



# Methodology for measuring the UK content of UK offshore wind farms

May 2015

## Document history

Revision	Purpose and description	Originated	Checked	Authorised	Date
1	Final draft	AER	CLW	BAV	22/1/15

### BVG Associates

BVG Associates is a technical consultancy with expertise in wind and marine energy technologies. The team probably has the best independent knowledge of the supply chain and market for wind turbines in the UK. BVG Associates has over 150 career years experience in the wind industry, many of these being “hands on” with wind turbine manufacturers, leading RD&D, purchasing and production departments. BVG Associates has consistently delivered to Customers in many areas of the wind energy sector, including:

- Market leaders and new entrants in wind turbine supply and UK and EU Wind Farm development
- Market leaders and new entrants in wind farm component design and supply
- New and established players within the wind industry of all sizes, in the UK and on most continents, and
- The Department of Energy and Climate Change (DECC), RenewableUK, The Crown Estate, the Energy Technologies Institute, the Carbon Trust, Scottish Enterprise and other similar enabling bodies.

### Authors

**Alun Roberts** specialises in offshore wind supply chain analysis and development. He draws on a broad understanding of the offshore wind supply chain and project procurement trends in undertaking reviews on socioeconomic impact and skills analysis. A key area of work has been in enhancing the industry’s understanding of UK content in offshore wind farms and in supporting the development of supply chain plans for wind farm owners wishing to apply for a Contract for Difference.

**Bruce Valpy** founded BVG Associates in 2006 and has created a rapidly growing, diverse client base that includes the market leaders in the wind turbine and tidal turbine sectors, trade bodies, UK Government, utility providers, multinationals and private companies on four continents. He combines deep technical, engineering design and market knowledge to make a difference to customers both at the operational and strategic level.

This report and its content is copyright of BVG Associates Limited - © BVG Associates 2015. All rights are reserved.

Any redistribution or reproduction of part or all of the contents of this proposal in any form is prohibited other than the following:

- You may print or download to a local hard disk extracts for your personal and non-commercial use only.
- You may copy the content to individual third parties for their personal use, but only if you acknowledge BVG Associates as the source of the material.

You may not, except with our express written permission, distribute or commercially exploit the content.

# Methodology for measuring the UK content of UK offshore Wind Farms

---

1. Introduction .....	4
2. Definitions .....	4
3. Scope.....	5
4. Data collection .....	5
5. Data reporting .....	6
6. Aggregation of data .....	6
7. Further information .....	6
Appendix A: Example UK Content data reporting process.....	7
Appendix B: Specific guidance .....	9
Asset maintenance .....	10
Capital investment .....	10
Construction contingency.....	11
Corporate overhead.....	12
Cost of capital .....	13
Currency .....	13
Discounting and inflation.....	13
Insurance .....	13
Framework agreement.....	13
Fuel.....	13
Land rent.....	14
Margin .....	14
OPEX.....	14
Raw materials .....	15
Research and development.....	15
Revenue .....	15
Serial manufacturing.....	15
Shared Products .....	15
Training.....	15
Transmission charges.....	15
Uncommitted expenditure .....	16
Warranty .....	17

## 1. Introduction

On 3 November 2014, the Offshore Wind Industry Council (OWIC) approved the introduction of a UK Content reporting framework. From 1 January 2015, the owners of all UK offshore Wind Farms achieving final investment decision (FID) will report their UK Content to RenewableUK.

This document presents:

- Instructions to Wind Farm Asset Owners and their Suppliers on how to collect data
- Definitions of the terms used,
- An example of data collection process (Appendix A), and
- Guidance on collecting data from specific parts of the supply chain (see Appendix B).

RenewableUK will manage and report data under the framework. Guidance on how to submit data to RenewableUK can be found [here](#).

To meet the UK content reporting requirements of the, Customers will request data from their Suppliers. We recommend that potential Suppliers are informed early on in procurement that shortlisted companies may be asked to report data on UK content in time for Wind Farm Asset Owners to report at Final Investment Decision (FID).

## 2. Definitions

A number of terms used in this document have a specific usage and these are defined below. These terms are used with a capital letter throughout the document to emphasise that they are used in a specific sense.

### Wind Farm

A single Wind Farm has the following attributes:

- It is developed through a single leasing option awarded by The Crown Estate.
- It has two parts:
  - The Generation Asset
  - The Transmission Asset.
- It has a discrete final investment decision (FID), procurement process and construction phase.

An individual Wind Farm could be a phase of a larger development.

This methodology applies to both the Generation Asset and the Transmission Asset, regardless of their ownership at FID.

### Wind Farm Asset Owner

A Wind Farm Asset Owner is the company that owns either the Wind Farm Generation Asset (the Generation Asset

Owner) or the Transmission Asset (the offshore transmission owner (OFTO)) during development, construction or operation. The Generation and Transmission Asset Owners at FID report the UK Content in their assets separately. If the Generation and Transmission Assets are under difference ownership at FID, both Owners report UK Content in their Assets.

### UK Content

UK Content is the percentage of the total undiscounted expenditure by the Wind Farm Asset Owner on a Wind Farm that is ultimately spent through Contracts awarded to companies operating in the UK.

It excludes the value of Contracts to UK companies that is spent on Subcontracts to companies not operating in the UK.

It includes the value of Contracts to non-UK companies that is spent on Subcontracts to companies operating in the UK.

### Customer

A Customer is a purchaser of Products for the Wind Farm, which may be a Wind Farm Asset Owner or a Supplier at any tier of the supply chain (except the bottom tier).

### Development expenditure (DEVEX)

DEVEX includes costs incurred by the Wind Farm Asset Owner from the award of development rights by The Crown Estate to FID.

### Generation Asset

Generation Asset includes the turbines, foundations, array cables and the offshore substation medium voltage switchgear.

### Supplier and Subsupplier

A Supplier is a provider of products to a Customer.

A Subsupplier is a company that is two or more steps down the supply chain from the Customer. A tier 1 Supplier is one that is directly Contracted by the Wind Farm Asset Owner.

### Invitation to tender (ITT)

An ITT notifies a Supplier of a competitive tendering process and describes the Product to be purchased by the Customer.

### Capital expenditure (CAPEX)

CAPEX includes costs incurred from FID to works completion date (WCD).

### Contract

A Contract is an agreement between a Customer and a Supplier to provide a Product for an agreed value. It covers

# Methodology for measuring the UK content of UK offshore Wind Farms

the aggregated payment by the Customer in DEVEX, CAPEX or OPEX to the Supplier. The Contract value could therefore be made up of a number of transactions.

A Contract may be between a Customer and an external or internal Supplier.

## Base cost

The base cost in a Contract is the Supplier's aggregated internal and external Subcontracts. Any margin is added to form the Contract price to the Customer.

## Operational expenditure (OPEX)

OPEX includes costs incurred by the Wind Farm Asset Owner from works completion to the end of decommissioning.

## Product

A Product is a service or component that a Supplier provides through a Contract.

## Final investment decision (FID)

FID is the point of a project life cycle at which all consents, agreements and Contracts that are required to commence project construction have been signed (or are at or near execution form). At this point there is a firm commitment by equity holders or debt funders to provide or mobilise funding to cover the majority of construction costs.

## Total expenditure (TOTEX)

TOTEX includes all costs incurred from award of development rights to the end of decommissioning.

## Transmission Asset

For Wind Farms with high voltage (HV) alternating current (AC) transmission, Transmission Assets include the onshore substation and offshore substation(s) (if present) and the onshore and offshore HV (export) cabling. The Transmission Asset is ultimately under the ownership of the Offshore Transmission Owner (OFTO). For Wind Farms with HV direct current (HVDC) transmission, any HVAC infrastructure (cables and collector stations) is part of the Generation Asset.

## Works completion date (WCD)

WCD is the date at which the Wind Farm's full rated generation capacity has been commissioned. The same date applies to both the Generation and Transmission Assets for a given Wind Farm.

## 3. Scope

This methodology applies to all offshore Wind Farms within UK territorial waters and the UK Renewable Energy Zone. It does not apply to offshore Wind Farms installed outside UK waters, though a similar methodology could be used.

It does not include the enduring value of UK infrastructure investments used by a Wind Farm Asset Owner of Supplier, such as port or grid infrastructure.

It covers all costs allocated to the Wind Farm by its Owner.

Data is to be reported for both Generation and Transmission Assets. It is submitted in the calendar year following FID by the Wind Farm Asset Owner. Under Ofgem rules, the Transmission Asset may be built by the OFTO, separately from the Generation Asset. In this case, both Owners report UK Content.

Wind Farm Asset Owners will report the UK Content in their Wind Farms for DEVEX, CAPEX, OPEX and TOTEX.

## 4. Data collection

Figure 4.1 shows the steps for collecting UK and non-UK Content data. The Wind Farm Asset Owner leads the process, and is responsible for monitoring the progress its Suppliers make and for delivering on time.

Data gathering starts with the Wind Farm Asset Owner, which considers each Contract in turn.

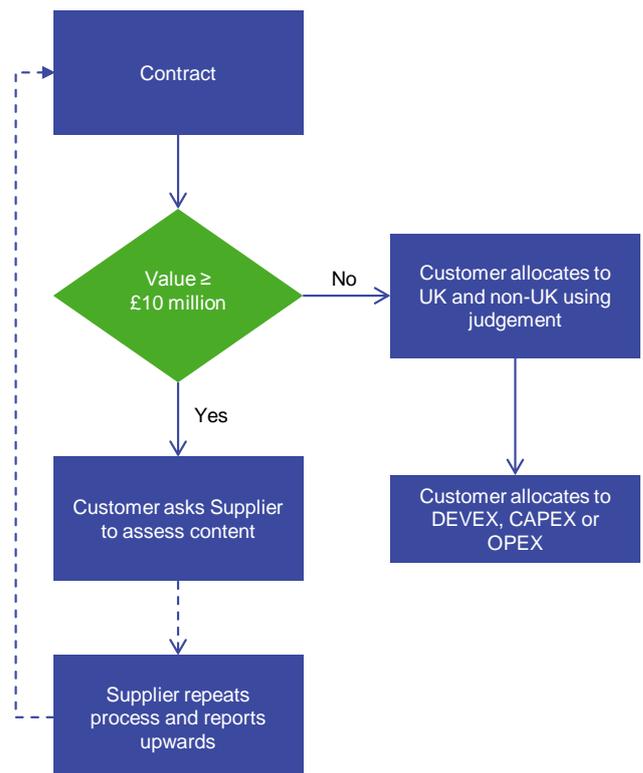


Figure 4.1 Flow chart showing Wind Farm data gathering and expenditure allocation. Value is the cost of the Contract to the Customer.

For a Contract of value below £10 million, the Customer estimates percentage UK Content without necessarily seeking additional information from the Supplier, considering the following criteria:

- Any information provided by the Supplier
- The invoice address of the Supplier
- The currency in which the payment was made
- The Customer's knowledge of its Supplier's activities and Subsuppliers, and
- The Customer's knowledge of the activities and Subsuppliers of similar companies.

For a Contract of value £10 million or more, the Customer asks its Supplier to report its UK Content. The Supplier then considers each of its Subsuppliers' Contracts using the process shown in Figure 4.1. The process continues down the tiers in the supply chain until all Contracts are less than £10 million in value. Appendix A illustrates this process in further detail, including the treatment of Suppliers' margins.

Appendix B provides guidance on calculating UK Content for certain types of Contract. Uncertainties may be for one or both of the following reasons:

## 5. Data reporting

A Wind Farm Asset Owner reports the figures shown in Table 5.1 for Wind Farms that reached FID in the previous calendar year.

**Table 5.1 Data reported by Wind Farm Asset Owners.**

Item	UK Content (%)	Fraction of TOTEX (%)
DEVEX		
CAPEX		
OPEX		
TOTEX		100%

If a Wind Farm Asset Owner has more than one eligible Wind Farm, it may aggregate the data reported to RenewableUK using the rules described in Section 6. RenewableUK publishes a rolling average of data for Wind Farms that have reached FID in the previous five years. If a Wind Farm Asset Owner has aggregated data from more than one Wind Farm, RenewableUK may ask for disaggregated or re-aggregated data in subsequent years if the Wind Farm Asset Owner's list of eligible Wind Farms has changed.

If a Wind Farm Asset Owner suspects that the data submitted at FID has significantly changed at WCD, it recalculates and submits its new figures. We recommend that this is undertaken if:

- There is a change in the nationality of a tier 1 Supplier with a Contract value greater than £50 million.
- More than £50 million of the Wind Farm's unallocated Construction contingency is spent (see Appendix B).

## 6. Aggregation of data

Aggregation of UK Content data is undertaken by weighting data by Wind Farm rated generating capacity.

Data is aggregated using the 'lifetime view' method in which the UK Content in TOTEX is published for all UK offshore Wind Farms reaching FID in the reporting period, which combines DEVEX, CAPEX and OPEX.

If the Transmission Asset for a Wind Farm is constructed by an OFTO, RenewableUK will combine the data using the best available data for the relative costs of the Generation and Transmission Assets.

## 7. Further information

This methodology was developed in consultation with leading companies in the offshore wind industry, the Department of Energy and Climate Change and The Crown Estate. We recognise that in gathering and providing data, companies may identify ways in which the process could be updated to improve its accuracy or reduce the work needed. We recommend that in these cases, companies should raise these issues so that they are addressed in subsequent versions of the methodology.

Wind Farm Asset Owners and Suppliers should contact RenewableUK if they have any questions on the submission, handling and reporting of UK Content data.

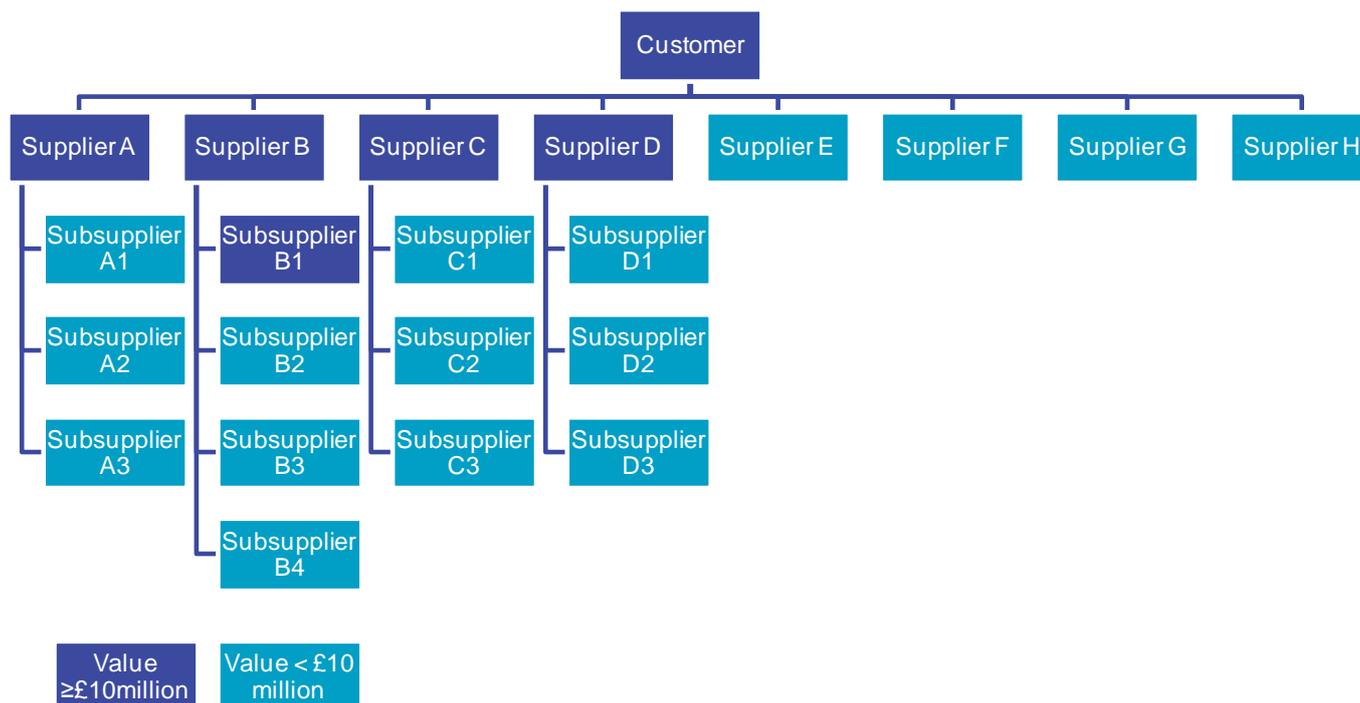
## Appendix A: Example UK Content data reporting process

The following example illustrates the process of calculating UK Content.

The Customer in Figure A.1 delivered a £50 million Contract to supply components to a Wind Farm Asset Owner. It is therefore a tier 1 Supplier. The Customer has eight Suppliers, of which four (A-D) were awarded Contracts greater than £10 million and four (E-H) were less than or equal to £10 million. For the Contracts for Suppliers E-H, the Customer estimates percentage UK Content. The Customer asks Suppliers A-D to report the UK Content in their Contracts.

Suppliers A, C and D have a number of Subsuppliers but, in all cases, the value of these Contracts is less than or equal to £10 million. Suppliers A, C and D report the UK Content of their Contracts with their Customer using their judgement in the same way that the Customer has done for Suppliers E-H.

Supplier B also makes a judgement about the UK Content for Subsuppliers B2-B4, but since Subsupplier B1's Contract is greater than £10 million, Supplier B asks Subsupplier B1 to report its UK Content. Suppliers to Subsupplier B1 are not shown in Figure A.1.



**Figure A.1 Example supply chain.**

Table A.1 illustrates this process further and shows how Suppliers' margins are treated. Consider Supplier A, which has a Contract with the Customer of £12 million. Its Subsuppliers A1-A3 were awarded Contracts with a combined value of £11 million. Note that the Suppliers and Subsuppliers will have internal providers of Products to the Customer.

The Contracts awarded to Suppliers A1, A2 and A3 are less than £10 million. Supplier A therefore does not ask the Subsuppliers to report their UK content. Instead, Supplier A1 estimates the UK Content for each Subsupplier. For Subsupplier A1, Supplier A multiplies its UK Content figure (85%) with the percentage of its base cost formed by Subsupplier A1's Contract (55%). Supplier A repeats the process for Subsuppliers A2 and A3 and then adds the resulting three figures, which in the example here is 70%. This is the figure that Supplier A reports to its Customer. A

Supplier reports only its UK Content; it does not need to report the actual base cost within its Contract.

**Table A.1 Example UK Content calculation for Supplier and Subsuppliers with a Contract value over £10 million. The numbers in italics indicate where a judgement of UK Content has been made without requesting further information from Suppliers. The darker shaded cells remain empty. Note that some figures have been rounded.**

Supplier	Contract value (£million)	UK Content in Contract	% of base cost in Contract	Contribution of Supplier's Contract to UK Content	Subsupplier	Subcontract (£million)	% of base cost in Subcontract	UK Content in Subcontract
A	12	70.7%	15%	10.6%	A1	6	55%	85%
					A2	4	36%	55%
					A3	1	9%	45%
					Margin	1		
B	20	47.2%	25%	11.8%	B1	9	43%	20%
					B2	6	29%	75%
					B3	3	14%	45%
					B4	3	14%	75%
					Margin	-1		
C	15	32.1%	19%	6.1%	C1	7	52%	25%
					C2	4.5	33%	50%
					C3	2	15%	20%
					Margin	1.5		
D	11	21%	14%	2.8%	D1	4	45%	40%
					D2	3	33%	5%
					D3	2	22%	5%
					Margin	2		
E	8	46%	10%	4.6%				
F	7	85%	9%	7.4%				
G	4	65%	5%	3.3%				
H	3	90%	4%	3.4%				
Base cost	80							
Margin	20							
<b>Total</b>	<b>100</b>			<b>50.0%</b>				

## Appendix B: Specific guidance

---

This appendix provides guidance on calculating UK Content for certain types of Contract. Uncertainties may be for one or both of the following reasons:

1. **Cost attribution.** It is not easy to trace the cost of an element using a Supplier's accounting system, or
2. **UK Content calculation.** It is not easy to establish the location of expenditure, and therefore calculate UK Content.

This appendix provides guidance the following areas:

- Asset maintenance
- Capital investment
- Construction contingency
- Corporate overhead
- Cost of capital
- Currency
- Discounting and inflation
- Framework contracts
- Fuel and energy
- Insurance
- Land rent
- Margin
- OPEX
- Raw material
- Research and development
- Revenue
- Serial manufacturing
- Shared Products
- Training
- Transmission charges
- Uncommitted expenditure
- Warranty

## Asset maintenance

In the course of fulfilling a Contract a Supplier maintains assets such as factories, offices and equipment. The process for attributing cost and calculating UK Content for this asset maintenance cost is the same as for Corporate overhead.

## Capital investment

A Supplier may have made a capital investment in equipment or a manufacturing facility that is used to fulfil a Contract. For the purposes of the methodology, the equipment or facility is a Product reported by a Subsupplier. The equipment or manufacturing facility depreciates during the fulfilment of a Contract. For the purposes of this methodology, the depreciation cost is therefore a form of Subcontract.

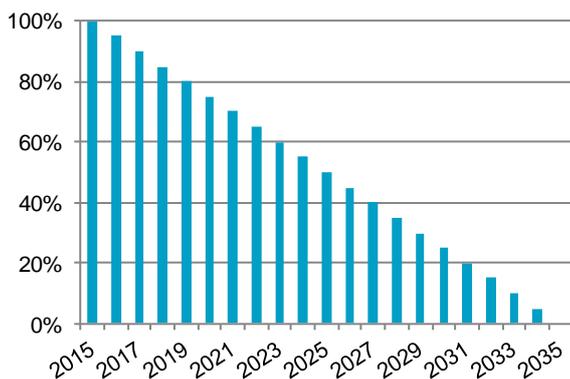
### Cost attribution

If a Supplier has an established process for attributing an investment cost to a Contract, it should use this as a basis for the UK Content calculation.

If a Supplier has no established process, a linear depreciation model should be used over 20 years for a vessel and 10 years for other investments (see Figure B.1)..

After the asset has fully depreciated, other than its Asset maintenance costs, it is no longer a cost to a Contract.

Consider a Customer that invests £50 million in a piece of equipment in 2015. It depreciates over 20 years, that is 5% or £2.5 million annually.



**Figure B.1 Annual residual value as a percentage of investment value with depreciation over 20 years.**

If a Contract fulfilled in 2018 is for £60 million and the annual sales value associated with the investment in 2018 is £100 million, then the investment cost to be attributed to the Contract is  $60/100 \times £2.5 \text{ million} = £1.5 \text{ million}$  (see also Table B.1).

## UK Content calculation

The UK Content of the “depreciation” Subcontract equals the UK Content in the original investment. It is calculated by analysing the Contracts awarded at the time of the original investment.

The methodology requires that for a Contract greater than or equal to £10 million, the Customer asks its Supplier to report UK Content. For a capital investment, this threshold applies to the total amount of the investment rather than the amount the equipment of manufacturing facility depreciated while fulfilling the Contract. For example, if a vessel cost £100 million and it depreciated over 20 years, it is likely that the depreciation cost attributed to a Contract would be less than £10 million. In this case the Customer still asks the Supplier to report its UK Content.

Gathering UK Content in capital investments will become more difficult with time. For investments in equipment of manufacturing facilities made more than five years before they are used in fulfilling a Contract, a Customer may make its own estimate of the UK Content in the investment if necessary.

### Upgrades to assets

If the investment is an upgrade to existing facilities or equipment, the original and new investments are treated as individual Subcontracts and analysed separately.

# Methodology for measuring the UK content of UK offshore Wind Farms

**Table B.1 Calculation of cost attributable to capital investment.**

	Investment value in 2015 (A)	Annual depreciation (B)	Total sales in 2018 (C)	Contract value (D)	Cost attributable to Contract (E)
<b>Formula</b>	A	$B = A / \text{Period of depreciation}$	C	D	$E = B \times (D/C)$
<b>Worked example</b>	£50 million	$= £50 \text{ million} / (2035-2015)$ $= £2.5 \text{ million}$	£100 million	£60 million	$= £2.5 \text{ million} \times (£60 \text{ million} / £100 \text{ million})$ $= £1.5 \text{ million}$

## Construction contingency

A Wind Farm Asset Owner or Supplier (especially when an engineer, procure and construct (EPC) contract is awarded) that delivers a construction Contract typically has a contingency budget. The contingency budget may include:

- An amount that the Wind Farm Asset Owner or Supplier expects to spend (allocated contingency), which may be:
  - Expenditure on identified Products with identifiable Suppliers. For example, the Customer expects to place work to remove unexploded ordnance and knows which Suppliers are likely to bid for the Contract.
  - Expenditure for identified needs but the specific Products are unidentified. For example, the Customer knows that it will need to award Contracts for onshore construction site services but the scope of the work has not been defined.
- An amount to reflect construction risks such as ground conditions, which may or may not be spent (unallocated contingency).

At FID, the Wind Farm Asset Owner or Supplier excludes unallocated contingency from its UK Content assessment. The methodology suggests that at WCD if a Wind Farm Asset Owner has reasons to believe that the data will have changed significantly since FID as a result of new suppliers at tiers 1 and 2, then it should resubmit Table 5.1.

As a guide, a Wind Farm Asset Owner should reassess its UK Content in CAPEX if it spends more than £50 million of unallocated contingency.

### Cost attribution

For allocated contingency for identified Products, the Wind Farm Asset Owner or Supplier attributes cost using the methodology for Uncommitted expenditure.

For allocated contingency for unidentified Products, the Wind Farm Asset Owner or Supplier considers the nature of the work and its likely costs.

### UK Content calculation

For allocated contingency for identified Products, the Wind Farm Asset Owner calculates UK Content using the methodology for Uncommitted expenditure.

For allocated contingency for unidentified Products, most of which are likely to be service-based, the Wind Farm Asset Owner or Supplier calculates UK Content using the standard methodology. Table B.2 contains assumptions that a Customer may use for cases where it expects to use UK-based companies but has insufficient knowledge to make a reasonable estimate of UK Content and has no better data available from the Supplier. Note that even Contracts for desk-based service-based activities by UK companies will have an element of non-UK Content for Subcontracts for travel, office equipment and consumables.

**Table B.2 UK Content assumptions for allocated contingency for unidentified Products with UK Suppliers.**

Type of Product	Examples	UK Content assumption
<b>Desk-based services</b>	<ul style="list-style-type: none"> <li>• Consultancy</li> <li>• PR</li> <li>• Legal</li> <li>• Insurance</li> </ul>	98%
<b>Non-desk-based services using low-cost equipment likely to be imported</b>	<ul style="list-style-type: none"> <li>• Electrical services</li> <li>• Weather forecasting</li> <li>• Construction site services</li> </ul>	90%
<b>Non-desk-based services using high-cost equipment likely to be imported</b>	<ul style="list-style-type: none"> <li>• Onshore civil works</li> <li>• Offshore surveys</li> </ul>	80%

## Corporate overhead

Corporate overhead items, such as Asset maintenance, finance, IT, sales, research and development, and human resources, are Products of an internal Supplier.

### Cost attribution

If a Supplier has an established process for attributing an overhead cost to a Contract, this should be used for its UK Content calculation.

**Table B.3 Method of attributing overhead cost to a Contract.**

	Total annual overhead (A)	Period of Contract (years) (B)	Total sales over period of Contract (years) (C)	Contract value (D)	Overhead attributable to Contract (E)
<b>Formula</b>	A	B	C	D	$E = A \times B \times (D/C)$
<b>Worked example</b>	£2 million	1.5	£40 million	£12 million	$= £2 \text{ million} \times 1.5 \times (\text{£}12 \text{ million} / \text{£}40 \text{ million})$ $= \text{£}0.9 \text{ million}$

If a Supplier has no established process, the following methodology is used, which considers:

- Its total corporate overhead
- Its total sales
- The Contract value.

Suppliers may have business structures based on sector or territory. In this case, there is an overhead associated with the company as a whole and the division that delivered the Contract.

For simplicity, only the overhead and sales value of the division of the Supplier that fulfilled the Contract is considered. Table B.3 shows the calculation that is used to attribute overhead to a Contract; it includes a worked example.

### UK Content calculation

UK Content in corporate overhead is calculated on the basis of:

- The average number of UK full time equivalents (FTEs) employed in overhead functions over the period of the Contract delivery by the Supplier (or division of Supplier)
- The total average number of FTEs employed in overhead functions over the period of Contract delivery by the Supplier (or division of Supplier)

UK Content is the number of UK FTEs working in overhead functions divided by the total FTEs working in overhead functions for the Supplier (or division of Supplier).

Table B.4 shows the calculation that is used to attribute overhead to a Contract; it includes a worked example.

# Methodology for measuring the UK content of UK offshore Wind Farms

**Table B.4 Method of calculating UK Content in corporate overhead.**

	Average FTEs working in overhead functions during the period of the Contract (A)	Total average FTEs working in overhead functions in the UK during the period of the Contract (B)	UK Content in corporate overhead (C)
<b>Formula</b>	A	B	C = B/A
<b>Worked example</b>	250	50	= 50/250 = 20%

## Cost of capital

### Cost attribution

The cost of capital is excluded from the UK Content methodology.

## Currency

### Cost attribution

The Customer converts all Contracts to pounds sterling for analysis. Ideally, the exchange rate used should be the one at the time of the transaction. This is potentially time consuming and an average figure for the period covering the transactions is acceptable.

For Uncommitted expenditure, the exchange rate at FID is used.

## Discounting and inflation

### Cost attribution

The primary purpose of gathering and reporting UK Content is to establish the success of UK businesses in increasing their share of expenditure on offshore Wind Farms. To reflect this principle:

- Committed CAPEX and DEVEX Contracts are at prices of the day.
- Uncommitted CAPEX Contracts are at prices at FID.
- OPEX Contracts are in real terms at FID and undiscounted.

## Insurance

UK Content in insurance considers only the premiums paid by the Customer. The cost and UK Content in Contracts placed for Products bought as a result of an insurance claim are not included.

### Cost attribution

The total insurance premium over DEVEX, CAPEX or OPEX paid to a Supplier of insurance is a single Contract.

## UK Content calculation

The UK Content in an insurance Contract is the UK Content of the Supplier's internal expenditure and excludes the UK content in any claim. If the Supplier has a business structure with divisions based on sector or territory then the UK Content calculation considers the location of expenditure of the relevant division.

UK Content in the insurance Contract is calculated on the basis of:

- The number of UK FTEs employed by the Supplier (or division of Supplier) at the time the premium was paid
- The total number of FTEs employed by the Supplier (or division of Supplier) at the time the premium was paid

UK Content is the number of UK FTEs divided by the total FTEs.

## Framework agreement

### Cost attribution

Framework agreements typically involve an agreement to supply a certain number of Products over a period or defined number of Wind Farms. In the absence of a transparent cost allocation to a Wind Farm, a Customer should make a reasonable attempt to attribute a Contract cost from the framework agreement on which to base a UK Content assessment.

## Fuel

### UK Content calculation

The origin of crude oil and the supply chain used for exploration, extraction and refining is not easily identified.

The UK Government's Offshore Wind Industrial Strategy states that the UK Content in the UK oil and gas industry is

about 70%.<sup>1</sup> This 70% figure is used for fuel bought in the UK. A figure of 0% is used for fuel bought overseas.

## Land rent

### Cost attribution

A landlord is a Supplier and the total rent in DEVEX, CAPEX or OPEX is a single Contract.

### UK Content calculation

For undeveloped land, the UK Content calculation considers the expenditure of the landlord in maintaining and administering its land asset. This expenditure may represent a small fraction of the Contract (rent) but profit margins are not included in the analysis. The UK Content in the rent Contract is therefore the fraction of the administration expenditure made in the UK. This is calculated using the same methodology as for Corporate overhead. The UK content is therefore the percentage of UK FTEs involved in administering the land asset, divided by the total number of FTEs administering the land asset. For an exclusively UK-based landlord such as The Crown Estate, the UK content in its undeveloped land is 100%.

For developed land, the UK Content considers, in addition, any capital investment made. In this case, the process of attributing cost follows the method described in Table B.1 for Capital investment. If the Supplier (landowner) has not defined a depreciation period and method for the investment it should assume linear depreciation over 10 years.

## Margin

Suppliers report percentage UK Content in their Base costs. The destination of any profits or the company's taxation are therefore not considered. This is addressed in the worked example in Appendix A.

An internal Supplier may include a margin in the cost of the Contract. For an internal transaction, a customer attributes the cost as charged by its internal supplier.

## OPEX

For OPEX, the threshold of £10 million applies to the aggregated budget line over the planned lifetime of the Wind Farm. If the Generation Asset owner plans a 25-year life, the threshold therefore applies to annual Contracts greater than £400,000 or Contracts greater than £2 million

awarded every five years. This could apply to the following Contracts:

- Corporate overhead (including on-site staff)
- Fuel
- Insurance
- Land rent
- Transmission charges
- Substation service agreement
- Turbine service agreement
- Vessel provision (see Capital investments).

For consideration of OFTO payments, see Transmission charges.

### Cost attribution

A Wind Farm Owner attributes OPEX for the full, planned operating life of the Wind Farm. In submitting data, the Wind Farm states the number of years of planned operation.

As far as possible, Contract costs reflect any post-warranty arrangements and anticipated component replacement campaigns. If there is no post-warranty supply chain strategy, the Wind Farm Asset Owner assumes no post-warranty change in Contract cost.

---

<sup>1</sup> *Offshore Wind Industrial Strategy - Business and Government Action*, HM Government, August 2013, available online at [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/226456/bis-13-1092-offshore-wind-industrial-strategy.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/226456/bis-13-1092-offshore-wind-industrial-strategy.pdf), last accessed January 2015

# Methodology for measuring the UK content of UK offshore Wind Farms

## UK Content calculation

As far as possible, UK Content estimations should reflect the operating life of the Wind Farm and consider the implications of any strategy to change suppliers post-warranty. If there is no post-warranty supply chain strategy, the Wind Farm Asset Owner assumes that there is no change from the UK content in warranty.

## Raw materials

Raw materials are a part of Product cost. The UK has no commercial scale iron or copper ore mines and this will have a significant impact on the UK Content of UK-manufactured components.

## Research and development

Research and development costs are part of the Corporate overhead.

## Revenue

The UK Content analysis considers only money spent by Wind Farm Asset Owners. It excludes electricity sales and the scrap value of components that have reached the end of their lives. The construction of the Transmission Asset is treated as DEVEX and CAPEX, and revenue from its sale, where applicable, is not considered.

## Serial manufacturing

Manufacturers may have multiple sources of many components. For bespoke products such as steel foundations, materials and subassemblies are likely to be procured specifically to fulfil a Contract. For high volume production lines, manufacturers ensure that components in final products are traceable but this can be a major exercise and a disproportionate cost to do to comply with this methodology. If this is the case and Products and the production line are the same or similar, the Supplier adopts the following process and communicates it to its Customer.

## UK Content calculation

A Supplier calculates UK Content by considering the UK Content in the estimated total number of Products manufactured in the year the Contract is to be fulfilled. Consider an example in which all the Products manufactured in the year had a UK manufactured component that contributed 10% to the UK Content of the Product. In addition half of the Products had a UK manufactured component that contributed 30% to the UK Content to these Products. Overall, the overall UK Content in all the Products manufactured in the year is  $(10\% + 50\% \times 30\%) = 25\%$ . This UK Content figure of 25% is reported to all Customers in that year.

## Shared Products

Wind farms owners may spread the costs of Products between Wind Farms in their portfolios or share costs with other owners. The cost attributed is the net Contract value and is calculated by considering the total Contract value of the shared Product and its percentage use for the Wind Farm under consideration.

## Training

### Cost attribution

The cost of training personnel who will work directly on the Wind Farm is treated as any other Contract.

If a training cost is relevant to the Wind Farm but cannot be directly associated with it, it is treated as part of the Corporate overhead.

## Transmission charges

### Cost attribution

The construction cost of the Transmission Asset is treated as DEVEX and CAPEX. The asset may be constructed directly through Contracts awarded by the Transmission Asset Owner, or by the Generation Asset Owner and transferred to the Transmission Asset Owner early in the operation of the Wind Farm (the “generator build” option).

The operation of the Transmission Asset is treated as OPEX.

Once the Transmission Asset is under the ownership of the OFTO, the Generation Asset Owner makes payments to National Grid.

These payments fall into two categories:

- Transmission network use of system (TNUoS) charges, and
- Balancing services use of system charges (BSUoS) charges.

The process for reporting UK Content for each is summarised in Table B.5

### TNUoS

TNUoS charges have two elements:

- A “Local” element for the use of the Transmission Asset, which reflects its construction and operation, and
- A “Wide” element for the use of the National Electricity Transmission System.

The Wind Farm Owner does not ask National Grid to report the UK Content in TNUoS – Local. Instead, the UK Content in the construction and operation of the Transmission Asset are reported by their Owner as CAPEX and OPEX respectively at FID.

Although an OFTO assumes ownership of the Transmission Asset after WCD, under the generator build option, the Generation Asset Owner maintains the Transmission Assets for several months after their construction and has sufficient information to report lifetime Transmission Asset OPEX.

If the Transmission Asset is under different ownership as the Generation Asset at FID (OFTO build), the Transmission Asset Owner reports the UK Content in the DEVEX, CAPEX and OPEX of its asset.

For TNUoS – Wide, the Wind Farm Owner attributes the cost as charged by National Grid.

### *BSUoS*

For BSUoS, the Wind Farm Owner attributes the cost as charged by National Grid.

### **Calculating UK Content**

#### *TNUoS – Local*

UK content in TNUoS – Local for DEVEX, CAPEX and OPEX is calculated in the usual way.

#### *TNUoS – Wide*

TNUoS-Wide is the mutualised cost to all generators for using the Grid and mostly reflects the capital investment needed to maintain and strengthen Grid infrastructure. To report UK Content for TNUoS – Wide, National Grid estimates the UK Content in its total annual capital investment. A UK Content figure that is derived by extrapolating from a single typical infrastructure project is acceptable.

### *BSUoS*

For BSUoS, the UK Content figure reported by National Grid should reflect the operating costs of the UK's electricity generators.

Once National Grid has calculated UK Content for TNUoS-Wide and BSUoS, these can be reported to all Wind Farm Owners as annual differences are unlikely to be significant.

**Table B.5 Guidance on transmission charges.**

Charge		Treatment	
TNUoS	Local	Construction	Treated as DEVEX and CAPEX, reported by the Asset Owner at FID
		Operation	Treated as OPEX, reported by the Asset Owner at FID
	Wide	Treated as OPEX, reported by National Grid to Asset Owner at FID	
BSUoS		Treated as OPEX, reported by National Grid to Asset Owner at FID	

## Uncommitted expenditure

At FID, committed expenditure includes:

- DEVEX
- Large CAPEX Contracts
- Early, large OPEX Contracts.

At FID, uncommitted expenditure may include:

- Small CAPEX contracts, mainly to support construction activities
- Small OPEX contracts during the warranty period
- Large OPEX contracts post-warranty.

For Uncommitted expenditure, a Customer may not know the Contract value or the identity of the Supplier.

### **Cost attribution**

The cost attributed to an uncommitted Contract is the most likely value of the Product at FID. This is calculated using a weighted average based on the probability of individual Suppliers being selected. This calculation is shown in Table B.6 and a worked example is provided in Table B.7.

# Methodology for measuring the UK content of UK offshore Wind Farms

**Table B.6 Cost attribution calculation to be used when a Supplier has not been chosen.**

Supplier	Quoted Contract value	Probability of selection (%)
Supplier A	A	$\alpha$
Supplier B	B	$\beta$
Supplier C	C	$\gamma$
Supplier D	D	$\delta$
<b>Cost attributed</b>	$= (A \times \alpha) + (B \times \beta) + (C \times \gamma) + (D \times \delta)$	

**Table B.7 Worked example cost attribution calculation to be used when a Supplier has not been chosen.**

Supplier	Quoted Contract value (£million)	Probability of selection (%)
Supplier A	8	15%
Supplier B	6	30%
Supplier C	7.5	50%
Supplier D	9	5%
<b>Cost attributed</b>	7.2	

## UK Content calculation

If the Customer has received figures quoted by potential Suppliers in their ITTs, then it calculates UK Content is calculated using a weighted average based on the probability of individual Suppliers being selected. The calculation is shown in Table B.8 and a worked example is provided in Table B.9.

If the identity of future potential Suppliers is not known, UK Content is derived using the Customer's experience.

**Table B.8 UK Content calculation to be used when a Supplier has not been chosen.**

Supplier	Likely UK Content (%)	Probability of selection (%)
Supplier L	L	$\lambda$
Supplier M	M	$\mu$
Supplier N	N	$\nu$
Supplier O	O	$o$
<b>UK Content</b>	$= (L \times \lambda) + (M \times \mu) + (N \times \nu) + O \times o$	

**Table B.9 Worked example UK Content calculation to be used when a Supplier has not been chosen.**

Supplier	Likely UK Content (%)	Probability of selection (%)
Supplier L	50%	15%
Supplier M	1%	30%
Supplier O	40%	50%
Supplier P	10%	5%
<b>UK Content</b>	28%	

## Warranty

### Cost attribution

A warranty is treated as a service cost and therefore as OPEX.

### UK Content calculation

UK Content in a warranty is considered in the same way as Insurance and it is therefore the percentage of FTEs employed to manage and deliver warranty provisions that are working in the UK. The UK Content in any replacement components is therefore not considered.