Department for Transport

RTFO Guidance for Biomethane, Including as a Chemical Precursor

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1. Introduction

1.1 Suppliers of biomethane, and fuels for which biomethane is a precursor (for example biomethanol or MTBE), can use national or international gas grid systems as part of their chain of custody provided that the conditions specified in this guidance document are met, in addition to complying with the wider requirements of the RFTO scheme set out in the RTFO Compliance Guidance.

1.2 This document also contains guidance for biomethane being stored, or transported in other modes of transport including by road or train, prior to injection into, or after extraction from, a pipeline grid as well as biomethane transported by LNG ship.

1.3 Where biomethane is a precursor to another fuel, this guidance applies to the biomethane as it is being stored, moved by pipeline or by any other means of transport prior to being utilised in the production of the final supplied fuel.

1.4 Section 2 of this document sets out some background information and explanation of gas transport in pipelines and other infrastructure. This is primarily focused on the arrangements for the interconnected European pipeline network, but the principles set out will be applied to wider international supply chains. Suppliers and reporting parties with any new supply chains should contact the administrator to discuss them before submitting an application in relation to them.

1.5 Section 3 sets out the conditions of the RTFO scheme which apply for biomethane supply chains including for fuels where biomethane is a precursor.

1.6 This guidance document should be read in conjunction with other guidance requirements of the RTFO scheme. In particular, it should be noted that the RTFO Compliance Guidance document contains important provisions regarding sustainability characteristics and the mass balance requirements for the production of biomethane from the original feedstock, as well as details concerning the submission of RTFC applications to the Administrator.

2. Background and explanation: Biomethane being transported by pipeline infrastructure and other modes of transport, or held in storage

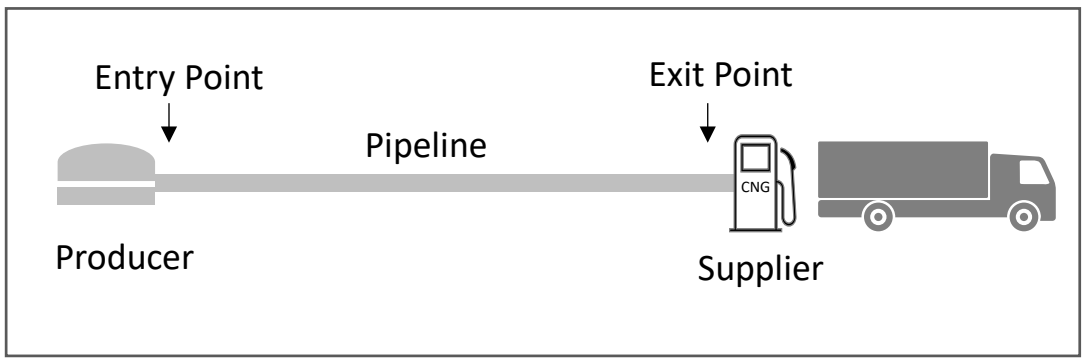
General principle for biomethane

2.1 As a general principle, parties anywhere in the custody chain who are storing gas or moving gas from one place to another will need to comply with the rules of the storage, pipeline, transport or other infrastructure operators in order to arrange that transportation or storage. The relevant evidence for the gas having been moved in/out of those systems will therefore reflect the normal contractual and operational requirements of those transport and infrastructure operators.

Gas pipeline transport arrangements: Overview

2.2 Biomethane can be carried by transmission and distribution pipeline infrastructure between the point of production and consumption. This is fundamentally a transport step in the supply chain.

Gas may be moved in pipelines as a transport step between production and consumption.



2.3 Pipelines are run by network operators. Only parties who have contracts with the network operators are allowed to use the pipelines to move gas, and these parties are referred to here as ‘gas shippers’. Gas shippers move gas in and out of the

pipeline grids by booking capacity and making nominations for gas flows to the network operators at the entry and exit points.

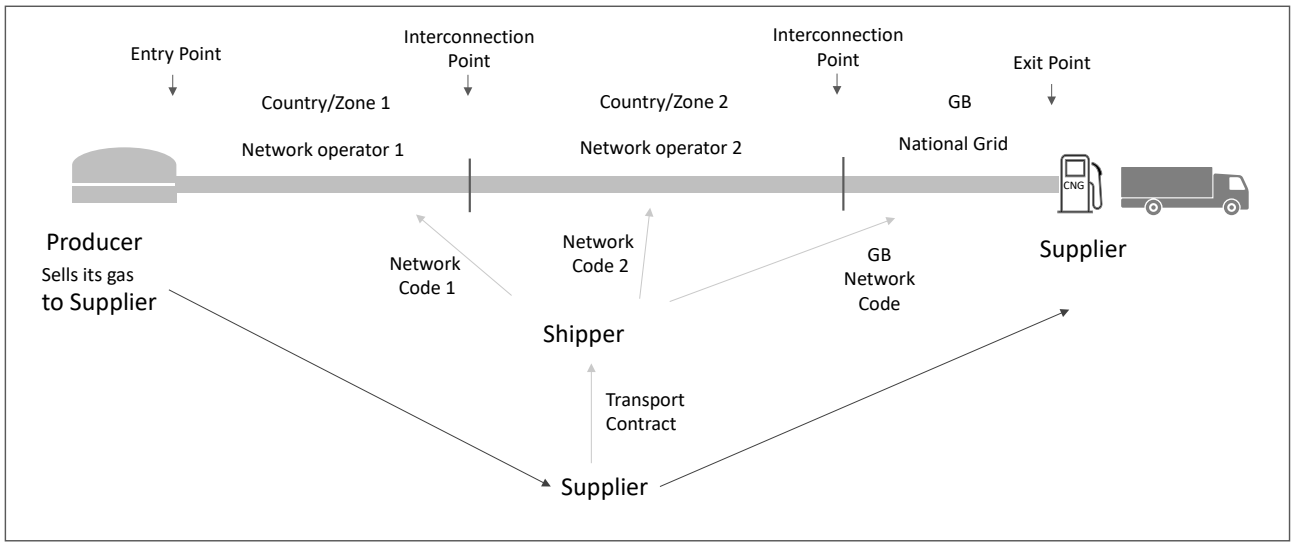
2.4 Network operators and gas shippers have arrangements in place between them to account for quantities put into the pipeline system and taken out of it. Pipelines are physically balanced by the network operator for safety, typically on a daily basis.

2.5 Suppliers who are not also gas shippers will need to arrange for transportation of the biomethane through the pipeline transmission and/or distribution infrastructure to their duty point or other point of extraction, using parties who are gas shippers.

2.6 It is not necessary for network operators or gas shippers to be certified but they hold relevant key information concerning nominated/allocated or metered gas flows and cross border capacity bookings which are needed by the party applying for RTFCs to demonstrate the quantities of gas that have been injected, transported and extracted.

2.7 Traders can trade gas within pipelines and may also trade financial products. Traders may or may not also be gas shippers. To trade gas for physical delivery in a pipeline it is necessary for the party to also be a gas shipper on that pipeline.

Roles of the parties in the transport of biomethane via interconnected pipelines



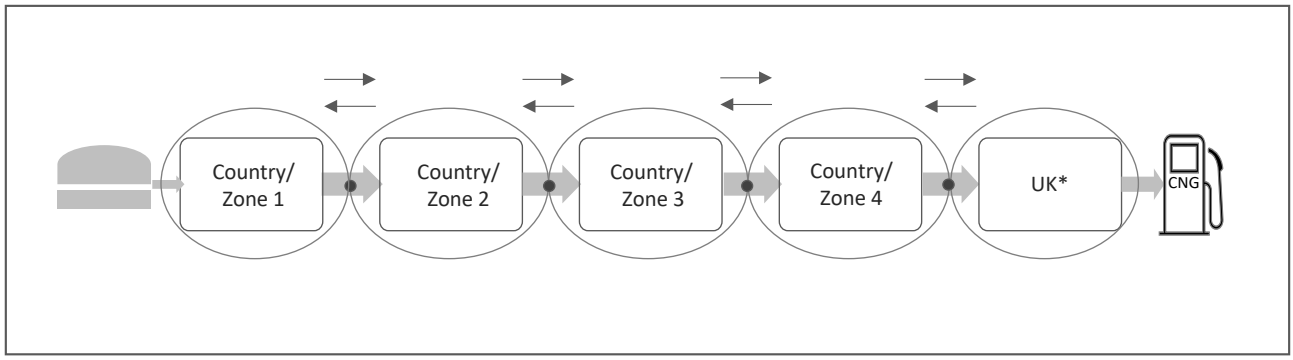
Notes:

1. *The supplier buys the biomethane from the producer and pays the shipper to transport it to their Filling Station*
2. *The shipper is party to the contracts (network codes) of the network operators and pays the network operators for transportation in the pipeline*
3. *The shipper holds/books pipeline capacity and makes nominations for gas flows at the interconnection points between the pipeline systems*
4. *The supplier pays for transport service from a third party shipper*

NB: This is a simple illustration for pipelines – for example: there may be more than one supplier or trader in the custody chain of the biomethane between the producer and the point of consumption, the supplier may contract with multiple shippers, the supplier may purchase gas in one of the pipeline systems or at the exit point, and suppliers and traders may also be shippers. In this example, the supplier is also the reporting party applying for RTFCs.

Relevant level for mass balance accounting in pipelines

2.8 The pipeline networks of Great Britain, Northern Ireland and countries in Europe operate independently of each other but are connected at interconnection points as the simple illustration below indicates:



** Northern Ireland and Great Britain each have their own balancing areas with interconnection points between them, as does the Republic of Ireland. Gas may be transported between each of them by booking capacity and nominating gas flows at the interconnection points in accordance with the rules of the network operators in the same way as described above. Please see Annex A for a more detailed diagram of this arrangement.*

2.9 Under the RTFO scheme, in respect of the UK and European pipeline grids, each pipeline grid or balancing area/zone is treated as a separate mass balance 'site' or 'system' according to the underlying operational rules of the network operators. Each network operators' rules will set out the entry and exit points for their systems which define the boundaries of the areas or zones over which their respective networks must be balanced.

2.10 These mass balance systems are typically (but not always) defined by national boundaries and/or market hubs/trading areas and may be connected to others (or indeed a number of others) at 'cross border interconnection points'.

2.11 The RTFO scheme extends to Northern Ireland so it is possible to apply for sustainable biomethane which is put into transport in Northern Ireland including where it has been transported via the pipeline grid.

Movement of biomethane in pipelines

2.12 In order for a gas shipper to transport gas across a 'cross border interconnection point', capacity must be booked and gas flows must be nominated by the shipper to the network operator(s) at the interconnection point in question. Flows are subsequently confirmed by the network operators in accordance with their rules. Commercial reverse flow (also known as virtual reverse flow) is generally available at such interconnection points. This means that gas can be nominated to flow in the opposite direction to the aggregate physical flow and gas shippers' accounts with the respective network operators are adjusted accordingly.

2.13 The approach set out here by the Administrator requires gas to be physically transported. Therefore, parties importing gas to the UK and using a pipeline at any stage in their supply chain will need to book capacity and nominate gas flows at each cross border interconnection point on the pipeline route between the injection point

and the point of extraction, even where that would mean a party shipping against the price differential between market hubs.

Terminology

In this biomethane guidance document:

- **'Cross border interconnection points'** is used generally to refer to the points between the zones over which the network operators manage the physical balancing of a pipeline network
- **'Flows'** in respect of cross border interconnection points refers to flows in either the forward or the reverse flow direction, even where the reverse flow is virtual rather than physical
- **'Suppliers'** refers to any party in the custody chain, whereas **'reporting parties'** refers specifically to the fuel supplier submitting an application for RTFCs

Example operating models for biomethane being delivered by interconnected gas pipelines

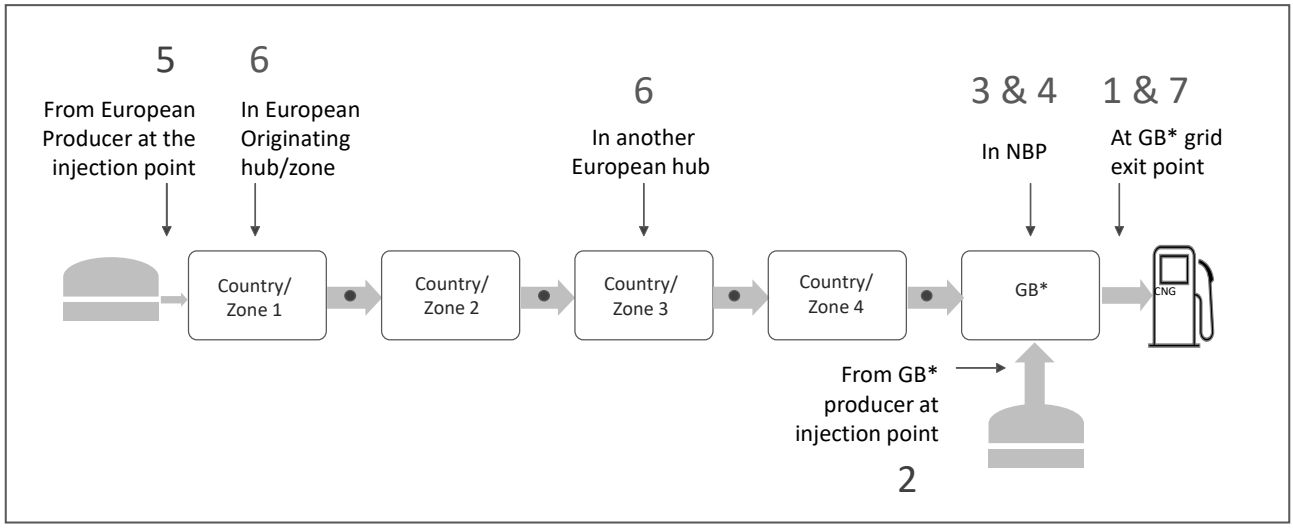
2.14 A variety of operating models are available to reporting parties as best suits their business needs. The following examples are characterised by the location of the production and the location of the point of purchase by the reporting party. In general terms, these examples cover the range of possibilities in respect of UK-produced biomethane and biomethane being produced in Europe and transported to the UK by pipeline. Reporting parties may purchase biomethane:

- directly from the producer at the point of injection
- from a gas shipper/trader within the pipeline system into which it was injected, or in another European pipeline hub
- from a gas shipper/trader within the GB or NI pipeline
- from a gas shipper/trader at the pipeline exit point, where their filling station is connected or where they offtake the biomethane for onward processing or transport by another means

The following table summarises the key points of each of the operating model examples:

	Operating model type	Production point	Pipeline entry point	Cross border point	Pipeline exit point	Biomethane purchase point
1	Purchase of GB biomethane at the GB exit point/filling station	GB site	GB Production injection point	n/a	Filling station connection/exit point	GB Pipeline exit point/Filling Station
2	Purchase at the injection point for GB biomethane	GB site	GB Production injection point	n/a	Filling station connection/exit point	GB Production injection point
3	Purchase in the NBP for GB biomethane	GB site	GB Production injection point	n/a	Filling station connection/exit point	NBP
4	Purchase in the NBP for European biomethane	European site	European Production injection point	Each cross border point on the route from production to NBP	Filling station connection/exit point	NBP
5	Purchase at the injection point for European biomethane	European site	European production injection point	Each cross border point on the route from production to NBP	Filling station connection/exit point	European production injection point
6	Purchase in a European hub for European biomethane	European site	European production injection point	Each cross border point on the route from production to NBP	Filling station connection/exit point	European hub
7	Purchase of European biomethane at the GB exit point/filling station	European site	European production injection point	Each cross border point on the route from production to NBP	Filling station connection/exit point	GB Pipeline exit point/Filling Station

Operating Models Illustration: Possible Biomethane purchase points



**The illustration refers to GB and the NBP. Please see Annex A for more detail in relation to Northern Ireland*

Evidence for the pipeline physical mass balance: UK and Europe

2.15 The table below summarises the required evidence for gas transported across the interconnected pipelines of the UK and Europe. Under the rules of the network operators, it may be assumed that the necessary capacity for pipeline entry and exit has been procured by the injecting or offtaking shipper respectively. However, evidence of capacity booking and confirmed flows at cross border points is required to demonstrate that the gas has been transported across the pipeline systems.

2.16 These requirements, which should accompany the evidence of sustainability characteristics provided on a Proof of Sustainability ('PoS') or equivalent, are further set out in Section 3 and are referred to as the pipeline transport information.

Evidence Type	Pipeline Entry Point	Cross Border Points	Pipeline Exit Point
Mass balance evidence required: Quantities	Quantities input into the grid	Quantities shipped across each border point	Quantities extracted from the grid
Mass balance evidence required: Capacity	Not required	Capacities booked at each cross border point(s)	Not required

Sources of evidence for pipeline transport information

2.17 Which party holds the relevant evidence will depend on the reporting party's contracts and their choice of operating model for their custody chain as described in these examples:

Example 1: Models 2 and 5

Where a reporting party contracts directly with a producer at the injection point, the biomethane purchase agreement will generally provide for the provision of confirmation of the quantities of physical biomethane injected into the pipeline along with the provision of the PoS, since they will reflect the amounts being purchased. The remaining pipeline transport information will then be required from the reporting party's gas shipping service provider(s) for the transport step(s).

Example 2: Models 3, 4 and 6

Where a reporting party contracts with a trader or a shipper to buy biomethane in the pipeline system the seller will need to provide the evidence of the quantities of physical biomethane injected along with the PoS, as well as the pipeline transport information from the injection point to the point of sale. The reporting party will then need to obtain the remaining pipeline transport information from their own gas shipping service provider(s) from the point of purchase to the point of extraction.

Example 3: Models 1 and 7

Where a reporting party contracts to buy biomethane at their exit point/filling station the reporting party will need to obtain all of the upstream pipeline transport information including quantities injected from the seller along with the PoS. The pipeline exit quantity information will also be reflected in the confirmed quantities under their purchase invoices with the seller.

2.18 Where a reporting party produces its own biomethane, they will need to arrange for transport along the whole pipeline system from the injection point to the point of consumption, so should have access to all the evidence required through its own contracts.

Pipelines outside of the UK and Europe

2.19 Where suppliers use pipelines outside the UK and Europe, the same principles for the provision of evidence as described in relation to the UK and Europe will be applied. It will not be necessary for pipeline operators or gas shippers or their equivalent (i.e. parties who have contracts to ship gas through the pipeline) to be certified and reporting parties and suppliers can contract with those parties for transport service.

2.20 In countries other than the UK and in Europe, pipeline balancing zones may or may not align with national borders. Suppliers should discuss new supply chain routes with the Administrator prior to submitting an application, so that the appropriate zones and relevant requirements of the operators (for example regarding capacity and nominations, and appropriate sources of information for adjusting carbon intensity) can be established along with the required evidence.

Non-pipeline transport and storage of biomethane, including where biomethane is a chemical precursor

2.21 Biomethane may be moved in other forms of transport including road trailers or tankers, trains and ships. It may be moved in a compressed gaseous form or as a liquid. It may also be contained as a gas or a liquid in storage facilities. LNG and other storage facilities may be directly connected to a pipeline grid although this is not always the case.

2.22 All movements of biomethane on/off or into/out of the transport or infrastructure anywhere in the supply chain should be accounted for and evidenced to the reporting party's verifier. This applies anywhere in the world, whether as gas or liquid and regardless of whether the biomethane is to be a final supplied fuel or is a chemical precursor to another fuel. In each case, the gas quantities should be accounted for using the normal underlying rules of the transport or infrastructure operator.

2.23 Generally, all these types of infrastructure contain mixtures of gas being carried or stored on behalf of multiple parties and so mass balance rules are applicable. The only exception would be where a specific transport or storage facility contains physically segregated consignments which are carried/stored separately for only one owner at a time.

2.24 For example, for gas being moved on/off an LNG ship, the 'bill of lading' or equivalent will provide the relevant evidence that the reporting party will need to support their application for that consignment of biomethane. Similarly, the normal accounting methods for road tankers and trains will provide the relevant evidence for those means of transport and may include, for example, invoices showing metered quantities or weighbridge tickets.

2.25 Each step in the supply chain and references to all the associated evidence should be recorded on the pipeline (and other) transport information form (see paragraph 3.25) for verification and all the information and evidence should be retained by the reporting party for inspection by the DfT, should it be required.

3. Requirements for biomethane or fuels for which biomethane is a precursor: The Conditions

Suppliers of biomethane and suppliers of fuels for which biomethane is a chemical precursor (for example biomethanol or MTBE) must comply with the following conditions in addition to the wider requirements of the RTFO scheme set out in the RTFO Compliance Guidance.

General conditions

Making RTFC claims and multiple incentives

3.1 Fuel suppliers wishing to apply for RTFCs for biomethane and fuels for which biomethane is a chemical precursor (described in these conditions as 'reporting parties') should contact the Administrator before making an application. Any new supply chain routes should also be discussed with the Administrator before making an application in respect of those routes.

3.2 Applications must be made on an administrative consignment basis.

3.3 Each administrative consignment must be comprised of biomethane with the same carbon and sustainability characteristics (see Chapter 7 of the RTFO Compliance Guidance).

3.4 A producer may be certified by a recognised voluntary scheme to provide evidence of the sustainability of the production and the associated mass balance, which will be shown on a Proof of Sustainability ('PoS'). Where a producer is not certified by a recognised voluntary scheme, the Administrator will require evidence of the sustainability and mass balance of the production for the whole supply chain back to the origin of the feedstock in accordance with the guidance set out in the RTFO Compliance Guidance. The biomethane that has been produced must meet the sustainability criteria for the RTFO.

3.5 Renewable guarantees of origin and other commercial green gas certificates are not acceptable to support an application for RTFCs. Furthermore, to comply with the RTFO mass balance rules, the renewability of the gas must only be sold/claimed once. Therefore, where green gas certificates are claimed/received, these must

remain associated with the gas being claimed under the RTFO and be retired by the party claiming RTFCs. The certificates must not be sold separately from the gas as this would represent a double claim.

3.6 The quantities of biomethane for which RTFCs are being applied for must be the same as or less than the HMRC duty quantities for which duty has been paid in the RTFC application period.

3.7 The HMRC duty point for biomethane is when the gas is sent out from the premises of the producer (or dealer) for use as fuel in a road vehicle, or when set aside for use as road fuel. The point of "setting aside" takes place when it is decided that the gas is to be used as a motor fuel. This could be by physical separation or by way of an order being processed for road fuel gas at a depot. This means that either the injector of the biomethane into the grid or the extractor of the gas from the grid could be the duty payer. Therefore, either party, depending on where the duty point is, could be eligible to apply for RTFCs for sustainable biomethane.

3.8 Only one application for RTFCs can be made on a given consignment of gas; it is not permitted for both the injector and extractor to make applications for the same consignment.

3.9 The biomethane for which an application is submitted must meet the requirements of the RTFO with regards to multiple incentives, outlined in Chapter 6 of the RTFO Compliance Guidance.

3.10 Reporting parties will need to provide evidence of the location of production, any relevant registration numbers of the producer, and date(s) of injection of the biomethane into the grid. This will to enable confirmation by the Administrator that the requirements of paragraph 3.9 have been met.

3.11 For applications for biomethane produced by UK plants which are registered under the Renewable Heat Incentive scheme (or any successor scheme), the RHI registration number(s) of the producer must be provided.

Conversion factors and adjustments

3.12 Applications for biomethane must include any conversion factors that affect the final supplied quantity of gas. Reporting parties using gas pipelines must adjust the final quantities delivered into transport using actual data for grid losses or use national average figures from an appropriate reference source[1] if actual data is not obtainable. As a default, for pipelines across Europe to mainland Great Britain the map provided in Figure 1 may be used to determine which losses factor to apply, based on a default figure of 0.13% losses per 1000km[2].

3.13 The final carbon intensity of the biomethane for which RTFCs are being applied for must include any emissions associated with the pumping and distribution through pipeline grids and any other transport or processing of the gas **at any point** in the chain of custody including any conversion to CNG or LNG and/or regasification[3]. Emissions associated with any losses must be taken into account.

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[1] For example, information on UK grid losses of gas is reported in the Digest of UK Energy Statistics (DUKES) Report and the latest version of the JEC report also provides data and information on losses.

[2] This is in line with the figure provided in the latest version of the JEC report.

[3] Appropriate factors may be obtained from the latest version of the JEC report.

3.14 All final carbon intensities must be reported on a Low Heating Value (LHV, also known as net CV) basis. Therefore, when using standard factors to determine the final carbon intensity, reporting parties must ensure that these factors were calculated on a LHV basis or undertake the necessary conversions.

Figure 1 Map for determining which default factor to apply when calculating losses during pipeline transport. If the site of injection is within the circle, the specified losses factor for that circle shown in the key above may be applied. An interactive version of this map is available here (Source: mapdevelopers.com, Map Data: ©2021 Google, INEGI).

3.15 Applications for RTFCs should be submitted in kilograms. Pipelines typically operate in energy terms (i.e. kWh). When converting the quantity in kWh delivered from a pipeline to kilograms, reporting parties should use the same treatment of CV as was used to determine quantities put into the pipeline. Reporting parties should therefore ascertain whether the quantity of biomethane injected into a pipeline by the producer has been determined/stated using an LHV or High Heating Value (HHV, also known

as gross CV) basis. Where this cannot be confirmed by the reporting party, they should use the most conservative assumption, i.e. the assumption which gives the lowest quantity of biomethane delivered, which when converting from kWh to kilograms would be the HHV.

3.16 Network operator meter data is typically determined/stated in HHV terms, but biomethane producers may state their quantities produced in LHV. For biomethane quantities determined at LHV entering a pipeline, the quantity delivered should be restated in HHV to determine the quantity of capacity which should be booked through the pipeline network.

Pipeline transport and chain of custody

3.17 For biomethane imported from Europe via transmission and distribution pipeline infrastructure, it must be demonstrated that there is an interconnected pipeline route from the point of production in the country of origin to the UK pipeline grid[4], such that the supply of biomethane going into the grid could have been in contact with the gas being extracted. Elsewhere in the world, wherever pipeline transport is used to move gas from a point of injection to a point of extraction, there must be a continuous interconnected pipeline route between them. Where gas is moved from/to pipeline infrastructure from/to any other type of infrastructure (such as storage or liquefaction/compression facilities) there must be a direct physical connection between the infrastructure concerned, otherwise the means of transport between them must also be evidenced.

3.18 Commercial reverse flow at cross border interconnection points between the interconnected gas pipeline grids of the UK and Europe is permitted in accordance with the rules of the relevant network operators[5] at those points. Elsewhere in the world commercial reverse flow may be used at points where it is permitted and accounted for in accordance with the rules of the relevant network operators. Reverse flow capacity, where it is needed in order to 'flow' gas towards the UK from Europe, can and should be booked (and reverse flows nominated) separately by shippers from forward flow capacities and separately from forward flow nominations (i.e. forward and reverse flow capacities at the same interconnection point should **not** be netted off against each other, and neither should forward and reverse flow nominations).

3.19 It is not necessary for a shipper who is delivering gas on behalf of more than one party to make individual capacity bookings or flow nominations for each of those parties. In this case, capacity in the relevant direction may be booked in aggregate and the shipper may provide a statement of disaggregated information showing the dates of bookings and confirmed flows to the parties for whom they are delivering gas in that direction. This information should be passed to the reporting party so that the pipeline (and other) transport information form can be completed in respect of the gas which the reporting party has ultimately purchased (see paragraph 3.25).

3.20 For interconnected pipeline transmission and distribution systems, the Administrator's view of the relevant level of 'site' (or 'system') over which a party's

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[4] The RTFO scheme applies in Northern Ireland as well as Great Britain. See also footnote 6.

[5] More information about UK and European cross-border interconnection points and the relevant network operators at each point can be found here.

mass balance must be accounted for is each zone or market area over which there are established operational rules for the physical balancing of the zone or market area by the network operator and the gas shippers using that pipeline system. Across Europe, balancing zones tend to reflect national boundaries, so each country's pipeline grid will typically form a separate mass balance 'system'.[6] Elsewhere in the world, the relevant balancing zone or area will be a function of the contractual rules of the relevant network operators for physically balancing their networks.

3.21 Gas storage sites (including LNG storage sites) which are connected to the grid typically have their own physical balancing rules. For gas which has been held in a physical storage facility, separate mass balance records will be required for a party's inputs to and outputs from the storage, with quantities being accounted for in accordance with the rules of the storage facility operator.

3.22 Book and claim systems[7] are not acceptable under the RTFO scheme and the custody chain must be operated on a mass balance basis from start (i.e. the point of origin of the feedstock) to finish. This means that:

- the transfer of ownership of a PoS must always be accompanied by a physical transfer of ownership (i.e. a sale/purchase) of the associated quantity of gas between the same parties, except in the specific case described in paragraph 3.23
- the reporting party must show the evidence of the physical mass balance from the point of origin of the feedstock to the point at which the application is made (i.e. the duty point) regardless of the reporting party's purchase point
- for any pipeline or other transport step, the reporting party needs to obtain the pipeline (and other) transport information (as set out in paragraphs 173.24, 3.25 and 3.26) from each upstream party in the custody chain including those certified under recognised voluntary schemes

3.23 Where a producer uses a third party (an 'entry shipper') to carry out the necessary transactions with the pipeline operator to inject biomethane into a pipeline mass balance system, it may do so without transferring any PoS or other renewability credentials to the entry shipper. In this specific case, the entry shipper treats the biomethane as fossil gas and may sell it onwards in the gas market to other counterparties as fossil gas only. For the purposes of the RTFO, where the producer has such an arrangement for injection into a pipeline grid with a fossil gas-only entry shipper, the producer is permitted to transfer the ownership of the PoS associated with that biomethane consignment directly to the next party in the RTFO custody chain (and not to the entry shipper), provided that all of the following conditions are met:

- the PoS receiving party purchases the equivalent quantity of gas from within the same pipeline mass balance system that the biomethane was originally injected

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[6] There are some exceptions to this, where balancing zones reflect market areas which may be smaller than national level, or where balancing areas may incorporate market areas from more than one country. For example, Northern Ireland has its own balancing zone which is separate from GB and 'cross border' transport of gas between NI and GB, and/or between ROI and NI must therefore also be accounted for in the custody chain. In each case, for the pipeline transport step in the custody chain there must also be an interconnected pipeline route in accordance with paragraph 3.17.

[7] Book and claim systems are systems where certificates of sustainability are sold/traded separately from the physical commodity.

into. This purchase could either be from the producer (who must have bought an equivalent quantity of gas to sell to the receiving party in that pipeline mass balance system) or from another party with gas in that pipeline mass balance system. In either case, the PoS receiving party must provide the relevant evidence of the gas purchase transaction from the relevant pipeline mass balance system along with the evidence of purchase of the PoS from the producer. The PoS receiving party must take delivery of gas under the gas purchase transaction between the physical injection date and the date of the transfer of the PoS from the producer to the PoS receiving party

- the producer treats the injected quantity of gas as retained within their own mass balance records until the ownership of the PoS is transferred to the receiving party, and both parties must comply with the mass balance requirements of the RTFO, in particular not holding a negative mass balance over longer than 3 months (i.e. in accordance with paragraph 3.34)
- the producer can provide evidence that it has not sold any other renewability credentials associated with that quantity of gas to any other party, in particular to the 'entry shipper', who should have agreed in its contract with the producer not to make any renewable claims associated with the biomethane (see paragraph 3.5)

Transport of biomethane via any non-pipeline means

3.24 Mass balance evidence for the custody chain also needs to be provided separately for biomethane which is transported between the point of production and the point of consumption by non-interconnected means, for example by:

- trains
- road tankers, tube trailers, or other road transport
- sea-going LNG ships or vessels

This applies for each step anywhere in the world and at any stage in the supply chain (including from the production site to a pipeline injection point) whether or not the transport-arranging party is certified. The quantities moved in and out of each mass balance system by each party in the custody chain (including for example any processing, liquefaction, compression, storage facilities, pipeline transmission and distribution infrastructure and/or any other form of transport) should be recorded on the pipeline transport (and other) information form with details of the relevant evidence which should be passed down the supply chain to the reporting party. This may include metering, weighbridge or other quantity receipts, or other appropriate accounting evidence provided by the operator for the transport type concerned. It should be noted that this condition also applies to any biomethane produced in or imported to GB/NI and used/'consumed' at filling stations or otherwise in transport in GB/NI without entering the pipeline transmission and distribution infrastructure. It also applies to gas which is delivered through an LNG importation terminal in Europe and then imported to GB via the pipeline grid.

Pipeline (and other) transport information form

3.25 The pipeline transport information comprises:

- quantities of biomethane input into the grid
- capacity bookings at cross border interconnection points

- confirmation of quantities flowed across the cross border interconnection points
- quantities extracted from the grid

all as confirmed in dated invoices/contract delivery notes, along with the accompanying contractual details as set out in the pipeline (and other) transport information form (a downloadable copy of the form is available online). The form should also be used to report quantities of biomethane loaded and unloaded on any other form of transport or put into/taken out of storage, **at any stage** in the supply chain, anywhere in the world. The form should be completed by the reporting party for checking by their verifier prior to submitting an application and retained by the reporting party along with all the associated evidence for inspection by the Administrator if required. Please read the notes on the first page of the form for more details.

3.26 Reporting parties, and other parties in the custody chain (including producers), may arrange for a third-party gas shipper to physically transport consignments of biomethane which they have sold/purchased (or contracted to sell/purchase) through a pipeline system on their behalf. Where this is the case, it is not necessary for the PoS (or equivalent) associated with the consignment to be transferred to the third-party gas shipper providing the transport service, but:

- since under mass balance principles the PoS should not be transferred separately from the commodity, the PoS should be retained by its owner and may not be sold or traded by that party until after they have taken physical delivery of the consignment of gas at the delivery point in accordance with the contract governing the arranged transport service
- the third-party gas shipper will need to provide the relevant pipeline transport information to the transport-arranging party and where this is not the reporting party, the information will need to be transferred to the reporting party in order that they can evidence the physical mass balance across the pipeline infrastructure and any other transport or storage for each step of the complete custody chain
- where a gas shipper is providing transport for more than one party, disaggregated information will need to be provided to the reporting party to support the quantities for the specific application/contract
- the principles set out in this paragraph 3.26 also apply where gas is transported using any other type of transport or stored by a third party transport operator or storage operator respectively

Requirements for certified and non-certified parties under voluntary schemes

3.27 Some or all parties in the custody chain may be certified under one of the recognised voluntary schemes. Where any party in the custody chain upstream of the delivery point in the reporting party's purchase contract is **not certified**, all the sale/purchase transactions in the whole custody chain must also be reported using the relevant table on the pipeline (and other) transport information form (see paragraph 3.25).

3.28 Where **all parties** in the custody chain are **certified** the reporting party still needs to ensure that the pipeline (and other) transport information is provided for the whole custody chain, which may mean certified parties need to provide additional information to the reporting party over and above that available through or required

by voluntary schemes. However, where all parties are certified it is not necessary for the reporting party to report all of the upstream sale/purchase transactions.

Splitting of a proof of sustainability

3.29 Where a party in the custody chain is certified by a recognised voluntary scheme, that party will typically be allowed to split a single PoS document relating to a consignment of biomethane into more than one PoS in order to sell to more than one party, and this process may be subject to audit under the terms of voluntary schemes. Where a party is not certified but wishes to split a consignment of biomethane, it will need to provide the mass balance evidence to support the way in which the sustainability characteristics have been split.

Mass balance period, 'carry over' of credit balances and voluntary schemes

3.30 It is the responsibility of each party in the chain of custody to keep the necessary records and evidence to be able to demonstrate the complete chain of custody for an application. In relation to pipelines, the Administrator views the relevant mass balance system(s) in which a party's mass balance should be accounted for in accordance with paragraph 3.20 and hence this applies in respect of the maximum mass balance period and the treatment of credit balances. A mass balance is particular to the party and to the relevant balancing zone/system or other transport or storage component in the supply chain.

3.31 The dates shown on the pipeline (and other) transport information evidence should be used to confirm the timing of gas flows entering and leaving a party's mass balance in any given mass balance system over the mass balance period.

3.32 Each party may choose its own mass balance period (up to a maximum of 3 months). It may be easier to manage supply chains if the mass balance periods for all parties are aligned.

3.33 The recognised voluntary schemes typically apply a 3-month maximum mass balance period. This means that during the mass balance period, a party's mass balance in a given mass balance system may be temporarily negative but by the end of the period at least as much sustainable material must have entered the party's mass balance in that system as has been taken out. In addition, parties certified under such schemes may, in accordance with the rules of those schemes, 'carry over' a positive credit balance of their mass balance.[8] The Administrator recognises this arrangement for pipelines provided that the certified party's mass balance is accounted for in the relevant mass balance system(s) in accordance with paragraph 3.20. This may mean certified parties need to keep (and be able to provide to the reporting party if required by the Administrator) additional evidence of their mass balance in particular mass balance systems over and above that required by voluntary scheme.

3.34 For non-certified parties in the custody chain, the maximum mass balance period for a mass balance in any given mass balance system permitted by the Administrator is

[8] This means that where more biomethane has entered the party's mass balance in a given mass balance system in a (maximum) 3-month period than has left it, such surplus may be carried forward to the next mass balance period.

3 months. A 'carry over' of a positive credit balance in a given mass balance system into the next mass balance period (immediately following the first) is permitted provided it can be evidenced by the non-certified party and the evidence is provided to the reporting party.

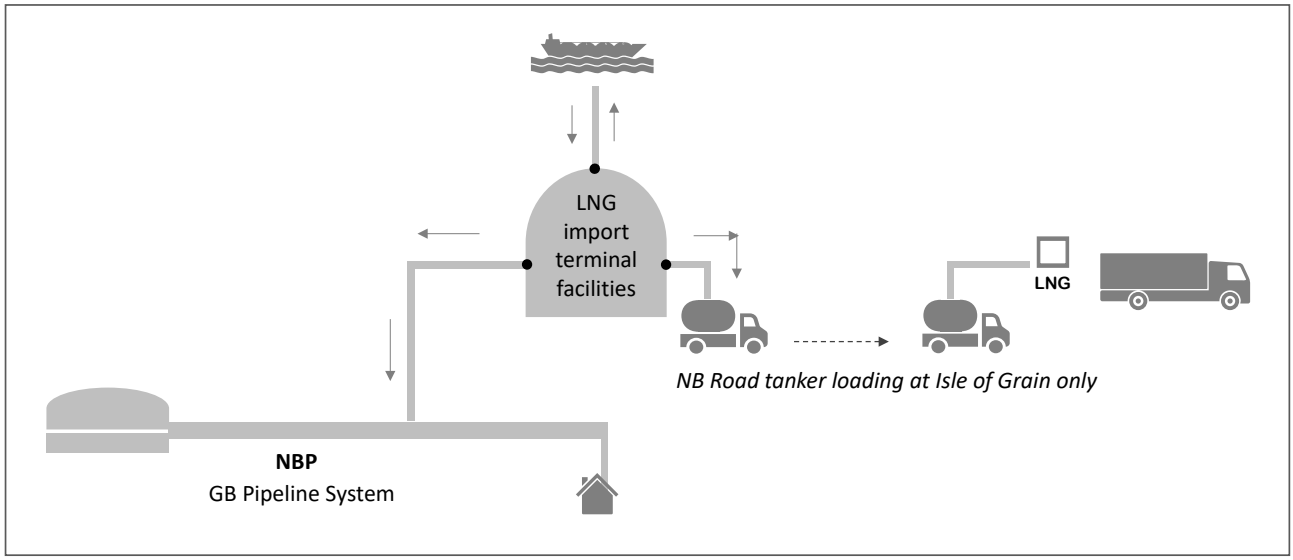
3.35 In line with Chapter 10 of the RTFO Compliance Guidance, it is not permitted to finish a mass balance period with a negative position (where there is less sustainable biomethane received into a party's mass balance, including carry over, in a given mass balance system than leaving it over the mass balance period). If a negative position does occur at the end of the party's mass balance period, the party should contact the RTFO Administrator immediately to discuss the situation.

3.36 The principle of maintaining a positive mass balance applies to each individual party in the supply chain and in relation to each system/balancing zone or other means of transport through/on which the biomethane is transported or stored. Under the RTFO scheme, there are ultimately no limits on the total elapsed time between production and consumption, nor on the number of times a positive balance in a given mass balance system may be 'carried over' to the next mass balance period.

Importation of LNG via the GB LNG import terminals

3.37 Biomethane in the form of LNG may be delivered to GB via a sea-going LNG ship to any of the three LNG import terminals. All three of these facilities provide for regasification and injection directly into the grid as well as storage of gas as LNG. The Isle of Grain also has an LNG road tanker loading facility. The relevant party in the custody chain needs to provide evidence for the quantities being imported into the terminal, held in store (if applicable) and/or moved to each point of output from the terminal (i.e. either the GB pipeline grid or LNG road tanker filling if applicable) as shown in the illustration below. In accordance with paragraph 3.13 the change in the carbon intensity associated with each step in the supply chain route (particularly in this case, regasification/vapourisation) must also be accounted for.[9]

Illustration of a UK LNG terminal configuration



[9] Appropriate factors may be obtained from the latest version of the JEC report.

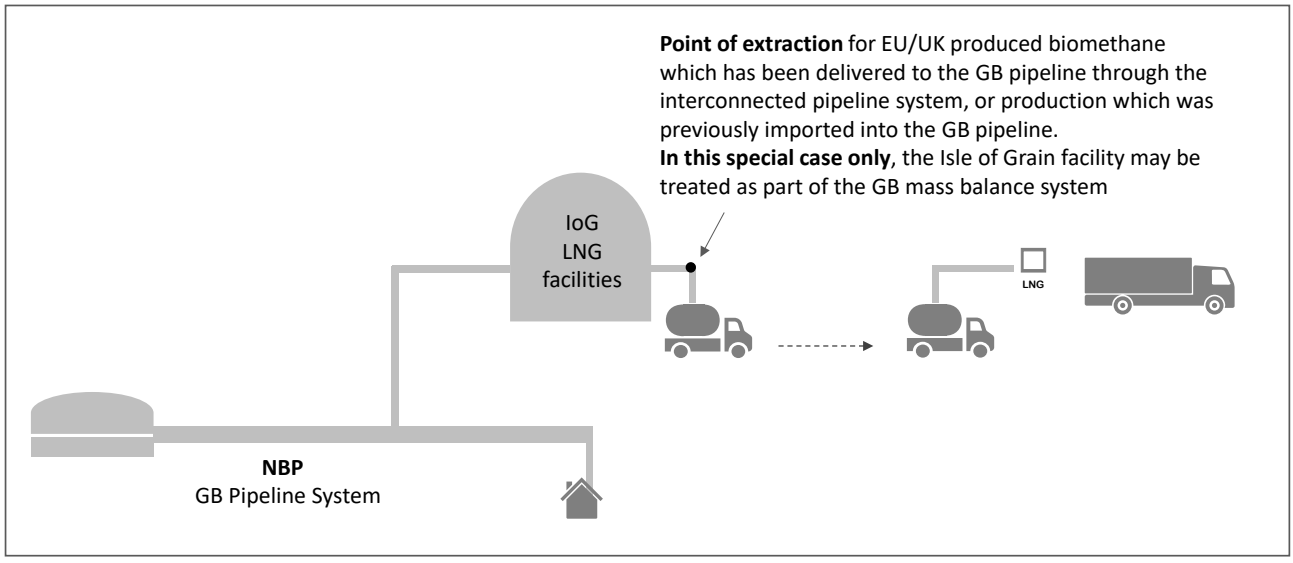
Downstream extraction of LNG or CNG from the UK pipeline grid

3.38 For the purpose of taking gas out of the GB pipeline mass balance system as LNG, the Isle of Grain terminal may be treated as forming part of the GB pipeline grid mass balance system and the point of extraction from the grid may be treated as the point at which gas is put into the road tanker for onward transport. Currently[10], the Isle of Grain is the only LNG facility at which this special arrangement is in place and it only applies in respect of either:

- UK-produced biomethane or European-produced biomethane which has been delivered to GB via the interconnected pipeline system
- Non-European production which has previously been imported to GB via any of the LNG terminals and moved into the GB pipeline, in which case paragraph 3.37 will still apply separately to the importation process into the GB pipeline

This means that the quantities moved into and out of the Isle of Grain terminal (or other LNG terminal) and into the GB pipeline during the importation process must be separately accounted for in the custody chain and the carbon intensity adjusted accordingly, prior to the extraction of the gas from the GB pipeline via the terminal into road tankers.

Illustration of the point of extraction under paragraph 3.38



3.39 Where biomethane is taken out of the GB or NI pipeline grid (including under paragraph 3.38) and is subsequently moved as LNG or CNG from the grid to a filling station including via train, road tanker or trailer, as well as the other information required for the pipeline transport step (see paragraph 3.25), the reporting party must provide evidence of:

- the quantities extracted from the pipeline grid

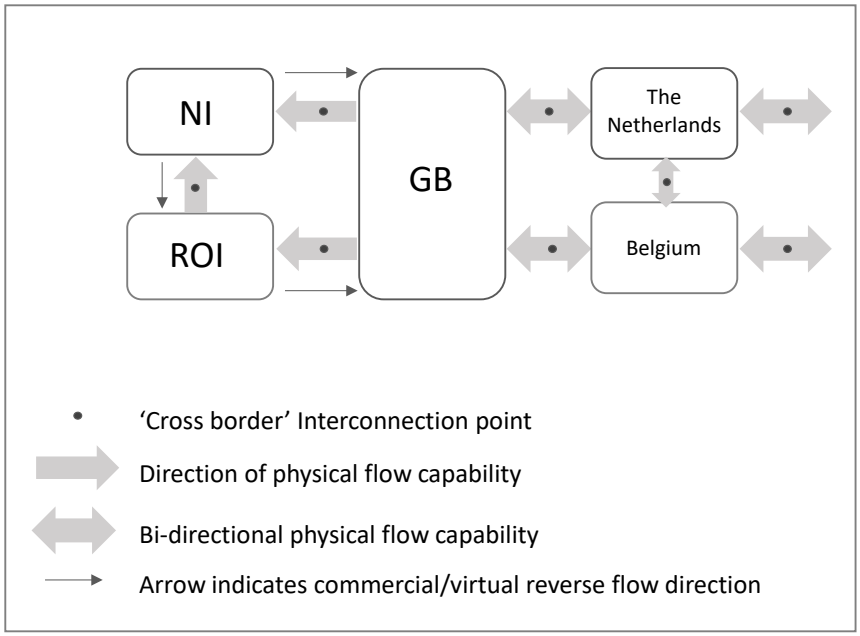
[10] Should other LNG terminals develop road tanker filling facilities, it is anticipated that the same principles would be able to apply at those terminals and the guidance would be updated accordingly.

- the increase in the Carbon and Sustainability data[11] associated with the liquefaction, compression and downstream transport stage
- the quantities delivered at the duty point

[11] Appropriate factors may be obtained from the latest version of the JEC report.

Annex A: Interconnection Points between Great Britain, Northern Ireland and the Republic of Ireland

A.1 The following diagram illustrates the points of interconnection between Great Britain (GB), Northern Ireland (NI) and the Republic of Ireland (ROI), as well as between GB, Belgium and the Netherlands, which are both interconnected to the wider European pipeline network.



A.2 Gas flows physically from GB to both NI and the ROI through a joint 'cross border' interconnection point with National Grid's pipeline network at Moffat in Scotland. At that point, gas shippers can book capacity and nominate gas flows:

- from GB to ROI
- from ROI to GB
- from GB to NI
- from NI to GB

A.3 There is also a 'cross border' interconnection point between ROI and NI on the island of Ireland, known as the South-North Interconnection Point. At this interconnection point it is possible to book capacity and nominate gas flows:

- from ROI to NI
- from NI to ROI

Annex B: Summary of changes (since January 2022 version)

Location	Description
Chapter 1, paragraph 1.7	Removal of text describing transitional arrangements in 2021, as these are no longer relevant.
Chapter 3, paragraph 3.5	Additional clarity provided on the use of green gas certificates and ensuring that there is no double claim for the same renewability credentials.
Chapter 3, paragraph 3.22	Added reference to the specific case in paragraph 3.23
Chapter 3, paragraph 3.23	Description of a specific case added, allowing for the direct transfer of a PoS between parties without the direct sale of an equivalent quantity of gas under certain specific circumstances.
Chapter 3, paragraph 3.35	Further guidance provided on what to do if a negative mass balance position occurs.