



Distribution Capital Contribution Policy

October 2017 to September 2018



Introduction

First Gas operates 2,500km of gas transmission pipelines (including the Maui pipeline), and more than 4,800km of gas distribution pipelines across the North Island. These gas infrastructure assets transport gas from Taranaki to major industrial gas users, electricity generators, businesses and homes, and transport around 20 percent of New Zealand's primary energy supply.

For further information on First Gas, please visit our website www.firstgas.co.nz.

Purpose of the Capital Contribution Policy

First Gas is committed to growing our gas distribution networks and increasing the utilisation of existing networks. An essential driver of growth is seeking the minimum capital contribution required to make the investment economic.

First Gas does not apply a rebate scheme; we acknowledge that we have a responsibility to promote natural gas, and have taken the risk associated with connection uptake on ourselves. This prevents it being foisted onto developers.

There is capital available to invest into viable projects and the policy endeavours to strike the balance of lowering barriers of entry (minimising contribution requirements) with providing a stable, and appropriate return to shareholders.

This document contains information required under section 2.4.6 of the *Gas Distribution Disclosure Determination 2012*. This involves disclosing First Gas' policy for determining capital contributions, and how the capital contribution amount is calculated.

The Input Methodologies require that capital contributions received are netted off the value of new assets added to the Regulated Asset Base. This means that new assets only contribute to future revenue requirements to the extent they have not already been paid for via a capital contribution.

The First Gas Distribution Capital Contributions Policy will be reviewed annually, with updates available online at firstgas.co.nz/about-us/regulatory/distribution/.

Further information

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Contents

Introduction	2
Purpose of the Capital Contribution Policy	2
Further information	2
1. Definitions.....	4
2. Why we require a capital contribution	5
3. The contribution calculation process.....	6
4. Determining incremental costs.....	6
5. Incremental costs excluded from the calculation	7
6. Minimum contribution requirements	7
7. Assigning incremental revenue for subdivision projects.....	8
8. Refining modelling when additional information available	8
9. Use of Independent Contractors	8
10. Consistency with the Commerce Commission Pricing Principles.....	9
Appendix 1: Residential connections.....	11
Appendix 2: Commercial and industrial connections.....	13
Appendix 3: Developer contributions.....	14
Appendix 4: Extensions, relocations and reinforcements for existing customers	15
Questions and concerns around the contribution amount	15

1. Definitions

Customer initiated work	<p>The work that goes into constructing new assets that will become a part of the First Gas network, and be owned by First Gas Limited, and/or work to alter, upgrade or relocate existing First Gas assets due to any of the following reasons:</p> <ul style="list-style-type: none"> • The connection of a new customer to the First Gas network; • The extension of First Gas' network into new subdivisions; • The upgrading of First Gas' network to meet the capacity needs due to new connections, or to meet the gas capacity needs of an existing customer where increased load or capacity is required; and/or • The moving, altering, or removal of existing First Gas network for an existing customer, or third party with an interest in the assets.
Customer contribution/ Capital contribution	The amount of money required from the customer to be contributed to the Customer Work.
First Gas investment	The amount of money First Gas is prepared to invest into the Customer Works. This calculation is based on forecast revenue from the development/connection that is being invested in.
Gas Measurement System (GMS)	A combined meter and regulator that is used to record the quantity of gas supplied to the customer and reduces the pressure being supplied to the customer's installation.
Incremental Upgrade Asset	The assets upstream of the Customer Work that would be required to meet the capacity or security requirements for the incremental new load.
New (or Incremental) Revenue	The additional revenue to First Gas because of a new customer connection and/or an upgrade to an existing customer's load resulting in new (or incremental) revenue.

2. Why we require a capital contribution

The First Gas distribution network is constantly changing and growing. Subdivisions require mains to be laid, new homes and businesses are connecting to the network, and current customers are adapting their connections to suit their needs.

The applicant or end consumer may be required to contribute to the cost of the capital works where the incremental revenue received by First Gas investment does not cover the costs associated with the work. The customer contribution will never exceed the total life-cycle costs of the customer initiated work.

First Gas principles:

- 1) To have the consumers benefiting from the works pay a representative amount of the costs;
- 2) Existing consumers should, where possible, benefit from new consumer sharing the existing assets;
- 3) In no circumstance should existing consumers be economically worse off (either immediately, or in the future) because of the new connection;
- 4) Where the need for the customer work is shared among several customers, the customer contribution will be apportioned between these customers based on their projected annual consumption, load requirements, service costs and any other special requirements; and
- 5) New revenue will be accounted for only once for the life of the Customer Work. In respect of subdivisions, new revenue for residential, commercial and industrial subdivisions will be assigned to the development of the reticulation of the subdivision. For commercial/ industrial subdivisions, if load requirements exceed capacity and require new Customer Work, this will have its own New Revenue attributable to the work.

In fairness to all our customers, we calculate whether a capital contribution is required when:

- New assets are required, such as a new connection or increased load, where only those having the work done will receive the benefits;
- An end consumer needs to have an extension, relocation, or reinforcement that will benefit exclusively (or almost exclusively) themselves;
- Developers require mains extensions to provide natural gas to consumers in their development.

First Gas wants to ensure that every change made to the network is cost-effective, and more economic than alternative fuel options that may be available.

3. The contribution calculation process

All connections to our network are assessed against a standard capital contribution formula.

Equation 1: Capital contribution formula

$$CC = IC - IR \quad \text{as long as } MIN \leq CC \leq MAX$$

where:

- CC is the **capital contribution** (in dollars) where $MIN \leq CC \leq MAX$;
- IC is the **incremental cost** - the consumer specific costs arising from the new connection service determined in accordance with section 4;
- IR is the **incremental revenue** is the revenue (or increase in revenue) expected from the new connection service;
- MIN is the **minimum capital contribution** determined in accordance with Appendices 1 – 4; and
- MAX is the **maximum capital contribution** determined in accordance with Appendices 1 – 4.

The key components of this formula are broken out further below.

4. Determining incremental costs

Incremental costs are those incurred by First Gas that would not have been sustained if the connection, mains extension or upgrade had not occurred. Incremental costs include, but are not limited to:

- 1) Design and compliance/certification costs;
- 2) Construction and installation of all network components;
- 3) Commissioning costs;
- 4) Easements;
- 5) Estimated ongoing operation and maintenance costs of the new assets; and
- 6) Modifications, upgrades or reconfigurations of existing assets .

These incremental costs can be broken into two broad categories:

- 1) **Direct Assets:** Assets for the sole benefit of the applicant or consumer; and
- 2) **Indirect Assets:** Assets used by multiple consumers, either arising from or requiring modification because of the applicant's request.

All costs associated with direct assets are applied in their entirety to the applicant's capital contribution calculation. For indirect assets, First Gas assesses any changes to the timing of expenditure to that in our Asset Management Plan (found [here](#)) do to the applicant's request, and what additional benefits the expenditure will provide to existing and future consumers. A proportional amount of the expenditure on indirect assets is then applied to the incremental costs of the applicant's request. This can range from 0 to 100% of the indirect expenditure.

The incremental cost is then calculated as the net present value of costs identified above over the life of the investment using the Commerce Commission's weighted average cost of capital (WACC) as the discount rate.

5. Incremental costs excluded from the calculation

First Gas only seek a contribution from the applicant to cover the costs associated with delivering the gas and infrastructure to support their application.

When completing the physical works required to deliver gas to a new customer, or reticulate a new subdivision, First Gas may elect to modify the network by a greater extent than required to purely service the applicants request.

The reasons for such expenditure include but are not limited to:

- 1) Economies of scale meaning bringing forward future upgrades/expansion are more economic;
- 2) Desire to increase the capacity of that network area;
- 3) Network reinforcement considerations;
- 4) Other consumer loads that are forecast/shared infrastructure; and
- 5) Increased delivery pressure for future proofing.

First Gas will never seek to recover the costs of the work above from the applicant. We consider this work is part of our ongoing management of the network, and should be covered through our general network expenditure.

To determine the cost First Gas uses when modelling the capital contribution, we also complete a design (and pricing) study for the minimum work required to serve the applicant's request. When conducting this work, we use the smallest standard size network element that would serve the requirements.

This carve-out does not apply when an applicant requests we install a larger network asset, or non-standard solution to serve their future requirements. In this case the full expenditure would relate to the applicant's request and would be included in the incremental cost calculation.

6. Minimum contribution requirements

The minimum contribution has been historically used to ensure that we never burden existing network consumers with costs directly associated with serving another consumer. It is also designed to incentivise users to design their connection in the most efficient way possible, and for developers to enable First Gas access to common service trenches and other cost reducing considerations.

First Gas does not apply a firm minimum contribution to any user groups and all applicants have a minimum contribution of zero. First Gas will never pay a consumer for connecting to the network. In most cases we apply a general percentage of the costs to a connection.

The table below outlines the contribution ranges:

Application Type	Absolute minimum contribution	Standard Minimum Contribution	Incremental Profitability Assessment	Maximum Contribution	Network Pricing
Residential	Free	Free (<20m)	Appliances installed	100% IC	Standard
Commercial	Free	Free	IR-IC	100% IC	Standard
Industrial	Free	Free	IR-IC	100% IC	As applicable
Subdivision	Free	10%	IR-IC	100% IC	N/A
Relocations	Free	100%	IR-IC	100% IC	Standard

Upgrades	Free	Free	IR-IC	100% IC	Standard
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Our minimum contributions for residential consumers are explained in further detail in **Appendix 1**. The process for commercial and industrial consumers is outlined in **Appendix 2**. Our standard minimum contribution for subdivisions is 10% of the capital costs, however there are exceptions to this outlined in **Appendix 3**. For upgrades, relocations and reinforcements, please see **Appendix 4**.

7. Assigning incremental revenue for subdivision projects.

There are two major costs associated with getting customers connected to the natural gas network:

- 1) The capital investment to install mains gas pipes in the road reserve (subdivision reticulation);
- 2) The cost of connecting a consumer from the mains (service connection).

First Gas has built capital contribution models to assist with calculating the level of capital contribution that is required from both the end consumer and the developers.

Each residential load has an estimated net present value (NPV) associated with it (excluding capital investment) that we can use to support Capital Investment. When determining the capital contribution from developers, we model the entire life cycle costs, including the service connection costs, against the forecast revenue. This ensures that we do not account for the incremental revenue twice.

Essentially the portion of revenue required to support our standard free connection policy is first assigned to the connection with the remainder applying to the subdivision.

8. Refining modelling when additional information available

Our capital contribution models are designed to use base assumptions for all applications where information is not known at the time of application. This includes the expected connection uptake (for subdivision) and usage (all applicants).

If an applicant has known plans, for instance a developer is also completing the design and build and can increase the accuracy of information, our model is fully customisable.

This results in us being able to seek lower contributions from developers with known high uptake rates, high viability of laterals or ducts, and higher than average usage. An example of this is a developer who is also building the dwellings and can confirm an exact uptake rate and what appliances will be installed. In this case, the full NPV of the known connections can be applied to the project.

This allows us to waive the standard 10% minimum contribution in cases where the net present value of the application is significantly positive.

9. Use of Independent Contractors

In some circumstances, the connection applicant may undertake some of the preparatory work that would otherwise be covered by the capital contribution. First Gas may allow consumers or the connection applicant to undertake the preparatory work using appropriately trained and qualified personnel. Preparatory work includes, by way of example, trenching and or civil work, reinstatement and laying of duct.

If the consumer or connection applicant performs some of the preparatory work, then the costs of that work will be excluded from the costs used to determine the capital contribution. Only costs incurred by First Gas will be added to the RAB and hence impact the determination of distribution prices.

10. Consistency with the Commerce Commission Pricing Principles

This section details how the First Gas capital contributions policy is consistent with the Commerce Commission's pricing principles. For a greater understanding of how First Gas has developed our pricing approach to be compliant with these principles, please see our [Pricing Methodology](#).

Principle

8.1 a) i) *Prices are to signal the economic costs of service provision, by being subsidy free (equal to or greater than incremental costs, and less than or equal to standalone costs), except where subsidies arise from compliance with legislation and/or other regulation.*

Incremental cost

Incremental cost is defined as the cost of the next additional unit of production. Long-run incremental cost (LRIC) is defined as the cost of providing an additional unit, including, if necessary, the capital cost of increasing the capacity of the network to enable an additional network to be provided. The LRIC may be the present value of the cost of a future addition to the network.

There are two aspects of incremental cost that are relevant to a new connection or increase in capacity. First, there are the direct additional costs that result from the additional assets that are required to join the consumer to the network, or expand capacity. First Gas' approach to capital contributions ensures that this cost is fully covered by the consumer through the contribution they are required to make and their regular network charges.

Second, there is the incremental cost imposed on the existing network by additional load. This is difficult to evaluate in a meaningful way as much of the time it is zero, meaning that the next unit of gas can be distributed to a customer within the existing capacity of the network.

Occasionally the incremental cost will be a very large number, because the next unit of gas to be distributed would require additional capacity to be installed. The additional income First Gas derives from the increased consumption may be too low to justify the cost of providing the additional capacity. Our policy is to require the customer who initiates the need for the additional work to pay a share of the cost in proportion to the amount of the capacity they require.

Stand-alone cost

Cross-subsidisation exists when customers pay more for a service than the costs another firm would incur if it served those customers on a stand-alone basis. As First Gas policy is that customers never pay more than the total costs of the customer work, the contribution will always be below the stand-alone cost.

Subsidy-free zone

As contributions are above incremental cost and below stand-alone cost, they will be in the subsidy-free zone. First Gas' use of cost of supply model also provides additional reassurance that this will be the case by allocating actual costs of supply to individual price categories. By regularly reviewing the costs of supply and revenue by price category, First Gas ensures that our contribution requirements fall within the subsidy-free zone.

Principle

- 8.2 a) ii) *Prices are to signal the economic costs of service provision, by having regard, to the extent practicable, to the level of available service capacity.*
- 8.3 a) iii) *Prices are to signal the economic costs of service provision, by signalling, to the extent practicable, the impact of additional usage on future investment costs.*

These two principles essentially reflect two sides of the same argument – both requiring that prices should look to the future and be based on long-run marginal costs. Prices should be higher where capacity is constrained and investment is needed. First Gas takes impact on future expenditure (either change in scope or timing) into account when calculating the Incremental Cost to ensure this principle is met.

For residential and small commercial connections, where the peak demand is low, no modelling is conducted in most cases as small organic growth is an underlying feature of utility networks. For larger loads, and substantial subdivisions, the impact on peak demand is assessed and reinforcement considerations are included in calculation of the incremental costs when required.

Principle

- 8.4 b) *Where prices based on 'efficient' incremental costs would under-recover allowed revenues, the shortfall should be made up by setting prices in a manner that has regard to consumers' demand responsiveness, to the extent practicable.*

The level of capital contribution is likely to directly relate to the cost of the work, and therefore is unlikely to lead to under-recovery of allowed revenues.

Principle

- 8.5 c) i) *Provided that prices satisfy (a) above, prices should be responsive to the requirements and circumstances of consumers in order to discourage uneconomic bypass.*

The main risk of bypass of the distribution network is large customers opting to use a bypass gas network or choosing an alternative energy source. First Gas' practice is to offer non-standard pricing and individual account management to industrial and large commercial customers to address the risk of uneconomic bypass and to enable arrangements that are tailored to customers' needs. First Gas' approach to non-standard pricing includes considering customers' individual capacity and demand to ensure, to the extent practicable, that the price is cost reflective. Given that the regulatory weighted average cost of capital (WACC) is significantly lower than most consumers' internal WACC requirements, it is expected that First Gas will always be able to offer a more economical solution than bypassing the network.

Principle

- 8.6 c) ii) *Provided that prices satisfy (a) above, prices should be responsive to the requirements and circumstances of consumers in order to allow for negotiation to better reflect the economic value of services and enable consumers to make price/quality trade-offs or non-standard arrangements for services.*

For non-standard customers, First Gas can offer a service tailored to their requirements. First Gas continues to consult with these customers through one-on-one liaison with key account managers, and may look to non-standard pricing, among several options, to meet the consumer's demands and needs.

Appendix 1: Residential connections

New residential consumers who plan to install gas water heating and/or gas central heating will usually qualify for up to 20 metres of service pipe connection from the gas main to the home or boundary, whichever is applicable, for free. This means no customer contribution is required.

Due to the lower cost of installing in a trench (place in trench or PIT), First Gas offers longer connections for free when a trench is provided. Currently this is 50 metres for mains-fronted homes who are installing gas hot water and/ or gas central heating.

Connections that require drilling or thrusting and are over 20 metres, or are PIT and longer than 50 metres, will require an increased capital investment and hence First Gas seeks a customer contribution to avoid cross-subsidisation.

Occasionally, the connection may be particularly difficult and expensive to install, and we therefore require a larger contribution to this cost from the customer. For example, having to run a service under the road, extend the main, have corridor access and traffic management plans approved, get easements lodged and so on. In some instances, these additional requirements will lead to non-standard pricing, and the non-standard charges will be passed on to the end consumer. This may lead to connection costs being uneconomic for the end consumer compared to alternative fuel options.

In some instances, we may only be able to run the service pipe to the property boundary.

For end users not opting to install either gas hot water or gas central heating, the incremental revenue is minimal and customer contribution required will closely reflect the incremental costs. If you are not looking to install gas water heating or gas central heating, please contact First Gas at firstgas.co.nz, connections@firstgas.co.nz or on 0800 FIRST GAS (0800 347 784), and we can discuss your energy requirements.

If you require more than 20 metres of service pipe to reach your house gas meter position (as deemed by gas rules), First Gas will calculate the cost through this method:

Equation:

$$(\text{Total Cost} - \text{Average 20m Service Installation Cost}) + \text{GST} = \text{Customer Contribution}$$

Please see the schedule below for our residential customer contributions, GST inclusive*:

*these amounts are based on the minimal load of gas hot water or gas central heating

	Mains fronted- standard	
	Trench Provided	No Trench
Less than 20 metres	Free	Free
20 – 50 metres	Free	\$999
50 meters +	\$499+	\$999+

Mains on other side of street- standard		
	Trench Provided	No Trench
Less than 20 metres	\$499	\$999
20 – 50 metres	\$999+	
50 meters +		

Mains extension required/ Non-standard		
	Trench Provided	No Trench
Less than 20 metres	Design and Price	
20 – 50 metres		
50 meters +		

Appendix 2: Commercial and industrial connections

All commercial connections are designed and priced to ensure the service and meter size are fit for purpose. The project cost is determined through this process.

The contribution amount is determined based on the incremental revenue from this user. First Gas determines the relevant price code (see [First Gas standard network prices](#)) based on the maximum installed capacity for the end-consumer, and models the annual consumption with the network charges. In some cases, non-standard pricing will be developed for users that demonstrate special circumstances. Along with the development of these charges, the same basic equation is used to determine the customer contribution.

The minimum contribution is based on the following calculation:

Equation:

$$(\text{Total Cost} - \text{Incremental Revenue}) + \text{GST} = \text{Customer Contribution}$$

The lowest contribution will be sought. Where possible, a free connection will be offered, as the incremental revenue supports 100% of capital being outlaid by First Gas.

Appendix 3: Developer contributions

The remaining revenue from the average residential connections (NPV-Capex assigned to service connections) can be assigned to the installation of mains pipes when subdivisions are reticulated. The cost of installing in common service trenches, as a development is constructed are substantially lower than retrofitting. We seek to incentivise developers to include natural gas by minimizing the contribution we seek.

When modelling subdivisions, we consider:

- Network area;
- Expected uptake rates, including phasing over years;
- Average usage per connection;
- Construction methodology;
- Whether laterals and ducts are available, and the viability of using these in the final install;
- Average connection cost; and
- Target revenue per residential connection.

Assumptions are made when modelling most subdivisions, on the above criteria. However, when we can increase the accuracy of information, we will seek to do so. This may result in non-standard pricing, including lower than standard or free contributions for developers.

A lower, or free, contribution, can be offered in a number of cases, including when:

- The developers are also completing the design and build phase, or can otherwise guarantee the minimum number of connections;
- The area is known for higher than average uptake and/ or gas consumption;
- The use of laterals or services installed as part of the initial reticulation;
- There is potential for commercial or industrial users to connect to the network in the development.

Likewise, a higher than standard contribution may be sought where the development is seen to be low-value, such as having lower than average uptake or gas consumption, or due to the methodology and network area to be covered.

If information of connection uptakes is unknown we generally seek a minimum contribution; the higher of either:

- 10% of the project cost + GST
- \$1,500 + GST

Appendix 4: Extensions, relocations and reinforcements for existing customers

This methodology is applied if you are an existing customer and need an extension, relocation or reinforcement of the network due to an increase in your gas demand.

First Gas will calculate your contribution as follows:

1. Collect information and analyse impact on the network

- A range of information needs to be collected for us to complete the analysis. This includes details around the expected life of the asset, the length of service pipe required, if the network needs to be reinforced or extended, the forecast annual consumption of the connection(s), if there will be any salvage value for equipment being reused, and the expected life of the connection- which includes a risk assessment of the business.

2. Calculation of total cost of customer work

- Based on the information we gather, First Gas will determine the new assets required and cost this out. The salvage value of any equipment will be deducted from this cost.

3. First Gas contribution

- The size of First Gas' investment into the customer work is calculated based on the cost of the works and the forecast revenue from the connection and life of the project. The revenue, if any, generated by the new assets can be subtracted from the customer works cost.

4. Customer contribution level

The customer contribution required is the amount of capital required that is not offset by the incremental revenue for the customer works.

Equation:

$$\text{Customer Contribution} = (\text{Total customer works cost} - \text{First Gas Contribution}) + \text{GST}$$

In some cases, there will be no incremental revenue, and 100% of the customer works cost will be passed on to the end user as a customer contribution.

Questions and concerns around the contribution amount

For all questions and concerns, get in touch with on 0800 FIRST GAS (0800 347 784), email connections@firstgas.co.nz, or visit <http://firstgas.co.nz/about-us/regulatory/distribution>. If you are already a gas user, you can also talk to your gas retailer.