

SCOTTISH ENTERPRISE

# Additionality & Economic Impact Assessment Guidance Note

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A Summary Guide to Assessing the Additional  
Benefit, or Additionality, of an Economic  
Development Project or Programme

**Appraisal & Evaluation Team**

**1<sup>st</sup> November 2008**

## RECORD OF CHANGES

Version	Change Date	Description
<b>Draft v8.1</b>	16/08/2006	Changes following July meeting of working group
<b>Draft v8.2</b>	24/08/2006	Changes following feedback from working group members 23/08/2006
<b>Draft v8.3</b>	4/09/2006	Changes following feedback from working group members w/c 28/08/2006
<b>v1.0</b>	26/01/2007	Changes following consultation period.
<b>v2.0</b>	01/11/2008	Updates to document information, policy references, business unit names, links, and reference data. Methods for calculating GVA incorporated (replacing separate GVA guidance). Harmonised additionality question set added (appendix 2).

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## 1. INTRODUCTION

### 1.1 PURPOSE OF THIS GUIDANCE NOTE

The aim of this note is to promote consistent, good quality estimates of the economic benefits from Scottish Enterprise (SE) interventions, and to assist SE staff and contractors in identifying and using a good practice approach.

This note provides a summary description of how to assess the additional benefit, or additionality, of an economic development project. Additionality is the extent to which something happens as a result of an intervention that would not have occurred in the absence of the intervention.

The process of assessing additionality is relevant to all stages of an intervention's lifecycle, from appraisal to evaluation. Without an assessment of additionality we do not know if the intervention is delivering real results, over and above what would have happened anyway, addressing market failure issues, nor can we tell if the intervention offers good value for money. There is a duty on SE to make the best use of the available resources and to demonstrate to stakeholders that decision making is based on the best available evidence.

This note draws on and adapts other guidance (see Section 9) and signposts to more detailed explanations are given throughout this note.

#### **Note for Project Owners and Appraisal & Evaluation Staff**

This note is intended to support detailed project or programme economic appraisal and evaluation. As such, this guide is of most relevance to specialist Appraisal & Evaluation staff and to project owners engaged in detailed appraisal or evaluation. It is noted that the underlying principles and approach are valid for all levels of economic appraisal or evaluation.

Project owners are encouraged to consult with specialist Appraisal and Evaluation staff for support in applying this guidance to their work. Further guidance on choosing the appropriate level of appraisal or evaluation can be found in the Scottish Enterprise Evaluation and Appraisal Guidance (see Section 9)

#### **Note for External Contractors**

The approach set out in this note is also recommended to Scottish Enterprise external contractors.

### 1.2 RELATIONSHIP TO OTHER GUIDANCE

This note complements, and is consistent with, the SE Evaluation and Appraisal Guidance and supersedes all other previous SE guidance on additionality (including that contained in 'A Positive Guide to Evaluation<sup>\*</sup>', and the 'Project Development Guidance<sup>†</sup>').

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<sup>\*</sup> Scottish Enterprise (Undated) A Positive Guide to Evaluation, Scottish Enterprise: Glasgow

<sup>†</sup> Scottish Enterprise (1996) Project Development Guidance, June, Various Volumes, Scottish Enterprise: Glasgow.

This guidance note is also consistent with the high level discussion of principles and best practice in project appraisal and evaluation as presented in HM Treasury (2003) The Green Book, Appraisal and Evaluation in Central Government.

Estimating the additional benefits of an intervention is an important step in estimating the ultimate impact of an intervention on the economy in terms of Gross Value Added.

### 1.3 WHAT IS DIFFERENT IN THIS GUIDANCE?

There are number of differences between the approach to additionality in this guidance and previous SE guidance. These differences include:

**Terminology:** the terms used to describe additionality and the factors included in its calculation vary in some instances.

**The range of factors included in the calculation of additionality:** the number of factors considered in calculating additionality is more comprehensive than in previous guidance and includes: deadweight, leakage, displacement, substitution and economic multipliers. Descriptions of these terms are provided later in this guidance.

**The treatment of deadweight:** the reference case (also known as the 'base case'), and any deadweight associated with the reference case, is adjusted for displacement, substitution, leakage and multiplier effects, where relevant, to arrive at a total net local reference case. In previous guidance, deadweight was not adjusted in this way.

**Support tools:** this guidance note is supported by tools which aid users in the calculation of additionality, explaining the choices made, and reporting the findings. A standard question set for use in collecting information to assess additionality is appended.

**Estimation of GVA:** the guidance note includes a discussion of the estimation of the impact of interventions in terms of Gross Value Added (GVA). A recommendation is included that estimations of GVA flowing from pre-commercial activities should not be based on multiplying GVA per employee rates against the net number of jobs created. Adopting this approach may systematically inflate GVA impact.

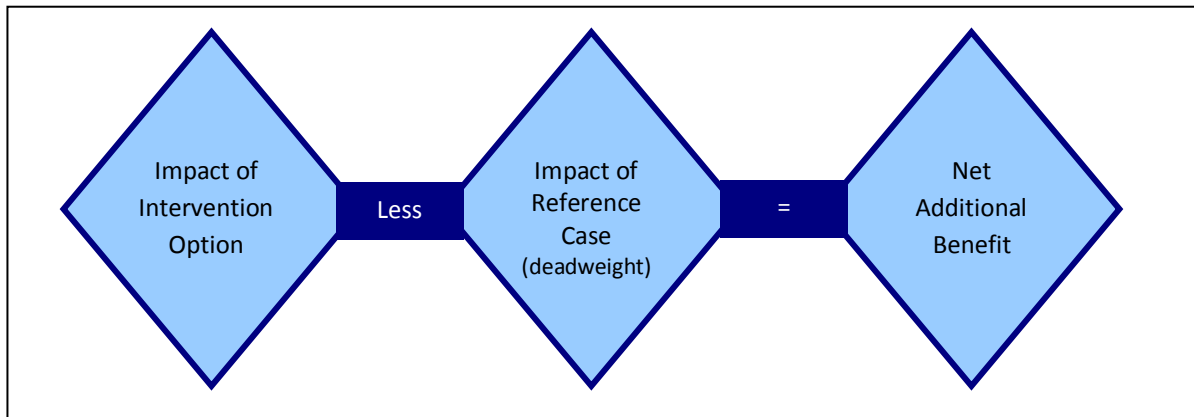
## 2. ADDITIONAL BENEFITS

### 2.1 WHAT IS ADDITIONALITY?

Most SE interventions will have both positive and negative effects. In appraising or evaluating the effects of an intervention it is important that all of these are taken into account in order to assess the additional benefit or additionality of the intervention – in other words, the net changes that are brought about over and above what would take place anyway.

The additional benefit of an intervention is the difference between the reference case position (what would happen anyway) and the position if / when the intervention (intervention option) is implemented (see Figure below).

Figure 2.1 Summary of Additionality



Source: Adapted from English Partnerships (2004) *Additionality Guide, A Standard Approach to Assessing the Additional Impacts of Projects*, Method Statement, Second Edition, September, English Partnerships: London p3.

## 2.2 WHAT DIFFERENT TYPES OF ADDITIONALITY ARE THERE?

Additionality may relate to<sup>‡</sup>:

**Scale:** for example, a greater quantity of business turnover or jobs may be delivered in an area. Absolute additionality refers to a situation where all of the intervention's benefits may be claimed, in relation to the output or outcome being examined.

**Timing:** for example, an activity may happen earlier than would otherwise have been the case.

**Quality:** where the benefits of an intervention cannot easily be valued, then the quality of the benefits may be different because of an SE intervention, for example, the skill level of employment outcomes may be enhanced.

Scale additionality is the most significant type when it comes to assessing overall economic impact in terms of Gross Value Added (GVA).

However, consideration should also be given to other types of additionality if they have particular significance to a given intervention, for example, if the relevant benefits would otherwise have been significantly delayed, or would have been of inferior quality.

## 2.3 WHAT SHOULD BE ASSESSED IN TERMS OF ADDITIONALITY?

Additionality is relevant to all of an intervention's intended outputs, outcomes and impacts. These will normally be set out in the intervention proposal or approval paper, and may include a range of performance measures.

While many projects are concerned with delivering broad outcomes and impacts, the focus of attention in project appraisals and evaluations is often on assessing the net additionality of specific *outputs*. Common

<sup>‡</sup> Technical Note: Additionality as it relates to an area or group is not distinguished here as a separate type of additionality. The effect of intervention benefits on a specific area or group is taken here to be addressed by the concept of leakage.

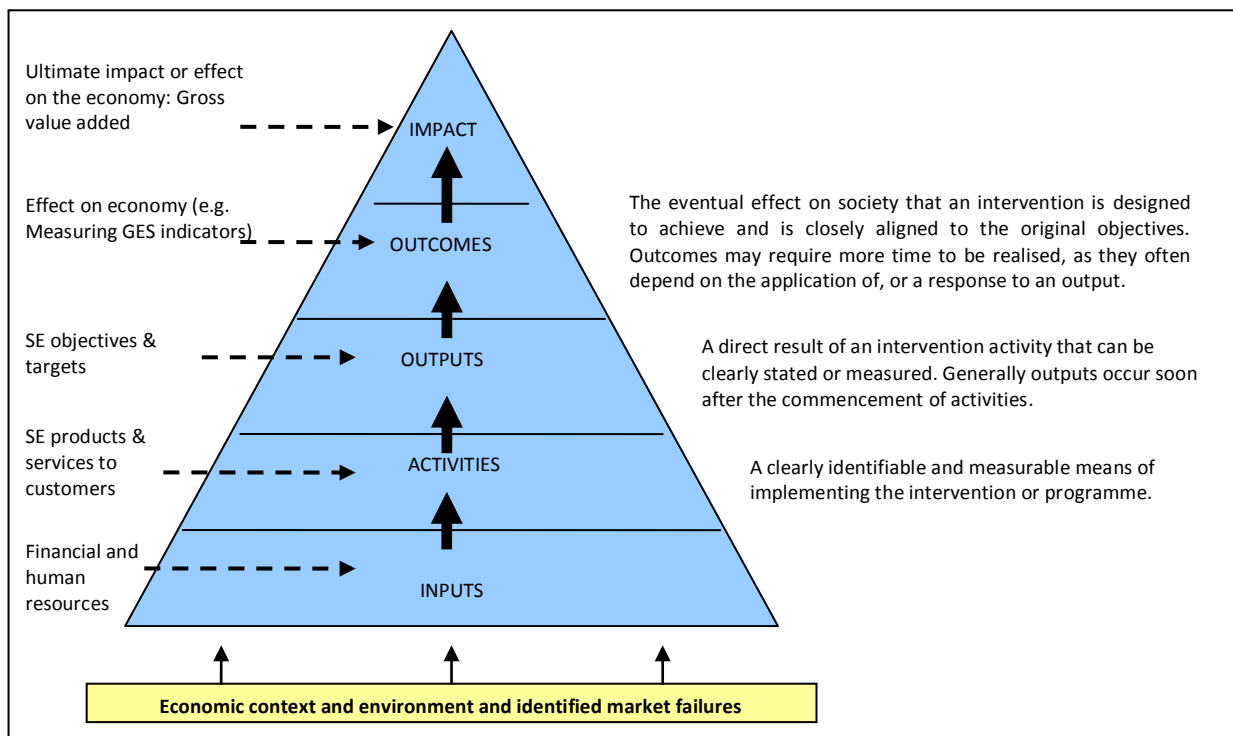
outcomes are employment and turnover improvements. Assessment of additionality may also be relevant to other intended outputs and outcomes (see examples in Appendix 0).

Many outcomes (such as changing behaviours and attitudes) are difficult to measure and will often only occur sometime after an intervention has been implemented. Nonetheless, it is important that these benefits are assessed and reflected in judgements and decision-making based on appraisals and evaluations.

At the time of writing the Policy & Research Team are working with Operations to develop a comprehensive measurement framework for all business areas which will provide guidance on the appropriate performance indicators to consider.

See Figure 2.2 below for an outline of the role of inputs, activities, outputs, outcomes and impacts in the economic development process.

**Figure 2.2 Elements of Economic Development Process**



Source: Adapted from Scottish Enterprise (2005) Measuring Gross Value Added and the Impact of Activities, Strategy Directorate, 7<sup>th</sup> November, Scottish Enterprise: Glasgow p2.  
<http://admin.scottishenterprise.net/documenttargeting/FetchDocument.aspx?CardID=45660>.

## 2.4 WHEN TO APPLY ADDITIONALITY MEASUREMENT

The resources allocated to assessing the additional benefit of an intervention should be proportionate to the nature and scale of the intervention and the particular phase of the intervention.

Generally speaking, an assessment of additionality will be required at the appraisal stage, before commencing an intervention, and when conducting full impact evaluations, after the end of an intervention or after it has been running for several years. A detailed assessment of additionality is generally not required for early intervention assessments, or interim evaluations, which occur closer to the intervention

start date, and are usually more focused on ensuring the intervention is on track, and achieving immediate objectives.

A general overview of evaluation types and scope is given below. Users are recommended to check current Project Lifecycle rules regarding when these broad evaluation types may be appropriate to a given project stage.

**Table 2.1 Examples of Evaluation Type and Scope**

Evaluation Type	Outline Scope*
<b>Appraisal.</b> Appraisal represents an assessment of an intervention before resources have been committed.	<ul style="list-style-type: none"> <li>• A detailed intervention appraisal will typically include an assessment of the additionality of key project benefits.</li> </ul>
<b>Strategic Review.</b> An early intervention assessment sufficiently soon after start date to allow intervention changes if needed e.g.1 year from the intervention start date.	<ul style="list-style-type: none"> <li>• Assessment of process efficiency (administrative, managerial, technical);</li> <li>• Review of monitoring data;</li> <li>• Qualitative assessment of strategic fit and rationale of project.</li> <li>• May also be repeated at regular intervals for low cost/risk, non-mission critical projects</li> </ul>
<b>An interim evaluation</b> e.g. 2-3 years into intervention delivery.	<ul style="list-style-type: none"> <li>• As above, plus assessment of qualitative and quantitative achievements in terms of outputs and immediate benefits against the main intervention objectives;</li> <li>• May include independent review.</li> </ul>
A <b>full impact evaluation</b> following completion of the intervention, or following a sufficient period after intervention start to capture the significant intervention benefits (e.g. 5 years).	<ul style="list-style-type: none"> <li>• As above, plus assessment of the additionality of outputs and the wider intervention outcomes and impact;</li> <li>• Qualitative and quantitative assessment of effects of the intervention against the main project themes;</li> <li>• It is recommended that the evaluation includes independent review.</li> </ul>

Source: author

Note: \*specific requirements will vary by intervention type and phase.

## 2.5 WHAT TIME PERIOD SHOULD ADDITIONALITY BE CALCULATED OVER?

**Appraisals:** The time period for appraisal should relate to the life of the intervention and be sufficiently distant to cover all the important cost and benefit differences between options. For example, the appropriate period may be 5 years for a business growth support project, 10 years for a property development project, or 25 years or more for a longer term, large scale regeneration project. See further guidance in Section 9 below.

**Evaluations:** Similarly, the time period for full impact evaluation should relate to the life of the intervention, capturing all the important cost and benefits over the period, and where appropriate, any significant anticipated benefits following the end of the formal intervention period (e.g. 1-3 years after).

### 3. THE REFERENCE CASE, DEADWEIGHT AND INTERVENTION OPTION/S

#### 3.1 THE REFERENCE CASE

The approach to assessing the **reference case** (also known as the 'base case') and the intervention option/s will vary depending on whether an appraisal or evaluation is being undertaken.

For appraisal, the assessment is forward looking, estimating the likely outturn of future events. A number of future options may be considered. For an evaluation, it will normally be a case of looking back to estimate the likely reference case position in the absence of the intervention, together with an assessment of the actual intervention option delivered.

The reference case is the situation, in terms of benefits, that would occur if the intervention was not implemented. In other words, what would have happened anyway, without the intervention? The quantification of outputs, outcomes and impact under the reference case is referred to as **deadweight** (see Figure 3.1 below).

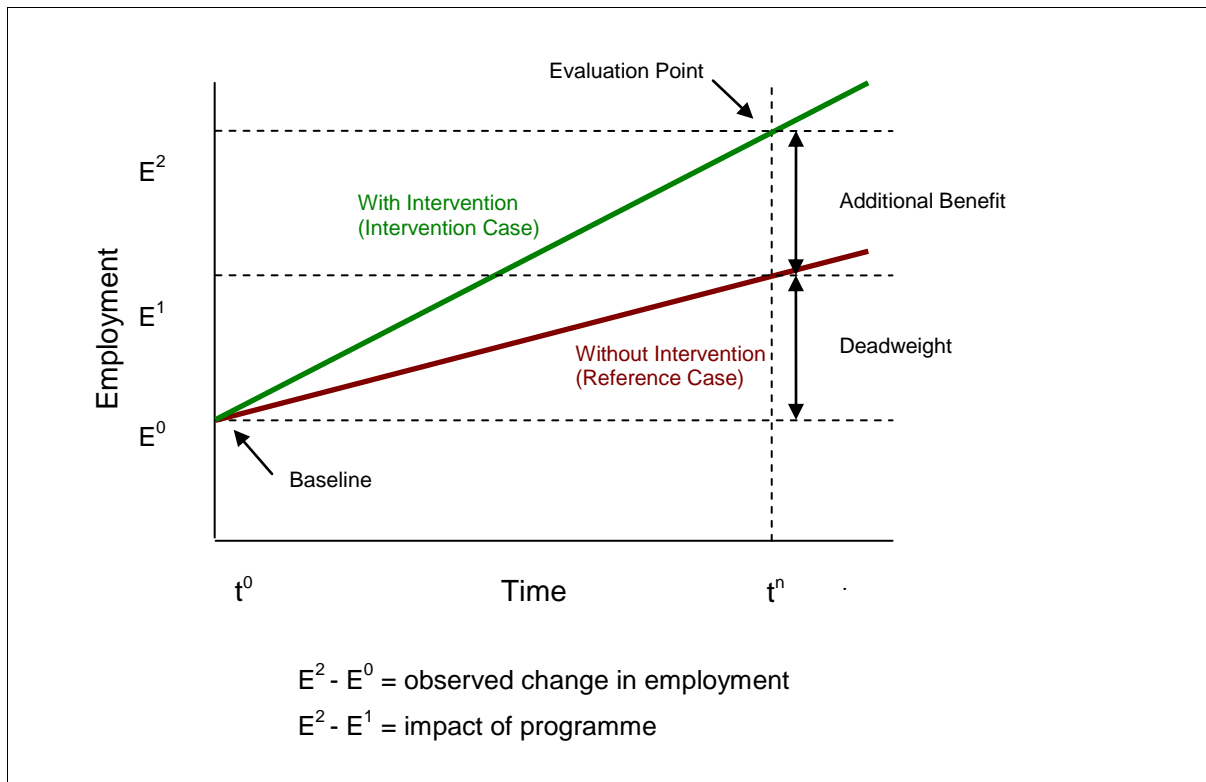
The starting position for making an assessment about the likely reference case is to identify all the factors that may influence the intended benefits.

Amongst the factors that may need to be considered are the following:

- likely or past change in social, economic and environmental variables;
- the nature of the activity being considered;
- evidence from past changes in the local and comparator areas;
- the extent of market failure in the area concerned;
- impacts of health and safety, legal or other statutory requirements; and
- impacts of other relevant existing and/or planned investments/policies by the private or public sector.

Considering the effects of these contextual factors on the target benefits will enable a reference case to be developed.

Figure 3.1 Assessing Additionality (Employment Example)



Source: Adapted from European Commission (2003) The Evaluation of Socio-Economic Development, The Guide, December European Commission, Directorate General for Regional Policy: Brussels ([www.evaled.info](http://www.evaled.info)).

### 3.2 THE BASELINE

It is sometimes seen as convenient to assume that nothing would happen if an intervention did not go ahead. However, it is highly unlikely that the starting situation (the **baseline** position - see Figure 3.1 above) would remain unchanged over the chosen project period. The reference case can be better or worse than the baseline position depending on the view taken of what economic, environmental or social changes will take place over the intervention period.

Assessing the reference case involves judgement about, amongst other things, the economic, social and environmental trends or events that are planned, or would have likely occurred, over the intervention period (but assuming the intervention did not go ahead). It is quite possible, that in some cases, e.g. town centre physical regeneration projects, that the baseline might actually decline over time if there were no intervention.

An early and key step in carrying out an appraisal or evaluation is to measure the baseline position or starting position. The baseline is the state of the economic, social or environmental context at the beginning of the intervention period. An assessment of the strategy or policy context will also normally form part of a baseline assessment.

Projects with economic objectives will generally focus on describing the 'economic state' of the target group or area in terms of, for example, the level of employment, unemployment, skills; or business performance measures such as levels of R&D, exports, turnover.

### 3.3 INTERVENTION CASE & OPTION/S

The **intervention case** is the option, or options, that the public sector might implement in order to achieve its objectives. In an appraisal, an estimate will need to be made of the level of benefit that would be produced under each of the alternative project 'do something' options. In an evaluation, the intervention option that was implemented will be assessed.

### 3.4 GROSS DIRECT EFFECTS & DEADWEIGHT

An initial assessment of the reference case and interventions option/s leads to the identification of the **gross direct effects**. These are the outputs from the reference case or intervention option before account is taken of factors such as displacement, substitution, leakage and multipliers.

The table below provides a guideline range of values for deadweight (the gross direct effects of the reference case), as a percentage of the gross direct effects of the intervention option. This ready reckoner, together with the others presented in the guide, can be used to provide a rough estimate of additionality, or where better quality data is unavailable (see section 6).

**Table 3.1 Deadweight Ready Reckoner**

Level	Description	Deadweight
None	All of the benefits are as a result of the intervention	0%
Low	The majority of the benefits are as a result of the intervention	25%
Medium	About half of the benefits are as a result of the intervention	50%
High	A high level of the outputs/outcomes are not as a result of the intervention	75%
Total Deadweight	None of the outputs/outcomes are as a result of the intervention	100%

Source: Author

#### KEY QUESTION

The key question that needs to be answered in terms of the reference case and deadweight is:

**What level of benefits would happen anyway without the intervention?**

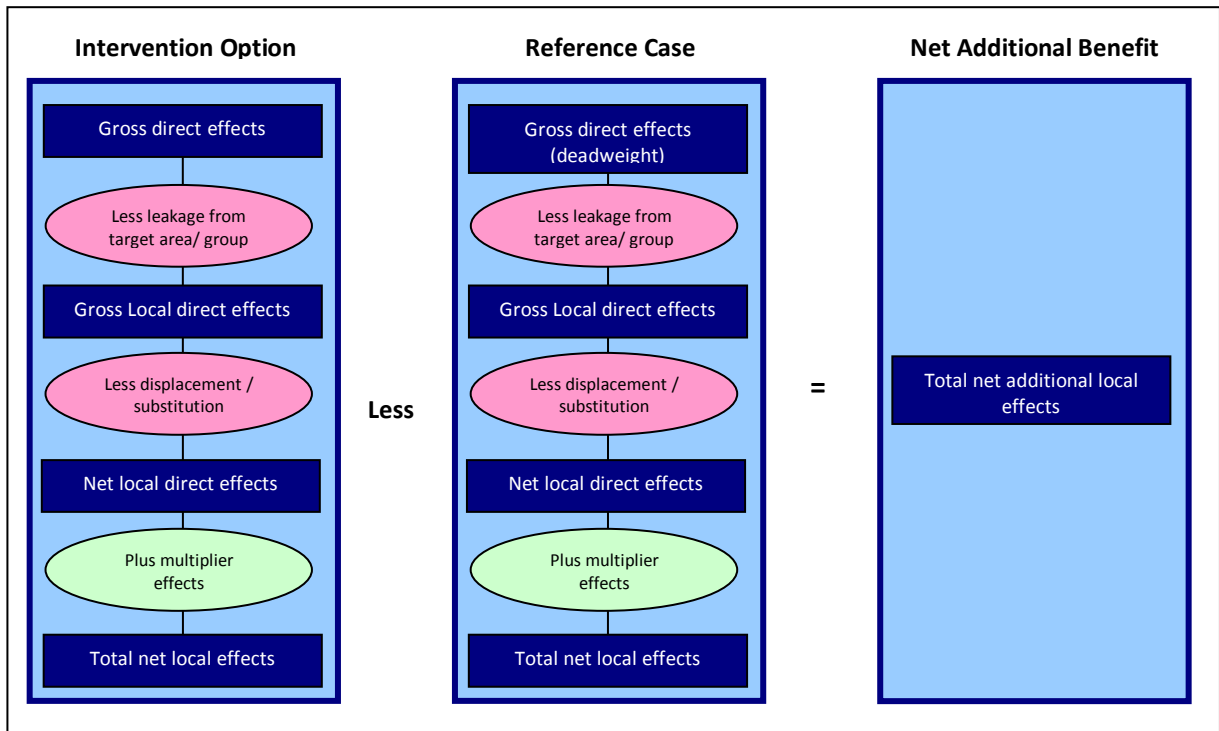
## 4. ADJUSTING THE REFERENCE CASE AND INTERVENTION CASE

It is noted that when assessing the additional benefits of an intervention, care has to be taken that like is compared with like. Thus, the gross direct benefits generated under both the intervention case (or options), and the reference case, must be adjusted for a number of factors, where relevant, including displacement, substitution, leakage and multiplier effects.

The various adjustments to the reference case and intervention option/s are combined to provide an estimate of additionality as summarised in Figure 4.1. The same process, expressed as a summary equation,

is noted in the box below (Figure 4.2). The templates in Section 7 provide a convenient approach to calculating and reporting on additionality.

**Figure 4.1 Approach to Assessing Project Level Additionality – Key Components**



Source: Adapted from English Partnerships (2004) Additionality Guide, A Standard Approach to Assessing the Additional Impacts of Projects, Method Statement, Second Edition, September, English Partnerships: London p5.

**Figure 4.2 Summary Equation for Calculation of Total Net Additional Local Impact (or Benefit) of an Intervention**

$$AI = [GI \times (1 - L) \times (1 - Dp) \times (1 - S) \times M] - [GI^* \times (1 - L^*) \times (1 - Dp^*) \times (1 - S^*) \times M^*]$$

AI =	Net additional impact	Dp =	Displacement
GI =	Gross impact	S =	Substitution
L =	Leakage	M =	Multiplier

Source: English Partnerships (2004) Additionality Guide, A Standard Approach to Assessing the Additional Impacts of Projects, Method Statement, Second Edition, September, English Partnerships: London p25.

## 4.1 LEAKAGE

Leakage is the proportion of outputs that benefit those outside of the intervention target area or group.

As an organisation seeking to make an impact at the Scottish level, Scotland will often be the main target area to be assessed. But effects may also be required to be considered at, for example, Regional level or other local level (if for example, working in partnership with Local Government).

For example, in a project aimed at providing intensive business support to high-tech start-ups located within a particular area, assuming the eligibility criteria for determining who can receive support are strictly applied, it is likely that a very small amount of leakage would be with the project benefits.

However, an intervention providing general business advice to an unspecified audience with the aim of generating jobs in a particular area is likely to have a greater degree of leakage associated with its activities, as businesses outwith the target area may receive advice and generate jobs that do not go to local residents or target groups.

A guideline range of values for leakage is noted below (Table 4.1).

**Table 4.1 Leakage Ready Reckoner**

Level	Description	Leakage
None	All of the benefits go to the target area/ the target group	0%
Low	The majority of benefits go to the target area/ the target group	10%
Medium	A reasonably high proportion of the benefits will be retained within the target area / the target group	25%
High	Many of the benefits will go outside the area of benefit / outside of the target group	50%
Very High	A substantial proportion of those benefiting will be outside of the area of benefit / be non-target group members	75%
Total Leakage	None of the benefits go to members of the target area / target group	100%

Source: Adapted from English Partnerships (2004) *Additionality Guide, A Standard Approach to Assessing the Additional Impacts of Projects*, Method Statement, Second Edition, September, English Partnerships: London p18.

## KEY QUESTIONS

In order to address the issue of leakage in an appraisal or evaluation, the following questions need to be answered:

**Who are the target beneficiaries? Are the benefits likely to go to non-target group / areas, instead of the target group / areas? If yes, by how much?**

## 4.2 DISPLACEMENT

Displacement is the proportion of intervention benefits accounted for by reduced benefits elsewhere in the target area.

Displacement arises where the intervention takes market share (called product market displacement) or labour, land or capital (referred to as factor market displacement) from other existing firms within the geographical area being assisted.

For example, an intervention may help a business to expand its operations. However, this business may take market share from other local firms producing the same goods or services, resulting in them losing trade and possibly staff. Alternatively, the supported business may use up scarce local factors of production (such as skilled labour) or bid up factor prices.

In practice, product market displacement effects may be more straightforward to estimate than factor market displacement. However, there is some evidence that factor market displacement can be significant and these issues should be considered where practicable to do so<sup>§</sup>.

A guideline range of values for displacement is noted below (Table 4.2).

**Table 4.2 Displacement Ready Reckoner**

Level	Description	Displacement
None	No other firms / demand affected	0%
Low	There are expected to be some displacement effects, although only to a limited extent	25%
Medium	About half of the activity would be displaced	50%
High	A high level of displacement is expected to arise	75%
Total Displacement	All of the activity generated will be displaced	100%

Source: English Partnerships (2004) *Additionality Guide, A Standard Approach to Assessing the Additional Impacts of Projects*, Method Statement, Second Edition, September, English Partnerships: London p21.

## KEY QUESTIONS

The following key question needs to be answered:

**Will the intervention reduce existing activity from within the target group or area? If yes, by how much?**

## 4.3 SUBSTITUTION

The effect of substitution arises where a firm substitutes one activity for a similar one (such as recruiting a jobless person while another employee loses a job) to take advantage of public sector assistance. It can be thought of as 'within firm' displacement.

Substitution is a very specific form of non-additionality that has in the past been largely subsumed within the displacement effect and as a result not considered sufficiently.

If a grant was introduced to encourage local employers to recruit long-term unemployed people, some employers may replace existing employees with new workers in order to secure the grant. This would have

<sup>§</sup> Gillespie G., McGregor P.G., Swales J.K., and Yin Y.P. (2001) *Regional Studies: The Journal of the Regional Studies Association*, Volume 35, Number 2, April, pp. 125-139(15).

no real net effect and such substitution effects should be deducted in assessing the net benefits (unless the project had this effect as an explicit objective).

Substitution could also arise in relation to other factor inputs such as land and property. A firm renting premises could, for example, take advantage of accommodation provided by the public sector at a reduced cost by relocating from its current building. A guideline range of values for substitution is noted below (Table 4.3)

**Table 4.3 Substitution Ready Reckoner**

Level	Description	Substitution
None	No substitution takes place	0%
Low	There are expected to be some substitution effects, although relatively limited	25%
Medium	About half of the activity would be substituted	50%
High	A high level of substitution is expected to arise	75%
Total Substitution	All of the activity would be strongly affected by substitution	100%

Source: English Partnerships (2004) *Additionality Guide, A Standard Approach to Assessing the Additional Impacts of Projects*, Method Statement, Second Edition, September, English Partnerships: London p22.

## KEY QUESTIONS

The key questions in relation to substitution are as follows:

**Will the intervention result in a firm substituting one activity for a similar one to take advantage of public funding? If yes, by how much?**

## 4.4 ECONOMIC MULTIPLIER EFFECTS

Multiplier effects: further economic activity (jobs, expenditure or income) associated with additional local income and local supplier purchases.

### TYPES OF MULTIPLIER EFFECTS

The economic benefits of an intervention are multiplied because of knock-on effects within the economy. Two types of multiplier can be identified:

- a **supply linkage multiplier** (sometimes referred to as an indirect multiplier) due to purchases made as a result of the intervention and further purchases associated with linked firms along the supply chain;
- an **income multiplier** (also referred to as a consumption or induced multiplier) associated with local expenditure as a result of those who derive incomes from the direct and supply linkage impacts of the intervention.

The scale of the supply linkage multiplier effects will be influenced by, for example, the extent of supply chain linkages in area of analysis. These linkages vary substantially by sector and area. Income multiplier effects may be influenced by, for example, the proportion of additional income spent within area of analysis.

Multiplier effects for different Scottish industries are provided by the Scottish Government (see link below). The Type II multipliers provided by Scottish Government give a composite or combined measure of the different multiplier types, combining direct, supply linkage and income effects. Type II multipliers are provided for the estimation of the multiplier effects in three different forms: output (£), income or employment.

A guideline range of values for Type II output, income and employment multipliers at the Scotland level is noted in Table 4.4. Examples of the use of these multipliers can be found on the Scottish Government web site (see <http://www.scotland.gov.uk/Topics/Statistics/Browse/Economy/Input-Output/Multipliers>).

Adjustments will need to be made to national level multipliers for assessing multiplier effects at the local level (see sources of information below).

**Table 4.4 Selected Type II Multipliers, Scotland level, by SE National Priority industry**

National Priority Industry		Industry group	Output multiplier	Income multiplier	Employment multiplier	GVA multiplier
Energy	4	Coal extraction etc	1.8	2.1	2.1	2.9
	5	Oil & gas extraction	2.0	2.2	3.4	3.1
	35	Coke, refined petroleum & nuclear fuel	2.2	5.0	10.5	11.8
	62	Mech. power equipment	1.5	1.5	1.7	1.7
	85	Electricity production & distribution	2.4	4.0	5.9	3.4
	86	Gas distribution	1.6	1.9	2.4	1.4
Food & Drink	8	Meat processing	2.0	2.1	2.2	3.2
	9	Fish & fruit processing	2.0	1.9	1.9	2.7
	10	Oils & fats processing	1.6	1.5	1.5	1.7
	11	Dairy products	2.0	2.3	2.7	3.4
	14	Bread, biscuits etc	1.6	1.4	1.5	1.7
	15	Sugar	1.0	1.0	1.0	1.0
	16	Confectionery	1.7	1.9	2.1	2.0
	17	Miscellaneous Foods	1.7	1.6	1.8	1.9
	18.1	Spirits & wines, etc	1.5	1.7	2.5	1.5
	18.2	Beer brewing	1.6	1.9	2.5	2.0
19	Soft drinks	1.5	1.6	1.9	1.7	
Digital Media & Enabling Technologies	68	Domestic appliances nes	1.6	1.6	1.5	1.8
	69	Office machinery	1.4	1.8	1.6	1.4
	70	Electric motors & generators	1.4	1.4	1.5	1.4
	71	Insulated wire & cable	1.5	1.3	1.5	1.5
	72	Electrical equipment nes	1.5	1.6	1.5	1.6
	73	Electronic components	1.5	1.6	2.1	1.6
	74	Transmitters for TV, radio & phone	1.5	1.4	1.4	1.5
	75	Receivers for TV & radio	1.4	1.4	2.0	1.3
Life Sciences	107	Computing services	1.6	1.4	1.6	1.4
	76	Medical & precision instruments	1.6	1.5	1.7	1.8
	43	Pharmaceuticals	1.8	1.7	2.1	2.1
Tourism	92	Hotels, catering & pubs etc	1.5	1.3	1.2	1.4
Financial Services	100.1	Banking	1.5	1.6	1.7	1.5
	100.2	Other financial institutions	1.6	1.8	2.3	1.6
	101	Insurance & pension funds	1.7	3.6	3.0	2.2
	102.1	Auxiliary financial services nes	2.0	3.0	1.4	5.0
	102.2	Auxiliary to insurance	1.7	1.5	1.7	1.8
	110	Accountancy services	1.6	1.4	1.5	1.5

Source: Adapted from Scottish Government (2007) Type II Output, Income, Employment and GVA Multipliers - Scotland 2004, Scottish Executive: Edinburgh (<http://www.scotland.gov.uk/Topics/Statistics/Browse/Economy/Input-Output>).

## SOURCES OF INFORMATION FOR MULTIPLIERS

**Scottish input-output tables:** output, employment and income multipliers provide estimates of supply linkages between sectors in Scotland and can be used to identify the supply linkage and income multiplier at the Scottish level.

(<http://www.scotland.gov.uk/Topics/Statistics/Browse/Economy/Input-Output>).

**Surveys of businesses and employees:** businesses can be asked about the local content of the purchases they make and this information can be used to calculate the local supply linkage multiplier effects. In addition, estimates can be calculated of the income multiplier using data on local consumption patterns in the local economy. The New Economics Foundation has developed a model for assessing how a particular business or initiative impacts on the local economy

(<http://www.neweconomics.org/gen/>).

**Previous research/evaluations:** the Scottish Tourism Multiplier Study sets out detailed information on the multiplier effects associated with different types of tourism activity

([http://home.scottishenterprise.net/intranet-home/se-communities/a-z/t-research\\_evaluation/learning\\_evaluation-reseval.htm?siblingtoggle=1&sFloat=true](http://home.scottishenterprise.net/intranet-home/se-communities/a-z/t-research_evaluation/learning_evaluation-reseval.htm?siblingtoggle=1&sFloat=true) (SE internal only).

### KEY QUESTION

The following key question needs to be answered in relation to multiplier effects:

**How many, if any, additional benefits will occur through purchases along local supply chains, employee spending rounds and longer term effects as a result of the intervention?**

## 5. ASSESSING TIME AND QUALITY ADDITIONALITY

As noted above in Section 2.2, the success of an intervention can be determined not just by the amount or scale of benefits delivered, but by the timing and quality of those benefits. As such, it is important to assess these effects.

### 5.1 TIME ADDITIONALITY

For many projects, it may be possible to identify and record the amount of time an intervention benefit has been advanced or delayed in comparison with the reference case (in weeks, months or years as appropriate).

For larger scale, long-run projects, the technique of cost-benefit analysis may be adopted to assess the overall influence of timing on intervention benefits. This technique favours projects that produce results earlier, and incur costs later, in the life of the intervention. For further guidance on this technique see Section 9 below.

### 5.2 QUALITY ADDITIONALITY

It may be important to measure the benefits of an intervention in terms of the quality of intervention outputs or outcomes.

The first step is deciding upon a suitable scale of measurement to assess the quality of an intervention benefit. For example, if an intervention benefit is expected to be an increase in good quality employment, then the quality of employment might be measured by the salary levels of employees, or the job grade. However, this type of information may not always be readily available.

Where such detailed data on quality of intervention benefits is not available, an alternative approach may be to gather scores of perceived quality. For example, a respondent from a business survey may be asked to score a change in job quality between: 1) very negative effect on quality; 2) somewhat negative on quality, 3) no effect on quality; 4) somewhat positive effect on quality; 5) very positive effect on quality. Please refer to your Evaluation contact for further guidance on suitable scales.

### 5.3 COMBINING DIFFERENT TYPES OF ADDITIONALITY

Any individual intervention may display a particular combination of additionality in terms of scale, time and quality. However, these will be measured on different scales and are usually not easily combined into an overall measure of additionality. Instead, the different types of additionality may be written up and accounted for separately as part of an overall account of a particular project or programme.

In some appraisal cases it may be appropriate to weight the outputs of different intervention options based on their relative output quality (e.g. option A producing higher quality jobs than option B). Such weighting should be explicit. The weighted outputs under the various delivery options could then be used to calculate the cost per unit of adjusted output/outcome and be taken into account in any value for money assessment.

## 6. HOW SHOULD I GATHER INFORMATION FOR CALCULATING ADDITIONALITY?

The following best practice framework for selecting or gathering data for calculating additionality is recommended:

- **Best:** bespoke investigation using various data capture methods, such as surveys or the results of bespoke economic or other modelling (standard question sets for collecting additionality information are included in Appendix 2).
- **Good:** values chosen through a review of previous evaluations recognising differences in:
  - the policy and location (e.g. geographic, demographic or economic differences)
  - the assumptions made in the original evaluation
  - significant changes in situation (due to time of investigation)
- **Adequate:** default values chosen from available guides, where the choice has been carefully considered and the reasoning explained.
- **Not adequate:** default values without consideration of any of the above and / or values used without reference to origin/fitness for purpose.

## 7. ESTIMATING GROSS VALUE ADDED

Project managers are being asked to assess the contribution to the economy of their products and projects at either the appraisal or evaluation stage. This should consider a range of measures, one of which should be, where possible, gross value added (GVA): this is the ultimate effect on the economy.

This should be measured as an increase GVA as a result of outcomes.

Gross and net additional GVA should be identified – i.e. total GVA and GVA which would not have been achieved without the intervention of Scottish Enterprise (net additional GVA taking into account deadweight and displacement etc).

## 7.1 METHODS FOR ESTIMATING GVA

The preferred method for estimating GVA is through collecting metrics on individual company performance. There are a number of ways of calculating GVA, depending on the level of data available:

### GVA METHOD 1

GVA at a business/enterprise level can be estimated from the following information:

- $GVA = \text{Turnover (or sales) less cost of bought in materials, components and services}$

However, if information on the cost of bought in materials, components and services cannot be accessed, GVA can be estimated using information that is available in company accounts.

### GVA METHOD 2

- $GVA = \text{Operating Profit} + \text{Employee Costs} + \text{Depreciation} + \text{Amortisation}$

This information can be collected from company accounts, customer feedback or through evaluation activity.

The UK Department for Innovation, Universities and Skills have developed a 'Value Added Calculator' that allows a calculation of GVA using company data. This also allows the benchmarking of the company against other companies in the DIUS database. This can be found at the following ([http://www.innovation.gov.uk/value\\_added/default.asp?quicklink=calculator](http://www.innovation.gov.uk/value_added/default.asp?quicklink=calculator)).

GVA at a sector or economy level is simply the aggregation of company (or organisation) level data. Estimates of GVA for at a sector level are available from the Annual Business Inquiry (see the Scottish Government's Annual Business Statistics). Estimates of GVA for the economy as a whole are available from the Regional Accounts.

GVA estimates should be reported in any evaluations and appraisals in terms of total monetary value (£s). Where appropriate, project managers should also look at estimating the change in productivity. GVA estimates should be shown as annual amounts.

### GVA METHOD 3

If information on profits, employee costs, depreciation etc. is not known, there are other ways to get estimate GVA. Often information on a company's employment or turnover is more readily accessible and this information can be used to provide broad estimates of GVA. If estimates of turnover or employment increases can be made as a result of a project (e.g. appraisal or evaluation based evidence), broad estimates of increased GVA can then be made.

The Scottish Government publish gross turnover, employment and gross value add estimates for a range of sectors (not including the financial or the public sector) in Scotland. This can be used to estimate the

average relationship between turnover and gross value add for the industries covered and the average gross value add per employee.

GVA per employee (based on full time and part time employment, not full time equivalent (FTEs)) and the ratio of turnover to GVA (units of turnover to one unit of GVA across) for broad industry groups can be estimated from data at the following link (<http://www.scotland.gov.uk/Topics/Statistics/Browse/Economy/TrendGVA>). The Scottish Government have also produced GVA per employee data for a small number of more detailed sub sectors including Aerospace Sector, Chemicals Sector, Construction Sector, Manufacturing Sector, Retail Sector, Shipbuilding Sector, Spirits (including Whisky) Sector, Tourism-Related Sector.

Although Scottish Government estimates of the financial sector are not available, there are other sources of GVA per employee estimates for this industry. National Statistics produces GVA estimates for 'Financial intermediation' activities (or the financial sector) - see Regional GVA (<http://www.statistics.gov.uk/statbase/Product.asp?vlnk=14650>). This can be used along with estimates of employment for this sector produced by the Scottish Government (see Scottish Corporate Sector Statistics, <http://www.scotland.gov.uk/Topics/Statistics/18389/13042>).

Note that when using official sources of data for employment based GVA figures, it is conventional to apply an average of the five most recent years of data. This is done to smooth out any anomalies in the annual data. When averaging GVA figures over 5 years it is also conventional to rebase the annual values to current prices.

Note: for pre-commercial projects (e.g. R&D projects), GVA estimates should be based on actual or forecast turnover (sales). A recommendation is included that estimations of GVA flowing from pre-commercial activities should **not** be based on multiplying GVA per employee rates against the net number of jobs created. Adopting this approach may systematically inflate GVA impact. For pre-commercial projects benefits should be described using other measures (e.g. cost per net additional job, and net additional innovation (including R&D) expenditure).

## 7.2 EXAMPLES OF ESTIMATING GVA

### ESTIMATING GVA FROM TURNOVER

Project X provides export advice to small and medium sized enterprises in the food and drinks manufacturing sector in Scotland. Between 2000 and 2004, 100 businesses received support and an evaluation of the programme estimated that the net additional increase in turnover for the assisted businesses was £150 million.

From the Scottish Government data, in 2004 the average ratio of turnover to gross value add for companies in the food and drink sector was 2.8 to 1 (i.e. each £2.80 of turnover generates £1 of gross value added).

Using this ratio, the estimated net additional increase in gross value added for companies involved in Project X is £54 million.

### ESTIMATING GVA FROM EMPLOYMENT

Project Y will offer business development advice to tourism businesses in Scotland. Over the next year it is anticipated that 50 tourism businesses will take part in the project. Evidence from similar types of project suggests that participating businesses are likely to achieve a 5% net additional increase in employment per

year as a result of the project. The businesses currently employ 500 people, so the net additional increase in employment is estimated to be 25 after year 1.

From the Scottish Government data, the average gross value added per employee in 2004 for the tourism sector was £18,000. Using this, the estimated increase in GVA per year is £450,000.

## POINTS TO NOTE

It is important to note that whilst these examples illustrate how GVA can be calculated, this should not be seen as an exact science. It will rely on available evidence and the statement of assumptions. Nonetheless, the approach can help develop an understanding of the likely impact of a project and should help shape the intervention planned. The workings can be revisited as more evidence becomes available.

The above approaches use Scottish industry averages for the ratio of turnover to GVA and GVA per employee. Project managers should use their knowledge and understanding of the companies their projects are assisting to make an assessment of whether these industry averages are appropriate. For example, if a project is working with small companies, it may be the case that GVA per employee or the ratio of turnover to GVA will be lower than the industry average. In these cases, estimated GVA should be scaled down. Or if it is felt that businesses are operating in particularly high value activities, GVA estimates could be scaled up. Reasons for any changes should be noted.

Also, for some types of businesses, the above approach may not be appropriate. An example is projects that assist early stage business start-ups. In this case, businesses may not be generating any turnover (for example their activities may be focused on product development or R&D). If no turnover is being generated and if salaries/wages are known, this can be used as an estimate of GVA (as employee costs are one of the inputs to GVA) and the indirect and induced employment effects can be estimated (using employment multipliers).

An alternative approach could be to consider what the longer term performance (over 10 to 15 years) of start-up companies could be based on, for example, experiences of similar companies. GVA over time can then be estimated, and if necessary discounted to a net present value (see Scottish Enterprise Economic Appraisal Guidance Note, v1.0, [http://home.scottishenterprise.net/intranet-home/se-communities/a-z/t-evaluation/guidance\\_tools\\_and\\_templates-2.htm?siblingtoggle=1&sFloat=true](http://home.scottishenterprise.net/intranet-home/se-communities/a-z/t-evaluation/guidance_tools_and_templates-2.htm?siblingtoggle=1&sFloat=true) (SE internal only)).

### Definitions:

#### Gross domestic product (GDP)

A measure of the market value of goods and services produced by organisations in an economy. It is estimated by valuing outputs of goods and services at market prices and then aggregating. Only goods for final sale, consumption or investment are included – values of intermediate or input goods are excluded as they are implicitly included in the price of final goods (e.g. the value of computer processor chips are included in the final price of a personal computer). GDP includes indirect taxes on products (e.g. VAT and excise duties) and government subsidies on products. GDP does not include receipts from interest, profits and dividends from abroad.

$$GDP = GVA + (\text{taxes on products} - \text{subsidies on products})$$

**Gross value added (GVA)** (also known as GDP at market prices)

An indicator of wealth creation and measures the contribution to the economy of each individual producer, industry or sector in the UK. GVA is generally regarded as the best measure of the sum of economic activity within an area.

GVA is the income generated by organisations out of which is paid wages and salaries, the cost of capital investment and financial charges, before arriving at a figure for profit. GVA includes taxes on production (net of subsidies), such as business rates but excludes subsidies and taxes on products (e.g. VAT and excise duty).

*GVA = Employee Costs + Depreciation + Amortisation + Operating Profit + (taxes on production - subsidies on production)*

GVA is an important measure in the estimation of Gross Domestic Product (GDP). In essence, the link between GVA and GDP can be defined as GVA plus taxes on products, less subsidies on products equals GDP.

For technical reasons GDP figures are not available for industries, but GVA figures are. This is because data at industry level is not available for indirect taxes (e.g. VAT and excise duties) and government subsidies, both of which are included in GDP.

Gross Value added at company level – is sales minus the cost of bought in materials, components and services. Company value added is a measure of the wealth created by the activities of an individual company.

However, the direct cost of inputs is rarely reported in a company's annual report and accounts. Value added can though be estimated using information that is available in company accounts. An alternative and identically equivalent accounting implementation of that measure is used, based upon the allocation of value added to the different factors of production. Under this implementation, value added is calculated as:

$GVA = \text{Operating Profit} + \text{Employee Costs} + \text{Depreciation} + \text{Amortisation}$

Operating profit is profit before tax plus net interest cost less gains (or plus losses) arising from the sale/disposal of fixed assets or businesses.

Employee Costs is wages & salaries, social security and pension costs (i.e. total employment costs).

Depreciation on owned assets and assets held under finance lease.

Amortisation is the writing off or depreciation of goodwill and other intangible assets.

## 8. SUPPORT TOOLS FOR CALCULATING AND REPORTING ADDITIONALITY

In working out additionality, it is likely that beneficiaries (e.g. businesses) will be interviewed to assess additionality factors, e.g. deadweight, displacement etc. Beneficiaries may comprise very large groups of individuals or businesses, or smaller groups of clients; and approaches to gathering information from them will vary accordingly.

The templates below assist in gathering the information from beneficiaries required for assessing additionality. The templates provide a standard format for reporting additionality information and follow the methods set out for calculating additionality. It is noted that spreadsheet formulae will automatically deduct the Reference Case values from the Intervention option values to arrive at the final values.

These templates provide only core information. This should be supported by a full explanation of the factors selected, and the levels at which they are set, in any associated reports or papers.

On completion of appraisal or evaluation studies, completed templates should be supplied to your main Appraisal & Evaluation contact that will help collate findings from across the organisation.

Copies of the templates can be accessed from the Appraisal & Evaluation home space on the SE intranet (<http://home-scottishenterprise.net/intra-home/t-evaluation?sfloat=true>) (SE Internal only) or [http://www.scottish-enterprise.com/sedotcom\\_home/about-us/research-publications/evaluations-impact.htm](http://www.scottish-enterprise.com/sedotcom_home/about-us/research-publications/evaluations-impact.htm).

It is noted that, while any benefit can be assessed in terms of additionality, the most common benefits to assess in terms of additionality are:

- Additional turnover benefits
- Additional employment benefits
- Additional innovation expenditure benefits (note that multipliers and GVA calculations are not relevant in this case).

Standard question sets for use in collecting information for additionality are included in Appendix 2. Both additional turnover benefits and employment benefits can be used to derive additional GVA benefits.

## 8.1 CALCULATOR A

**Large-scale sample surveys of beneficiaries:** in representative sample surveys, where you have data from a large number of respondents it will normally be sufficient to use a grossed up output figure for e.g. jobs or turnover, and apply to this figure average values for the relevant additionality factors.

These results should be presented with the appropriate margins of error associated with the sample.

However, caution should be exercised if there are known to be beneficiaries who vary widely from the norm in relation to the output being assessed, or any of the additionality factors. These cases could skew the results obtained and should be borne in mind when interpreting the results.

Figure 8.1 Illustration of Additionality & GVA Calculator A

Additionality & GVA Calculator A (for sample survey data) <small>Version: AMcP/SEL/Jan07/5.0</small>			
Enter Project Name		Project Reference	
<b>Additionality Calculation</b>			
Intervention Option		Area of Benefit	
		Local	Scotland
Gross Impact	GI <i>Enter gross impacts e.g. 25 (jobs); £1m (turnover)</i>		
Leakage	L <i>Enter levels of leakage e.g. 25%</i>		
Displacement	Dp <i>Enter levels of displacement e.g. 10%</i>		
Substitution	S <i>Enter level of substitution e.g. 15%</i>		
Multiplier	M <i>Enter multipliers e.g. 1.32, 1.64</i>		
<b>Reference Case</b>			
Deadweight <i>Enter level of deadweight e.g. 35%</i>			
Leakage	L* <i>Enter Different Reference Case Values if Required</i>	0%	0%
Displacement	Dp*	0%	0%
Substitution	S*	0%	0%
Multiplier	M*	0.00	0.00
Sampling Error <i>Enter margin of error from sample survey e.g. 5%</i>			
<b>Additionality</b> AI			
Lower Limit of Range		0	0
Upper Limit of Range		0	0
<b>GVA Calculation</b> <i>Enter ratio of turnover to GVA (e.g. 0.4451) or GVA per job in relevant sector (e.g. £40,194) at local and national level</i>			
<b>Additional GVA</b>			
Lower Limit of Range		£0	£0
Upper Limit of Range		£0	£0

## 8.2 CALCULATOR B

**Small-scale surveys of beneficiaries or a single beneficiary:** where results are available from a small number of beneficiaries it is better to calculate additionality for each beneficiary separately and then to add these up to provide a total additionality figure.

**Multi-use Projects:** calculator B can also be used to assess different elements within a single project. For example, a large physical regeneration project may have multiple land use types (e.g. offices, industrial, housing), each with different characteristics in terms of additionality.

Figure 8.2 Illustration of Additionality & GVA Calculator B

Additionality & GVA Calculator B (case by case reporting) <small>Version: AMcP/SEL/Jan07/v5.0</small>														
Enter Project Name			Enter Project Reference			Enter No. of Beneficiaries								
			Beneficiary Number:			1		2		3				
Enter Name of Beneficiary			Area of Benefit:		Local		Scotland		Local		Scotland			
<b>Additionality Calculation</b>														
Intervention Option			Local		Scotland		Local		Scotland		Local		Scotland	
Gross Impact	GI	<i>Enter gross impacts e.g. 25 (jobs); £1m (turnover)</i>												
Leakage	L	<i>Enter levels of leakage e.g. 25%</i>												
Displacement	Dp	<i>Enter levels of displacement e.g. 10%</i>												
Substitution	S	<i>Enter levels of substitution e.g. 15%</i>												
Multiplier	M	<i>Enter multipliers e.g. 1.32, 1.64</i>												
<b>Reference Case</b>														
Deadweight <i>Enter level of deadweight e.g. 35%</i>														
Leakage	L*	<i>Enter Different Reference Case Values if Required</i>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Displacement	Dp*		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Substitution	S*		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Multiplier	M*		0	0	0	0	0	0	0	0	0	0	0	0
<b>Additionality</b> AI			(e.g. jobs or £ turnover)		0		0		0		0		0	
(Grand Total at end →)					0		0		0		0		0	
<b>GVA Calculation</b> <i>Enter ratio of turnover to GVA (e.g. 0.4451) or GVA per job in relevant sector (e.g. £40,194) at local and national level</i>														
<b>Additional GVA</b>					£0		£0		£0		£0		£0	
(Grand Total at end →)					£0		£0		£0		£0		£0	

## 9. CONTACTS AND FURTHER GUIDANCE

Further detailed explanation of additionality can be found in the following documents:

English Partnerships (2004) *Additionality Guide, A Standard Approach to Assessing the Additional Impacts of Projects, Method Statement, Second Edition, September, English Partnerships: London. This is a detailed guide explaining how to assess the additional impact or additionality of a regeneration project. Accessible to non-specialists.* ([www.englishpartnerships.co.uk](http://www.englishpartnerships.co.uk)).

European Commission (2003) *The Evaluation of Socio-Economic Development, The Guide, December European Commission, Directorate General for Regional Policy: Brussels* ([www.evaled.info/](http://www.evaled.info/)).

HM Treasury (2003) *The Green Book, Appraisal and Evaluation in Central Government, Treasury Guidance, HM Treasury: London* ([www.hm-treasury.gov.uk/](http://www.hm-treasury.gov.uk/)).

Office of the Deputy Prime Minister (2004) *Assessing the Impacts of Spatial Interventions: Regeneration, Renewal and Regional Development - 'The 3Rs guidance', ODPM: London. This is a detailed guide explaining how to design, appraise, deliver and evaluate regeneration, renewal and regional development activities at policy, programme and project level. It is primarily designed with expert users in mind.* ([www.communities.gov.uk](http://www.communities.gov.uk)).

Scottish Enterprise (2004) *Appraisal & Evaluation Guidance, Scottish Enterprise: Glasgow.*  
[http://home.scottishenterprise.net/intranet-home/corporate/key\\_corporate\\_documents/intranet-home/corporate/net-pols-procs/corpdocs-project\\_management/prepare-projimgtshadow/keystages-projimgtshadow.htm-link-2#preface](http://home.scottishenterprise.net/intranet-home/corporate/key_corporate_documents/intranet-home/corporate/net-pols-procs/corpdocs-project_management/prepare-projimgtshadow/keystages-projimgtshadow.htm-link-2#preface) (SE Internal only).

Scottish Enterprise (2005) *Measuring Gross Value Add and the Impact of Activities, Strategy Directorate, Version: 7<sup>th</sup> November, Scottish Enterprise: Glasgow.*  
<http://admin.scottishenterprise.net/documenttargeting/FetchDocument.aspx?CardID=45660> (SE Internal Only).

Links to these and other resources can be also be found on the Appraisal & Evaluation resources i-map ([http://home.scottishenterprise.net/intranet-home/se-communities/a-z/t-research\\_evaluation/imap-reseval.htm?siblingtoggle=1&sFloat=true](http://home.scottishenterprise.net/intranet-home/se-communities/a-z/t-research_evaluation/imap-reseval.htm?siblingtoggle=1&sFloat=true))(SE Internal only).

If you have any comments or observations on this guidance note or require further information about the material in this guidance note, please contact:

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## 10. GLOSSARY\*\*

**Additionality:** Additionality is the net positive difference that results from our intervention, that is, the extent to which an activity (and associated outputs, outcomes and impacts) is larger in scale, at a higher quality, takes place quicker, takes place at a different location, or takes place at all as a result of

\*\* Source: Scottish Enterprise (2007) Corporate Information, Glossary- Appraisal & Evaluation (Projects), SE Intranet Page, <http://home.scottishenterprise.net/> Scottish Enterprise: Glasgow.

intervention. Additionality measures the net result, taking account of deadweight, leakage, displacement, substitution and economic multipliers.

**Base case:** see reference case.

**Baseline:** A description of conditions existing at a point in time against which subsequent changes can be detected through monitoring. A baseline study is also required in order to establish what the conditions would be if development were not to take place. Conditions may not be stable even in the absence of development; there may be decline, improvement or cyclic conditions.

**Deadweight:** Benefits that would have occurred without the intervention.

**Displacement:** The proportion of project benefits accounted for by reduced benefits elsewhere in the target area.

**Gross benefits:** these are the direct effects from the reference case and from the intervention option before account is taken of factors such as displacement, substitution, leakage and economic multipliers.

**Intervention options:** these are the options that the public sector might consider in order to intervene to achieve its objectives. In an appraisal, an estimate will need to be made of the level of target benefits that would be produced under each of the project 'do something' options. In an evaluation, the intervention option that was implemented will be assessed.

**Leakage:** The proportion of benefits that go to those outside of the intervention's target area or group.

**Market failure:** Market failure occurs where for one, or a number of reasons, the economy is not operating efficiently. Market failure can be caused by information deficiencies, externalities, risk aversion, scale, institutional barriers or another factor which can prevent a market from operating efficiently. The Network's purpose is to help the market work better to achieve its objectives for the Scottish economy to grow.

**Multiplier effects:** Further economic activity (jobs, expenditure or income) associated with additional local income, local supplier purchases and longer term effects.

**Outcomes:** The consequences of project outputs in terms of the effects to customers or the economy such as increased R&D, skills levels, employment, productivity etc In a successful project, the outcome will match the original objectives & have an effect on increasing GVA.

**Outputs:** The changes achieved as a direct result of the project, such as new products, skills acquired, premises constructed etc. Outputs should be easy to identify & measure & contribute to an outcome. For example, a project that sets up a training centre may have an output of people learning business start-up skills. That in turn could lead to an outcome of more business starts in an area.

**Reference case:** The position in terms of target outputs over a set period of time if the intervention did not take place (also known as the base case).

**Substitution:** Where a firm substitutes one activity for a similar activity (such as recruiting a different job applicant) to take advantage of public sector assistance.

**Target area:** The area within which benefits will be assessed.

## 11. ACKNOWLEDGEMENTS

This guidance note adapts material from a number of sources including: English Partnerships (2004 and 2008)<sup>††</sup>. Our thanks also to the respondents to the consultation exercise, including Professor Sean McDonald (Bentley University), for many useful comments and suggestions. Any errors or omissions are solely the responsibility of Scottish Enterprise.

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<sup>††</sup> English Partnerships (2004) *Additionality Guide, A Standard Approach to Assessing the Additional Impacts of Projects, Method Statement, Second Edition, September*, English Partnerships: London; English Partnerships (2008) *Additionality Guide, A Standard Approach to Assessing the Additional Impacts of Interventions, Method Statement, Third Edition, October*, English Partnerships: London.

## APPENDIX 1: WORKED EXAMPLES

In order to calculate net additionality, the level of total net local activity under each option – intervention and reference case – needs to be assessed. This involves making adjustments, where appropriate, for leakage, displacement, substitution and multiplier effects. The total net additional local benefit is then calculated by deducting the total net local effects of the reference case from the total net local effects of the intervention option/s (see Figure 4.1).

In addition to the examples noted below, Quarterly Evidence Reports, also indicate recent evaluations with examples of additionality calculations (see <http://home-scottishenterprise.net/intra-home/t-evaluation?sfloat=true> (SE Internal Only)). The full reports are available on Evaluations Online ([www.evaluationsonline.org.uk](http://www.evaluationsonline.org.uk)).

### ENTERPRISE

A business support project has provided innovation support to high-tech, start-ups in the bio-science sector area in order to encourage company growth in addition to a number of related objectives including: encouraging research, technological development & innovation; developing a knowledge-based economy; and promoting sustainable development.

For the group of companies assisted, an average annual figure of some £50 million in turnover has been achieved during the lifetime of the intervention. The intervention's outcome in terms of turnover is being assessed at local and national levels.

Through research with the businesses assisted, it is found that some £20 million of turnover would have been created anyway, without the support.

It is also found that the business support criterion has been strictly applied so there is no leakage of support to non target groups of companies.

There are a number of competing firms in the rest of Scotland and the level of displacement associated with this is therefore expected to be low at the local level, but medium at the Scottish level. In addition, it is found that the innovation support has encouraged supported businesses to use up some scarce local factors of production in the form of skilled labour.

Substitution was not found to be a significant factor in this case.

Evidence provided by the Scottish Government Input-Output Table Multipliers indicates that the output multiplier effects associated with this type of sector and these are found to be high. However, local research has found that the supported businesses have only moderate local supply linkages, so these have been set at a lower level.

The likely level of leakage, displacement and multiplier impacts that would have applied under the reference case are thought to be similar to those outlined above.

The above factors have been entered into the relevant additionality calculator and are illustrated in the figure below (Figure 0.1).

The innovation support project has led to the generation of an average annual figure of some £26.7 to £29.5 million in net additional turnover at the local level and at the £21.4 to £23.6 million at the national level.

In undertaking an evaluation of a business support project, consideration would also need to be given to the net additional impact generated, that is, increased economic activity (Gross Value Added). Based on the approach set out in the calculator above, the average annual additional GVA is estimated at between £11.9 to £13.1million at local level and £9.5 to £10.5 at national level.

Other benefits which might have been assessed in terms of additionality are indicated in Table 0.1 below. The scope and depth of the assessment should reflect the size and importance of the project or programme.

Figure 0.1 Sample of Growing Business Additionality & GVA Calculation

Additionality & GVA Calculator A (for sample survey data) <small>Version: AMcP/SEL/Aug06/5.0</small>					
Enter Project Name		Growing Business Innovation Support	Project Reference		GBIS 2006
<b>Additionality Calculation</b>			Area of Benefit		
			Local	Scotland	
<b>Intervention Option</b>					<b>Enter Explanation</b>
Gross Impact	GI	Enter gross impacts e.g. 25 (jobs); £1m (turnover)	50,000,000	50,000,000	No leakage of support
Leakage	L	Enter levels of leakage e.g. 25%	0%	0%	Few competing firms at local level. A number of competing firms at S
Displacement	Dp	Enter levels of displacement e.g. 10%	25%	50%	Substitution not found to be a significant factor
Substitution	S	Enter level of substitution e.g. 15%	0%	0%	Evidence provided by the Scottish Executive indicates that the multipl
Multiplier	M	Enter multipliers e.g. 1.32, 1.64	1.25	1.5	
<b>Reference Case</b>					
Deadweight		Enter level of deadweight e.g. 35%	40%	40%	Through local research with the businesses assisted, it is found that s
Leakage	L*		0%	0%	
Displacement	Dp*	Enter Different Reference Case Values if Required	25%	50%	
Substitution	S*		0%	0%	
Multiplier	M*		1.25	1.50	
<b>Sampling Error</b>					
Additionality	AI	Enter margin of error from sample survey e.g. 5%	5%	5%	
<b>Additionality</b>					
Lower Limit of Range			26,718,750	21,375,000	
Upper Limit of Range			29,531,250	23,625,000	
<b>GVA Calculation</b>					Source: Scottish Executive Input-Output Tables 2002. <a href="http://www.sco">http://www.sco</a>
Enter ratio of turnover to GVA (e.g. 0.4451) or GVA per job in relevant sector (e.g. £40,194) at local and national level			0.445	0.445	
<b>Additional GVA</b>					
Lower Limit of Range			£11,889,844	£9,511,875	
Upper Limit of Range			£13,141,406	£10,513,125	

Source: Author

Table 0.1 Examples of Outputs & Outcomes from Innovation Support Project

Outputs	Outcomes
	Encouraging research, technological development & innovation
No. of new technologies developed	Improved technology and innovation performance within Honeywell and partner and supplier organisations
No. of new patent applications	
No. of licences obtained	
	Developing a knowledge-based economy
No. of R&D posts created/ safeguarded	Improving the stock of skilled people through the direct generation of additional high quality R&D linked jobs
No. of other posts created/ safeguarded	
No. of new products based on R&D	Knowledge creation with commercial potential
No. of new international markets developed	
% increase in market share of relevant sensing technologies	
No. of research links with Scottish and other universities	Improved knowledge networks and flows/ improving the knowledge base and potential for knowledge creation
No. of university research projects stimulated	
No. of PHD students supported at universities	
No. of other knowledge networks created	
	Promoting sustainable development
No. of jobs safeguarded at Honeywell's Lanarkshire establishment	Safeguarding existing Honeywell jobs in Lanarkshire through strengthening Honeywell linkages within the local innovation system
No. of posts with enhanced R&D skills	Improving the skills base within Lanarkshire and Scotland
No. of links with local supply chain	Strengthening the Lanarkshire and Scotland R&D infrastructure
No. of links developed with other Scottish and international business organisations	

Source: Author

**INFRASTRUCTURE INVESTMENT**

As part of a programme to tackle under-use and dereliction within a run-down town centre, public sector support was provided towards the demolition of a derelict building and construction of 8,000 sq m of workspace.

The objective of the scheme was to bring new economic activity and jobs for local people into the town centre. The area had a large number of under-used and empty, derelict buildings. Over the preceding 10 years little commercial development had taken place either of a pre-let or speculative nature. The workspace comprised offices (3,000 sq m) and industrial floorspace (5,000 sq m) and employment on site created some 500 posts.

The building and site are readily accessible by public transport and within walking distance of a number of residential areas in the local travel to work area. Therefore, some leakage of employment from the target group of local people was found to have occurred. Leakage of employment at the local level was found to be moderate, but low at the Scotland level.

Displacement, in terms of employment, was found to be moderate at the local level, but high at the national level. However, substitution was not found to be a significant factor.

In terms of deadweight, without the intervention it is estimated that 200 jobs would be created through alternative activity in the area.

The table below sets out the estimate of the net additional employment created (Figure 0.2).

The property development project has led to the creation of an estimated 118 to 130 net additional jobs at the local level and 81 to 90 at the national level, by year five of the intervention.

Consideration would also need to be given to the net additional benefit generated, that is, increased economic activity (Gross Value Added). The approach indicated above suggests that some £2.4 to £2.7 million GVA was created in year five of the intervention at the Scotland level.

**Figure 0.2 Sample of Competitive Place Additionality & GVA Calculation**

<b>Additionality &amp; GVA Calculator A (for sample survey data)</b>						
Enter Project Name		Property Development Support	Project Reference		PDS 2006	
<b>Additionality Calculation</b>			<b>Area of Benefit</b>			
			Local	Scotland		
Intervention Option					<b>Enter Explanation</b>	
Gross Impact	GI	Enter gross impacts e.g. 25 (jobs): £1m (turnover)	500	500	The building and site are readily accessible by public transport and w Displacement, in terms of employment, found to be moderate at the l However, substitution was not found to be a significant factor. Evidence provided by the Scottish Executive indicates that the multipl	
Leakage	L	Enter levels of leakage e.g. 25%	25%	5%		
Displacement	Dp	Enter levels of displacement e.g. 10%	50%	75%		
Substitution	S	Enter level of substitution e.g. 15%	0%	0%		
Multiplier	M	Enter multipliers e.g. 1.32, 1.64	1.1	1.2		
<b>Reference Case</b>					Through research with the businesses assisted, it is found that some	
Deadweight		Enter level of deadweight e.g. 35%	40%	40%		
Leakage	L*		25%	5%		
Displacement	Dp*	Enter Different Reference Case Values if Required	50%	75%		
Substitution	S*		0%	0%		
Multiplier	M*		1.10	1.20		
Sampling Error		Enter margin of error from sample survey e.g. 5%	5%	5%		
<b>Additionality</b>						
Lower Limit of Range			118	81		
Upper Limit of Range			130	90		
<b>GVA Calculation</b>					Source: Scottish Executive Input-Output Tables 2002. <a href="http://www.sco">http://www.sco</a>	
Enter ratio of turnover to GVA (e.g. 0.4451) or GVA per job in relevant sector (e.g. £40,194) at local and national level			30,000,000	30,000,000		
<b>Additional GVA</b>						
Lower Limit of Range			£3,526,875	£2,436,750		
Upper Limit of Range			£3,898,125	£2,693,250		

Source: Author

## APPENDIX 2 HARMONISED QUESTION SET FOR ADDITIONALITY & GVA

Available from [http://www.scottish-enterprise.com/sedotcom\\_home/about-us/research-publications/evaluations-impact.htm](http://www.scottish-enterprise.com/sedotcom_home/about-us/research-publications/evaluations-impact.htm) or [http://home.scottishenterprise.net/intranet-home/se-communities/a-z/t-evaluation/guidance, tools and templates-2.htm?siblingtoggle=1&sFloat=true](http://home.scottishenterprise.net/intranet-home/se-communities/a-z/t-evaluation/guidance_tools_and_templates-2.htm?siblingtoggle=1&sFloat=true) (SE internal only).