences and impact on overall budget.<br><br>*If need for technical back-up on 1):*<br>In e-mail give brief project presentation, present table with relevant unit values and request assessment |
| Unit operating costs | 1) If presented, are the unit costs well justified and in line with national/regional benchmarks? |
| Maintenance costs and depreciation | 1) Is the level of maintenance costs reasonable as against the expected level for the technological solutions of the project? If not, assess impact of underestimation on needed tariffs and on financial sustainability<br>2) Are the allowances for depreciation based on realistic depreciation periods as against the type of project proposed?<br><br>If need for technical back-up on 1):<br>In e-mail give brief project presentation, present table with maintenance costs share as a percentage of project investment costs and request assessment |
| Staffing | 1) Is the number of new staff foreseen appropriate?<br>2) Is the capacity available for sustainable project operation? |
| Real cost developments | 1) Has the budget adequately incorporated real cost increases over time that are to be expected at least for wage costs? |
| Cash flow statement | 1) Check that the cash flow statement includes all recurrent items including loan amortization |
| Other | Any other relevant issues not covered above |

### 3.2.2 Operating revenue budget and cash flow statement

A focus area for the operating revenue budget review is tariff collection rates and bad debts. The experience is that major projects have tended to neglect incorporating in the cash flow forecasts that the tariff increases required with the project will very likely have a negative effect on tariff collectability.

| | |
|---|---|
| Tariff revenues | 1) If possible, verify and assess correctness of the calculation of tariff revenues. |
| Tariff collection rates and bad debts | 1) Verify whether the financial forecasts include assumptions with respect to tariff collection rates.<br>2) If not, assess impact on realistically projected tariffs and financial sustainability. |
| Other revenues | 1) Check whether the budget projections build on assumptions of non-tariff revenues and assess whether these assumptions are reasonable. |
| Cash flow statement | 1) Check that the cash flow statement reflects changes assumed in tariff collection rates through corresponding working capital changes.<br>2) Verify whether the cash flow statement includes adequate provisions for needed asset renewals in the reference period. If not, assess likely impact on needed tariffs and on financial sustainability. |
| Other | Any other relevant issues not covered above |

## 3.3 Risk and sensitivity analysis

The risk and sensitivity analysis of the major project AF requires an assessment of the impact of identified key variables on the *incremental* project's financial and economic performance. The concept of 'performance' is defined only in the context of profitability.

This dimension is not relevant in the financial sustainability context of this assignment. Of relevance, however are the variables identified for the testing and the tested probability ranges. The variables that impact financial performance will also impact financial sustainability. The likely probability ranges for variation from their respective base values will also be the same.

Experience from appraisal of major project applications points to that often neither the relevant key variables nor the probable ranges have been identified. The former has been found to include e.g. testing the level of tariffs. However, tariffs are a project outcome, not an exogenous variable for testing. The issue of probable ranges has been found to include testing only simple 5% or 10% deviations from the base case values without consideration of whether larger deviations are within a probable range.

The review of the risk and sensitivity analysis of the application will therefore focus on the selection of variables for testing and on the tested range. This will enable an assessment of the extent to which the project's financial sustainability may be preserved in case of deviations from the assumptions of the financial analysis.

In the *implementation phase* the key risk to financial sustainability in the narrow sense is the investment cost budget, cf. the addressing of cost overruns in section 3.1 above. In the broad sense they include the risk of lengthened implementation period and the non-availability of investment finance in a timely manner.

In the project's *operating phase* the key variables potentially impacting financial sustainability is the per capita water demand assumption, the projected non-household service demand levels, the level of maintenance costs and the overall level of operating costs.

The above key variables would be expected identified in the financial performance testing for the purpose of an adequate risk and sensitivity analysis.

The application should also propose risk mitigating measures in the qualitative risk assessment part of the application in so far as risks are found of medium/high probability and of medium/high impact.

| | |
|---|---|
| Implementation phase risks | 1) Check whether investment costs have been identified as a key variable for testing<br>2) If so, assess the realism of the tested probability range<br>3) If relevant, assess impact on financial sustainability of higher investments costs (through higher debt service costs to finance investments and/or higher O&M costs because investment costs are higher) |
| Operating phase risks | 1) Check whether the key variables listed above have been identified for testing.<br>2) Assess in general how and to which extent possible deviations from the assumptions of the AF would impact financial sustainability (e.g. relatively large impact if non-household demand is a relatively large share of the total).<br>3) Assess the realism of the tested probability range, if any tested |
| Qualitative risk analysis | 1) Assess whether adequate risk mitigating measures have been proposed. This assessment is to include measures to ensure timely implementation and to ensure timely availability of co-finance. |
| Other | Any other relevant issues not covered above |

## 3.4 Conclusions

In this section, summarise findings from sections 3.1-3.3 and generate conclusions in the following way:

- First, identify by section the key areas where the assumptions and methodology of the financial analysis applied in the project can be considered below standard and provide justification for each area.

- Secondly, make a judgement on what the consequences of using better methodologies and approaches in the financial analysis would have been on the ex-ante assessment of financial sustainability. In particular assess whether the project would have retained its financial sustainability if sound assumptions and methodology had been adequately taken into account?

# 4 Overall conclusions

Based on sections 2.4 and 3.4 draw up the combined assessment and conclusions for the overall financial analysis of the application:

- First, identify the key areas where the methodologies and assumptions of the overall financial analysis of the project can be considered below standard.
- Make a judgement on the combined consequences of using more appropriate methods and approaches in the overall financial analysis would have been on the ex-ante assessment of financial sustainability.
- State the most pertinent questions to be further explored if the project is selected as a case project (Task 4 in the TOR)
- Identify the main issues in financial analysis to be further investigated if the project is selected as case project and/or which may serve as inputs to the development of the Catalogue of Challenges (Task 5).

# Appendix D Guidance for Task 3, Waste management projects

DG REGIO

# TASK 3 GUIDANCE FOR VERIFYING ASSUMPTIONS OF FINANCIAL ANALYSIS – Waste management projects

FEBRUARY 2015

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# TASK 3 GUIDANCE FOR VERIFYING ASSUMPTIONS OF FINANCIAL ANALYSIS – Waste management projects

FEBRUARY 2015

PROJECT NO.
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# CONTENTS

# 1 Introduction

Further to the performance of the 'ex ante' financial analysis review of the 'major project' application, the key assumptions of those projects that are 'operational' will be updated with their outturn (actual) values as far as possible.

An 'operational' project is defined as one that is completed by the end of 2014. This definition means that the project has not necessarily entered into operation at this time or the operating period may have been very short.

The update of the key assumptions is to be made with a view to reassessing the project's financial sustainability on an 'ex post', more specifically post completion, basis.

This note will provide guidance with respect to which are the key assumptions for update, how and in which way the information is to be collected. For easy reference, the structure of the note is identical to that of the guidance note/checklist and reporting template for the 'ex ante' financial analysis.

Furthermore, the note gives general guidance on the reporting of the verification of the key assumptions of the financial analysis.

### Data collection

The collection of data for assumption verification will be made by obtaining non-specific data from the websites of the national/regional statistical offices and from the project beneficiary as follows.

Website information is population data for project area and income (wage) data for affordability ratio calculation. If not available include data request in the questionnaire to be sent to the project beneficiary by COWI and prepared by you. The guidance of the following outlines how the questionnaire should be prepared based on data needs for a 'typical' project. The specific questionnaire content should of course be adapted to the project context, e.g. with respect to the categories of customers for which tariffs are set. Please make sure always to include the most recent actual data from the major project application as well as a reference to the data source of the application (table no.). This will eliminate the risk of errors made in the update of the project beneficiary.

# 2 Verify demand analysis assumptions

## 2.1 Service demand projections

### 2.1.1 Demand baseline

In the general case, the key assumptions usually relevant for update are:

- Household solid waste generation per year
- Non-household solid waste generation per year
- Waste deliveries to treatment facility (sorting, composting, refuse derived fuel production, landfill)
- Waste collection rates

For the project in question, please amend/add any other assumptions found relevant for update. A data request could be as follows:

| Ref. | | Base year | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| | | t/yr | t/yr | t/yr | t/yr |
| x.x | *Household waste generation:* | | | | |
| | Urban areas | xa1 | | | |
| | Rural areas | xa2 | | | |
| | *Other mun. solid waste gener.:* | | | | |
| | Urban areas | xb1 | | | |
| | Rural areas | xb2 | | | |
| | *Waste for treatment/landfill:* | | | | |
| | Total waste to facility | xc1 | | | |
| | Waste for sorting | xc2 | | | |
| | Waste for treatment | xc3 | | | |
| | | pct. | pct. | pct. | pct. |
| y.y | *Waste collection rates:* | | | | |
| | Urban areas | y1 | | | |
| | Rural areas | y2 | | | |
| | Total | y3 | | | |

If at all possible, the column 'Ref.' is to include a reference to a table number in the feasibility study or CBA report where the statistic was found or a table/page number in the application form. The 'Base year' is the most recent year of the application for which actual data are available. In completing the data request please state that year and fill in the column with actual data.

Depending on the project, a distinction between urban and rural areas may not be relevant. If so, please amend table accordingly.

### 2.1.2 Demographics

The key assumption for update is the population of the project's catchment area. Data to collect is the most recent population estimate with any relevant breakdown in sub-areas, typically between rural and urban areas. Verify first whether this information is available from a national/regional statistical office website. If not, include in questionnaire to project beneficiary e.g. as follows.

| Ref. | | Base year | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| | | no. | no. | no. | no. |
| x.x | Total population | x1 | | | |
| | Rural areas | x2 | | | |
| | Urban areas | x3 | | | |

### 2.1.3 Consumer behaviour

No update.

## 2.2 Tariffing

The key assumptions for update are the tariffs charged for waste collection. Information on the treatment facility gate fee could potentially be relevant. A standard table for update is as follows:

| Ref. | | Base yr. | End 2012 | End 2013 | End 2014 |
|---|---|---|---|---|---|
| | | CU/hh./mo. | CU/hh./mo. | CU/hh./mo. | CU/hh./mo. |
| | *Waste collection tariffs:* | | | | |
| y.y | Households | x1 | | | |
| | | CU/t | CU/t | CU/t | CU/t |
| | Other | x2 | | | |
| | *Treatment fac./landfill gate fee:* | | | | |
| z.z | Households | y1 | | | |
| | Other | y2 | | | |

'CU' means the currency unit of the Member State (or EUR if data available). Again, please amend table to fit the circumstances of the project.

## 2.3 Affordability

The key assumption for update is the level of household income or average wage in the project area. Ideally the data used in the application are particular for the project area. Often, though, income/wages are estimated from national / regional data.

For the purpose of the update it is sufficient to get the updated national /regional data from the national/regional statistical office website. From these data, you calculate an index for income/wage development since the base year of the application. You then multiply the forecast income/wage for 2014 by this index. In this way you arrive at an update income/wage estimate for 2014.

# 3 Verify financial analysis assumptions

## 3.1 Project implementation phase

### 3.1.1 Implementation plan

Data request is to cover actual construction start and end (with the project being completed) as well operation start. Construction start and end information of the application is available in section D.1 points 8 and 9 of the major project application form.

| Ref. | | Application | Realized |
|---|---|---|---|
| | | Date | Date |
| x.x | Construction start date | x1 | |
| | Construction end date | x2 | |
| | Operation start date | x3 | |

### 3.1.2 Investment cost budget

The investment cost budget should preferably be different from the generic type one of the application form in order to better assess sources of any cost overruns. In addition, information should be requested on constructed capacity. This updated information is an input for the assessment of deviations from the planned investment costs.

| Ref. | | Application | Realized |
|---|---|---|---|
| x.x | | M EUR | M EUR |
| | Project preparation incl. design | x1 | |
| | Land purchase and site preparation | x2 | |
| | Waste collection containers | x3 | |
| | Waste collection vehicles | x4 | |
| | Transfer stations and recycling centres | x5 | |
| | Sorting plant | x6 | |
| | Treatment plant | x7 | |
| | Landfill construction | x8 | |
| | Dumpsite closure | x9 | |
| | Other works and equipment | x10 | |
| | Supervision | x11 | |
| | **Total investment costs** | **x12** | |

All investment components will not relevant for the project. Please amend table to fit project scope. Investment costs should be expressed in Euro with the application form presenting the investment cost budget in Euro.

The design information update request could be as follows:

| Ref. | | Unit | Application | Realized |
|---|---|---|---|---|
| x.x | Sorting plant | t/yr. | x1 | |
| | Treatment plant | t/yr. | x2 | |
| | Landfill | ths $m_3$ | x3 | |

Please amend as appropriate to fit the project context.

### 3.1.3 Financing plan

As the project is completed, the actual financing plan is available. Request for update could be in this form:

| Ref. | | Application | Realized |
|---|---|---|---|
| | | M EUR | M EUR |
| | EU grant | x1 | |
| | National grant | x2 | |
| | Loans | x3 | |
| | Own funds of beneficiary | x4 | |
| x.x | **Total** | x5 | |

The financing plan should be expressed in Euro with the EU grant awarded in Euro.

## 3.2 Operating phase of project

### 3.2.1 Operating cost budget and cash flow statement

The only relevant key assumption to verify is the total operating costs (excluding depreciation) of the sorting/treatment plant(s) and landfill of the project. The (extra) operating costs for waste collection only will be very difficult to verify separately as collection takes place already. The reference to the projections in the application covers here the expected costs of the first operating year.

If all facility types are included in the project, the data request is as follows:

| Ref. | | Expected in 1st oper. yr. | 2012 | 2013 | 2014[1] |
|---|---|---|---|---|---|
| | | ths EUR | ths EUR | ths EUR | ths EUR |
| x.x | *Operating costs excl. depr.:* | | | | |
| | Sorting plant | x1 | | | |
| | Treatment plant | x2 | | | |
| | Landfill | x3 | | | |

1) If data not available for the full year, please give costs for 2nd half of 2014 or 4th quarter of 2014

We have no information on time for entry into operation. Data for 3 years are requested although operating cost data for the full period may not be available. Possibly the project may not yet have entered into operation.

### 3.2.2 Off-take markets for recyclable and treated waste

Assumptions to verify reflect the importance that revenues from sales of recyclable and/or treated waste may have in the overall operating revenues of the project.

| Ref. | | Base year | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| | | t/yr | t/yr | t/yr | t/yr |
| x.x | *Sales of rec./treated waste:* | | | | |
| | Glass | x1 | | | |
| | Paper | x2 | | | |
| | Plastic | x3 | | | |
| | Metals | x4 | | | |
| | Compost | x5 | | | |
| | Refuse derived fuel | x6 | | | |
| y.y | *Sales prices rec./treated waste:* | CU/t | CU/t | CU/t | CU/t |
| | Glass | y1 | | | |
| | Paper | y2 | | | |
| | Plastic | y3 | | | |
| | Metals | y4 | | | |
| | Compost | y5 | | | |
| | Refuse derived fuel | y6 | | | |

Not all types of recyclable/treated waste may be relevant. Also, it may be that the project assumes one average sales volume and selling price for recyclable waste only. The table is to be adjusted to fit project scope.

### 3.2.3 Operating revenue budget and cash flow statement

The key assumption to verify is the tariff collection rate (assuming information on collection rates to be available in the application):

| Ref. | | Base year | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| | Item | per cent | per cent | per cent | per cent |
| x.x | *Tariff collection rate:* | | | | |
| | Households | x1% | | | |
| | Others | x2% | | | |

## 3.3 Risk and sensitivity analysis

Not relevant.

# 4 Reporting on verification of assumptions

## 4.1 Data collection

As explained above, a limited number of data may be sourced from national/regional statistical offices.

Other data collection is from the project beneficiary. COWI will ensure the transmission of data requests. For this purpose please adjust the 'standard tables' presented in the previous section to the project context. This adjustment is to be made in the attached Excel file with the standard tables. In this file, please fill in the application form data as required and as per description in earlier sections.

## 4.2 Comparison

The comparison is to be made for planned and actual figures and for forecast and actual 'trends' (growth rates). The presentation of data comparison is in the form of the following tables (also in Excel file):

a. Demand, tariffs and operating costs of project plants

| | | 2014 | |
|---|---|---|---|
| | Unit | **Application** | **Realized** |
| *Demand verification:* | | | |
| Household waste generation | t/yr. | | |
| Household waste gen. per person | kg/pers./yr. | | |
| Other waste generation | t/yr. | | |
| Total waste for treatment/landfill | t/yr. | | |
| Waste collection rate | % | | |
| Population in project area | no. | | |
| | | | |
| *Tariff and affordability verification:* | | | |
| Waste tariff - households | CU/hh./mo. | | |
| Waste tariff - others | CU/t | | |
| Tariff collection rate - households | pct. | | |
| Affordability ratio | pct. | | |
| | | | |
| Operating costs – total facility | ths CU/yr. | | |

The comparison in the table is confined to 2014 for overview.

Waste generation per person you will calculate – at least for the actual data – from information on household waste generation and on project area population. The affordability ratio you update from the updated information on household tariffs and household income using the same assumptions on household size and no. of

income earners per household as in the applications. The operating costs for the total facility are the combined operating costs for sorting/treatment/disposal. If full year data for 2014 are not available, then adjust the operating cost estimate of the application form accordingly.

b. Implementation plan

| | **Application** | **Realized** |
|---|---|---|
| | Date | Date |
| Construction start date | x1 | |
| Construction end date | x2 | |
| Operation start date | x3 | |

This is the same table as in the questionnaire for data collection.

c. Investment cost budget

| | **Application** | **Realized** |
|---|---|---|
| | M EUR | M EUR |
| Project preparation incl. design | x1 | |
| Land purchase and site preparation | x2 | |
| Waste collection containers | x3 | |
| Waste collection vehicles | x4 | |
| Transfer stations and recycling centres | x5 | |
| Sorting plant | x6 | |
| Treatment plant | x7 | |
| Landfill construction | x8 | |
| Dumpsite closure | x9 | |
| Other works and equipment | x10 | |
| Supervision | x11 | |
| **Total investment costs** | **x12** | |

This is the same table as in the questionnaire for data collection. For the assessment of the budget, peruse the data collected on capacity constructed to explain any deviations from the budget (if change in capacity).

d. Financing plan

| | **Application** | **Realized** |
|---|---|---|
| | M EUR | M EUR |
| EU grant | x1 | |
| National grant | x2 | |
| Loans | x3 | |
| Own funds of beneficiary | x4 | |
| **Total** | **x5** | |

This is the same table as in the questionnaire for data collection. Again, if necessary adjust table layout to fit the project context.

e. Revenues from sales of recyclable and treated waste

| | Application | Realized |
|---|---|---|
| | M EUR | M EUR |
| Sales of recyclable waste | x1 | |
| Sales of treated waste | x2 | |
| **Total** | **x3** | |

For the completion of this table, you need to calculate (at least) the realized sales revenues totals on the basis of the data collected.

Based on these tables and other data collected, you are to draw conclusions on the following:

1. Reliability of assumptions in the demand analysis and in the financial analysis of the application (sections 2 and 3 of the financial analysis review). These conclusions should be made on the basis of the information of the tables and the more detailed data request (e.g. tariff schedule by customer group). It should also comment on differences in 'trends' with respect to development in per capita waste generation and change in population of the project area.
2. The continued financial sustainability of the project when taking into account the actual figures obtained in the data collection.

## 4.3 Recalculation of financial analysis

If the financial analysis contains 'methodological errors' (as identified in the review of the financial analysis), then a 'recalculation' of the financial analysis required. The objective of this recalculation is to assess the impact of the methodological error(s) on financial sustainability.

This recalculation will need to reflect the data submitted with the application, notably whether a functioning and transparent Excel model is available. A 'full' model recalculation, e.g. through change of assumptions with respect to per capita water demand, is not always possible. The financial sustainability impact will then need to be judged in a less quantitative manner.

Three variants may be envisaged each reflecting the degree of information availability.

1. The formal recalculation of the Excel model financial analysis: This is a recalculation showing the impact on overall cash flows and financial sustainability arising e.g. from a change in the per capita service demand assumption of the project. This variant enables assessing in full the impact on financial sustainability, also in the cases where more than one methodological error has been identified.
2. 'Indicative recalculation' of the financial analysis: a functioning model is not available but the application elsewhere (feasibility study, CBA report, CBA summary of AF) contains information on the precise unit values /values assumed for identified methodological errors. The impact on financial sustainability may be assessed on an 'other things equal' basis assuming a cash flow table to be available in the application documents.

As an example this could be a 10% deviation in service demand. The analysis is partial as e.g. the operating cost impact from a changed service demand cannot be reasonably established without a model (or detailed cost tables in Excel).

3. 'Tentative recalculation' of the financial analysis: for those cases where neither a model nor detailed financial tables are available in the AF. The impact on overall financial sustainability will be assessed in a tentative manner to reflect the quality of data for the assessment.

In all variants, the assessment should take its starting point in the 'degree' of financial sustainability of the project: is it 'just' financially sustainable and how vulnerable is it to changes in key assumptions. In this respect you may build on the findings of the 'ex ante' financial analysis review on the risk and sensitivity analysis of the application.

The reporting will identify the methodological error(s) of the financial analysis review and explain the extent of impact on the project's financial sustainability.

# Appendix E Guidance for Task 3, Water and wastewater projects

DG REGIO

# TASK 3 GUIDANCE FOR VERIFYING ASSUMPTIONS OF FINANCIAL ANALYSIS – Water and wastewater projects

FEBRUARY 2015

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# TASK 3 GUIDANCE FOR VERIFYING ASSUMPTIONS OF FINANCIAL ANALYSIS – Water and wastewater projects

FEBRUARY 2015

PROJECT NO.
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# CONTENTS

# 1 Introduction

Further to the performance of the 'ex ante' financial analysis review of the 'major project' application, the key assumptions of those projects that are 'operational' will be updated with their outturn (actual) values as far as possible.

An 'operational' project is defined as one that is completed by the end of 2014. This definition means that the project has not necessarily entered into operation at this time or the operating period may have been very short.

The update of the key assumptions is to be made with a view to reassessing the project's financial sustainability on an 'ex post', more specifically post completion, basis.

This note will provide guidance with respect to which are the key assumptions for update, how and in which way the information is to be collected. For easy reference, the structure of the note is identical to that of the guidance note/checklist and reporting template for the 'ex ante' financial analysis.

Furthermore, the note gives general guidance on the reporting of the verification of the key assumptions of the financial analysis.

### Data collection

The collection of data for assumption verification will be made by obtaining non-specific data from the websites of the national/regional statistical offices and from the project beneficiary as follows.

Website information is population data for project area and income (wage) data for affordability ratio calculation. If not available include data request in the questionnaire to be sent to the project beneficiary by COWI and prepared by you. The guidance of the following outlines how the questionnaire should be prepared based on data needs for a 'typical' project. The specific questionnaire content should of course be adapted to the project context, e.g. with respect to the categories of customers for which tariffs are set. Please make sure always to include the most recent actual data from the major project application as well as a reference to the data source of the application (table no.). This will eliminate the risk of errors made in the update of the project beneficiary.

# 2 Verify demand analysis assumptions

## 2.1 Service demand projections

### 2.1.1 Demand baseline

In the general case, the key assumptions as minimum for update are:

- Water production per year
- Water sales (billed) per year in total and for main customer group
- Wastewater billing per year in total and for main customer groups

For the project in question, please add any other assumptions found relevant for update. A data request could be as follows:

| Ref. | | Base year | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| | | m³/year | m³/year | m³/year | m³/year |
| x.x | Water production | x | | | |
| | *Water billed:* | | | | |
| y.y | Households | y1 | | | |
| | Small businesses | y2 | | | |
| | Institutions and organisations | y3 | | | |
| | Total | y4 | | | |
| | *Wastewater billed:* | | | | |
| z.z | Households | z1 | | | |
| | Small businesses | z2 | | | |
| | Institutions and organisations | z3 | | | |
| | Total | z4 | | | |

If at all possible, the column 'Ref.' is to include a reference to a table number in the feasibility study or CBA report where the statistic was found or a table/page number in the application form. The 'Base year' is the most recent year of the application for which actual data are available. In filling in the data request please state that year and fill in the column with actual data.

### 2.1.2 Demographics

The key assumption for update is the population of the project's catchment area. Data to collect is the most recent population estimate with any relevant breakdown in sub-areas, typically between rural and urban areas. Verify first whether this information is available from a national/regional statistical office website. If not, include in questionnaire to project beneficiary e.g. as follows.

| Ref. | | Base year | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| | | no. | no. | no. | no. |
| x.x | Total population | x1 | | | |
| | Rural areas | x2 | | | |
| | Urban areas | x3 | | | |

### 2.1.3 Consumer behaviour

No update.

## 2.2 Tariffing

The key assumptions for update are the tariffs charged for water supply and if relevant also for wastewater collection and treatment. A standard table for update is as follows:

| Reference | | End of base year | End 2012 | End 2013 | End 2014 |
|---|---|---|---|---|---|
| | | m³ | m³ | m³ | m³ |
| | *Water tariffs:* | | | | |
| y.y | Households | x1 | | | |
| | Small businesses | x2 | | | |
| | Institutions and organisations | x3 | | | |
| | *Wastewater billed:* | | | | |
| z.z | Households | y1 | | | |
| | Small businesses | y2 | | | |
| | Institutions and organisations | y3 | | | |

The table assumes tariffs set on a per m³ basis. Again, please amend table to fit the circumstances of the project.

## 2.3 Affordability

The key assumption for update is the level of household income or average wage in the project area. Ideally the data used in the application are particular for the project area. Often, though, income/wages are estimated from national / regional data.

For the purpose of the update it is sufficient to get the updated national /regional data from the national/regional statistical office website. From these data, you calculate an index for income/wage development since the base year of the application. You then multiply the forecast income/wage for 2014 by this index. In this way you arrive at an update income/wage estimate for 2014.

# 3 Verify financial analysis assumptions

## 3.1 Project implementation phase

### 3.1.1 Implementation plan

Data request is to cover actual construction start and end (with the project being completed) as well operation start. Construction start and end information of the application is available in section D.1 points 8 and 9 of the major project application form.

| Ref. | | Application | Realized |
|---|---|---|---|
| | | Date | Date |
| x.x | Construction start date | x1 | |
| | Construction end date | x2 | |
| | Operation start date | x3 | |

### 3.1.2 Investment cost budget

The investment cost budget should preferably be different from the generic type one of the application form in order to better assess sources of any cost overruns. In addition information should be requested on constructed capacity. This updated information is an input for the assessment of deviations from the planned investment costs.

| Ref. | | Application | Realized |
|---|---|---|---|
| x.x | | M EUR | M EUR |
| | Project preparation incl. design | x1 | |
| | Land purchase and site preparation | x2 | |
| | Water treatment plant | x3 | |
| | Waste water treatment plant | x4 | |
| | Water distribution pipes | x5 | |
| | Sewage collectors and secondary pipes | x6 | |
| | Other works and equipment | x7 | |
| | Supervision | x8 | |
| | **Total investment costs** | x9 | |

Please amend table to fit the project scope. Investment costs should be expressed in Euro with the application form presenting the investment cost budget in Euro.

The design information update request could be as follows:

| Ref. | | Unit | Application | Realized |
|---|---|---|---|---|
| x.x | Water treatment plant | $m^3$/yr. | x1 | |
| | Waste water treatment plant | P.E. | x2 | |
| | New water distribution pipes | km | x3 | |
| | New wastewater collection pipes | km | x4 | |

Please amend as appropriate to the project context.

### 3.1.3 Financing plan

As the project is completed, the actual financing plan is available. Request for update could be in this form:

| Ref. | | Application | Realized |
|---|---|---|---|
| | | M EUR | M EUR |
| | EU grant | x1 | |
| | National grant | x2 | |
| | Loans | x3 | |
| | Own funds of beneficiary | x4 | |
| x.x | **Total** | x5 | |

The financing plan should be expressed in Euro with the EU grant awarded in Euro.

## 3.2 Operating phase of project

### 3.2.1 Operating cost budget and cash flow statement

The only relevant key assumption to verify is the total operating costs (excluding depreciation) of the water and/or wastewater treatment plant of the project. The operating costs of the piped distribution/collection systems are too small to be of relevance. The reference to the projections in the application covers here the expected costs of the first operating year.

If both plant types are included in the project, the data request is as follows:

| Ref. | | Exp. 1st oper. yr. | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| | | ths EUR | ths EUR | ths EUR | ths EUR |
| x.x | *Operating costs excl. deprec.:* | x1 | | | |
| | Water treatment plant | x2 | | | |
| | Waste water treatment plant | x3 | | | |

1) If data not available for the full year, please give costs for 2nd half of 2014 or 4th quarter of 2014

We have no information on time for entry into operation. Data for 3 years are requested although operating cost data for the full period may not be available. Possibly the project may not yet have entered into operation.

### 3.2.2 Operating revenue budget and cash flow statement

The key assumption to verify is the tariff collection rate (assuming information on collection rates to be available in the application):

| Ref. | | Base year | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|
| | Item | per cent | per cent | per cent | per cent |
| x.x | *Tariff collection rate:* | | | | |
| | Households | x1% | | | |
| | Others | x2% | | | |

## 3.3 Risk and sensitivity analysis

Not relevant.

# 4 Reporting on verification of assumptions

## 4.1 Data collection

As explained above, a limited number of data may be sourced from national/regional statistical offices.

Other data collection is from the project beneficiary. COWI will ensure the transmission of data requests. For this purpose please adjust the 'standard tables' presented in the previous section to the project context. This adjustment is to be made in the attached Excel file with the standard tables. In this file, please fill in the application form data as required and as per description in earlier sections.

## 4.2 Comparison

The comparison is to be made for planned and actual figures and for forecast and actual 'trends' (growth rates). The presentation of data comparison is in the form of the following tables (also in Excel file):

a. Demand, tariffs and operating costs of project plants

| | | 2014 | |
|---|---|---|---|
| | Unit | **Application** | **Realized** |
| *Demand verification:* | | | |
| Total water sales billed | ths m³/yr. | | |
| Water demand per person | L/pers./day | | |
| Total wastewater billings | ths m³/yr. | | |
| | | | |
| Population in project area | no. | | |
| | | | |
| *Tariff and affordability verification:* | | | |
| Water/ww. tariff - households | CU/m³ | | |
| Water/ww. tariff - small businesses | CU/m³ | | |
| Water/ww. tariff - institutions and org. | CU/m³ | | |
| Tariff collection rate - households | pct. | | |
| Affordability ratio | pct. | | |
| | | | |
| Operating costs - project plant(s) | ths CU/yr. | | |

The comparison in the table is confined to 2014 for overview. 'CU' means the currency unit of the Member State.

Water demand per person you will calculate – at least for actual data – from information on billed water sales to households and on project area population. The '*water/ww. tariff*' is the combined water and wastewater tariff. The affordability

ratio you update from the updated information on household tariffs and household income using the same assumptions on household size and no. of income earners per household as in the applications. The operating costs for the project plant(s) are the combined costs of the data collected for the period available in 2014. If full year data are not available, then adjust the operating cost estimate of the application form accordingly.

Other tables for presentation and commenting are the same in the data collection questionnaire.

b. Implementation plan

| | **Application** | **Realized** |
|---|---|---|
| | Date | Date |
| Construction start date | x1 | |
| Construction end date | x2 | |
| Operation start date | x3 | |

c. Investment cost budget

| | **Application** | **Realized** |
|---|---|---|
| | M EUR | M EUR |
| Project preparation incl. design | x1 | |
| Land purchase and site preparation | x2 | |
| Water treatment plant | x3 | |
| Waste water treatment plant | x4 | |
| Water distribution pipes | x5 | |
| Sewage collectors and secondary pipes | x6 | |
| Other works and equipment | x7 | |
| Supervision | x8 | |
| **Total investment costs** | **x9** | |

For the assessment of the budget, peruse the data collected on capacity constructed to explain any deviations from the budget (if change in capacity).

d. Financing plan

| | **Application** | **Realized** |
|---|---|---|
| | M EUR | M EUR |
| EU grant | x1 | |
| National grant | x2 | |
| Loans | x3 | |
| Own funds of beneficiary | x4 | |
| **Total** | **x5** | |

Again, if necessary adjust table layout to fit the project context. Based on these tables and other data collected , you are to draw conclusions on the following:

1. Reliability of assumptions in the demand analysis and in the financial analysis of the application (sections 2 and 3 of the financial analysis

review). These conclusions should be made on the basis of the information of the tables and the more detailed data request (e.g. tariff schedule by customer group). It should also comment on differences in 'trends' with respect to development in per capita water demand and change in population of the project area.

2. The continued financial sustainability of the project when taking into account the actual figures collected.

## 4.3 Recalculation of financial analysis

If the financial analysis contains 'methodological errors' (as identified in the review of the financial analysis), then a 'recalculation' of the financial analysis required. The objective of this recalculation is to assess the impact of the methodological error(s) on financial sustainability.

This recalculation will need to reflect the data submitted with the application, notably whether a functioning and transparent Excel model is available. A 'full' model recalculation, e.g. through change of assumptions with respect to per capita water demand, is not always possible. The financial sustainability impact will then need to be judged in a less quantitative manner. Three variants may be envisaged each reflecting the degree of information availability.

1. The formal recalculation of the Excel model financial analysis: This is a recalculation showing the impact on overall cash flows and financial sustainability arising e.g. from a change in the per capita service demand assumption of the project. This variant enables assessing in full the impact on financial sustainability, also in the cases where more than one methodological error has been identified.
2. 'Indicative recalculation' of the financial analysis: a functioning model is not available but the application elsewhere (feasibility study, CBA report, CBA summary of AF) contains information on the precise unit values /values assumed for identified methodological errors. The impact on financial sustainability may be assessed on an 'other things equal' basis assuming a cash flow table to be available in the application documents. As an example this could be a 10% deviation in service demand. The analysis is partial as e.g. the operating cost impact from a changed service demand cannot be reasonably established without a model (or detailed cost tables in Excel).
3. 'Tentative recalculation' of the financial analysis: for those cases where neither a model nor detailed financial tables are available in the AF. The impact on overall financial sustainability will be assessed in a tentative manner to reflect the quality of data for the assessment.

In all variants, the assessment should take its starting point in the 'degree' of financial sustainability of the project: is it 'just' financially sustainable and how vulnerable is it to changes in key assumptions. In this respect you may build on the findings of the 'ex ante' financial analysis review on the risk and sensitivity analysis of the application. Finally, the reporting will identify the methodological error(s) of the financial analysis review and explain the extent of impact on the project's financial sustainability.