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Outcome Measure Definitions and FAQs

Definitions, purpose and targets for each of the nine OMs plus frequently asked questions are included in this document.

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1 Introduction

What's this document about?

From 1 April 2008 Outcome Measures (OMs) became the new performance framework to measure the overall benefits of flood and coastal risk management (FCRM) investment in England.

Definitions, purpose and targets for each of the nine OMs plus frequently asked questions are included in this document.

Who does this apply to?

This document is general interest to all external bodies involved in managing and delivering FCERM projects and programmes.

It is of specific interest to Local Authorities, Regional Flood Defence Committees and Internal Drainage Boards.

2 Definitions

Outcome Measure 1

Definition	The ratio of the whole life present value benefits against the 'do nothing' counterfactual (Pvb) to the whole life present value costs (Pvc) from projects in the FDGiA capital investment programme.
Purpose	This measure has been included in the outcome measure framework to demonstrate that we continue to deliver projects that create significant economic benefits over their lives, and therefore represent value for money for the taxpayer.
Target	5:1 ratio. This will be for the Comprehensive Spending Review 07 period (2008/09 to 2010/11) and will apply at national programme level, recognising that some projects are approved that have a lower individual ratio, for example legal and health and safety requirements.

Outcome Measure 2

Definition	<p>The total number of households that are moved to a lower probability category of flooding from projects in the FDGiA capital improvements programme</p> <p>Qualifying projects fall in to two categories:</p> <ol style="list-style-type: none">1. Improved defences. Households moved from one flood probability category to a lower one (typical outcome of DEF (defence) projects).2. Refurbishments and replacements. Households that would have moved to a higher flood probability category if a major refurbishment or replacement project was not undertaken (typical outcome of CM (capital maintenance) projects) <p>In addition, a qualifying project must bring about (or prevent) a step change in probability. Frequent and intermittent maintenance projects cannot contribute to the target even though they make incremental changes to probability. Revised Outcome Measures capturing the benefits of all asset management activity are in development and will be implemented for the next Comprehensive Spending Review (CSR07) period.</p>
Purpose	The measure identifies the total number of households with a reduced probability of flood risk, and that are now less likely to experience difficulties in arranging financial services such as mortgages and insurance.
Target	145,000 households over Comprehensive Spending Review 2007 period

Outcome Measure 2b

Definition	<p>The total number of households that are moved from the significant or greater probability category, to the moderate or low probability category, from projects in the FDGiA capital improvements programme.</p> <p>Qualifying projects fall in to two categories:</p> <ol style="list-style-type: none">1. Improved defences. Households moved from the very significant or significant probability category to the moderate or low category (Typical outcome of DEF (defence) projects).2. Refurbishments and replacements. Households that would have moved into the very significant or significant probability category if a major refurbishment or replacement project was not undertaken (Typical outcome of CM (capital maintenance) projects). <p>In addition, a qualifying project must bring about (or prevent) a step change in probability. Frequent and intermittent maintenance projects cannot contribute to the target even though they make incremental changes to probability. Revised Outcome Measures capturing the benefits of all asset management activity are in development and will be implemented for the next Comprehensive Spending Review 07 period</p>
Purpose	<p>The measure identifies the total number of households with a reduced probability of flood risk, and that are now less likely to experience difficulties in arranging financial services such as mortgages and insurance.</p>
Target	<p>The target is 45,000 households out of those contributing to Outcome Measure 2.</p>

Outcome Measure 3

Definition	<p>The number of households moved from the very significant or significant probability category to the moderate or low probability category, that are located in the 20% most deprived communities.</p> <p>The measure is a sub set of Outcome Measure (OM) 2b, identifying the number of households within OM2b that are located in deprived communities.</p>
Purpose	<p>The measure will identify the extent to which investments to reduce flood risk include households in deprived areas. There are likely to be improvements in the future that extend the consideration of social issues beyond deprivation into additional measures of vulnerability.</p>
Target	<p>9,000 households of the 45,000 households contributing to Outcome Measure 2b.</p>

Outcome Measure 4

Definition	<p>The total area (hectares) of SSSI (Sites of Special Scientific Interest) on which we have commenced flood risk management remedies for which we are responsible.</p>
Purpose	<p>To monitor progress of the FRM contribution to the PSA target to have 95% of SSSI land to be in favourable or recovering condition by the end of 2010.</p>
Target	<p>The target is 24,000 Hectares.</p>

Outcome Measure 5

Definition	<p>The number of hectares of priority Biodiversity Action Plan (BAP) habitat, including intertidal created by March 2011.</p>
Purpose	<p>To contribute towards delivery of the Environment Agency's Wetland Policy (Word, 59KB) to 'conserve, enhance and re-create the wetland capacity of catchments as part of our contribution to rebuilding biodiversity on a landscape scale'.</p>
Target	<p>800 hectares, of which 300 should be inter tidal habitat</p>

Outcome Measure 6	Definition	The proportion of the total number of people at high risk of flooding who have registered to receive warnings from the FWD (Flood Warnings Direct) service.
	Purpose	NB: This measure is reported by the Environment Agency only. To measure the increase in the take up of the flood warning service by households and businesses in high risk areas.
	Target	To be set for 2009/10

Outcome Measure 7	Definition	The proportion of required plans that we have assessed and found to be satisfactory.
	Purpose	NB: This measure is reported by the Environment Agency only. The purpose of the outcome measure is to reduce the impact of flooding through effective emergency planning.
	Target	To be set for 2009/10

Outcome Measure 8	Definition	The proportion of residential units / homes within at risk planning decisions where our advice has been accepted and the decisions refused or amended as recommended.
	Purpose	NB: This measure is reported by the Environment Agency only. To reduce the consequences of flooding by preventing inappropriate development.
	Target	To be set for 2009/10

Outcome Measure 9	Definition	In 2008/09, this measure monitored the completion of Catchment Flood Management Plans by the December 2008 deadline. In 2009/10, it will monitor progress towards completing the second generation Shoreline Management Plans (SMPs) by the April 2010 deadline.
	Purpose	NB: This measure is reported by the Environment Agency only. In the initial period, this measure simply monitors the completion of long term policies and action plans. This is expected to be replaced by a measure of risk management sustainability based on implementation of the action plans.
	Target	-

3 Frequently Asked Questions

3.1 General Questions

Why have Outcome Measures been introduced?

Outcome Measures provide greater clarity on what policies and funding for flood and coastal erosion risk management are intended to achieve. Outcome Measures are one of the projects within Defra's Making Space for Water strategy and further information about the project and strategy is available on Defra's website:

<http://www.defra.gov.uk/environ/fcd/policy/strategy/sd4/default.htm>

Are Outcome Measures new?

The concept of a single suite of outcomes capable of driving investment is new. However the outcomes themselves are not. Some of the measures within the suite are variants of Corporate Plan measures that have been monitored for several years, and some are exactly the same as existing measures. Outcome Measures 1 to 5 were implemented in 2008/09 while the other measures were being baselined. All 9 measures will have targets for 2009/10 onwards.

Are the definitions subject to change?

Defra is completing a review of the initial stage of implementing Outcome Measures in Spring 2009, which might introduce some further changes. As Government priorities change, the performance framework needs to adapt, either by varying the targets or by introducing new targets to reflect new priorities. Defra has asked us to adapt Outcome Measures 1, 2 and 3 so that they reflect the benefits of all the asset management activity we undertake rather than just the capital improvements programme. A project has been set up to implement this change.

How are we monitoring performance internally?

For 2009/10 all of the measures except for OM7 are being collected via the Data Entry System (DES) and monitored on scorecards. OM7 is only reportable annually and collected by a return direct from Flood Incident Management teams. For Outcome Measures 1 to 5, the contributions to be made by each individual project in the next three years is recorded and updated monthly in Regional Capital Programmes (RCP). The contributions claimed for any project in DES once completed should be the same as the latest forecast contribution in the RCP.

How do we report progress to Defra?

A quarterly report on progress against the measures so far, and forecast performance for the period to March 2011, is provided nationally to Defra every quarter. This uses actual performance data from the Data Entry System and programme forecasts derived from Regional Capital Programmes.

How are the contributions of other Operating Authorities recorded?

Other Operating Authorities contribute to Outcome Measures 1 to 5 only. The programme is monitored in Regional Capital Programmes and the structure of the Data Entry System has been adapted to ensure that the contributions of other Operating Authorities can be reported separately to Environment Agency contributions.

Are the outcomes achieved from activities funded by local levy counted towards the targets?

Local levy projects can contribute to Outcome Measures using the same rules as projects funded by Flood Defence Grant in Aid, but these contributions should be recorded separately so that we are able to report that we have met the targets from our Flood Defence Grant in Aid funding.

Under a capital prioritisation system based on OMs rather than Priority Score, how will we know which projects are worth developing?

Under the streamlining project we are now moving to a system where potential projects are identified early in the development process and selected for further development and delivery, streamlining the development of projects and improving programme efficiency. This will mean a shift to a 'pull' system based on an early indication of potential Outcome Measures to give a mandate to the right number of projects to populate a programme to deliver the targets agreed with Government. This will deliver outcomes more cost-effectively, and provide greater control over the pipeline of projects.

From 2009/10, new project starts have been prioritised according to the contributions they make to Government priorities as set out in Outcome Measures.

3.2 Project development (of most relevance to OMs 1-3)

Should all of our projects have a Benefit Cost Ratio of 5:1?

No. The target only applies to whole programme. A benefit cost ratio (BCR) less than 5 does not necessarily mean that a project will not be funded, for two reasons:

- a) the BCR remains an important factor in prioritising capital projects, but some projects might compensate for a lower BCR by contributing more to the other Outcome Measures.
- b) some projects with lower BCRs are moderated into the programme for legal or health and safety reasons.

Since most of our projects have a BCR significantly above 5:1, we anticipate meeting the programme target after taking into account projects falling into these categories.

Should I calculate Outcome Measure contributions for strategies as well as individual projects?

Outcome Measure definitions are written on the assumption that they will be applied to individual projects delivering FCRM benefits. Potential OM contributions from the projects that may flow from a strategy are however useful in forward planning, to assess the contributions coming through in the medium and long term pipeline of capital projects. There should be an attempt from the beginning to assess the Outcome Measures likely to be delivered by the more significant projects from the strategy, which should be refined as the strategy develops. These are also used to assess the value of preparing the Strategy itself.

How should strategies be assessed for Outcome Measures?

There is an existing process to prioritise strategy development, whereby the total number of households within the different probability bands, and within deprived communities, are assessed within the benefit areas of all strategies that might attract funding. This gives an initial indication of the areas where future OM contributions might be highest, and the numbers will be broadly recognisable in terms of the profile of risk according to NAFRA and the Long Term Investment Strategy. Although they cannot be interpreted as a 'promise' to deliver specific OM contributions in the future, they are an indication that projects may be available in the future to deliver (unspecified) OM contributions.

In order to refine this into specific projections of future OM delivery, we need to convert this information, as early as possible, into indicative Outcome Measure contributions from projects that will flow from strategies. This means that:

- a) when promoting a new strategy: the significant project(s) likely to flow from the strategy in the short to medium term are broadly identified at the Pre-Gateway 0 stage with their indicative OM potential and these are shown in the Medium Term Plan, where relevant (see footnote)¹
- b) during strategy development: as more details of the possible projects to flow from a strategy are identified these should be passed by the Strategy's Project Executive to FCRM programme managers for use by them when updating the Medium Term Plan
- c) on completing the strategy: the strategy will identify the various projects that flow from the strategy and identify the Outcome Measure benefits on an individual project basis. There will be greater certainty that these benefits can be realised, for example because the strategy will confirm whether households can be moved across the probability bands by individual projects. These figures will normally be cascaded from the strategy to individual project appraisals, and used in the Medium Term Plan (where the strategy describes those works as happening within that time frame), but will be revised in some cases during detailed project appraisal

Can households be counted more than once during a strategy period?

No. It is important that the total number of households that can contribute to the targets does not exceed the total number of households in the strategy's benefit area. Section 4 of Operational Instruction 1043_08 sets out the calculations necessary to ensure that double counting is avoided.

Over what time period does a change in probability have to occur in order to contribute to Outcome Measures?

Outcome Measures benefits are realised when a project is completed. The change in probability used to calculate the OM contributions is the change that happens between the situation now and the point of project completion, not for example the end of an asset life or the end of a strategy period.

¹ At the start of a strategy, one might predict, for example, that existing flood defences, known to be overtopped frequently, will need to be replaced within the medium term plan. There might also be other assets for instance sluice gates, that will need investment at the end of their design life, say in 15 years time: these might have a high outcome measure score but would **not** be included in the medium term plan.

How do I account for the impact of climate change?

When designing new and improved defences, we make allowances for climate change to ensure that the design standard is fit for the long term. These are set out in Project Appraisal Guidance and supplementary notes. <http://www.defra.gov.uk/environ/fcd/pubs/pagn/default.htm> This does not have any further implications for Outcome Measures, as we report progress based on the change in probability at the point at which projects are delivered, not at a point in the future when this might have been affected by climate change. See the previous question for the rationale behind this approach.

Are there differences in the method for counting OM contributions for replacement / refurbishment projects as opposed to new and improved defences?

Outcome Measures for all types of capital improvement project (both new and improved defences, and replacements / refurbishments) are assessed on the same basis, taking into account the change in probability of flooding brought about by the project. Operational Instruction 1043_08 sets out the approach to analyse this change in probability brought about by all types of capital improvement.

Does intermittent maintenance contribute to Outcome Measures?

No. The key word from the definition is 'step change'. Intermittent maintenance will affect risk incrementally, but if every such intervention made a contribution to Outcome Measures there would be a lack of transparency and an increase in complexity in the measures. This advice applies even if you calculate that households are exactly on the threshold between two probability categories and the smallest maintenance intervention would result in a category change. There are some examples of work programmes (such as beach recharge) where a significant annual investment makes incremental changes that adds up to a significant change over a period of time. Depending on local circumstances, it might be acceptable to count an overall contribution for the programme and apportion benefits on an annual basis. Advice should be sought at an early stage from [add link to I&F helpdesk] to agree a reasonable approach to counting benefits.

I know from existing modelling how many households are included in the 1 in 50 and 1 in 100 outline, but not the 1 in 75 required for OM definitions. Do I need to do more modelling?

No. Introduction of Outcome Measures is not intended to increase the effort in appraising projects and assessing contributions to targets. Individual professional judgment will be required in this situation, but a likely reasonable solution is to interpolate the results, ie assume that the number within the 1 in 75 outline is the mid point between those in the 1 in 50 and those in the 1 in 100 outline.

At what point do we define the onset of flooding for the purpose of Outcome Measures and what significance does this have for calculating OM contributions?

For the purposes of Outcome Measures (and more generally in project appraisal), the onset of flooding for households occurs at 0.3m below floor level as it is generally at this point that material economic damages are estimated to accrue. Economic damages and numbers of households affected by an event with any specified probability should be based on this threshold.

Does "probability" mean probability of overtopping, probability of asset failure, or both?

Overall risk for the purpose of Outcome Measures combines both probability of overtopping and probability of asset failure. The significance of this is that we can contribute to Outcome Measures not only by building new and improved defences, and thus reducing the probability of overtopping, but also by replacing and refurbishing existing defences, and thus reducing the probability of asset failure.

What changes to the definitions are likely when we move to Outcome Measures based on all asset management activity?

Revised Outcome Measure [include hyperlink] definitions that will measure the overall benefit of asset management activity, will be trialled during 2009, and are planned to be introduced for the next spending review period. The definitions have not yet been finalised, but they are intended to:

- Avoid the need to make apportionments based on non-discrete project benefits
- Distinguish between 'sustain' and 'change' outcomes within the same framework
- Extend the scope of Outcome Measures beyond the capital improvements programme
- Drive performance on asset management at the lowest possible whole life cost

The revised Outcome Measures will be a evolution of the current system and will not require wholesale changes in the way we assess projects for Outcome Measures.