

Construction Tender Price Indices (TPIs) Notes and Definitions

Tender Price Index of Public Sector Building Non-Housing (PUBSEC)

Introduction

The Tender Price Index of Public Sector Building Non Housing (PUBSEC) measures the movement of prices in tenders for building contracts in the public sector in Great Britain. It does not include contracts for housing, civil engineering, mechanical engineering, electrical engineering, minor alterations projects or for repair and maintenance work.

The adjustment factors contained in the PUBSEC location and function series complement this series.

Notes for this Period

N/A

Coverage

The Tender Price Index of Public Sector Building Non-Housing is one of the Tender Price Indices. It is frequently referred to as PUBSEC.

The PUBSEC index and associated location and function adjustment factors are produced by the Building Cost Information Service (BCIS) on behalf of the Department of Business, Innovation and Skills (BIS).

Application and Relevance

The PUBSEC index measures the movement of prices in tenders (competitive or negotiated) for building contracts in the public sector in Great Britain with a value of at least £100,000. It does not include contracts which are predominantly for housing, civil engineering, mechanical

engineering, electrical engineering, minor alterations or projects for repair and maintenance work.

The index is based on the rates for measured work contained in Bills of Quantities or quantified schedules for accepted tenders within the Public Sector so only projects where the procurement process produces these documents can be included in the index.

The price of mechanical and electrical services and other specialist items that are not included in the base schedule are not measured.

PUBSEC is an 'All-In' index including both 'fixed price' and 'variation of price' projects in its compilation. However, since 1990, very few 'variation of price' projects have been included in the sample.

Participating government departments include the Department for Education, the Department for Work and Pensions, the Department of Health, the Home Office, the Ministry of Defence, the Department for Environment, Food and Rural Affairs, the Ministry of Justice and various Local Authorities in England, Scotland and Wales. Until 2011 the Scottish Government also participated.

The indices may be used in estimating, cost-checking and fee negotiation on non housing public sector construction works. They are used by the Office for National Statistics (ONS) to deflate construction new orders for public sector non-housing excluding infrastructure from current to constant prices and in the calculation of Output Price Indices (OPIs).

The PUBSEC index reflects the price level at the date of tender. The location and building function adjustment factors can be applied to determine an index adjusted for location and function, please see below for more guidance.

Calculating a Building Project Index

The PUBSEC index can be adjusted to estimate the index for a particular building project by using the following simple formula to apply the location and function factors.

[Estimated Project Index] = [PUBSEC Index] x [Location Factor] x [Function Factor]

where the following project criteria are available:

Tender/Estimate Date of project. Location/County in which project is situated. Building Function/Type of project Below is an example of the calculation of an Estimated Project Index.

Example

Tender/Estimate Date of project:	July 2010
3Q2010 PUBSEC Index = 171 (A)	
Project Location:	Taunton, Somerset
South West Location Factor = 1.03 (B)	
Project Function:	Children's Home
Homes, Hostels and Barracks Function Factor = 0.94 (C)	
Estimated Project Index = A x B x C	

Estimated Project Index = $171 \times 1.03 \times 0.94 = 166$

Publication

Quarterly and annual versions of PUBSEC are published. The quarters are calendar quarters (e.g. first quarter covers January, February and March). Projects are allocated to quarters by the date for receipt of tenders.

Annual indices are based on the mean of the quarterly indices and relate to the calendar year.

The indices are published quarterly at 9.30am on the Monday following the second Friday of the last month in the quarter, i.e. in March, June, September and December.

The latest calculated index values available will be for the quarter prior to the quarter of the date of publication.

There are no monthly index values.

Revision Policy

A provisional PUBSEC index will first be published for the quarter prior to the publication quarter. The first provisional index will be based on a small sample and the index is likely to change over the next two quarters as additional project indices become available, but the index continues to be held provisional. Changes between the first provisional index and a firm index are typically less than 4%.

The index is normally held provisional for three quarters, after which it is published as a firm index. The index value may change as the index becomes firm, but changes will normally be small as the sample is unlikely to have increased and any change is likely to come from the subsequent quarter as a result of the smoothing process.

Once published as firm, the index will not be changed for revisions in the input data. A firm index will only be changed in exceptional circumstances: to correct publication errors or in the event of a change in methodology. If a revision to a firm index is necessary then the index will be marked as 'R' for the current publication, but this marker will be removed in subsequent publications. Changes in methodology will be recorded under notes and definitions. Any major changes or revisions will be pre-announced, where practicable, together with the reasons for revisions and how they are handled.

Annual indices will always be updated to reflect changes in the quarterly series.

Range

The earliest available indices are for 1st quarter 1950.

Calculation Method

Each project index is calculated from the price levels established by comparing the price of items to a minimum value of 25% for each trade or section of the Bills of Quantities with standard base prices. Only items that appear in the base schedule can be matched. The resultant factors are combined by applying weights representing the total value of each trade or section. Preliminaries and other general charges are spread proportionally over each item of the Bill of Quantities.

In order to reduce the volatility of the raw PUBSEC indices (especially where sample sizes are small) the published indices from 1Q1990 are smoothed. The raw quarterly index is calculated from the median of the project indices normalised by the location and function adjustment factors from the quarter. The raw quarterly indices are smoothed by weighting 50% of the current quarter and 25% of the preceding and following quarters. The PUBSEC index is therefore a smoothed median, current weighted index.

Please will all users of these indices who are responsible for letting new build works in the public sector, and for which the works fall within the definition given in the introduction of

these notes, ensure that Bills of Quantities and other tender information are submitted to BCIS for indexing at the following address,

Freepost RLYL-ZTAC-GASY BCIS Parliament Square London SW1P 3AD

Base

The PUBSEC indices are set at 100 at the base year of 1995.

The following conversion factors can be used to convert the current PUBSEC index to other base dates.

1975 = 100, multiply by 2.778 1985 = 100, multiply by 1.263

Superseded Series

The current PUBSEC index supersedes earlier versions as follows:

Series	Title	Base	To convert
Number			current
			series to
			earlier base
			multiply by
900	QSSD Index of Building Tender Prices	1975 = 100	2.778
901	QSSD Index of Building Tender Prices	1985 = 100	1.263
902	Public Sector Tender Price Index	1990 = 100	1.012

Further Information

Enquiries about the PUBSEC indices should be addressed to BCIS.

Telephone: +44 (0)20 7695 1500

Email: support@bcis.co.uk

Keith Folwell from the Department for Business Innovation and Skills (BIS) is the statistician responsible for the PUBSEC indices.

Telephone: +44 (0)20 7215 1248

Email: <u>keith.folwell@bis.gsi.gov.uk</u>

The MIPS Index (Median Index of Public Sector), which has for many years been used for capital planning of health projects by the Department of Health, was a rebased version of the PUBSEC index. It is therefore suggested that the PUBSEC index should be used in lieu of MIPS which is no longer published.

The conversion factor from MIPS (1975=100) to PUBSEC (1995=100) is 2.778 (i.e. MIPS = PUBSEC Index x 2.778)

The Department of Health's last issued recommended reporting level of MIPS was 480, which is equivalent to PUBSEC 173.

New schemes submitted for approval at Strategic Outline Case (SOC) and Outline Business Cases (OBC) stages should be reported at PUBSEC 173; while schemes that have previously been reported using MIPS should, at the next submission, be reported at PUBSEC equivalent reporting levels.

The PUBSEC Location Study and PUBSEC Function Study are closely associated with the PUBSEC Tender Price Index. The Output Price Index for New Construction (2010): Public Non-Housing is derived from the PUBSEC Tender Price Index.

Location Study of the Tender Price Index of Public Sector Building Non-Housing (PUBSEC)

Introduction

The location study of the Tender Price Index of Public Sector Non-Housing (PUBSEC) provides a measure of the regional differences in tender price levels by the calculation of location factors.

The PUBSEC location factors can be used in conjunction with the PUBSEC index to determine a project index adjusted for geographical location.

Notes for this Period

N/A

Coverage

The PUBSEC location factors form part of the Tender Price Indices and are produced by the Building Cost Information Service (BCIS) on behalf of the Department of Business, Innovation and Skills (BIS). They consist of the following:

PUBSEC Location Study: Scotland PUBSEC Location Study: North PUBSEC Location Study: Wales PUBSEC Location Study: Midlands PUBSEC Location Study: East PUBSEC Location Study: South West PUBSEC Location Study: South East PUBSEC Location Study: London

Application and Relevance

The PUBSEC location study is an analysis of all projects used in the compilation of the PUBSEC index sampled in the most recent 12 quarters. This study provides a measure of the regional differences in tender price levels by the calculation of location factors.

Please see above for a worked example of the calculation of a PUBSEC project index which has been adjusted for location and function.

Regional Coverage

The PUBSEC location factors cover the following eight locations:

Scotland North Wales Midlands East South West South East London

The locations are formed of the following counties and unitary authorities.

1. SCOTLAND	Moray
	Perth and Kinross
Aberdeen	Renfrewshire
Aberdeenshire	Renfrewshire (E)
Angus	Stirling
Argyll and Bute	
Ayrshire (E)	2. NORTH
Ayrshire (N)	
Ayrshire (S)	Barnsley
Borders	Bolton
Clackmannan	Bradford
Dumfries and Galloway	Bury
Dunbartonshire (E)	Calderdale
Dunbartonshire (W)	Cheshire
Dundee	Cumbria
Edinburgh	Darlington
Falkirk	Doncaster
Fife	Durham
Glasgow	Gateshead
Highlands	Hartlepool
Inverclyde	Kingston Upon Hull
Lanarkshire (N)	Kirklees
Lanarkshire (S)	Knowsley
Lothian (E)	Lancashire
Lothian (Mid)	Leeds
Lothian (W)	Lincolnshire (NE)

Lincolnshire (N) Liverpool Manchester Middlesbrough Newcastle Upon Tyne Northumberland Oldham Redcar and Cleveland Rochdale Rotherham Salford Sefton Sheffield St. Helens Stockport Stockton-on-Tees Sunderland Tameside Trafford Tyneside (N) Tyneside (S) Wakefield Wigan Wirral York Yorkshire (E. Rdg) Yorkshire (N)

3. WALES

Aberconwy and Colwyn Anglesey Blaenau Gwent Bridgend Caerphilly Cardiff Carmarthenshire Ceredigion Denbighshire Flintshire Gwynedd Merthyr Tydfil Monmouthshire Neath and Port Talbot Newport Pembrokeshire Powys Rhondda, Cynon, Taff Swansea Torfaen Vale of Glamorgan Wrexham

4. MIDLANDS

Birmingham Coventry Derby Derbyshire Dudley Hereford and Worcester Leicester Leicestershire Lincolnshire Northamptonshire Nottinghamshire Rutland Sandwell Shropshire Solihull Staffordshire Stoke-on-Trent Walsall Warwickshire Wolverhampton

5. EAST

Bedfordshire Buckinghamshire Cambridgeshire Essex Hertfordshire Luton Milton Keynes Norfolk Suffolk

6. SOUTH WEST

Bath and NE Somerset Bournemouth Bristol Cornwall Dorset Gloucestershire Gloucestershire (S) Poole Somerset Somerset (NW) Thamesdown Wiltshire

7. SOUTH EAST

Berkshire

Brighton and Hove Hampshire Kent Oxfordshire Portsmouth Southampton Surrey Sussex (E) Sussex (W)

8. LONDON

All London Boroughs

Publication

The PUBSEC location factors are published quarterly when the sample size is at least four. The quarters are calendar quarters (e.g. first quarter covers January, February and March).

The factors are published quarterly at 9.30am on the Monday following the second Friday of the last month in the quarter, i.e. in March, June, September and December.

The latest factors available will be for the quarter prior to the date of publication.

There are no monthly or annual location factors.

Revision Policy

Provisional PUBSEC location factors will first be published for the quarter prior to the publication quarter. Factors are normally held provisional for three quarters, after which they are published as firm. The provisional factors may change at each publication and may change as they become firm.

Once published as firm, the factors will not be changed for revisions in the input data. A firm location factor will only be changed in exceptional circumstances: to correct publication errors or in the event of a change in methodology. If a revision is necessary then the location factor will be marked as 'R' for the current publication, but this marker will be removed in subsequent publications. Changes in methodology will be recorded under notes and definitions. Any major changes or revisions will be pre-announced, where practicable, together with the reasons for revisions and how they are handled.

Range

The earliest available location factors for PUBSEC are for the first quarter 1985.

Calculation Method

The location factors are derived from the location study. The location study standardises all indices and classifies them by geographical location. Projects are allocated to quarters by the date for receipt of tenders. In order that the location factors reflect the most current indices, a rolling period of the most recent 12 quarters is used. The number of indices used to create the location factors determines the sample size. Location factors are only published where the sample size is at least 4.

Base

The PUBSEC location factors are applicable to the PUBSEC Tender Price Index at any base date.

Superseded Series

N/A

Further Information

Queries should be addressed to BCIS.

Telephone: +44 (0)20 7695 1500

Email: support@bcis.co.uk

The responsible statistician at the Department for Business Innovation and Skills is Keith Folwell (email: Keith.Folwell@bis.gsi.gov.uk, telephone: +44(0)20 7215 1248).

Function Study of the Tender Price Index of Public Sector Building Non-Housing (PUBSEC)

Introduction

The function study of the Tender Price Index of Public Sector Non-Housing (PUBSEC) provides a measure of differences in tender price levels due to building function by the calculation of building function factors.

The PUBSEC function factors can be used in conjunction with the PUBSEC index to determine a project index adjusted for building function.

Notes for this Period

N/A

Coverage

The PUBSEC function factors form part of the Tender Price Indices and are produced by the Building Cost Information Service (BCIS) on behalf of the Department of Business, Innovation and Skills (BIS). They consist of the following:

PUBSEC Function Study: Courts, Police Stations and Prisons PUBSEC Function Study: Hospitals, Clinics and Day Centres PUBSEC Function Study: Schools, Colleges and Training Colleges PUBSEC Function Study: Homes, Hostels and Barracks PUBSEC Function Study: Offices, Technical Buildings and Factories PUBSEC Function Study: Miscellaneous

Application and Relevance

The PUBSEC function study is an analysis of all projects used in the compilation of the PUBSEC index sampled in the most recent 12 quarters. This study provides a measure of differences in tender price levels due to building function by the calculation of function factors.

Please see above for a worked example of the calculation of a PUBSEC project index which has been adjusted for location and function.

Building Function Coverage

The PUBSEC function factors cover the following types of building function:

- 1. Courts, Police Stations and Prisons
- 2. Hospitals, Clinics and Day Centres
- 3. Schools, Colleges and Training Colleges
- 4. Homes, Hostels and Barracks
- 5. Offices, Technical Buildings and Factories
- 6. Miscellaneous

Publication

The PUBSEC function factors are published quarterly when the sample size is at least four. The quarters are calendar quarters (e.g. first quarter covers January, February and March).

The factors are published quarterly at 9.30am on the Monday following the second Friday of the last month in the quarter, i.e. in March, June, September and December.

The latest factors available will be for the quarter prior to the date of publication.

There are no monthly or annual function factors.

Revision Policy

Provisional PUBSEC function factors will first be published for the quarter prior to the publication quarter. Factors are normally held provisional for three quarters, after which they are published as firm. The provisional factors may change at each publication and may change as they become firm.

Once published as firm, the factors will not be changed for revisions in the input data. A firm function factor will only be changed in exceptional circumstances: to correct publication errors or in the event of a change in methodology. If a revision to a firm index is necessary then the factor will be marked as 'R' for the current publication, but this marker will be removed in subsequent publications. Changes in methodology will be recorded under notes and definitions. Any major changes or revisions will be pre-announced, where practicable, together with the reasons for revisions and how they are handled.

Range

The earliest available building function factors for PUBSEC are for the first quarter 1985.

Calculation Method

The function factors are derived from the function study. The function study standardises all indices and classifies them by building function. Projects are allocated to quarters by the date for receipt of tenders. In order that the function factors reflect the most current indices, a rolling period of the most recent 12 quarters is used. The number of indices used to create the function factors determines the sample size. Function factors are only published where the sample size is at least 4.

Base

The PUBSEC function factors are applicable to the PUBSEC Tender Price Index at any base date.

Superseded Series

N/A

Further Information

Queries should be addressed to BCIS.

Telephone: +44 (0)20 7695 1500

Email: support@bcis.co.uk

The responsible statistician at the Department for Business Innovation and Skills is Keith Folwell (email: Keith.Folwell@bis.gsi.gov.uk, telephone: +44(0)20 7215 1248).

Tender Price Index of Road Construction (ROADCON)

Introduction

The Tender Price Index of Road Construction (ROADCON) measures the movement of prices in tenders for road construction contracts in England, Scotland and Wales. It includes road contracts for New Construction, Motorway Widening and Major Maintenance schemes costing over £100,000.

The adjustment factors contained in the ROADCON location, road type and value series complement this series.

Notes for this Period

N/A

Coverage

The Tender Price Index of Road Construction is one of the Tender Price Indices. It is frequently referred to as ROADCON.

ROADCON and associated location, type and value adjustment factors are produced by the Building Cost Information Service (BCIS) on behalf of the Department of Business, Innovation and Skills (BIS).

Application and Relevance

The ROADCON index measures the movement of prices in tenders (competitive or negotiated) for road contracts in England, Scotland and Wales.

The index is based on priced rates contained in accepted tenders for New Construction, Motorway Widening and Major Maintenance schemes costing over £100,000 (prior to April 2011, the minimum value was £250,000), obtained from the Highways Agency and Local Authorities in England, Scotland and Wales.

The ROADCON is an 'All-In' index including both 'fixed price' and 'variation of price' projects in its compilation. However, since 1990, very few 'variation of price' projects have been included in the sample.

The indices may be used in estimating, cost-checking and fee negotiation on road construction projects. They are used, in addition to other Tender Price Indices, by the Office

for National Statistics (ONS) to deflate construction new orders for infrastructure from current to constant prices and in the calculation of Output Price Indices (OPIs).

The ROADCON index reflects the price level at the date of tender. The location, road type and value adjustment factors can be applied to determine an index adjusted for location, road type and value, please see below for more guidance.

Calculating a Road Project Index

The ROADCON index can be adjusted to estimate the index for a particular road project by using the following simple formula to apply the location, road type and value factors.

[Estimated Road Project Index] = [ROADCON Index] x [Location Factor] x [Type Factor] x [Value Factor]

where the following project criteria are available:

Tender/Estimate Date of road project Location/County in which road project is situated Type of road project Tender/Estimate Value of road project

Below is an example of the calculation of an Estimated Project Index.

Example

Tender/Estimate Acceptance Date of project:	July 2010	
3Q2010 ROADCON Tender Price Index = 168 (A)		
Project Location:	Matlock, Derbyshire	
Midlands Location Factor = 1.00 (B)		
Road Type:	New Motorway	
New Construction Road Type Factor = 1.03 (C)		
Tender Value	£30 million	
£30 million Value Factor = 0.93 (D)		
Estimated Road Project Index = A x B x C x D		

Estimated Road Project Index = 168 x 1.00 x 1.03 x 0.93 = 161

Publication

Quarterly and annual versions of ROADCON are published. The quarters are calendar quarters (e.g. first quarter covers January, February and March). Projects are allocated to quarters by the date for receipt of tenders.

Annual indices are based on the mean of the quarterly indices and relate to the calendar year.

The indices are published quarterly at 9.30am on the Monday following the second Friday of the last month in the quarter, i.e. in March, June, September and December.

The latest calculated index values available will be for the quarter prior to the quarter of the date of publication.

There are no monthly index values.

Revision Policy

A provisional ROADCON index will first be published for the quarter prior to the publication quarter. The first provisional index will be based on a small sample and the index is likely to change over the next two quarters as additional project indices become available, but the index continues to be held provisional. Changes between the first provisional index and a firm index are typically less than 8%.

The index is normally held provisional for three quarters, after which it is published as a firm index. The index value may change as the index becomes firm.

Once published as firm, the index will not be changed for revisions in the input data. A firm index will only be changed in exceptional circumstances: to correct publication errors or in the event of a change in methodology. If a revision is necessary then the index will be marked as 'R' for the current publication, but this marker will be removed in subsequent publications. Changes in methodology will be recorded under notes and definitions. Any major changes or revisions will be pre-announced, where practicable, together with the reasons for revisions and how they are handled.

Annual indices will always be updated to reflect changes in the quarterly series.

Range

The earliest available indices are for 1st quarter 1985.

Calculation Method

Project indices are calculated from the price levels established by comparing the price of items to a minimum value of 25 per cent for each trade or section of the Bills of Quantities with standard base prices. The resultant factors are combined by applying weights representing the total value of each trade or section. Preliminaries and other general charges are spread proportionally over each item of the Bills of Quantities.

In order to reduce the volatility of the raw ROADCON Index (especially where sample sizes are small) the published indices are smoothed. The quarterly medians of the adjusted (for road type, location and contract size) project indices divided by the public sector building tender price index for that quarter, are smoothed by a Kalman filter (equivalent to a first order Bayesian steady state model) after transformation to normality. The quarterly index is obtained by reversing the transformation on the result of the smoothing and then multiplying by the public sector building tender price index.

The ROADCON index is therefore a smoothed median, current weighted index.

Please will all users of these indices who are responsible for letting road works contracts, and for which the works fall within the definition given in the introduction of these notes, ensure that Bills of Quantities and other tender information are submitted to BCIS for indexing at the following address,

Freepost RLYL-ZTAC-GASY BCIS Parliament Square London SW1P 3AD

Base

The ROADCON index is set at 100 at the base year of 1995.

The following conversion factors can be used to convert the ROADCON index to other base dates.

1985 = 100, multiply by 1.415 1990 = 100, multiply by 1.245

Superseded Series

N/A

Further Information

Enquiries about the indices should be addressed to BCIS.

Telephone: +44 (0)20 7695 1500

Email: support@bcis.co.uk

Keith Folwell from the Department for Business Innovation and Skills (BIS) is the statistician responsible for the ROADCON indices.

Telephone: +44 (0)20 7215 1248

Email: keith.folwell@bis.gsi.gov.uk

The ROADCON Tender Price Index Location Study, ROADCON Tender Price Index Road Type Study and the ROADCON Tender Price Index Value Study are closely associated with the ROADCON Tender Price Index.

The Output Price Index for New Construction (2010): Infrastructure is derived from ROADCON as well as other, currently unpublished, Tender Price Indices calculated by BCIS.

Location Study of the Tender Price Index of Road Construction (ROADCON)

Introduction

The location study of the Tender Price Index of Road Construction (ROADCON) provides a measure of the regional differences in tender price levels by the calculation of location factors.

The ROADCON location factors can be used in conjunction with the ROADCON index to determine a project index adjusted for geographical location.

Notes for this Period

N/A

Coverage

The ROADCON location factors form part of the Tender Price Indices and are produced by the Building Cost Information Service (BCIS) on behalf of the Department of Business, Innovation and Skills (BIS). They consist of the following:

ROADCON Location Study: Scotland ROADCON Location Study: North ROADCON Location Study: Wales ROADCON Location Study: Midlands ROADCON Location Study: East ROADCON Location Study: South West ROADCON Location Study: South East ROADCON Location Study: London

Application and Relevance

The ROADCON location study is an analysis of all projects used in the compilation of the ROADCON index sampled in the most recent 12 quarters. This study provides a measure of the regional differences in tender price levels by the calculation of location factors.

Please see above for a worked example of the calculation of a ROADCON project index which has been adjusted for location, function and project value.

Regional Coverage

The ROADCON location factors cover the following eight locations:

Scotland North Wales Midlands East South West South East London

The locations are formed of the following counties and unitary authorities.

1. SCOTLAND	Moray
	Perth and Kinross
Aberdeen	Renfrewshire
Aberdeenshire	Renfrewshire (E)
Angus	Stirling
Argyll and Bute	
Ayrshire (E)	2. NORTH
Ayrshire (N)	
Ayrshire (S)	Barnsley
Borders	Bolton
Clackmannan	Bradford
Dumfries and Galloway	Bury
Dunbartonshire (E)	Calderdale
Dunbartonshire (W)	Cheshire
Dundee	Cumbria
Edinburgh	Darlington
Falkirk	Doncaster
Fife	Durham
Glasgow	Gateshead
Highlands	Hartlepool
Inverclyde	Kingston Upon Hull
Lanarkshire (N)	Kirklees
Lanarkshire (S)	Knowsley
Lothian (E)	Lancashire
Lothian (Mid)	Leeds
Lothian (W)	Lincolnshire (NE)

Lincolnshire (N) Liverpool Manchester Middlesbrough Newcastle Upon Tyne Northumberland Oldham Redcar and Cleveland Rochdale Rotherham Salford Sefton Sheffield St. Helens Stockport Stockton-on-Tees Sunderland Tameside Trafford Tyneside (N) Tyneside (S) Wakefield Wigan Wirral York Yorkshire (E. Rdg) Yorkshire (N)

3. WALES

Aberconwy and Colwyn Anglesey Blaenau Gwent Bridgend Caerphilly Cardiff Carmarthenshire Ceredigion Denbighshire Flintshire Gwynedd Merthyr Tydfil Monmouthshire Neath and Port Talbot Newport Pembrokeshire Powys Rhondda, Cynon, Taff Swansea Torfaen Vale of Glamorgan Wrexham

4. MIDLANDS

Birmingham Coventry Derby Derbyshire Dudley Hereford and Worcester Leicester Leicestershire Lincolnshire Northamptonshire Nottinghamshire Rutland Sandwell Shropshire Solihull Staffordshire Stoke-on-Trent Walsall Warwickshire Wolverhampton

5. EAST

Bedfordshire Buckinghamshire Cambridgeshire Essex Hertfordshire Luton Milton Keynes Norfolk Suffolk

6. SOUTH WEST

Bath and NE Somerset Bournemouth Bristol Cornwall Dorset Gloucestershire Gloucestershire (S) Poole Somerset Somerset (NW) Thamesdown Wiltshire

7. SOUTH EAST

Berkshire

Brighton and Hove Hampshire Kent Oxfordshire Portsmouth Southampton Surrey Sussex (E) Sussex (W)

8. LONDON

All London Boroughs

Publication

The ROADCON location factors are published quarterly when the sample size is at least four. The quarters are calendar quarters (e.g. first quarter covers January, February and March).

The factors are published quarterly at 9.30am on the Monday following the second Friday of the last month in the quarter, i.e. in March, June, September and December.

The latest factors available will be for the quarter prior to the date of publication.

There are no monthly or annual location factors.

Revision Policy

Provisional ROADCON location factors will first be published for the quarter prior to the publication quarter. Factors are normally held provisional for three quarters, after which they are published as firm. The provisional factors may change at each publication and may change as they become firm.

Once published as firm, the factors will not be changed for revisions in the input data. A firm location factor will only be changed in exceptional circumstances: to correct publication errors or in the event of a change in methodology. If a revision is necessary then the location factor will be marked as 'R' for the current publication, but this marker will be removed in subsequent publications. Changes in methodology will be recorded under notes and definitions. Any major changes or revisions will be pre-announced, where practicable, together with the reasons for revisions and how they are handled.

Range

The earliest available location factors for ROADCON are for the first quarter 1985.

Calculation Method

The location factors are derived from the location study. The location study standardises all indices and classifies them by geographical location. Projects are allocated to quarters by the date for receipt of tenders. In order that the location factors reflect the most current indices, a rolling period of the most recent 12 quarters is used. The number of indices used to create the location factors determines the sample size. Location factors are only published where the sample size is at least 4.

Base

The ROADCON location factors are applicable to the ROADCON Tender Price Index at any base date.

Superseded Series

N/A

Further Information

Queries should be addressed to BCIS.

Telephone: +44 (0)20 7695 1500

Email: support@bcis.co.uk

The responsible statistician at the Department for Business Innovation and Skills is Keith Folwell (email: Keith.Folwell@bis.gsi.gov.uk, telephone: +44(0)20 7215 1248).

Road Type Study of the Tender Price Index of Road Construction (ROADCON)

Introduction

The road type study of the Tender Price Index of Road Construction (ROADCON) provides a measure of differences in tender price levels due to road type by the calculation of road type factors.

The ROADCON type factors can be used in conjunction with the ROADCON index to determine a project index adjusted for road type.

Notes for this Period

N/A

Coverage

The ROADCON Type Factors form part of the Tender Price Indices and are produced by the Building Cost Information Service (BCIS) on behalf of the Department of Business, Innovation and Skills (BIS). They consist of the following:

ROADCON Type Study: New Construction ROADCON Type Study: Motorway Widening ROADCON Type Study: Major Maintenance

Application and Relevance

The ROADCON road type study is an analysis of all projects used in the compilation of the ROADCON index sampled in the most recent 12 quarters. This study provides a measure of differences in tender price levels due to road type by the calculation of type factors.

Please see above for a worked example of the calculation of a ROADCON project index which has been adjusted for location, road type and value.

Road Type Coverage

The ROADCON type factors cover the following types of road construction:

1. New Construction

- 2. Motorway Widening
- 3. Major Maintenance

Publication

The ROADCON type factors are published quarterly when the sample size is at least four. The quarters are calendar quarters (e.g. first quarter covers January, February and March).

The factors are published quarterly at 9.30am on the Monday following the second Friday of the last month in the quarter, i.e. in March, June, September and December.

The latest factors available will be for the quarter prior to the date of publication.

There are no monthly or annual type factors.

Revision Policy

Provisional ROADCON road type factors will first be published for the quarter prior to the publication quarter. Factors are normally held provisional for three quarters, after which they are published as firm. The provisional factors may change at each publication and may change as they become firm.

Once published as firm, the factors will not be changed for revisions in the input data. A firm road type factor will only be changed in exceptional circumstances: to correct publication errors or in the event of a change in methodology. If a revision is necessary then the factor will be marked as 'R' for the current publication, but this marker will be removed in subsequent publications. Changes in methodology will be recorded under notes and definitions. Any major changes or revisions will be pre-announced, where practicable, together with the reasons for revisions and how they are handled.

Range

The earliest available road type factors for ROADCON are for the first quarter 1985.

Calculation Method

The type factors are derived from the road type study. The road type study standardises all indices and classifies them by road type. Projects are allocated to quarters by the date for receipt of tenders. In order that the type factors reflect the most current indices, a rolling period of the most recent 12 quarters is used. The number of indices used to create the type

factors determines the sample size. Type factors are only published where the sample size is at least 4.

Base

The ROADCON function factors are applicable to the ROADCON Tender Price Index at any base date.

Superseded Series

N/A

Further Information

Queries should be addressed to BCIS.

Telephone: +44 (0)20 7695 1500

Email: support@bcis.co.uk

The responsible statistician at the Department for Business Innovation and Skills is Keith Folwell (email: Keith.Folwell@bis.gsi.gov.uk, telephone: +44(0)20 7215 1248).

Value Study of the Tender Price Index of Road Construction (ROADCON)

Introduction

The value study of the Tender Price Index of Road Construction (ROADCON) provides a measure of differences in tender price levels due to road value by the calculation of road value factors.

The ROADCON value factors can be used in conjunction with the ROADCON index to determine a project index adjusted for road value.

Notes for this Period

N/A

Coverage

The ROADCON value factors form part of the Tender Price Indices and are produced by the Building Cost Information Service (BCIS) on behalf of the Department of Business, Innovation and Skills (BIS). They consist of the following:

ROADCON Value Study: £1million ROADCON Value Study: £2million ROADCON Value Study: £4million ROADCON Value Study: £7million ROADCON Value Study: £12million ROADCON Value Study: £20million ROADCON Value Study: £30million

Application and Relevance

The ROADCON road value study is an analysis of all projects used in the compilation of the ROADCON index sampled in the most recent 12 quarters. This study provides a measure of differences in tender price levels due to road value by the calculation of value factors.

Please see above for a worked example of the calculation of a ROADCON project index which has been adjusted for location, road type and value.

Road Value Coverage

The ROADCON value factors cover road construction projects with the following values:

- 1. £1million
- 2. £2million
- 3. £4million
- 4. £7million
- 5. £12million
- 6. £20million
- 7. £30million
- 8. £50million

Publication

The ROADCON value factors are published quarterly when the sample size is at least four. The quarters are calendar quarters (e.g. first quarter covers January, February and March).

The factors are published quarterly at 9.30am on the Monday following the second Friday of the last month in the quarter, i.e. in March, June, September and December.

The latest factors available will be for the quarter prior to the date of publication.

There are no monthly or annual value factors.

Revision Policy

Provisional ROADCON value factors will first be published for the quarter prior to the publication quarter. Factors are normally held provisional for three quarters, after which they are published as firm. The provisional factors may change at each publication and may change as they become firm.

Once published as firm, the factors will not be changed for revisions in the input data. A firm value factor will only be changed in exceptional circumstances: to correct publication errors or in the event of a change in methodology. If a revision is necessary then the factor will be marked as 'R' for the current publication, but this marker will be removed in subsequent publications. Changes in methodology will be recorded under notes and definitions. Any major changes or revisions will be pre-announced, where practicable, together with the reasons for revisions and how they are handled.

Range

The earliest available road value factors for ROADCON are for the first quarter 1985.

Calculation Method

The value factors are derived from the road value study. The road value study standardises all indices and classifies them by road value. Projects are allocated to quarters by the date for receipt of tenders. In order that the value factors reflect the most current indices, a rolling period of the most recent 12 quarters is used.

A value factor can be estimated for a project with a value other than that shown in the value study by interpolating between two published value factors. For example, it is possible to establish a value factor for a £3million project by interpolating between the value factor for a £2million project for the quarter that corresponds with the tender date of the project with the value factor for a £4million project from the same quarter.

A value factor can be estimated for a project with a value other than that shown in the value study by using the following simple formula and where;

Project Value Factor = VF Value Factor (Lower Value) = VF_L Value Factor (Upper Value) = VF_U Project Value = PV Value Study Project Value (Lower Value) = PV_L Value Study Project Value (Upper Value) = PV_U

 $[VF] = VF_L - [PV - PV_L] \times [VF_L - VF_U] / [PV_U - PV_L]$

Example

The following is a worked example of the calculation of a value factor for a project with the following criteria:

Tender/Estimate Date = July 2010 Tender/Estimate Value = £35million

3Q2010 ROADCON £30million Value Factor = 0.93 3Q2010 ROADCON £50million Value Factor = 0.91

Road Project Value Factor = 0.93 - [35 - 30] x [0.93 - 0.91] / [50 - 30] = 0.925

Base

The ROADCON value factors are applicable to the ROADCON Tender Price Index at any base date.

Superseded Series

N/A

Further Information

Queries should be addressed to BCIS.

Telephone: +44 (0)20 7695 1500

Email: support@bcis.co.uk

The responsible statistician at the Department for Business Innovation and Skills is Keith Folwell (email: Keith.Folwell@bis.gsi.gov.uk, telephone: +44(0)20 7215 1248).

Tender Price Index of Social Housebuilding (TPISH)

Introduction

The Tender Price Index of Social Housebuilding (TPISH) measures the movement of prices in tenders for social housebuilding contracts in England and Wales. It includes new build contracts for single dwellings and those built in blocks of up to four storeys. It does not include schemes which involve a mix of new build and improvements.

The adjustment factors contained in the TPISH location series complement this series.

Notes for this Period

N/A

Coverage

The Tender Price Index of Social Housebuilding is one of the Tender Price Indices. It is frequently referred to as TPISH.

The Tender Price Index of Social Housebuilding (TPISH): New Build, the Tender Price Index of Social Housebuilding (TPISH): Derived Rehab and associated location adjustment factors are produced by the Building Cost Information Service (BCIS) on behalf of the Department of Business, Innovation and Skills (BIS).

Application and Relevance

The TPISH index measures the movement of prices in accepted new build tenders for social housing obtained from Registered Social Landlords (RSLs) in England and Wales.

The index is based on pricing details contained in accepted new build tenders for social housebuilding obtained from RSLs in England and Wales. Contribution to the index is by way of the completion of TPISH survey forms relating to social housing schemes which have received grant funding.

The TPISH is an 'All-In' index including both 'fixed price' and 'variation of price' projects in its compilation. However, since 1990, very few 'variation of price' projects have been included in the sample.

The Tender Price Index of Social Housebuilding (TPISH): Derived Rehab also forms part of the Tender Price Indices and is derived from the Tender Price Index of Social Housebuilding (TPISH): New Build.

The indices may be used in estimating, cost-checking and fee negotiation on social housing projects. They are used by the Office for National Statistics (ONS) to deflate construction new orders for public sector new build housing from current to constant prices and in the calculation of Output Price Indices (OPIs).

The TPISH index reflects the price level at the date of acceptance of tender. The location adjustment factors can be applied to determine an index adjusted for location, please see below for more guidance.

Calculating a Social Housebuilding Index

The TPISH index can be adjusted to estimate the index for a particular social housebuilding project by using the following simple formula to apply the location factor.

[Estimated Project Index] = [TPISH Index] x [Location Factor]

where the following project criteria are available:

Tender/Estimate Acceptance Date of project. Location/County in which project is situated.

Below is an example of the calculation of an Estimated Project Index.

Example

Tender/Estimate Acceptance Date of project: July 2010

3Q2010 TPISH Index = 191 (A)

Project Location:

St Albans, Hertfordshire

East Location Factor = 0.97 (B)

Estimated Project Index = A x B

Estimated Project Index = 191 x 0.97 = 185

Publication

Quarterly and annual versions of TPISH are published. The quarters are calendar quarters (e.g. first quarter covers January, February and March). Projects are allocated to quarters by the date for acceptance of tenders.

Annual indices are based on the mean of the quarterly indices and relate to the calendar year.

The indices are published quarterly at 9.30am on the Monday following the second Friday of the last month in the quarter, i.e. in March, June, September and December.

The latest calculated index values available will be for the quarter prior to the quarter of the date of publication.

There are no monthly index values.

Revision Policy

A provisional TPISH index will first be published for the quarter prior to the publication quarter. The first provisional index will be based on a small sample and the index is likely to change over the next two quarters as additional project indices become available, but the index continues to be held provisional. Changes between the first provisional index and a firm index are typically less than 3%.

The index is normally held provisional for three quarters, after which it is published as a firm index. The index value may change as the index becomes firm.

Once published as firm, the index will not be changed for revisions in the input data. A firm index will only be changed in exceptional circumstances: to correct publication errors or in the event of a change in methodology. If a revision to a firm index is necessary then the index will be marked as 'R' for the current publication, but this marker will be removed in subsequent publications. Changes in methodology will be recorded under notes and definitions. Any major changes or revisions will be pre-announced, where practicable, together with the reasons for revisions and how they are handled.

Annual indices will always be updated to reflect changes in the quarterly series.

Range

The earliest available indices are for 1st quarter 1985.

Calculation Method

Project indices are calculated by comparing the superstructure cost of the project with a base price derived from a cost model. The model takes into account the type and style of dwellings as well as significant design and construction details.

In order to reduce the volatility of the raw TPISH (especially where sample sizes are small) the published indices are smoothed. The raw quarterly index is calculated from the median of the project indices normalised by the location adjustment factor from the quarter. The raw quarterly indices are smoothed by weighting 50% of the current quarter and 25% of the preceding and following quarters. The TPISH index is therefore a smoothed median, base weighted index.

Please will all users of these indices who are responsible for letting new build works in the social housing sector, and for which the works fall within the definition given in the introduction of these notes, ensure that TPISH forms are submitted to BCIS for indexing at the following address,

Freepost RLYL-ZTAC-GASY BCIS Parliament Square London SW1P 3AD

TPISH forms are available to download from the BCIS website here: www.bcis.co.uk/tpish

Base

The TPISH indices are set at 100 at the base year of 1995.

The following conversion factors can be used to convert the TPISH indices to other base dates.

1985 = 100, multiply TPISH: New Build by 1.389 1985 = 100, multiply TPISH: Rehab by 1.390

1990 = 100, multiply TPISH: New Build by 1.010 1990 = 100, multiply TPISH: Rehab by 1.015

Superseded Series

The TPISH was formerly known as the Price Index of Public Sector Housebuilding (PIPSH) Index which used a different methodology.

The PIPSH index was based on a sample of 18 well defined unit prices taken from the Bills of Quantities and chosen to represent the price movement of the significant trades.

Further Information

Enquiries about the indices should be addressed to BCIS.

Telephone: +44 (0)20 7695 1500

Email: support@bcis.co.uk

Keith Folwell from the Department for Business Innovation and Skills (BIS) is the statistician responsible for the TPISH indices.

Telephone: +44 (0)20 7215 1248

Email: <u>keith.folwell@bis.gsi.gov.uk</u>

The TPISH Location Study is closely associated with the TPISH.

The Output Price Index for New Construction (2010): Public Housing is derived from the TPISH.

Location Study of the Tender Price Index of Social Housingbuilding (TPISH)

Introduction

The location study of the Tender Price Index of Social Housingbuilding (TPISH) provides a measure of the regional differences in tender price levels by the calculation of location factors.

The TPISH location factors can be used in conjunction with the TPISH index to determine a project index adjusted for geographical location.

Notes for this Period

N/A

Coverage

The TPISH location factors form part of the Tender Price Indices and are produced by the Building Cost Information Service (BCIS) on behalf of the Department of Business, Innovation and Skills (BIS). They consist of the following:

TPISH Location Study: North TPISH Location Study: Wales TPISH Location Study: Midlands TPISH Location Study: East TPISH Location Study: South West TPISH Location Study: South East TPISH Location Study: London

Application and Relevance

The TPISH location study is an analysis of all projects used in the compilation of the TPISH index sampled in the most recent 12 quarters. This study provides a measure of the regional differences in tender price levels by the calculation of location factors.

Please see above for a worked example of the calculation of a TPISH project index which has been adjusted for location.

Regional Coverage

The TPISH location factors cover the following seven locations: North Wales Midlands East South West South East London

The locations are formed of the following counties and unitary authorities.

2. NORTH	Rochdale
	Rotherham
Barnsley	Salford
Bolton	Sefton
Bradford	Sheffield
Bury	St. Helens
Calderdale	Stockport
Cheshire	Stockton-on-Tees
Cumbria	Sunderland
Darlington	Tameside
Doncaster	Trafford
Durham	Tyneside (N)
Gateshead	Tyneside (S)
Hartlepool	Wakefield
Kingston Upon Hull	Wigan
Kirklees	Wirral
Knowsley	York
Lancashire	Yorkshire (E. Rdg)
Leeds	Yorkshire (N)
Lincolnshire (NE)	
Lincolnshire (N)	3. WALES
Liverpool	
Manchester	Aberconwy and Colwyn
Middlesbrough	Anglesey
Newcastle Upon Tyne	Blaenau Gwent
Northumberland	Bridgend
Oldham	Caerphilly
Redcar and Cleveland	Cardiff

Carmarthenshire Ceredigion Denbighshire Flintshire Gwynedd Merthyr Tydfil Monmouthshire Neath and Port Talbot Newport Pembrokeshire Powys Rhondda, Cynon, Taff Swansea Torfaen Vale of Glamorgan Wrexham

4. MIDLANDS

Birmingham Coventry Derby Derbyshire Dudley Hereford and Worcester Leicester Leicestershire Lincolnshire Northamptonshire Nottinghamshire Rutland Sandwell Shropshire Solihull Staffordshire Stoke-on-Trent Walsall Warwickshire Wolverhampton

5. EAST

Bedfordshire Buckinghamshire Cambridgeshire Essex Hertfordshire Luton Milton Keynes Norfolk Suffolk

6. SOUTH WEST

Bath and NE Somerset Bournemouth Bristol Cornwall Dorset Gloucestershire Gloucestershire (S) Poole Somerset Somerset (NW) Thamesdown Wiltshire

7. SOUTH EAST

Berkshire Brighton and Hove Hampshire Kent Oxfordshire Portsmouth Southampton Surrey Sussex (E) Sussex (W)

8. LONDON

All London Boroughs

Publication

The TPISH location factors are published quarterly when the sample size is at least four. The quarters are calendar quarters (e.g. first quarter covers January, February and March).

The factors are published quarterly at 9.30am on the Monday following the second Friday of the last month in the quarter, i.e. in March, June, September and December.

The latest factors available will be for the quarter prior to the date of publication.

There are no monthly or annual location factors.

Revision Policy

Provisional TPISH location factors will first be published for the quarter prior to the publication quarter. Factors are normally held provisional for three quarters, after which they are published as firm. The provisional factors may change at each publication and may change as they become firm.

Once published as firm, the factors will not be changed for revisions in the input data. A firm location factor will only be changed in exceptional circumstances: to correct publication errors or in the event of a change in methodology. If a revision is necessary then the location factor will be marked as 'R' for the current publication, but this marker will be removed in subsequent publications. Changes in methodology will be recorded under notes and definitions. Any major changes or revisions will be pre-announced, where practicable, together with the reasons for revisions and how they are handled.

Range

The earliest available location factors for TPISH are for the first quarter 1990.

Calculation Method

The location factors are derived from the location study. The location study standardises all indices and classifies them by geographical location. Projects are allocated to quarters by the date for receipt of tenders. In order that the location factors reflect the most current indices, a rolling period of the most recent 12 quarters is used. The number of indices used to create the location factors determines the sample size. Location factors are only published where the sample size is at least 4.

Base

The TPISH location factors are applicable to the TPISH Tender Price Index at any base date.

Superseded Series

N/A

Further Information

Queries should be addressed to BCIS.

Telephone: +44 (0)20 7695 1500

Email: support@bcis.co.uk

The responsible statistician at the Department for Business Innovation and Skills is Keith Folwell (email: Keith.Folwell@bis.gsi.gov.uk, telephone: +44(0)20 7215 1248).

All Construction Tender Price Index (ALLCON)

Introduction

The All Construction Tender Price Index (ALLCON) provides a measure of the movement of prices in tenders across all construction sectors. The index covers all public and private work for both new build and repair and maintenance sectors.

Notes for this Period

N/A

Coverage

The All Construction Tender Price Indices form part of the Tender Price Indices. They are frequently referred to as the ALLCON indices.

The ALLCON indices are produced by the Building Cost Information Service (BCIS) on behalf of the Department of Business, Innovation and Skills (BIS). The series consist of the following:

ALLCON All Construction TPI: All New Construction ALLCON All Construction TPI: All Repairs and Maintenance ALLCON All Construction TPI: All Construction

Application and Relevance

The ALLCON indices measure the movement of prices in tenders for All New Construction, All Repair and Maintenance and All Construction.

The ALLCON indices are 'All-In' indices including both 'fixed price' and 'variation of price' projects in its compilation. However, since 1990, very few 'variation of price' projects have been included in the sample.

The regional coverage of the sector TPIs that are used in the compilation of the ALLCON indices varies, e.g. PUBSEC covers Great Britain whereas TPISH covers England and Wales.

For more details about individual sector TPIs that are used in the compilation of the ALLCON indices, please see the notes and definitions for PUBSEC, TPISH and ROADCON.

Publication

Quarterly and annual versions of ALLCON are published. The quarters are calendar quarters (e.g. first quarter covers January, February and March).

Annual indices are based on the mean of the quarterly indices and relate to the calendar year.

The indices are published quarterly at 9.30am on the Monday following the second Friday of the last month in the quarter, i.e. in March, June, September and December.

The latest calculated index values available will be for the quarter prior to the quarter of the date of publication.

There are no monthly index values.

Revision Policy

All Construction Tender Price Index: All New Construction

A provisional index will first be published for the quarter prior to the publication quarter. The index is likely to change over the next four quarters as additional project indices become available, but the index continues to be held provisional. Changes between the first provisional index and a firm index are typically less than 3%.

The index is normally held provisional for four quarters, after which it is published as a firm index. The index value may change as the index becomes firm.

Once published as firm, the indices will not be changed for revisions in the input data. Firm indices will only be changed in exceptional circumstances: to correct publication errors or in the event of a change in methodology. If a revision to a firm index is necessary then the index will be marked as 'R' for the current publication, but this marker will be removed in subsequent publications. Changes in methodology will be recorded under notes and definitions. Any major changes or revisions will be pre-announced, where practicable, together with the reasons for revisions and how they are handled.

Annual indices will always be updated to reflect changes in the quarterly series.

All Construction Tender Price Index: All Repairs and Maintenance and All Construction Tender Price Index: All Construction

A provisional index will first be published for the quarter prior to the publication quarter. The index is likely to change over the next five quarters as additional project indices become

available, but the index continues to be held provisional. Changes between the first provisional index and a firm index are typically less than 3%.

The index is normally held provisional for five quarters, after which it is published as a firm index. The index value may change as the index becomes firm.

Once published as firm, the indices will not be changed for revisions in the input data. Firm indices will only be changed in exceptional circumstances: to correct publication errors or in the event of a change in methodology. If a revision to a firm index is necessary then the index will be marked as 'R' for the current publication, but this marker will be removed in subsequent publications. Changes in methodology will be recorded under notes and definitions. Any major changes or revisions will be pre-announced, where practicable, together with the reasons for revisions and how they are handled.

Annual indices will always be updated to reflect changes in the quarterly series.

Range

The earliest available indices are for 1st quarter 1985.

Calculation Method

The ALLCON indices are compiled by weighting together relevant quarterly sector TPIs using weights derived from the value of construction new orders and the volume of construction output for the corresponding quarter.

The ALLCON indices are therefore current weighted indices.

Base

The ALLCON indices are set at 100 at the base year of 1995.

Superseded Series

N/A

Further Information

Enquiries about the indices should be addressed to BCIS.

Telephone: +44 (0)20 7695 1500

Email: support@bcis.co.uk

Keith Folwell from the Department for Business Innovation and Skills (BIS) is the statistician responsible for the ALLCON indices.

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Email: <u>keith.folwell@bis.gsi.gov.uk</u>