



Future Energy Associates

Warm

This

Winter

Tariff

Watch

Authors:

Dylan Johnson, Future Energy Associates
Clement Attwood, Future Energy Associates

Mar 2024



Executive summary

Gas network costs in the Ofgem price cap

- Gas Network costs have risen by 38.1% since April 2021 (£118.53/year) to April 2024 (£163.69/year).
- Electricity and gas network costs include a Supplier of Last Resort levy due to supplier bankruptcies. These costs total to £19 per year
- Ofgem is urged to provide clearer methodologies and machine-readable data formats to enhance transparency in cost calculations for electricity networks costs.
- Ofgem should provide greater transparency in determining how gas network costs are separated between standing and unit rate costs.

Can Ofgem effectively regulate gas distribution networks?

- Gas Distribution Networks (GDNs) operate as natural monopolies, necessitating government regulation to control prices and ensure supply efficiency. The regulatory process is often skewed by informational asymmetry, favouring industry profits at consumers' expense.
- This paper provides the following options for assessing allowed profits for GDNs
- Immediate Consumer Rebates, Adoption of Indexes Over Forecasts, Equity Beta Adjustment, Incentive Reform, Empowering Consumer Bodies.

Decommissioning costs and future considerations

- From 2026, households could incur an additional £43 annually for gas network decommissioning. Of the 4 scenarios forecasted by Ofgem for the costs of decommissioning gas distribution networks, the most optimistic scenario in which we stop investing in our gas network by 2027, the impact on gas unit rates will be >2.5p/kwh which is 50% of some of the tariff rates currently available on the market. All remaining scenarios are forecasted to cost 35 p/kwh to 45 p/kwh from Gas Decommissioning costs alone.
- The UK government should collaborate with Ofgem and stakeholders to manage financial risks associated with stranded gas assets and decommissioning costs.
- We are still heavily investing in building new gas piping infrastructure as part of the Iron Mains Risk Reduction Programme. These new investments set to continue into the 2030s will then require additional fees to decommission new polyethylene pipes.

Ownership of our gas network and ethical considerations

- This paper questions whether the owners of the gas network are facing the required scrutiny. This is questioned for the following reasons:
- Should Sovereign Wealth Funds from nations (Qatar, China) where we share conflicting opinions on human rights, be allowed to own our critical infrastructure?
- Should we enable those multinational corporations who have vested interests in hydrogen and slowing the renewable transition to own infrastructure that is crucial to the renewable transition?
- The 'Macquarie Model' raises concerns about prioritising investor returns over public service in essential state monopolies.

Contents

Executive summary	2
Contents	3
What are network costs?	4
Transmission Network: The Motorway of Energy	5
Distribution Network: The Local Roads of Energy	5
The Interplay and Costs	6
Gas network costs in the Ofgem price cap	6
Gas transmission costs	7
Gas distribution costs	8
How are gas distribution networks operators incentivised to perform?	9
How they are regulated	9
Challenges in regulating gas distribution operators	9
Addressing this power imbalance	9
Increasing gas costs as the grid electrifies: How do we pay for decommissioning?	10
Projected bill increases for energy consumers	10
Policy and regulatory options	11
The complexities of gas network valuation and decommissioning costs	11
International perspectives and recommendations for the UK	11
Who owns our gas network?	12
Gas transmission network	12
Gas distribution network	14
Bibliography	26





What are network costs?

Network expenses are designed to offset the charges that providers incur for the use of gas and electricity transmission and distribution networks.



Figure 1: Network Costs over time

Source: [Model - Default tariff cap level v1.15](#)

Network costs increased by 50% as the energy crisis took hold, rising from £254 in the winter of 2021/22 to £356 in the summer of 2022, and later climbing to £381 for the Q4 2023 and Q1 2024 energy price caps.

From 2021 onwards, caps encompassed an extra fee to compensate for the 'Supplier of Last Resort' levy expenses. These are incurred by providers who have acquired customers from smaller suppliers that have recently failed. In the summer of 2022, this component of the network costs amounted to £68, and for the Q4 2022 and Q1 2023 caps, it was £61, decreasing to £19 for the Q2, Q3, Q4 2023 and Q1 2024 caps¹. These costs are added to the standing charge of domestic electricity customers' bills as network costs and added to the unit costs of domestic gas bills.

The below graph showcases gas network charges estimated by Ofgem, based on average household consumption over time. Since April 2021, there has been a notable increase of approximately 38.1% in these charges by June 2024. This trend highlights the rising costs associated with gas network access, reflecting the impact of market dynamics and regulatory changes on household energy expenses.

¹ <https://researchbriefings.files.parliament.uk/documents/CBP-9491/CBP-9491.pdf>

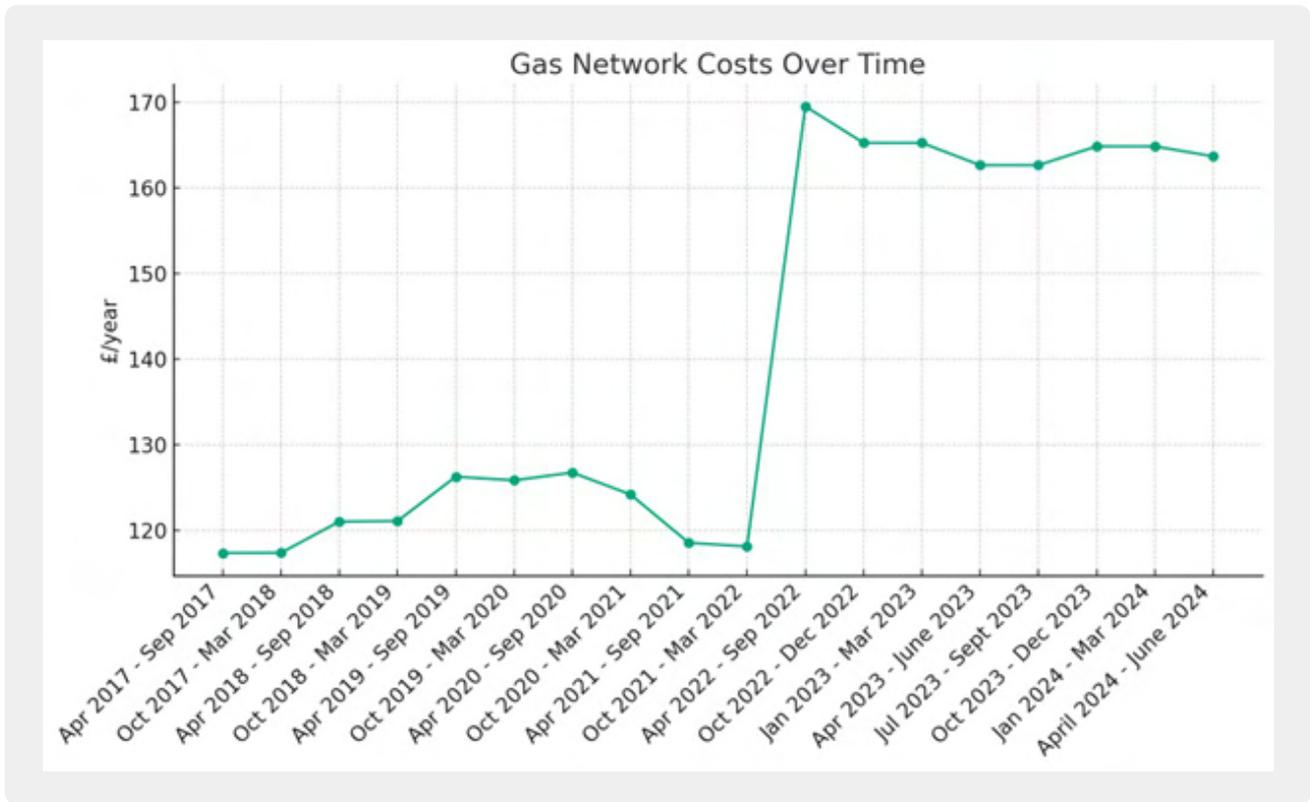


Figure 2: Gas Network Costs over time

Source: [Annex 3 - Network cost allowance methodology gas v1.13](#)

Transmission Network: The Motorway of Energy

The transmission network operates like the motorways or highways in our road system. Just as motorways connect major cities and facilitate fast, high-volume traffic over long distances, the transmission network is designed for the high-capacity, long-distance transport of energy. In the case of electricity, this involves high-voltage lines capable of moving large amounts of power from generating stations to substations across the country. Similarly, for gas, this network comprises high-pressure pipelines transporting gas from production sites to regional distribution points. The transmission network is the backbone of our energy system, ensuring that large quantities of energy can travel vast distances efficiently, much like motorways allow for efficient long-distance travel.

Distribution Network: The Local Roads of Energy

On the other side, the distribution network resembles the local roads and streets that branch off from the motorway, reaching into towns and neighbourhoods. In energy terms, this network takes over from the transmission system, operating at lower pressures for gas and lower voltages for electricity. It is responsible for the 'last mile' of energy delivery, ensuring that electricity and gas are safely and reliably supplied to individual homes and businesses. The distribution network includes local infrastructure such as transformers (for electricity) and regulators (for gas) that adjust the energy flow to levels suitable for domestic use. Just as local roads are crucial for connecting residents to the broader road network, the distribution network is essential for connecting consumers to the national energy grid.



The Interplay and Costs

Both the transmission and distribution networks are vital for a fully functioning energy system, each playing a distinct yet interconnected role. Understanding this distinction is key to comprehending the complexities of network costs and how they impact energy prices for households. This report focuses on gas costs only, with an evaluation on electricity network costs the subject of Tariff Watch 3a.

Gas network costs in the Ofgem price cap

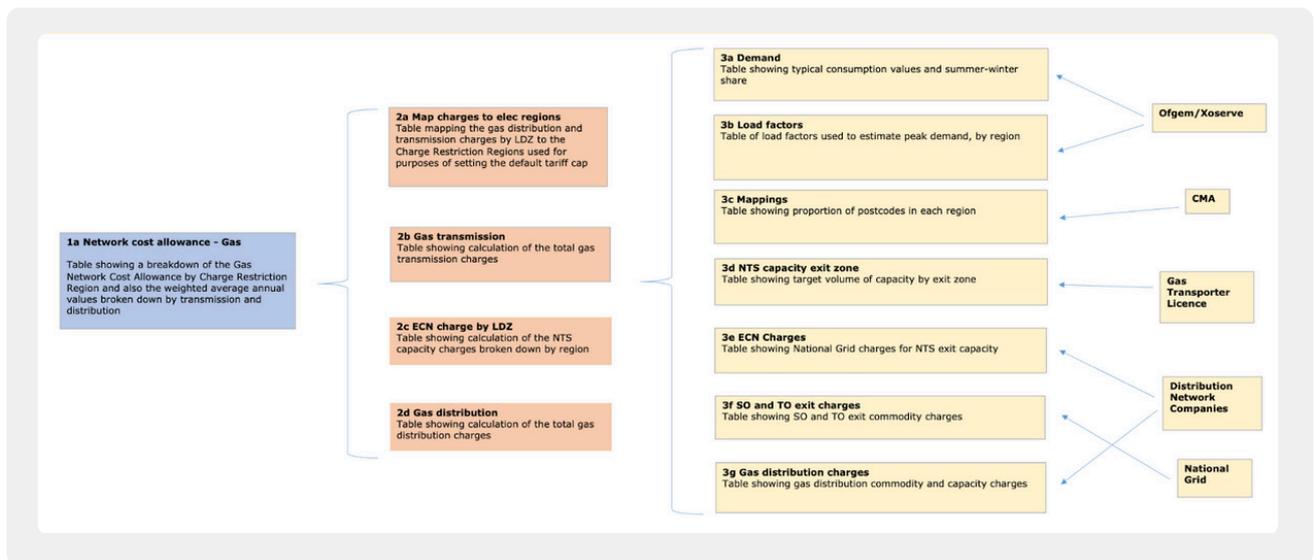


Figure 3: What makes up a households gas network cost
Source: [Annex 3 - Network cost allowance methodology gas v1.13](#)



Gas transmission costs

These are the costs associated with what Ofgem considers to be the costs of running the Gas transmission network. Below we outline what those costs to running the transmission network are provided by OFGEM.

• **Non-Transmission Services Exit Charge**

- This charge is levied on customers when gas exits the high-pressure National Transmission System (NTS) and enters the local, lower-pressure distribution networks. It essentially covers the costs incurred in the process of transferring gas from the transmission system to the distribution network. The charge is determined by multiplying the NTS Commodity Charge, which is stated in pence per kilowatt hour (kWh) by National Gas, by assumed household consumption aggregates.

• **NTS Exit Capacity Charge (ECN)**

- The ECN, both for non-prepayment (Non-PPM) and prepayment meter (PPM) customers, is essentially a capacity reservation fee. Consumers pay this charge to secure the necessary capacity at the exit points of the NTS, ensuring a reliable supply of gas to meet their needs. The calculation of the ECN charge involves aggregating individual Exit Capacity Notices (ECNs) by Exit Zone and then grouping them by Local Distribution Zone (LDZ). These aggregated charges reflect the capacity required across different areas and ensure that the infrastructure is adequately funded to support the maximum gas delivery. The Gas Governance body, responsible for setting common transportation arrangements in Great Britain, outlines these charges.

• **Transmission Cost Allocation**

- The Non-Transmission Services Exit Charge, in conjunction with the ECN, creates the total transmission cost for each LDZ. Ofgem then allocates these combined costs to the corresponding electrical Distribution Network Operator (DNO) region. This allocation ensures that the costs related to gas transmission and capacity booking are distributed fairly among the DNO regions.

Recommendations for Ofgem

1. **Documentation Reference:** When incorporating transmission costs into the Price Cap Annex 3, Ofgem should clearly indicate the specific document referenced, as National Gas frequently updates its cost publications. This will aid stakeholders in locating the precise figures used in the price cap determinations.
2. **ECN Charge Clarification:** Ofgem should provide a detailed rationale for the difference in ECN charges between prepayment and non-prepayment customers. A clear explanation will enhance transparency and help consumers understand the basis for these cost variances.
3. **Separation with Standing Charges and Unit Rates:** Ofgem should delineate gas transmission costs as distinct components within consumers' bills, similar to the practice in electricity billing where transmission costs are itemised separately from standing charges and unit rates. This separation would allow consumers to clearly see the part of their bill that relates to the transmission of gas, as opposed to other charges. It would help consumers to better understand how changes in transmission costs impact their overall energy bills and make it easier for them to compare charges between different suppliers.

By improving these elements, Ofgem can ensure greater clarity and comprehension of the gas transmission costs, fostering an environment of transparency and trust with consumers and stakeholders in the energy market.



Gas distribution costs

These are the costs associated with what Ofgem considers to be the costs of running the Gas distribution network. Below we outline what those costs to running the distribution network are provided by OFGEM.

- **LDZ System Commodity Charges**
 - These charges are applied for the actual volume of gas that flows through the Local Distribution Zone (LDZ). They are variable costs based on the amount of gas consumed and are typically calculated in pence per kWh. This charge reflects the cost of moving gas through the distribution network to the customer's point of connection.
- **LDZ System Capacity Charges**
 - Both for prepayment meter (PPM) and non-prepayment meter (Non-PPM) customers, these capacity charges are for reserving space in the LDZ to ensure that there is sufficient system capacity to meet the customer's demand. It is similar to booking a seat on a flight; customers pay to guarantee that the distribution network can accommodate their gas usage when needed.
- **Customer Capacity Charges**
 - These charges are assessed to maintain and operate the gas distribution network's capacity to serve each customer. For both PPM and Non-PPM customers, it ensures that the network can deliver the required amount of gas, factoring in peak demand times and other variables that might affect the gas flow to the consumer.
- **Supplier of Last Resort (SoLR) Customer Charge**
 - This fee is incurred when a supplier exits the market, and a new supplier, designated as the 'Supplier of Last Resort,' takes over their customer base. The SoLR charge covers the costs associated with this transition for both PPM and Non-PPM customers.
- **Total Gas Distribution Charge**
 - This is the cumulative charge that encompasses all the costs associated with the distribution of gas to both PPM and Non-PPM customers. It includes the LDZ system commodity and capacity charges, individual customer capacity charges, and any applicable SoLR customer charges. This total distribution charge is critical for ensuring that the gas distribution network remains operational, reliable, and capable of meeting current and future demand.

Recommendations for Ofgem

1. **Consistency with Electricity Network Costs:** Ofgem should strive to ensure that there is consistency in how costs are reported across both electricity and gas networks. Currently, there is a disparity in the level of detail provided for Supplier of Last Resort (SoLR) payments between the two sectors. For electricity, there is a disaggregated report on SoLR payments, which is not mirrored in the gas network cost reporting. Ofgem should mandate a similar level of disaggregation for gas network costs to provide stakeholders with a comprehensive understanding of the financial implications of SoLR arrangements in both sectors.
2. **Further Cost Breakdowns:** While Gas Governance provides a centralised repository of information, this could be significantly enhanced by including detailed cost breakdowns. Ofgem should encourage or require the provision of these breakdowns in a machine-readable format, such as CSV files. This would align with digital best practices, ensuring that data is not only accessible but also readily usable for analysis. This change would facilitate a range of stakeholders, from consumer advocacy groups to industry analysts, in conducting more efficient and in-depth evaluations of gas network costs.



How are gas distribution networks operators incentivised to perform?

How they are regulated

Gas Distribution Networks (GDNs) operate as natural monopolies due to the impracticality of building competing infrastructures. As such, government regulation is crucial to control the prices charged by these companies, ensuring efficiency and security of supply without unfairly burdening consumers. This regulatory process involves negotiations between the companies, who aim to maximise their revenues, and regulators, tasked with balancing affordable consumer prices with the need for efficient and reliable service. However, the complexity and informational asymmetry in these negotiations can often tilt the balance in favour of the industry, potentially leading to excess profits at the expense of consumers.

Challenges in regulating gas distribution operators

The regulatory negotiation process is inherently challenged by the informational advantage that companies hold over their costs, alongside their ability to hire expensive lobbyists and consultants. This dynamic poses a risk of regulatory decisions favouring the industry, resulting in unjustifiably high prices for consumers and excess profits for the companies. The reliance on long-term cost forecasting by regulators further complicates the issue, as accurately predicting financial metrics over extended periods is highly challenging, often leading to generous estimates that benefit the industry.

Addressing this power imbalance

Citizens Advice provided a summary of what would help Ofgem make better regulatory decisions in monitoring the performance of Gas Distribution Operators. This paper supports these recommendations and highlights them as below.

1. **Immediate Consumer Rebates:** Network companies should proactively return overpayments to consumers through bill rebates, similar to precedents in the water industry. This

act of corporate responsibility would address the profits not aligned with consumer interests. Should companies hesitate, the government must intervene to ensure consumers receive due refunds.

2. **Relying on Indexes Instead of Forecasts:** To avoid the pitfalls of long-term forecasting, Ofgem should adopt real market data to index network companies' costs, such as using yields on government gilts for the risk-free rate and adjusting the cost of debt index period to reflect market conditions more accurately.
3. **Adjusting the Equity Beta:** Ofgem should recalibrate the equity beta to reflect the actual risk levels of network companies, which empirical evidence suggests are lower than currently assumed. This adjustment could lead to significant savings for consumers. In Citizens Advice's report, they highlighted how gas distribution operators are low risk businesses given their guaranteed revenue. Therefore they should be seen in the calculations of the regulators to be lower risk.
4. **Tougher Incentives:** Incentives for network companies should be more stringent, placing companies' capital at risk and ensuring penalties match rewards. This approach would encourage superior performance and more equitable outcomes for consumers.
5. **Empowering Consumer Bodies:** Consumer organisations should be granted the authority to request a review of price controls in cases of excessive financial returns, similar to the power currently held by network companies. This would provide a balance and ensure consumer interests are adequately represented in regulatory decisions.

By implementing these recommendations, the UK can address the imbalances in the regulation of Gas Distribution Networks, ensuring that consumer interests are protected against excessive profits and inefficiencies.



Increasing gas costs as the grid electrifies: How do we pay for decommissioning?

Projected bill increases for energy consumers

Starting from 2026, energy consumers could face an annual bill increase of up to £43 to fund the decommissioning of the gas network, as highlighted in Ofgem's consultation on the RIIO-3 price controls for gas and electricity transmission networks. This necessary step reflects the urgent need to distribute the financial burden of transitioning away from gas to prevent disproportionate impacts on future consumers. The gas-related Regulatory Asset Value (RAV) is anticipated to be around £26 billion at the start of RIIO-3, with repayment through consumer bills planned over 45 years unless policy adjustments are made.

A study by Frontier Economics for the Climate Change Committee (CCC) investigated the projected worth and billing implications of the UK's gas grid amidst efforts to decarbonise. According to findings presented in the study, even ceasing investments by 2027 under a scenario where gas usage is reduced yet 20% of connections are maintained (a figure exceeding the CCC's balanced pathway expectations). Even under this extremely conservative scenario, the most optimistic scenario in which we stop investing in our gas network by 2027, the impact on gas unit rates will be >2.5p/kwh which is 50% of some of the tariff rates currently available on the market. All remaining scenarios (shown below) are forecasted to cost 35 p/kwh to 45 p/kwh from Gas Decommissioning costs alone.

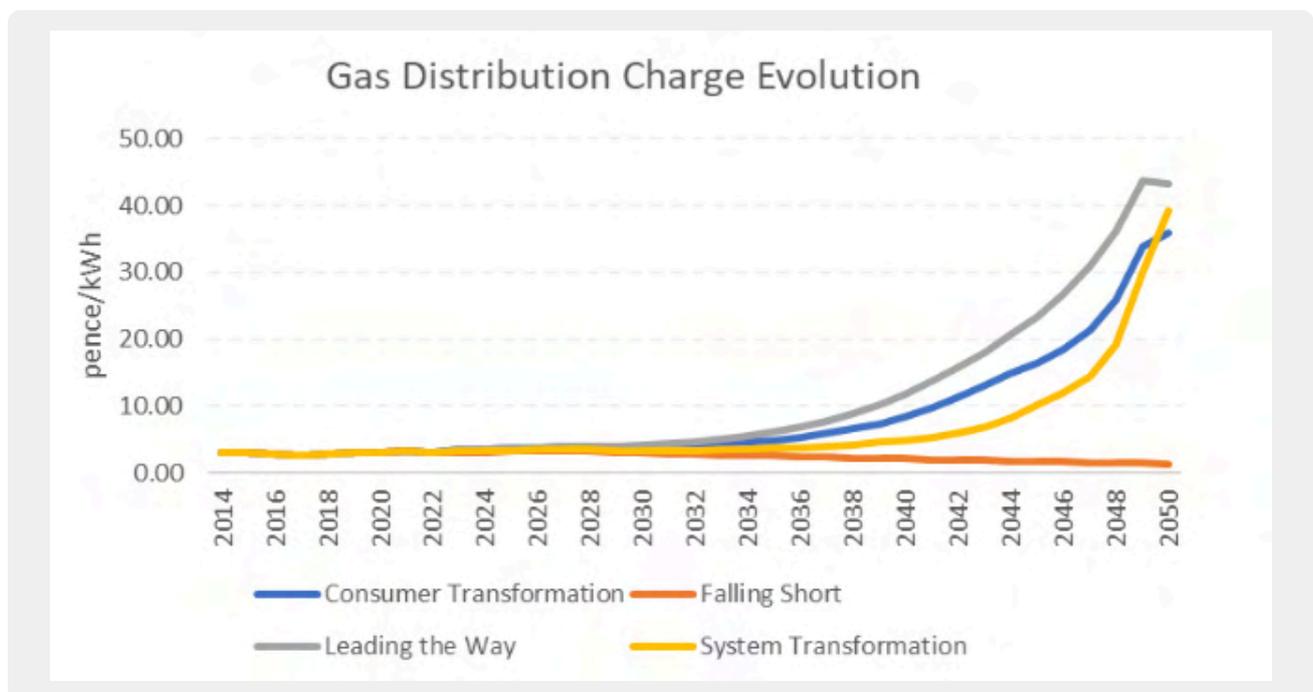


Figure 4: Gas distribution network consumer bill estimate under different FES scenarios
Source: RIIO-3 Sector Specific Methodology Consultation – Finance Annex, Section 8, Figure 4.



Policy and regulatory options

The UK's gas network, characterised by its high coverage and privatised, regionally divided structure, faces significant challenges in the transition to a decarbonized future. As noted by Richard Lowes in his analysis on gas grid decommissioning, the shift poses complex, political challenges with profound equity impacts (Lowes, R. 2023, August). Notably, the dwindling pool of gas users, who will bear the brunt of funding the transition, likely includes a higher proportion of vulnerable households and renters – those least capable of switching to alternative energy sources.

The complexities of gas network valuation and decommissioning costs

Further complicating the picture is the expected regulatory valuation of the gas network at approximately £4 billion by 2050, a figure that does not account for subsequent capital investments and thus underrepresents the actual financial burden. Additionally, significant costs associated with the physical decommissioning of the grid, currently without designated funding, represent an impending financial liability. The continued investment in gas infrastructure, governed by a 45-year asset depreciation timeline, ensures that UK citizens will be paying for today's gas network assets well into the future, highlighting the urgent need for a revised approach to utility regulation and investment.

International perspectives and recommendations for the UK

1. The urgency of addressing gas decommissioning is echoed in international efforts, such as Denmark's funding for household disconnections and ambitious fossil gas removal targets in cities like Vienna and Amsterdam.
2. Drawing on these examples, the UK government is advised to gain a comprehensive understanding of decommissioning costs and processes. Collaborative planning between Ofgem, the UK Department for Energy Security and Net Zero, and other stakeholders is essential to equitably manage the financial risks of stranded gas assets and decommissioning costs. This may include considering the value of accelerated depreciation, evolutionary regulation, and even renationalisation to mitigate the financial impact on consumers and ensure a smooth transition to a decarbonized energy system.
3. Stop building new infrastructure that we will have to remove. The continued capital investment this figure is set to increase. The vast majority of this capital investment is associated with the 'Iron Mains Risk Reduction Programme', which is replacing certain 'at risk' pipes with polyethylene ones. While this is a safety-driven programme, it would be prudent to continually assess if such a major gas investment programme could be scaled back.



Who owns our gas network?

Gas transmission network

Ownership overview

National Gas operates the gas transmission network. National Gas is 80% owned by a consortium dominated by Macquarie Asset Management and British Columbia Investment Management Corporation. The remaining 20% of National Gas is owned by National Grid plc.

Macquarie Group

Who is Macquarie Group?

Macquarie Group, an Australian powerhouse in the financial services sector, has emerged as a dominant force in the global infrastructure sphere, most notably through its ownership of National Gas in the UK. As the world's largest manager of infrastructure assets, boasting \$590 billion under its management, Macquarie has revolutionised the way infrastructure investments are perceived and executed. This innovation extends to transforming infrastructure into a tradable asset class, thus drawing significant investment towards it. Despite the financial success of its "Macquarie model," which involves leveraging infrastructure assets to deliver high returns to investors, the approach has been met with criticism.

This critique primarily focuses on the potential neglect of the public interest and service quality in favour of investor profits, especially within crucial state monopolies like the UK's gas transmission network.

Should they run our critical infrastructure?

The debate around Macquarie's suitability to manage critical infrastructure hinges on its track record, which showcases a complex blend of innovation in financing and investments, against a backdrop of controversies in utility management. Macquarie's initiative to develop a national hydrogen backbone network in the UK reflects its commitment to hydrogen as the future of the gas network. Macquarie's history with utilities such as Thames Water and Southern Water—marked by significant environmental issues and an investment strategy focused on maximising dividends at the expense of debt accumulation—raises questions about its prioritisation of long-term public service over short-term financial gains. These factors necessitate a careful consideration of whether Macquarie's operational and financial models align with the strategic interests and sustainability goals of critical national infrastructure.



Controversies

Macquarie's tenure in the UK infrastructure landscape has not been without its controversies. The "Vampire Kangaroo," as it's colloquially known, has been criticised for its management practices, particularly in the cases of Thames Water and Southern Water. The significant increase in debt and the environmental mismanagement under its stewardship have spotlighted the potential misalignments between Macquarie's investment strategies and the public interest. This critique extends beyond the utilities sector, with Macquarie's extensive investments in aviation and recent acquisitions in the gas infrastructure sector further complicating its public perception. The GMB union's warning about Macquarie's expanding control over the UK's gas transmission and distribution underscores the broader concerns regarding the conglomerate's influence on national energy security and infrastructure sustainability.

British Columbia Investment Management Corporation

Who are they?

The British Columbia Investment Management Corporation (BCI) is a pivotal but relatively obscure financial institution managing the pensions of about 525,000 British Columbians. With \$135 billion in assets, it ranks as Canada's fourth-largest pension fund manager. BCI is at the crossroads of financial management and environmental responsibility, tasked with navigating the investment landscape in a manner that aligns with global climate targets, such as those set by the Paris Agreement.

Should they be investing in critical infrastructure?

BCI's investment strategy, especially its increasing stakes in the fossil fuel sector, has sparked discussions about its alignment with the objectives of limiting global warming. Despite the global shift towards sustainable energy, BCI's investments have seemingly not adjusted to reduce reliance on fossil fuels. This misalignment raises concerns about BCI's role in financing critical infrastructure and suggests a need for reevaluation towards more sustainable investment practices to manage both financial and environmental risks effectively.

Controversies

BCI's investment choices have come under scrutiny for not fully embracing the urgency of climate change mitigation, highlighted by its escalating investments in fossil fuels. This strategy appears at odds with the global consensus on climate action, particularly the goals set by the Paris Agreement. Furthermore, BCI has faced direct controversies, including allegations of investing in companies with questionable human rights practices. Daniel Garant, BCI's global head of public markets, was questioned by Conservative lawmaker Garnett Genuis in a parliamentary committee over BCI's investment in Hangzhou Hikvision Digital Technology. This company has faced accusations related to the surveillance of Uyghurs in China, allegations Hikvision denies. These controversies underscore the complexities of responsible investment and the ethical considerations that pension funds like BCI must navigate in their investment decisions.



Gas distribution network

Ownership structure

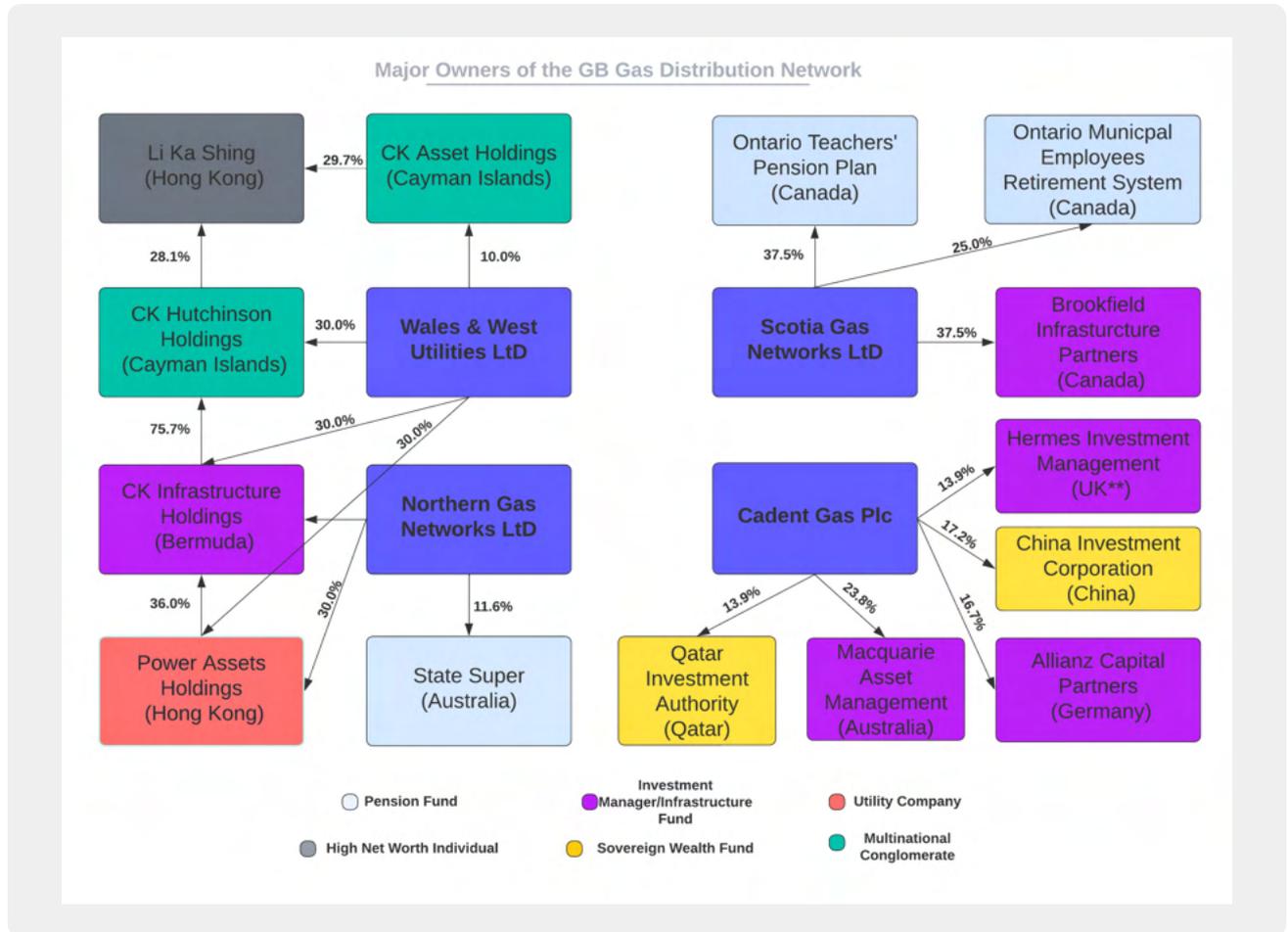


Figure 5: Ownership of Gas Distribution Networks

Source: Bureau van Dijk (2022); Companies House (2022); SWFI (2021); IBISWorld (2021a); Van Waeyenberge et al. (2021)



Entity	GDN Ownership Relevance	Suitability?	Controversies
Qatar Investment Authority	Owns stakes in critical infrastructure, including gas sectors.	Raises questions due to foreign state ownership and different political/social values.	Human rights concerns, sportswashing accusations, involvement in controversial geopolitical activities.
Hermes Investment Management	Investment Management firm that invests in a broad range of low risk assets.	Known for responsible investments but faced backlash over sponsorship opposing climate change policies.	Sponsorship of a group opposing climate change actions contradicted its ESG values, leading to criticism and a policy reversal.
China Investment Corporation	Involved in owning critical infrastructure, focusing on energy sectors.	Strategic concerns due to foreign state ownership; implications for national security.	Scrutiny over geopolitical implications of investments, human rights issues in China.
Allianz Capital Partners	Specialises in infrastructure and renewable energy investments.	Experienced in managing infrastructure; focus on sustainable investment.	No specific controversies reported directly linked to critical infrastructure ownership.
Brookfield Infrastructure Partners	Owns diversified infrastructure assets, including utilities.	Financial arrangement with the parent company raises questions about reinvestment capabilities.	Involved in contentious projects impacting indigenous rights, environmental concerns.
Ontario Teachers' Pension Plan Board	Invests in a variety of sectors, including infrastructure, with a focus on stable, long-term returns.	Ethical investment considerations in light of human rights implications.	Investments in private prisons and immigration detention centres criticised for human rights violations.
Global Infrastructure Partners	Manages a broad range of infrastructure assets; recent acquisition by BlackRock raises profile.	Expertise in infrastructure but controversies over fossil fuel investments.	Significant investments in fossil fuel projects criticised for environmental impact.
CK Hutchison Holdings & Affiliates	Owns a significant stake in utilities through multinational conglomerate structure.	Expertise in managing critical assets but concerns over tax optimization strategies.	Industrial disputes, tax controversies, environmental concerns in water utilities management.
Power Assets Holdings	Part of the CK group, focuses on electricity generation, transmission, and distribution.	Coal and controversial mining licences raise questions about environmental stewardship.	Controversies over coal-based energy projects and unethical acquisition of mining licences.
State Super (Australia)	Invests in critical infrastructure, including significant stakes in the aviation sector.	Balancing financial returns with environmental impacts in the aviation industry is crucial.	Significant investments in aviation highlight challenges in aligning with decarbonization and environmental sustainability efforts.

Table 1: Summary of GDN ownership



Should sovereign wealth funds own our national infrastructure?

The question of whether Sovereign Wealth Funds (SWFs) should own national infrastructure taps into broader concerns about sovereignty, security, and ideological alignment. The financial capacity of SWFs to invest in and potentially enhance infrastructure is undeniable. However, this investment comes with strings attached, including the possibility of foreign entities gaining undue leverage over national assets. The crux of the matter lies in self-reliance and the strategic importance of maintaining control over assets that are not only economic but also of national security interest. It raises a fundamental question: why are nations willing to relinquish control over their critical infrastructure to foreign funds, especially those from countries with which they share significant ideological differences?

Should further due diligence be completed prior to this?

The imperative for rigorous due diligence before allowing foreign investment in national infrastructure has never been more critical. This scrutiny must extend beyond financial and operational viability to include environmental ethics and compatibility with the host nation's decarbonization ambitions. Enabling multinational corporations and SWFs with questionable environmental records and lukewarm commitments to decarbonization to oversee significant transitions, such as the decommissioning of a gas grid, is fraught with risks. Moreover, the level of scrutiny should mirror that applied in other sectors, incorporating considerations of human rights and ethical alignments. The awareness of the end consumers, including marginalised groups such as the LGBTQ+ community, about the origins of their utility payments, is vital. Knowledge that their payments may support funds from countries with discriminatory laws could lead to a reevaluation of these ownership structures, underpinning the need for transparency and ethical congruence in the stewardship of national infrastructure.



Do these groups have the best interests of UK households?

The current ownership structure of the UK's gas distribution network, predominantly in the hands of foreign entities, prompts critical questions about the alignment of these groups' interests with those of UK households. The fact that the only major UK-based owner is itself under the control of a US company adds another layer of complexity, potentially distancing operational decisions from the immediate needs and welfare of UK residents. This arrangement raises concerns about whether these entities prioritise their financial returns over the essential aspects of service provision, such as affordability, reliability, and sustainability. The predominance of foreign ownership in the UK's critical infrastructure sectors suggests a need for a recalibration of investment and ownership models, ensuring they are better aligned with the long-term welfare and interests of the local population, and underscore the importance of considering national priorities in the governance of vital services.



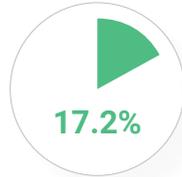
A closer look at holding companies

Cadant Gas PIC

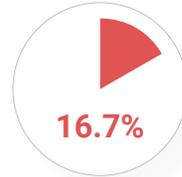
About their owners



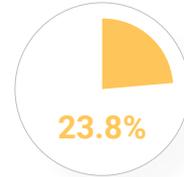
Qatar Investment Authority



CIC



Allianz Capital Partners (Germany)



Macquarie Asset Management

Qatar Investment Authority

Ownership and Background:

The Qatar Investment Authority (QIA) is the sovereign wealth fund of the State of Qatar, established in 2005 to manage the surplus oil and natural gas revenues of Qatar. As a significant player in global investments, QIA holds a diverse portfolio, including stakes in critical infrastructure, luxury hotels, real estate, and prominent sports clubs such as Paris Saint-Germain (PSG). Its investments span across various sectors and geographies, showcasing its role as a global investor with substantial financial influence.

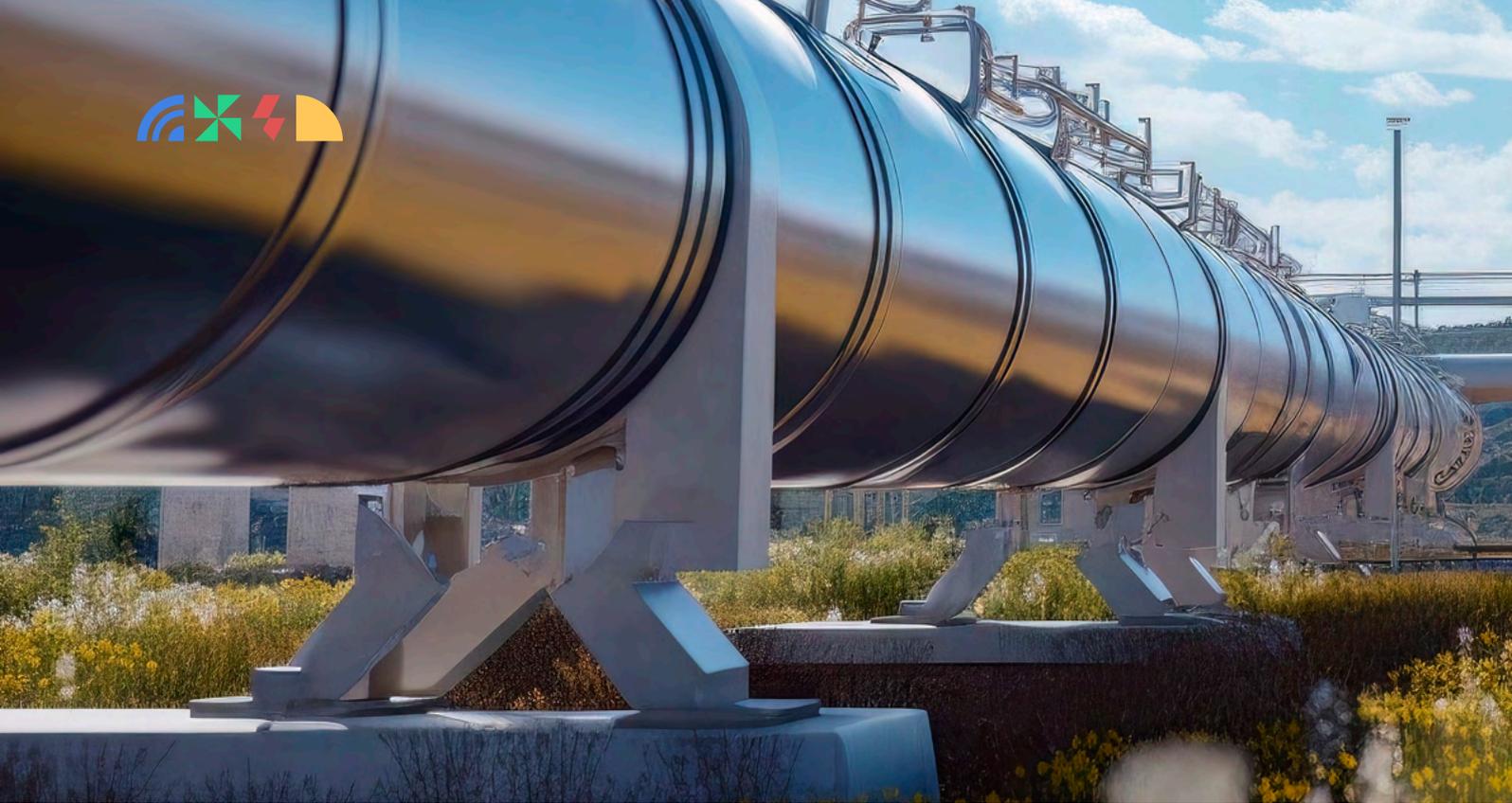
Ownership of critical infrastructure:

The involvement of QIA in owning critical infrastructure, such as gas infrastructure in different countries, raises significant questions regarding the alignment of national interests and security with foreign state-owned investment. The key concern revolves around whether critical assets should be under the control of a sovereign wealth fund from a country with fundamentally different political and social values. This issue is further complicated by the lack of media attention on such ownership stakes compared to more high-profile investments in sports and entertainment, which may leave many stakeholders, including LGBTQ+ communities, unaware of the extent of QIA's involvement in essential infrastructure.

Controversies:

QIA's investments come under scrutiny due to Qatar's human rights record, particularly its treatment of LGBTQ+ individuals and its stance on women's rights. Amnesty International has highlighted that any investment by QIA could be perceived as an extension of Qatar's state-backed "sportswashing" project, attempting to refurbish the country's image post-World Cup amidst ongoing human rights concerns. These issues raise ethical questions about the appropriateness of QIA owning significant stakes in critical infrastructure, especially when such ownership might conflict with the values and rights upheld in the host countries.

Further controversy stems from Qatar's foreign policy, notably its opening relations with Iran and support for the Muslim Brotherhood. These actions have led to regional tensions, with several countries severing diplomatic ties with Qatar over allegations of its associations with Islamist extremism. This geopolitical backdrop adds another layer of complexity to QIA's investments in critical infrastructure, highlighting potential security and ethical implications for host countries.



Hermes Investment Management

Ownership and background:

Hermes Investment Management is a UK-based asset management firm. It falls under the ownership of Federated Hermes, a US-based investment manager, which significantly expands its reach and resources in the global investment landscape. Despite its reputation for advocating environmentally friendly investment strategies, Hermes Investment Management has encountered controversies that challenge its ESG commitments.

Controversies:

The firm faced criticism for its sponsorship of the State Financial Officers Foundation (SFOF), a Republican group known for opposing action on climate change and dismissing ESG policies as a “scam.” This affiliation sparked an outcry from several of Federated Hermes’ pension fund clients across Denmark, Norway, Australia, and the UK, who questioned the asset manager’s contradictory stance given its public advocacy for climate action. The controversy highlighted a stark contradiction between Hermes Investment Management’s ESG values and its financial support for an organisation lobbying against President Joe Biden’s climate change policies.

The backlash from clients and climate activists prompted an embarrassing U-turn, with Federated Hermes deciding to withdraw its sponsorship of SFOF. This decision was met with approval from its clients, who emphasised the importance of aligning all memberships and sponsorships with the goals of the Paris climate agreement. The incident underscored the growing concerns about anti-climate change lobbying in the US and the critical scrutiny asset managers face regarding their contributions to such groups.

Ownership of critical infrastructure:

While Hermes Investment Management’s primary controversies stem from its investment and sponsorship decisions rather than direct ownership of critical infrastructure, the implications of its actions on broader environmental and investment policies cannot be understated. The firm’s engagement in practices that seemingly contradict its ESG commitments raises questions about the role of investment managers in supporting sustainable infrastructure development and combating climate change.



China Investment Corporation

Who are they, are they owned by anyone else:

China Investment Corporation (CIC) is the sovereign wealth fund of the People's Republic of China, established in 2007 with the objective of managing part of China's foreign exchange reserves. CIC is wholly owned by the Chinese government and operates with the mandate to seek maximum returns for its shareholders within acceptable levels of risk. As a global investor, CIC has diversified its portfolio across a wide range of assets, including significant investments in infrastructure, real estate, and equity markets worldwide.

Ownership of Critical Infrastructure:

The involvement of CIC in owning critical infrastructure, especially in sectors such as natural gas and energy, raises strategic concerns similar to those associated with the Qatar Investment Authority. The ownership of essential energy infrastructure by a sovereign wealth fund from a country with differing political ideologies and interests prompts a critical examination of national security and energy sovereignty. The primary concern revolves around the implications of foreign state-owned control over vital assets that are crucial for the economic stability and energy independence of host countries. This concern is magnified by the strategic nature of energy infrastructure in national security frameworks and the potential for geopolitical leverage.

Controversies:

CIC's investment activities have been relatively free from public controversies directly related to its ownership of critical infrastructure. However, the broader context of China's international investment strategy, including initiatives like the Belt and Road Initiative, has been scrutinised for its geopolitical implications, including the potential for debt-trap diplomacy and influence over critical infrastructure in participating countries. Additionally, China's human rights record, including its treatment of ethnic minorities and the suppression of dissent, further complicates the perception of CIC's investments in democratic countries, where there is a strong emphasis on ethical investment practices and human rights.

The situation mirrors the controversies surrounding the Qatar Investment Authority, where investments are viewed through the lens of the investing country's domestic policies and international relations. For CIC, the challenge lies in navigating the geopolitical tensions and ethical considerations that accompany its investments in critical infrastructure abroad, ensuring that these investments are perceived as mutually beneficial and not as extensions of state influence.



Allianz Capital Partners

Who are they, are they owned by anyone else:

Allianz Capital Partners is a subsidiary of Allianz Group, one of the world's leading integrated financial services providers, based in Munich, Germany. Allianz Capital Partners manages a significant portfolio on behalf of Allianz Group's insurance companies and a variety of other investors. As a key component of the Allianz Group, it leverages the financial strength and global presence of its parent company to make strategic investments across various sectors and geographies.

Are they best placed to own our critical infrastructure?

Allianz Capital Partners' extensive experience in managing infrastructure investments, particularly in the renewable energy sector, positions it as a

capable steward of critical infrastructure. The firm's commitment to sustainable investment aligns with global efforts towards decarbonisation and the transition to a greener economy.

What else do they own

Allianz Capital Partners owns a diversified portfolio that includes significant stakes in renewable energy projects (wind and solar), utilities, transportation (airports, toll roads), and digital infrastructure (fibre networks, data centres).

Controversies:

As of the latest information available, there are no specific controversies directly linked to Allianz Capital Partners that have been widely reported in the media.

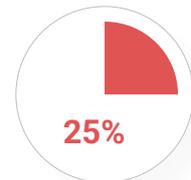
Scotia Gas Networks (SGN): About their owners



Brookfield Infrastructure Partners (Canada)



Ontario Teachers' Pension Plan Board (Canada)



Global Infrastructure Partners (Canada)



Brookfield Infrastructure Partners:

Who are they, are they owned by anyone else:

Brookfield Infrastructure Partners LP (BIP) is an investment entity that owns and operates a diversified portfolio of high-quality, long-life infrastructure assets. These assets, which generate stable cash flows, include utilities, transport, midstream, and data infrastructure across various geographical locations such as Canada, Australia, Colombia, the United Kingdom, Brazil, the United States of America, Chile, Peru, and other countries. BIP is a subsidiary of Brookfield Asset Management (BAM), a global alternative asset manager with a broad range of real estate, renewable power, infrastructure, and private equity assets under management. BAM holds a significant interest in BIP and receives substantial fees from BIP for management services, a relationship that significantly influences BIP's financial structure and operational focus.

Are they best placed to own our critical infrastructure?

The suitability of BIP as an owner of critical infrastructure raises questions, primarily due to the financial arrangement with its parent company, BAM. Approximately one-third of BIP's generated cash flows are allocated to BAM in the form of fees. This financial obligation could potentially detract from BIP's ability to reinvest in the maintenance and enhancement of its infrastructure assets. Furthermore, the cyclical nature of the infrastructure business and the challenge of consistently achieving high returns add to the concern.

What are their controversies?

BIP has faced controversies, notably regarding its majority ownership and effective control over entities involved in contentious projects. An example is NorthRiver Midstream Inc., criticised for its gas pipeline projects infringing on Indigenous populations' land rights. Such projects have sparked significant opposition from Indigenous communities, concerned about the impact on land use, water quality, and traditional practices. Despite arguments from NorthRiver regarding mitigation efforts, Indigenous communities and environmental advocates have deemed these measures insufficient, highlighting a potential gap in BIP's commitment

to ethical and sustainable operational practices. This controversy, among others, raises questions about BIP's governance, ethical standards, and its suitability as a responsible owner and operator of infrastructure assets, especially those deemed critical to national interests

Ontario Teachers' Pension Plan Board:

Who are they, are they owned by anyone else:

The Ontario Teachers' Pension Plan Board (OTPPB) is one of Canada's largest pension funds, tasked with the stewardship of the retirement savings of Ontario's teachers. It operates independently, managing a diverse portfolio of assets across the globe to ensure the long-term sustainability of teachers' pensions.

Are they best placed to own our critical infrastructure?

The OTPPB's investment philosophy and capacity to manage long-term assets would, on the surface, make it seem like a suitable entity for owning critical infrastructure. The organisation's vast resources and expertise in asset management enable it to invest in a variety of sectors, including infrastructure, which requires long-term capital and stable returns. However, the ethical considerations of its investments, particularly in sectors with potential human rights implications, raise questions about its suitability as a steward of assets that are critical to public welfare and ethical standards.

What are their controversies?

The OTPPB has faced criticism for certain investment decisions, notably its investment in GEO Group Inc., a company operating private prisons and immigration detention centres in the United States. These facilities have been accused of human rights violations, including improper segregation of immigrants and inadequate medical care. The pension plan's investment in such a company has sparked controversy, given the ethical implications. Additionally, the OTPPB has made headlines for its investments in the failing cryptocurrency exchange platform FTX Trading, and previously, in Phillip Morris Tobacco, both of which have attracted public scrutiny.



Global Infrastructure Partners (GIP):

Who are they, are they owned by anyone else?

Global Infrastructure Partners (GIP) is a leading global, independent infrastructure investor that manages assets across various sectors including energy, transport, water utilities, and digital infrastructure. GIP focuses on investments that provide essential services while seeking sustainable returns. Recently, BlackRock, the world's largest asset manager, announced its acquisition of GIP for \$12.5 billion, a move that significantly enhances BlackRock's presence in the infrastructure investment space. This acquisition not only expands BlackRock's infrastructure arm by adding more than \$100 billion in assets but also positions it as a frontrunner in the alternatives market.

Are they best placed to own our critical infrastructure?

GIP's expertise in managing and investing in infrastructure assets across a broad spectrum of sectors positions it as a capable owner of critical infrastructure. However, the acquisition by BlackRock brings to light several controversies associated with GIP's investments, particularly in fossil fuel projects that pose significant climate risks. These projects, which include stakes in oil, gas, and liquefied natural gas (LNG) facilities, have been criticised for their environmental impact and their role in perpetuating climate change. The involvement in such controversial assets raises questions about the alignment of GIP's (and by extension, BlackRock's) infrastructure portfolio with global efforts to transition to a more sustainable and low-carbon economy.

What else do they own

In addition to its controversial fossil fuel investments, GIP's portfolio is diversified across various sectors, including renewable energy. The company holds

substantial interests in renewable firms such as Atlas Renewable Energy and Skyborn Renewables, indicating a commitment to investing in cleaner, sustainable energy sources. GIP's investments span across critical and essential infrastructure, providing a balanced mix of traditional energy projects and forward-looking renewable ventures.

What are their controversies?

The primary controversy surrounding GIP involves its significant investments in fossil fuel projects, which have been identified by climate think-tank Reclaim Finance as contributing to climate change and locking in carbon emissions for decades. These projects include stakes in ADNOC Gas Pipelines, Naturgy, and several LNG facilities, including the Rio Grande LNG terminal in Texas, which faces opposition from local communities and climate activists for its environmental impact. Such investments highlight the challenges faced by infrastructure investors in balancing economic objectives with environmental and social responsibilities.

In conclusion, while Global Infrastructure Partners demonstrates a robust capability to manage and invest in a wide range of infrastructure assets, the recent acquisition by BlackRock casts a spotlight on the environmental and climate-related controversies associated with its portfolio. The focus on fossil fuel projects contrasts with the growing global emphasis on sustainable and renewable energy sources, raising critical questions about GIP's (and BlackRock's) commitment to responsible investing in the face of climate change. As the world moves towards a low-carbon future, the management and selection of infrastructure investments by entities like GIP will be closely scrutinised for their environmental impact and alignment with global sustainability goals.



Wales and West Utilities and Northern Gas Networks:

About their owners

The shares in the ultimate parent company, Wales & West Gas Networks (Holdings) Limited, are owned equally by West Gas Networks Limited and Western Gas Networks Limited. These two companies are ultimately owned by a consortium comprising CK Hutchison Holdings Limited ("CKH") (30%), CK Infrastructure Holdings Limited ("CKIH") (30%), Power Assets Holdings Limited (30%) and CK Asset Holdings Limited (10%). The 10% shareholding previously held by the Li Ka Shing Foundation was transferred to CK Asset Holdings Limited on 21 May 2021.

CK Hutchison Holdings, CK Infrastructure Holdings, and CK Asset Holdings:

Ownership and structure:

CK Hutchison Holdings Limited (CKH), CK Infrastructure Holdings Limited (CKIH), and CK Asset Holdings Limited are integral components of the multinational conglomerate led by the renowned Hong Kong-based businessman, Li Ka-shing. These entities collectively hold a significant stake in Wales and West Utilities Ltd, with CKH and CKIH each owning 30%, and CK Asset Holdings Limited holding a 10% share. These companies are strategically structured and domiciled in different jurisdictions, including locations known for their favourable tax regimes, such as the Cayman Islands and Bermuda. This international structuring, often in territories considered tax havens, raises questions about tax optimization strategies and the broader implications for fiscal responsibility and transparency in the ownership of critical infrastructure.

Are they best placed to own our critical infrastructure?

The conglomerate's global reach and diverse portfolio across various sectors, including utilities, telecommunications, real estate, and infrastructure, demonstrate a broad expertise in managing

and investing in critical assets. Their financial strength and international experience could be seen as advantageous for the ownership and management of essential services like utilities. However, the domicile of these holding companies in tax-favourable jurisdictions may invite scrutiny regarding their commitment to fiscal transparency and the ethical considerations of managing national infrastructure, which is critical to public welfare.

What else do they own?

The CK group's vast and diversified portfolio spans numerous industries and countries. CK Hutchison Holdings is a prominent player in the global telecommunications, retail, ports, and infrastructure sectors. CK Infrastructure Holdings focuses on infrastructure investments worldwide, including energy, water utilities, and transportation. Meanwhile, CK Asset Holdings is known for its significant real estate and development projects, both residential and commercial, across various markets. This extensive involvement in critical and essential services underscores the conglomerate's capacity and expertise in managing complex, large-scale operations.



Controversies:

The entities under the umbrella of CK Hutchison Holdings, CK Infrastructure Holdings, and CK Asset Holdings, controlled by the esteemed Hong Kong billionaire Li Ka-shing, have encountered significant public and regulatory controversies that challenge their operational practices and raise concerns about their suitability to own essential services and infrastructure.

Industrial Dispute at Felixstowe: CK Hutchison's port management arm faced public backlash over an industrial relations dispute at the UK's largest container port, Felixstowe. Union leaders criticised the company for failing to provide fair wages to its workers amidst reports of significant profitability. This dispute not only disrupted operations but also sparked a wider conversation about fair labour practices and corporate responsibility in managing critical logistics infrastructure.

Tax Controversy with Indian Government: A notable financial controversy involved a demand from the Indian government for approximately \$5 billion in taxes and penalties related to CK Hutchison Holdings' past investment in the Indian telecommunications sector. This dispute, stemming from Vodafone's acquisition of Hutchison's stake in a joint venture, highlighted the complex international tax challenges and regulatory risks multinational corporations face, especially in volatile policy environments.

Environmental Concerns in UK Water Utilities: CK Group's ownership of Northumbrian Water Limited (NWL) brought to light severe environmental concerns, particularly related to the company's management of water utilities in the UK. NWL faced intense criticism and legal scrutiny for its practices of dumping raw sewage into waterways, which resulted in substantial fines and a public outcry over pollution. The company's environmental violations, coupled with the broader impact on community health and ecosystem integrity, underscored the significant disconnect between corporate practices and sustainable environmental stewardship.





Power Assets Holdings:

Ownership and background:

Power Assets Holdings is a significant player in the global energy sector, with a portfolio that spans electricity generation, transmission, and distribution. It is substantially owned by CK Infrastructure Holdings, holding a 35% stake, which links it to the broader conglomerate controlled by the Hong Kong billionaire Li Ka-shing. This ownership structure places Power Assets Holdings within a vast network of infrastructure and utility investments worldwide, benefiting from the strategic oversight and financial backing of one of Asia's leading business empires.

Power Assets Holdings boasts considerable expertise in managing gas infrastructure and a broad portfolio in electricity generation, transmission, and distribution, showcasing its capability to manage critical infrastructure. Its established presence in the energy market, supported by CK Infrastructure Holdings, equips it with necessary resources and expertise for the sector's challenges, ensuring the reliability and efficiency vital for societal energy needs.

Are they best placed to own our critical infrastructure?

Conversely, its involvement in coal and controversial mining licence acquisitions raise questions about its stewardship of critical infrastructure. These actions, conflicting with the shift towards cleaner energy and ethical standards, highlight a focus on financial gains that could undermine environmental sustainability

and governance. This indicates a potential misalignment with the responsibilities of managing critical infrastructure, prompting concerns over its commitment to ethical practices and adaptability to the sector's changing demands.

Controversies:

A significant controversy that has cast a shadow over Power Assets Holdings relates to its involvement in coal-based energy projects and the acquisition of mining licences, practices that have raised ethical and environmental concerns. The company, through its associations, has been implicated in controversies regarding the procurement of coal mining assets and the methods by which these mining licences were obtained, particularly in regions where such acquisitions have been mired in disputes and allegations of corruption.

The crux of the controversy centres on the acquisition of coal mining assets under questionable circumstances, where exploration licences of some mines had reportedly expired at the time of acquisition. This not only led to substantial financial losses but also raised serious questions about the due diligence and ethical standards upheld by the entities involved in these transactions. The backlash was amplified by shareholder lawsuits against former and existing executives of associated companies, accusing them of breaching their duties by approving these flawed acquisitions, thus causing significant harm and damage to the company and its stakeholders.



State Super

Who are they, are they owned by anyone else?

State Super, formally known as SAS Trustee Corporation, was established in 1919, serving as a superannuation fund primarily for current and former government employees and public sector workers in New South Wales, Australia. It is a self-owned entity, functioning under the governance of its CEO, John Livanas, and Chairperson, Nicholas Johnson. With a portfolio management of approximately \$38 billion AUD and catering to around 90,123 members as of June 2022, State Super is an independent organisation dedicated to managing defined benefit super and pension schemes for its members.

Are they best placed to own our critical infrastructure?

State Super's investment strategy includes significant stakes in critical infrastructure, notably in the aviation sector, with ownership interests in airports like Birmingham, Bristol, Melbourne, Launceston, and various Queensland Airports.

While these investments demonstrate State Super's capability and strategic vision in managing substantial assets, the ownership of major aviation infrastructure places the fund at the centre of a crucial debate on decarbonization and environmental responsibility. The aviation industry is a significant contributor to global carbon emissions. State Super's involvement in this sector raises questions about its alignment with the urgent need for sustainable infrastructure investment and whether its portfolio strategy can adapt to the accelerating demands of environmental sustainability.

What are their controversies?

The primary controversy surrounding State Super's investment portfolio relates to its significant holdings in the aviation sector, given the urgent global push towards decarbonisation. Owning substantial stakes in major aviation infrastructure puts State Super in a challenging position, as it must balance financial returns with the environmental impacts of these investments.

Bibliography

- Regen Regen. (n.d.). Who Will Pay for Gas Network Decline and Decommissioning? Retrieved from <https://www.regen.co.uk/who-will-pay-for-gas-network-decline-and-decommissioning/>
- \Energy And Utilities Alliance (EUA) Energy And Utilities Alliance. (n.d.). [Description of the EUA including membership and financial turnover]. No URL provided, information extracted from user notes.
- Sustainability First Sustainability First. (2023, December 4). Looking through the FOG - Future of Gas Networks: GB Gas Network Decline and Stranding in RIIO-3. Retrieved from http://www.sustainabilityfirst.org.uk/images/Sustainability_First_-_V2_Viewpoint_-_Gas_Network_Decline_and_Stranding_in_RIIO-3_-_v_041223_final.pdf
- Inside Track Inside Track. (n.d.). Six priorities for cleaning up UK heating. [Specific details on UK heating issues and policy recommendations]. <https://greenallianceblog.org.uk/2023/08/02/the-uk-is-sleepwalking-into-a-big-problem-with-its-gas-network/>
- Richard Lowes for Regulatory Assistance Project (RAP) Lowes, R. (2023, August). Decommissioning: Policy and Regulatory Options to Manage the Gas Grid in a Decarbonising UK. Retrieved from https://www.raponline.org/wp-content/uploads/2023/08/2023-08_decomissioning_gas_FINAL.pdf
- Energy Consumers' Missing Billions Citizens Advice. (n.d.). Energy Consumers' Missing Billions. Retrieved from <https://www.citizensadvice.org.uk/Global/CitizensAdvice/Energy/EnergyConsumersMissingBillions.pdf>