

Corporate Tools for Climate Action: An Internal Carbon Price for Getlink?

Catherine Casamatta, Uli Hege, Sophie Moinas, Sébastien Pouget and Silvia Rossetto wrote this case solely to provide material for class discussion. Data used in the case should not be considered as representative of Getlink's activities, except that stemming from official public sources.

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On January 10, 2023, Yann Leriche, CEO of Getlink, whose main activity is the operation of the Channel Tunnel between France and the UK, meets with Géraldine Périchon, Chief Financial Officer, and Vincent Ducros, Group Environment Director, for a short talk before the Executive Committee meeting of that day. Leriche wants to review the arguments in favour of introducing an internal carbon price (hereafter ICP) for the transportation activity of Getlink. While Ducros is well aware of the pros and cons of this new tool to involve all teams in the Group's efforts to reduce its carbon emissions (measured in carbon dioxide equivalent, hereafter CO₂e), doubts remain about the effectiveness and desirability of an ICP to sustain Getlink's broader environmental strategy.

Arguments in favour of an ICP include setting clear goals for group directors and employees. While Getlink is strongly committed to reducing its carbon emissions, it faces difficulties in inducing all employees to adopt its carbon emission targets. In particular, business unit directors are reluctant to make decisions that would impair their units' financial performance, even if that would imply a reduction in carbon emissions. Assigning a financial value to carbon emissions reductions could change business units' behaviour. There is also a potential benefit in terms of financial communication. Financial analysts are paying more and more attention to companies' net zero commitments. Périchon knows that Getlink's ability to convince investors that their carbon reduction trajectory is credible could help the Group raise funds in the future.

On the downside, it is unclear whether an ICP is the right tool to foster the group's actions to fight climate change. Yann Leriche is worried, in particular, about the diversity of practices on ICP. When working with Institut Montaigne, a highly regarded French think-tank, on a report on Internal Carbon Pricing, Leriche realised that some companies were mainly using an ICP as an internal communication tool to raise awareness on carbon emissions, without really impacting actual decisions. Leriche wonders whether the benefit in terms of communication would be that strong. Another issue is the price level to choose. On that point again, there is no real consensus: the ICP reported by the sample of French companies surveyed by Institut Montaigne ranged from €30 to €150. Worldwide, the range was even larger, from a few US\$ to US 900\$. Another sensitive question relates to how an ICP should affect Getlink's pricing strategy. If the ICP is to raise operations costs, how will it impact Getlink's competitive edge vis-à-vis other transportation companies? That last point is not easy to assess. It depends in particular on whether customers will be willing to pay a higher price for more environmentally cautious crossings, and on whether future regulation will impose stricter carbon emission restrictions on the whole sector.

Should Leriche announce the adoption of an ICP to Getlink's executive committee? What economic implications will it have on Getlink's performance and activity?

A quick history of Getlink¹

Eurotunnel debut

The idea of building a tunnel under the Channel dated back to the early 19th century. Much later, the Eurotunnel project presented by a Franco-British Consortium was accepted by both the French and British governments on January 20, 1986. A key condition for the English Prime Minister Margaret Thatcher, with her famous sentence “not a public penny”, was that it should be funded by private funds only. The Channel tunnel was officially inaugurated on May 6, 1994 by Her Majesty the Queen Elisabeth II, and French President François Mitterrand. The tunnel was operated by a Franco-British Consortium named France-Manche SA/The Channel Tunnel Group Ltd. It enabled high-speed trains, as well as shuttles for cars and trucks, to cross the Channel between the terminals of Coquelles (near Calais) in France and Folkestone (near Dover) in England.

Eurotunnel turmoil and debt restructuring

To finance the tunnel construction, the company Eurotunnel went through an initial public offering in November 1987, with shares initially sold for 35 French Francs (equivalent to €9.27 in 2021). As for many infrastructure projects, technical difficulties and delays increased the cost of construction which eventually amounted to £9 billion, well above the initial budget of £5.5 billion. The additional cost was financed through two seasoned equity offerings (in 1990 and 1994), which heavily diluted the initial subscribers of the initial public offering. Large amounts of debt complemented equity financing. Eurotunnel first defaulted on its junior debt in September 1995. This episode led to the first debt restructuring of the company in 1997. The plan involved a debt-for-equity swap through which banks owned 45.5% of the company’s shares. Financial difficulties accumulated, and a new debt restructuring became necessary in 2004. At that time, the initial share value was down by 92%, which led small shareholders, under the lead of Nicolas Miguët, to campaign for the dismissal of the managerial team. After epic battles, small shareholders rejected the current direction proposal on April 7, 2004. Eventually, Jacques Gounon won a board seat at the board in December 2004, and was appointed chairman and CEO on June 14, 2005.

Jacques Gounon initiated long and complex negotiations with the various groups of creditors (bondholders and banks) to restructure the group’s colossal debt (€9 billion). The Paris Commercial Court eventually approved the restructuring plan on January 15, 2007. The plan involved the creation of a new company, Groupe Eurotunnel (hereafter GET), with debt reduced by half. At the end of 2007, the company implemented a share

¹For more information on Getlink’s history, see the [Getlink group website: https://www.getlinkgroup.com/en/our-group/..](https://www.getlinkgroup.com/en/our-group/..)

consolidation of 40 old shares for 1 new, with a new stock price of €14. For the first time, Eurotunnel announced a benefit of €1 million for 2007.

Recovery and diversification

In March 2009, the shareholders' general assembly enacted the first dividend distribution in the history of Eurotunnel (€0.04 per share). That same year, the group started diversifying its activities in rail freight and logistics with two major acquisitions: the rail freight subsidiary of Veolia (Veolia Cargo) in December 2009 and the third freight operator of Great Britain (GB Railfreight) in May 2010. This new activity gave rise to the creation of a new brand, Europorte. The company's involvement in the rail freight industry was reinforced by the creation of the first European private training centre for railway staff in 2012, CIFFCO. In 2011, GET created a joint venture, ElecLink, to explore the possibility of creating an electricity interconnection between the UK and France with a direct current cable running via the Channel Tunnel. The construction eventually started in 2017, and ElecLink started operating on May 25, 2022 after several years of delays. To account for its expansion, GET changed its name to Getlink on November 20, 2017 (see Exhibit 1).

Getlink today

Shareholders

Getlink capital is held at 90% by institutional investors. As of January 2023, the largest shareholder is the Eiffage Group, a leading European construction and concessions company, with 18.79% of the capital. Eiffage first invested in Getlink in 2018, obtaining an initial shareholding of 5.08%. In October 2022, Eiffage significantly increased its stake by purchasing the 13.71% shareholding of TCI fund management, a London-based hedge fund focusing on long-term investments. The second largest shareholder, with 15.49% of Getlink's capital, is Mundys, a world leader in transport infrastructure concessions and mobility services. The Abu Dhabi investment fund is the third largest shareholder, with 6.65% of capital.

With her experience as Head of M&A at Suez, and financial disclosures Senior Officer at the Autorité des Marchés Financiers (the French capital market regulator), Périchon is well aware that clear communication with investors is crucial. Introducing an ICP can signal to investors that Getlink is fully committed to a decarbonisation strategy, which can affect Getlink's fundraising capacity. This is all the more important that Eurotunnel's inherited debt of nearly €4 billion requires frequent debt refinancing transactions (see Exhibit 2). Périchon also wonders how investors will react if decarbonisation efforts impair financial returns too much.

Governance

Getlink reformed its governance structure on July 1st, 2020 by adopting the separation of the functions of chairman of the board of directors and CEO. Jacques Gounon remained chairman and Yann Leriche was appointed CEO. An alumnus of Ecole Polytechnique and ESCP, respectively leading French engineering and business schools, Leriche has extensive management experience in the transportation sector with past positions at Bombardier Transports and Transdev, a France-based international public transport company. Before joining Getlink, he was the CEO of Transdev North America, a group subsidiary of 17,000 employees.

Getlink governance includes a board of fifteen directors consisting of a majority of independent directors, 40% female directors and three employees' representatives. The board is divided into four specialised committees: Audit, Corporate Social Responsibility and Ethics, Compensation policies, and Safety and Security.

The CEO's general management mission is assisted by an Executive Committee composed of eleven members representing the group's main activities.

Getlink and its competitors

Cross-Channel traffic consists of passengers' transportation and freight. On these activities, Getlink competes with air and maritime traffic. Figure 1 in Exhibit 3 shows the various routes available to link Continental Europe to the United Kingdom. Ten ferry companies exploit Channel routes for passengers, the largest being P&O, DFDS-Seaway, Irish Ferries and Brittany Ferries. In 2019, 18.4 million passengers took the ferry to reach the UK through Channel "short sea" routes. Meanwhile, 21.5 million passengers used the Tunnel, equally shared between the Shuttle, and the Eurostar train (which offers direct trains to London from France, Belgium and the Netherlands).²

Competition with airlines is more difficult to define because many of the air routes are driven by the hub activities of the London and Paris airports. Air France (including its subsidiary Hop) has its main hubs in Paris Charles de Gaulle and Paris Orly, while British Airways, EasyJet and Virgin Atlantic operate from London Heathrow and Gatwick. Overall, in 2019, 19 millions of passengers travelled by air or rail (Eurostar) between London and Paris, or between London and Brussels/Amsterdam, of which Eurostar passengers represent around 58% (see Figure 2 in Exhibit 3).

Freight traffic between the UK and EU goes through three main routes in Northern Europe: the North Sea, the Western Channel, and the Short Straits (on which Getlink operates). The latter corridor represents 60% of overall EU-UK freight trades, and

² Data come from: [Atlas Transmanche](http://atlas-transmanche.certic.unicaen.fr/fr/), <http://atlas-transmanche.certic.unicaen.fr/fr/> and from the UK Department of Transport: <https://www.gov.uk/government/statistical-data-sets/sea-passenger-statistics-spas>.

Getlink's share of that corridor is 42%. Overall, in 2019, Getlink represented, with the Shuttle, 26% of passengers' Channel crossings (54% if one includes Eurostar for which Getlink receives a tunnel usage toll), and 27% of freight crossings between the EU and UK.

Getlink's financial performance

The bulk of Getlink's activity is concentrated in the Eurotunnel subsidiary, which, until the commissioning of the ElecLink interconnector, represented roughly 80% of the group's total revenue, and encompasses both the Shuttle (cars, coaches and trucks) and rail activities (Eurostar fee, rail freight).

The Covid pandemic has largely impacted Getlink's activities in 2020 and 2021. Eurotunnel revenues dropped by 28% in 2020 compared to 2019, then by another 9% between 2020 and 2021. As shown in Exhibit 4, this decrease is largely attributable to the loss in rail traffic. Traffic went down between 2019 and 2020 (resp. 2020 and 2021) as follows: truck traffic by 9% (resp. 6%); car traffic by 46% (resp. 35%); Eurostar's passengers by 77% (resp. 35%); rail freight trains by 19% (resp. 5%).

In 2022, truck traffic is slowly recovering, with a 6% increase compared to 2021, while rail freight trains reduce further by 10%. Recovery is more remarkable for passengers' Shuttle and Eurostar traffic, which are on an upward trend. Eurostar traffic increased five-fold compared to 2021. Eurotunnel revenue is up by 63% to €1.049 billion in 2022, relative to 2021. The group has also secured another important source of revenue, with the electricity subsidiary ElecLink starting operating in May 2022. In 2022, ElecLink's first months of operations generated €420 million in additional revenue. Overall, Getlink Group generated in 2022 a €1.606 billion consolidated revenue, an all time high.

Getlink's long-term strategy

Getlink has made a strong commitment to act responsibly, with long-term value creation and social impact at the heart of its strategy. Corporate Social Responsibility (hereafter CSR) at Getlink covers a continuous reflection on the Group's strategic objectives, as well as the adoption of social and operational innovations to achieve its goals.

Strategy: acting as a responsible company

Getlink's strategy reflects its commitment to sustainable growth for the Group as well as for all its stakeholders: customers, employees, suppliers, shareholders, citizens, etc. Getlink's CSR hinges on three pillars: a constant dialogue with its main stakeholders, a clear definition and communication of the Group's current strategic issues, and a focus

on specific United Nations Sustainable Development Goals (UN SDGs) in relation to the strategic issues identified by the Group.

Getlink's dialogue and actions towards its stakeholders are represented in a Stakeholder Mapping chart, which details instances and events during which Getlink engages with its stakeholders. One outcome of such dialogues is the Materiality Matrix, which presents the set of issues identified as important for Getlink's stakeholders. The Materiality Matrix was last updated in 2022, and identifies 6 strategic issues: health and safety of all stakeholders; safety and security of infrastructures and assets; quality of service and customer experience; energy transition; sustainable mobility; and information system and personal data protection.

Last, Getlink has been a signatory to the Global Compact since 2013 and is committed to contributing to the UN SDGs. Following the Materiality Matrix update, the Group has narrowed down the set of SDGs to which the group's activities relate from 16 to 7 SDGs, in line with its strategic materiality issues.³

Getlink's environmental, social and governance performance assessment

External evaluation of CSR performance is key to ensure that Getlink's efforts are effective and visible. Thanks to ESG ratings, investors can more easily understand the overall performance of companies and compare Getlink to its peers. Getlink's most recent ESG ratings (as of January 2023) consistently position the firm in the industry's top decile, reflecting the effectiveness of the Group's strategy (see Exhibit 5).

Impact of the EU green taxonomy

Thanks to its electric rail and cable operations, Getlink's activities are eligible at 93% to the EU green taxonomy adopted in June 2020, which establishes a list of environmentally sustainable economic activities. Being largely aligned with the EU taxonomy creates favourable refinancing conditions. For instance, one financial analyst, ODDO BHF, suggested in April 2022 to decrease Getlink's weighted average cost of capital from 6.1% to 5.3%, thereby increasing their target share price from €16.4 to €19.5.⁴

To meet its large refinancing needs, Getlink has developed a Green Bond framework and issued green bonds in 2018 and 2020. The EU taxonomy induced Getlink to extend it to a Green Finance framework, allowing the Group to refinance non-green Eurotunnel debt successfully. For instance, in April 2022, Getlink refinanced a €425m loan, resulting in total cash savings of €100m. According to Périchon , "this transaction demonstrates the continued investor confidence in our strategy."

³ See the Stakeholder Mapping chart, the Materiality Matrix and the specific UN SDGs of Getlink in Exhibit 5.

⁴ See the ODDO BHF's analyst report, April 20, 2022.

Getlink's commitment to climate action

Determined to set an exemplary and responsible conduct of business, Getlink has been the first cross-Channel operator to have published an annual carbon footprint as early as 2007. More recently, Getlink has joined the French Business Climate Pledge, an initiative launched by the MEDEF (the largest French employers federation) to consolidate the commitments of private companies from all sectors to the climate transition. Getlink also joined the Ambition4Climate initiative launched by AFEP (a lobby group for large private-sector French companies).

Getlink carbon emissions reduction efforts

Getlink's Environmental Plan 2025⁵

Operating with a minimal environmental footprint is a major objective for Getlink. Thanks to the Group's efforts, greenhouse gas emissions dropped by 33% between 2012 and 2019. Under the impulse of Leriche, the board of directors of Getlink adopted in 2021 an Environmental Plan 2025 that sets a new environmental roadmap with clear targets.

The Environmental Plan 2025 is composed of 3 pillars (see Exhibit 6): a reduction of its carbon emissions in line with the broad 2°C trajectory of the 2015 Paris Agreement of the UN Climate Change Conference (known as COP21); the preservation of natural environments; and an improvement in waste management.

To achieve Pillar 1, Getlink is committed to reducing its direct carbon and energy-related emissions by 15% in 2023 and 30% by 2025 and reducing indirect emissions from purchased goods and services and capital goods by 7.5% by 2025.

Direct emissions are referred to as Scope 1 emissions. They encompass on-site energy (natural gas, fuel, refrigerants) and emissions from combustion in boilers and furnaces and from fleet vehicles. Scope 2 emissions include indirect emissions from purchased or acquired energy. Scope 3 includes all other indirect emissions that occur along the value chain. Upstream emissions relate to purchased goods and services generated from cradle to gate (e.g., purchased goods and services, capital goods, fuel and energy-related activities, upstream transportation and distribution, business travel, employee commuting...). Downstream emissions relate to indirect emissions of sold goods and services (e.g., downstream transportation and distribution, processing and use of sold products, end-of-life treatment of sold products...).

⁵ For more information on Getlink's Environmental Plan 2025, see the [Getlink group website: https://www.getlinkgroup.com/content/uploads/2021/06/environmental-plan-2025-UK.pdf](https://www.getlinkgroup.com/content/uploads/2021/06/environmental-plan-2025-UK.pdf).

Achieving the Environmental Plan 2025 targets

Getlink's Scope 1 and 2 carbon emissions in 2019 amount to 47 kt CO₂e, and are split between 31.5 kt CO₂e of Scope 1 emissions (13 kt CO₂e are attributable to Eurotunnel and 18.5 kt CO₂e to Europorte diesel trains), and 15.5 kt CO₂e of Scope 2 emissions (due to energy consumption). The actions adopted to reduce direct emissions by 30% by 2025, or 14 kt CO₂e per year, are presented in Exhibit 6.

Differences in reporting standards can impede efforts to improve energy efficiency. For instance, the translation of electricity consumption (in, say, kWh) into CO₂e emissions (in, say, kt) depends on emission factors provided by power generators. Eligible emission factors vary with reporting prescribers. For instance, Ademe (the French ecological transition agency) uses a location-based approach, whereby emission factors depend on the national electricity mix of the power generator (which can vary over time, irrespective of Getlink's consumption), while the GHG protocol allows for a market-based approach, whereby electricity can be backed by low-carbon generation (such as the "Blue for Business" contract used by Getlink to guarantee nuclear power generation for its UK activities).

Getlink's Scope 3 emissions

Despite the above-mentioned reporting issues, the perimeters of Scope 1 and 2 emissions are relatively easy to delineate. By contrast, both the perimeter and calculation methods of Scope 3 emissions differ widely across reporting agencies.

To build its Environmental Plan 2025 in 2019 and assess its Scope 3 emissions, the Group has initially followed the prescriptions of the consulting firm Carbone 4. This resulted in a Scope 3 carbon footprint of approximately 3 million tonnes of CO₂e in 2019, dwarfing the 47kt CO₂e of direct emissions (and amounting to almost 1% of the total CO₂e emissions of the UK and France!). 94% of these emissions stem from counting 1000 km of customer travel outside the Tunnel. The remaining indirect emissions correspond to the purchase and storage of goods (74% of emissions excluding customer travel) and to energy-related emissions not included in Scope 2.⁶

Recently, Getlink provided a new assessment of its Scope 3 emissions, based on the industry benchmark of 5 km of customer travels outside the Tunnel. This led to total Scope 3 emissions of 100.241 kt CO₂e for 2022, 10% of which correspond to customer travels.

⁶ See Environmental Plan 2025: <https://www.getlinkgroup.com/content/uploads/2021/06/environmental-plan-2025-UK.pdf>

Scope 4 emissions

Getlink's approach to reducing CO₂e emissions has been validated by the Science-Based Target initiative (known as SBTi),⁷ which categorised them at the favourable level “well below the 2°C”. Getlink's ambitions in June 2021 were in line with a trajectory to limit global warming to 1.5°C by the end of the century – and are categorised as such by SBTi in June 2022.⁸ However, Leriche, Périchon and Ducros wonder whether Getlink's focus on Scope 1, 2, and 3 emissions is the right metrics to effectively act for climate change mitigation. A distinctive feature of rail transportation is its carbon efficiency. By comparison, truck transportation emits 12 times less greenhouse gases when using the Shuttle rather than a ferry, and car transportation emits 72 times less.⁹ An analysis of the market shares of Getlink relative to its main competitors (provided in Exhibit 7) led to the following opening statement of its Environmental Plan 2025: “And there, under the Channel, 25% of the trade between the UK and the European Union is carried through the tunnel, with 320 daily trains, more than half of which carry goods. With the 170 weekly trains operated across Europe by Europorte, the first private railway operator in France, 2 million tonnes of CO₂e are avoided yearly thanks to the Getlink group.” This is a substantial contribution, considering that the UK and France each recently had total annual emissions of less than 350 million tons.

Accounting for carbon emissions avoided when customers use Eurotunnel seems crucial to make the right decisions. Such avoided emissions are referred to as Scope 4 emissions. Although there is no formal definition or calculation method for Scope 4 emissions, some companies feel the need to consider how much carbon is saved when they offer a more carbon-efficient product than alternative products on the market.

In the case of Getlink, assessing Scope 4 emissions raises several questions. If Getlink reduces its transportation capacity in an effort to reduce its carbon emissions, this will certainly shift client demand towards its more polluting competitors. While Getlink's carbon emissions will decrease, the sector's carbon emissions may not. On the contrary, if Getlink competes more aggressively with ferries (and aeroplanes), the resulting avoided emissions will not show in its reported Scope 1, 2, and 3 emissions. In the long run, encouraging cross-Channel rail transportation might have perverse effects by inducing more car and truck traffic across Europe. These are intricate questions, but Leriche, Périchon and Ducros are convinced that they cannot avoid assessing competitive effects when making carbon reduction decisions. Whether such reflections will be easy to convey to investors, and stakeholders as a whole, is another source of concern.

⁷ SBTi is a joint initiative of the Carbon Disclosure Project (hereafter CDP), the United Nations Global Compact World Resources Institute (hereafter WRI) and the World Wide Fund for Nature (hereafter WWF) to help companies set emission reduction targets in line with climate science and Paris Agreement goals.

⁸ See <https://sciencebasedtargets.org/companies-taking-action>.

⁹ Source: [Getlink Environmental Plan 2025](#), page 13. See Exhibit 6 for details.

Carbon Pricing

(External) Carbon pricing

Carbon pricing is an approach to reducing greenhouse gas emissions that uses market mechanisms to pass the cost of emissions onto emitters. In essence, it is a tax on carbon emitted by companies that follows the polluter-pay principle. Across the world, 80 national, regional or local jurisdictions have implemented a carbon tax or an emission quota system, covering around 21.5% of global emissions. The European Union is leading the way with its Emissions Trading System (hereafter ETS). A carbon price provides polluters with an economic incentive to incorporate their environmental impact into their business decisions.

Internal carbon pricing

An ICP is a tool for organisations to voluntarily recognise the cost of their carbon emissions, usually to anticipate future climate regulations, to test the resilience of their investments in case climate regulations are implemented, or to demonstrate to their stakeholders the extent of their commitment towards their environmental objectives. According to the report on ICP published in 2021 by the Institut Montaigne, more than 2,000 companies around the world were using or planning to adopt this tool in 2021, an increase of nearly 80% compared to 2015. This is the case for nearly half of the 500 largest companies surveyed by the CDP, an organisation that publishes data on companies' environmental performance.¹⁰

While there is no consensus in the business world today on the right way to implement an ICP, it is clear that three dimensions matter: its level, its scope, and its reach.

Introducing an ICP at GetLink

Price level

For governments and businesses alike, the priority is to set the carbon price at the optimal level that implements an efficient decarbonisation path. This vision is based on the notion of a “social cost of carbon” (see Exhibit 8): it is estimated to evolve, for the Stern-Stiglitz report of the High-Level Commission on Carbon Prices,¹¹ from \$40-80 per tonne of CO₂e

¹⁰ CDP. (2021). Putting a Price on Carbon: The state of internal carbon pricing by corporates globally: <https://www.cdp.net/en/research/global-reports/putting-a-price-on-carbon>.

¹¹ The High-Level Commission on Carbon Prices is a group of economists convened by the Carbon Pricing Leadership Coalition (CPLC), a voluntary partnership of national and sub-national governments, businesses, and civil society organisations that agree to advance the carbon pricing agenda. The CPLC secretariat is administered by The World Bank.

in 2020 to \$50-100 in 2030; for the International Energy Agency, from \$63 in 2025 to \$140 in 2040; for the French Quinet II government commission, from €250 in 2030, to €500 in 2040 and €775 in 2050.

In fact, there are enormous disparities in suggested price levels even for explicit carbon prices: the ETS price per tonne of CO₂e is ten times higher in Europe than in China. Overall, the carbon price remains below €8 per tonne of CO₂e for nearly half of all emissions around the world. There are also disparities in companies' internal carbon prices, which vary worldwide from a few USD to more than 900 USD per tonne of CO₂e (with on average 25 USD per tonne of CO₂e), and from €30 to €150 per tonne of CO₂e for French companies (average at €60 per tonne of CO₂e).

Scope

The ICP covers only Scope 1 direct emissions for 90% of the companies that use it. Including Scope 3 in addition to Scope 1 and 2 emissions is recommended by SBTi, the European Financial Reporting Advisory Group (EFRAG) and the European Banking Authority (EBA). However, from an economy-wide perspective, the inclusion of indirect emissions creates a double-counting problem along the supply chain, with the direct emissions of suppliers being counted again as indirect emissions for downstream firms. Ultimately, it depends on the extent to which suppliers and customers take action to reduce their own emissions. Leriche wonders whether implementing an ICP on Scope 1 and 2 emissions only is meaningful for Getlink.

Reach: a variety of implementations

An ICP can serve many purposes: accelerate low-carbon investments; improve the carbon efficiency of energy purchases; encourage internal behaviour change; and promote low-carbon solutions along the value chain.

In most cases, firms use ICP in an informal way. It allows them to assess their climate-related financial exposures, or the potential future costs of investment projects, were a carbon tax imposed by regulatory authorities. Even if used informally, an ICP can induce firms to shift their investment or purchase policy marginally. This implies that, in the short term, firms can end up choosing less profitable projects (e.g. costlier suppliers), and exhibit lower financial performance.

Firms can also use ICP as a genuine shadow price, that is a price that reflects the cost of CO₂e emissions to society. It is then fully included in all investment and business decisions, and is taken into account as any other type of operating costs. The proceeds from this "internal" tax can then fuel an internal budget to finance green projects. For instance, firms can buy voluntary carbon offsets, invest in green R&D, or even donate to charities acting for the environment.

However, firms are usually reluctant to use the ICP as a true additional cost. If firms keep customers' prices constant, their margins and financial performance will decrease because of the additional carbon cost. It is unclear how shareholders and analysts would analyse this drop in profitability, even if responsible shareholders support firms' decarbonisation efforts. Alternatively, firms can pass part of the carbon cost to customers by raising their prices. The overall impact on the firm's performance then depends on the customers' willingness to pay for a "greener" product.

With his engineering education background and experience in energy and infrastructure project management, Ducros is keen to quantify the risk for Getlink to lose customers.¹² With a Shuttle demand price elasticity estimated at 5, and given the Group's cost structure (see Exhibit 9), Ducros assesses the impact on Sales of increasing Shuttle fares as follows. If Getlink sets an ICP at €100, total costs increase by 0.5%. If the Group passes on 50% of that increase to customers, total demand decreases by $50\% \times 0.5\% \times 5$, yielding a 0.9% profit drop. At the same time, Getlink's CO₂e emissions decrease by 1.25%, or 66 tCO₂e.

When Ducros shows these figures to Leriche and Périchon, they wonder whether an increase in Getlink's prices will lead customers to shift to ferries. Additional ferries' emissions may wipe out Getlink's efforts to reduce carbon emissions. First estimates by Ducros suggest that if customers do not value Getlink's efforts to reduce carbon emissions, and switch to competitors, total emissions might increase by 3852 tCO₂e.

Suggested questions for discussion

1. According to you, how may the introduction of an ICP influence a firm's internal decision processes? Do you think it is relevant for Getlink?
2. In your opinion, will introducing an ICP change Getlink's relations with its various stakeholders (investors, financial analysts, suppliers, customers...)?
3. Do you think that the adoption of an ICP will provide Getlink with a strategic advantage? What do you think the competitors' reaction will be? Is there a threat of carbon dumping as envisaged by Leriche and his team?
4. What reference price and scope would you recommend for Getlink?
5. Can you assess the impact of implementing an ICP targeting Scope 1 emissions on Getlink's financial and extra-financial performance? You can use the data from Exhibit 9 and consider different carbon prices.
6. Based on all the elements above, would you recommend Getlink to use an ICP and, if so, how?

¹² For confidentiality issues, the following calculations are not based on actual data on elasticities and costs.

Exhibits

Exhibit 1: Getlink's activities

- **Eurotunnel:** transport for passengers, passenger vehicles and trucks. The group operates its own Shuttle for passenger vehicles and trucks, and leases the tunnel rail infrastructure to other train operators (Eurostar).
- **Europorte:** private rail freight in France and Europe, and port railway infrastructure management.
- **ElecLink:** 1000 MW High Voltage Direct Current electrical interconnector between France and the UK through the Channel Tunnel.
- **CIFFCO:** private railway training centre.

Exhibit 2: Eurotunnel Group

€'000	31 December 2022	31 December 2021
Exchange rate €/£	1.127	1.190
ASSETS		
Intangible assets	2,562	3,189
Concession property, plant and equipment	5,635,500	5,676,290
Total property, plant and equipment (tangible and intangible)	5,638,062	5,679,479
Deferred tax asset	490,085	470,489
Other financial assets: external	12,260	58
Other financial assets: intragroup	315,713	322,401
Total non-current assets	6,456,120	6,472,427
Inventories	4	–
Trade receivables: external	76,579	51,321
Trade receivables: intragroup	6,740	13,499
Other receivables: external	43,306	28,633
Other receivables: intragroup	648,541	664,998
Other financial assets	–	3,544
Cash and cash equivalents	276,627	429,106
Total current assets	1,051,797	1,191,101
Total assets	7,507,917	7,663,528
EQUITY AND LIABILITIES		
Issued share capital	508,621	508,621
Share premium account	894,718	894,718
Other reserves	(521,510)	(1,113,194)
Profit/(loss) for the period	71,293	(236,986)
Cumulative translation reserve	276,489	208,798
Total equity	1,229,611	261,957
Retirement benefit obligations	2,675	104,699
Financial liabilities: external	4,312,931	4,324,054
Financial liabilities: intragroup	1,242,858	1,466,431
Other financial liabilities	30,965	30,276
Interest rate derivatives	331,278	1,100,909
Total non-current liabilities	5,920,707	7,026,369
Provisions	5,410	33,980
Financial liabilities	76,309	92,472
Other financial liabilities: external	3,224	4,092
Other financial liabilities: intragroup	27,611	56,207
Trade payables: external	169,400	112,705
Trade payables: intragroup	3,639	15,154
Other payables: external	71,919	60,500
Other payables: intragroup	87	92
Total current liabilities	357,599	375,202
Total equity and liabilities	7,507,917	7,663,528

Intragroup comprises fellow Getlink Group entities not part of the Eurotunnel Group.

Statement of financial position for the year ended 31/12/2022

Million	Nominal amount €*	Effective interest rate	Contractual interest rate	Maturity	Rate
Tranche A1	309	6.97%	2.89%	June 2018 - June 2042	(UK) Inflation-indexed Fixed rate
Tranche A2	155	6.75%	2.89%		
Tranche A3	309	6.89%	3.49%		
Tranche A4	67	5.13%	3.38%	June 2018 - June 2041	(France) Inflation-indexed Fixed rate
Tranche A5	135	5.13%	3.38%		
Tranche A6	135	5.27%	3.98%		
Tranche B1	359	6.77%	6.63%	June 2013 - June 2046	Fixed rate
Tranche B2	517	6.33%	6.18%	June 2013 - June 2041	Fixed rate
				June 2046 - June 2050	Fixed rate to June 2029 then variable rate (LIBOR including a contractual margin of 1.78% with an add-on of 4%) covered by a fixed-rate swap of 5.26%.
Tranche C1a **	390	3.14%	3.04%		
Tranche C1b	374	3.90%	3.85%		Fixed rate
				June 2041 - June 2050	Fixed rate to June 2022 then variable rate (EURIBOR including a contractual margin of 1.55% with an add-on of 4%) covered by a fixed-rate swap of 4.90%.
Tranche C2a **	425	2.01%	1.76%		
Tranche C2b **	528	2.80%	2.71%		Fixed rate to June 2027 then variable rate (EURIBOR including a contractual margin of 1.90% with an add-on of 4%) covered by a fixed-rate swap of 4.90%.
Tranche C2c	83	3.79%	3.75%		
Tranche C2d	140	3.79%	3.75%		Fixed rate
TOTAL	3,926	4.75%			

* Exchange rate at 31/12/2020

Eurotunnel Debt for the year ended 31/12/2020

Sources: Getlink's website

<https://www.getlinkgroup.com/content/uploads/2023/04/Eurotunnel-Holding-Consolidated-Accounting-Statements-December-2022-1.pdf>

<https://www.getlinkgroup.com/en/shareholders-investors/debtholders/>

Exhibit 3: Cross Channel traffic, all routes.



Figure 1

Source: Atlas Transmanche, <http://atlas-transmanche.certic.unicaen.fr/fr/>

	2020 (estimate)		2019	
	Passengers (thousands)	Growth	Passengers (thousands)	Growth
Air and rail market				
London-Paris	2,299	-76.1%	9,633	+0.1%
London-Brussels/Amsterdam	2,234	-76.4%	9,458	+2.9%
Total	4,533		19,091	

Sources: BRB, SNCF and CAA.

	2020 (estimate)		2019	
	Passengers (thousands)	* Market share	Passengers (thousands)	* Market share
High-Speed Passenger Train market share (Eurostar)				
London-Paris	1,694	73.7%	7,369	76.5%
London-Brussels/Amsterdam	809	36.2%	3,678	38.9%
Total	2,503	55.2%	11,047	57.9%

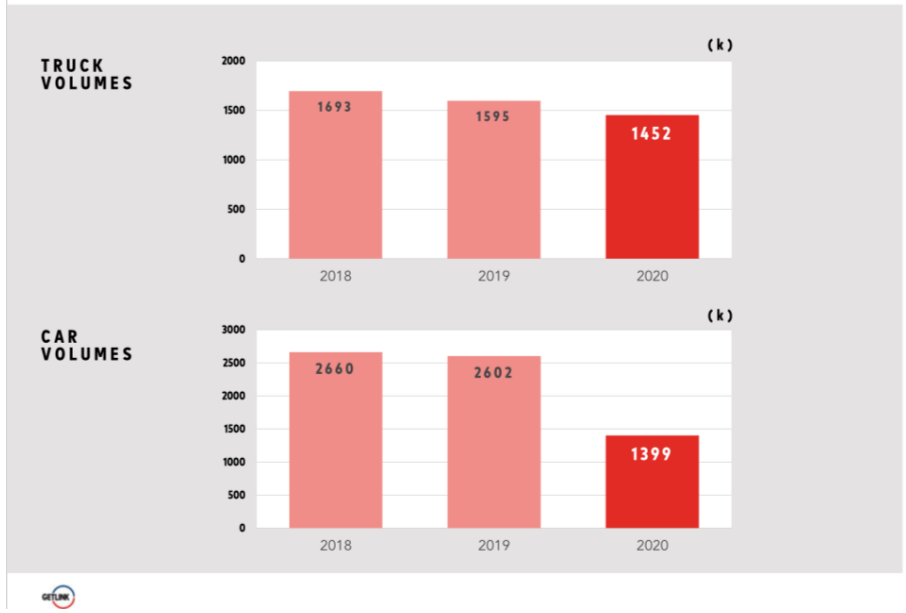
* The market share percentages have been calculated as the share of the volume of rail passengers in the total rail and air traffic between Paris and London and between Amsterdam, Brussels and London as reported by CAA, BRB and SNCF.

Figure 2

Source: Getlink's Universal Registration Document 2020

Exhibit 4. Traffic and revenues in 2019, 2020, 2021 and 2022 (source: [Getlink](#))

**EUROTUNNEL IN 2020:
SHUTTLE TRAFFIC**



TRUCK TRAFFIC

-9%

Strong demand for essential goods
Recovery of industry-related traffic after end of first lockdown
Positive impact of stockpiling in November and December

CAR TRAFFIC

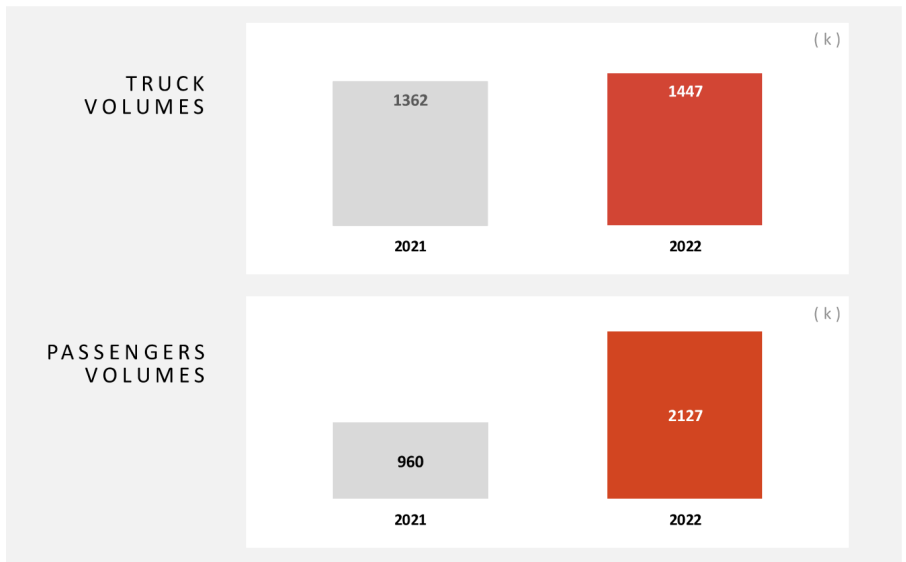
-46%

Good performance when no travel restrictions in place (e.g. January and February and first two weeks of August)



19

**EUROTUNNEL IN 2022:
SHUTTLE TRAFFIC**



TRUCK TRAFFIC

+6%



PASSENGER TRAFFIC

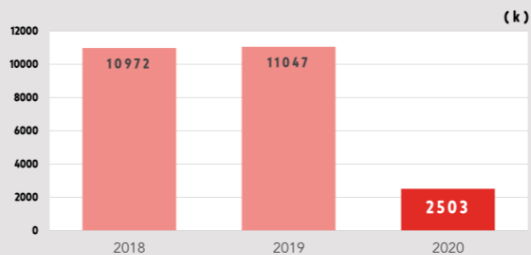
+122%



ANNUAL RESULTS 2022

EUROTUNNEL IN 2020: RAILWAY NETWORK

EUROSTAR PASSENGERS



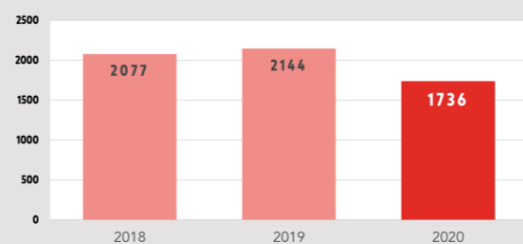
EUROSTAR PASSENGERS

-77%

As with airlines, very limited traffic since Q1 (-93% Apr.-Dec. 2020 vs 2019)

Direct Amsterdam-London service launched in October

NUMBER OF RAIL FREIGHT TRAINS

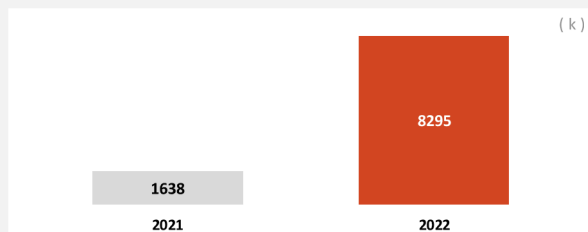


RAIL FREIGHT TRAINS

-19%

EUROTUNNEL IN 2022: RAILWAY NETWORK TRAFFIC

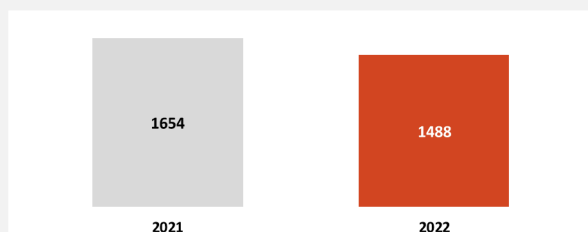
EUROSTAR PASSENGERS



EUROSTAR PASSENGERS

+407%

NUMBER OF RAIL FREIGHT TRAINS



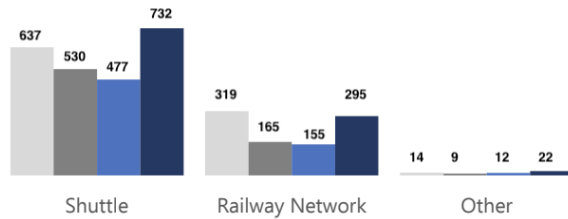
RAIL FREIGHT TRAINS

-10%



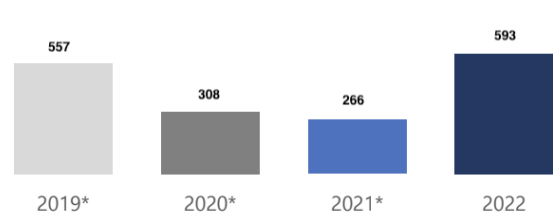
Eurotunnel revenue by activity (€m)

■ 2019* ■ 2020* ■ 2021* ■ 2022



Eurotunnel's EBITDA (€m)

■ 2019* ■ 2020* ■ 2021* ■ 2022



* Restated at the rate of exchange used for the 2022 income statement (£1=€1.168).

€ million	2022	2021 restated*	Change €M	%	2021 published
Improvement/(deterioration) of result					
Exchange rate €/£	1.168	1.168			1.167
Eurotunnel	1,049	644	405	+63%	644
Europorte	137	130	7	+5%	130
ElecLink	420	-	420	-	-
Revenue	1,606	774	832	+107%	774
Other income	-	4	(4)	-100%	4
Total turnover	1,606	778	828	+106%	778
Eurotunnel	(456)	(378)	(78)	-21%	(378)
Europorte	(108)	(102)	(6)	-6%	(102)
ElecLink	(156)	(1)	(155)		(1)
Operating costs	(720)	(481)	(239)	-50%	(481)
Operating margin (EBITDA)	886	297	589	+198%	297
Depreciation	(227)	(189)	(38)	-20%	(189)
Trading profit	659	108	551	+510%	108
Other operating income/(charges) (net)	12	(47)	59		(47)
Operating profit (EBIT)	671	61	610		61
Net finance costs	(445)	(308)	(137)	-44%	(308)
Other net financial income	41	10	31		10
Pre-tax profit/(loss) from continuing operations	267	(237)	504		(237)
Income tax (cost)/income	(15)	8	(23)		8
Net profit/(loss) from continuing operations	252	(229)	481		(229)
Net result from discontinued operations	-	-	-		-
Net consolidated profit/(loss) for the year	252	(229)	481		(229)
EBITDA (excluding other income) / revenue	55.2%	37.9%	17pt		37.9%

* Restated at the rate of exchange used for the 2022 income statement (£1=€1.168).

Consolidated income statement 2022

Source: <https://www.getlinkgroup.com/en/shareholders-investors/financial-results-and-reports/>

Exhibit 5: CSR components of Getlink's strategy

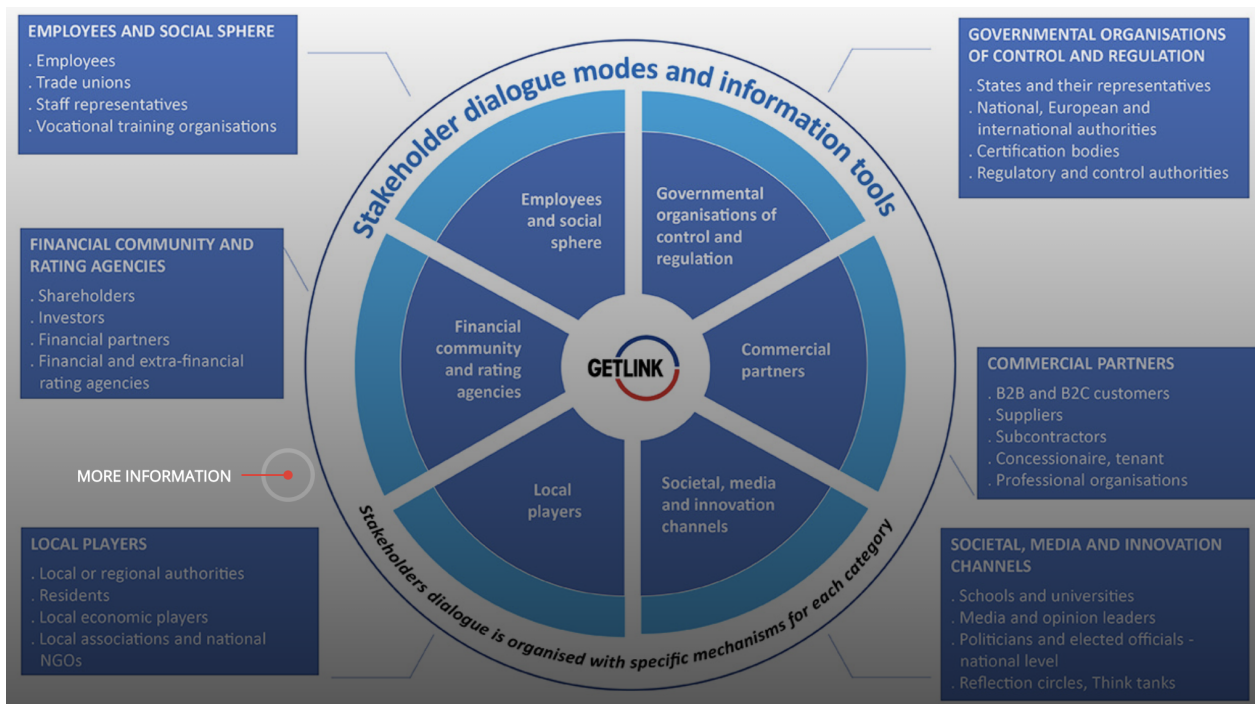
A. ESG ratings

Getlink's most recent ESG ratings (as of January 2023) include:

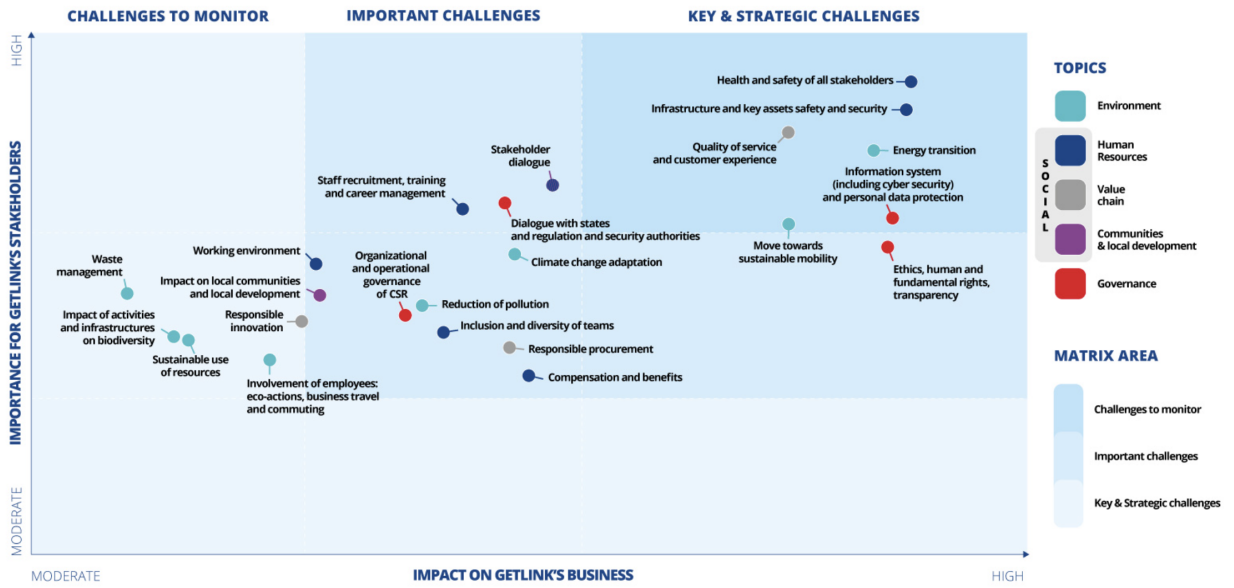
- An S&P Corporate Sustainability Assessment score of 58/100 (91st percentile), up 6 points compared to 2022;
- An “AA” rating by MSCI (96th percentile), up 1 level from 2022;
- A “negligible risk” Sustainalytics ESG Risk Rating, improved from “low risk” in 2022;
- A stable “B-” rating by ISS-ESG;
- An “A-” rating by the Carbon Disclosure Project, up two levels.

In 2022, Getlink was also confirmed as being part of the FTSE4Good and Euronext Low Carbon 100 indexes, two high-profile indexes for socially responsible investors.

B. The three pillars of CSR (source: [Getlink](#))



Getlink stakeholder mapping



Getlink materiality matrix



Getlink SDGs

Source: <https://www.getlinkgroup.com/en/our-commitments/csr/csr-principles/>

Exhibit 6: Extract from Getlink’s Environmental Plan 2025 (source: [Getlink](#))

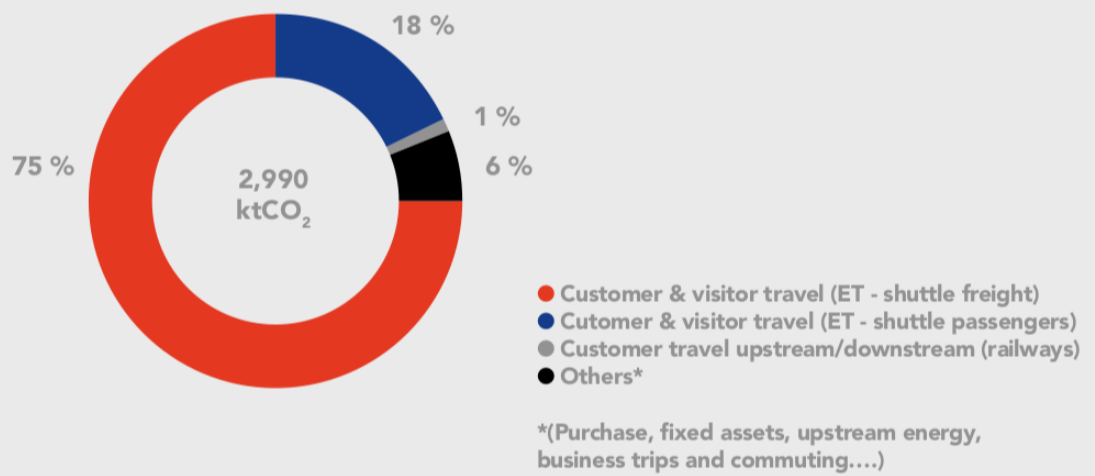
3 Objectives	6 Commitments	12 Key Performance Indicators	Contribution to the Sustainable Development Goals of the United Nations
Pillar 1 - Energy and climate transition: Contribute to the 2°C trajectory of the Paris Agreement throughout the Group's value chain	Reduce direct emissions (Scopes 1 and 2) by 30% compared to 2019	<ul style="list-style-type: none"> 30% reduction in Scope 1 and 2 emissions by 2025 compared to 2019 in absolute terms (Intermediate milestone of -15% by 2023) 	
	Contribute to the reduction of indirect emissions (Scope 3) linked to activities	<ul style="list-style-type: none"> 100% of the Group's purchases and supplies (greater than €200k/year) include energy/climate performance Customers: develop 2 new service offers to encourage the development of low-carbon mobility (passengers and freight) and modal shift Confirmation of acceptability in the Tunnel of all new mobilities by 2025 (gas, electricity, hydrogen) 	
Pillar 2 - Preservation of natural environments: Sustainable management of resources and control of impacts on natural environments	Grow the environmental performance of the Group's activities and control their impact on the natural environment and biodiversity	<ul style="list-style-type: none"> 100% of the Group's sites/activities certified ISO 14001 or equivalent in 2025 100% of the Group's purchases and supplies (>€200k) integrate environmental performance 100% natural and/or organic solutions for weed control and maintenance of green spaces, excluding safety issues, in 2025 Reduction in use of drinking water drawn from the public network by 10% per customer by 2025 	
	Preserve air quality at the sites	<ul style="list-style-type: none"> Improvement of air quality in the Tunnel (decrease in the level of clogging of the Truck Shuttle locomotive filters over 3 consecutive years) 	
Pillar 3 - Waste management and the circular economy: Controlling waste and promoting the circular economy throughout the Group's ecosystem	Avoid final waste by mobilising all available levers	<ul style="list-style-type: none"> Waste generation control (in tons of waste per project amount: 2025 values equal to 2019 values) Deploy full selective sorting (customers and staff) 	
	Promote a collective dynamic around the circular and local economy	<ul style="list-style-type: none"> By 2025, create 3 partnerships or service offers that are part of the circular economy and have a positive impact on the Group's stakeholders (communities, traders, suppliers and employees etc) 	

Commitments: the 3 pillars of Getlink’s Environmental Plan 2025

Activity	Current CO2e emissions	Commitment	Expected reductions in CO2e emissions per year	Scope
Eurotunnel operational emissions	13 kt	Stop leaks, and replace Halon in Eurotunnel operations	- 4 kt	1
Europorte diesel trains	18.5 kt	Switch to biofuel for diesel trains	- 2.8kt	1
Electricity consumption	15.5 kt	Improve energy efficiency of shuttles	-1.2 kt	2
		Purchase lower-carbon electricity in the UK (“Blue for Business”)	- 6.5 kt	2
Total Scope 1+2	47 kt		- 14 kt	

Scope 1 & 2

Scope 3 GHG assessment of emissions (2019 data)



Scope 3

Source: <https://www.getlinkgroup.com/content/uploads/2021/06/environmental-plan-2025-UK.pdf>

Exhibit 7: Computations on Scope 4

Currently, Europorte and Eurotunnel's businesses save more than 2 million tonnes of CO₂e each year compared to alternative modes of transport, which is roughly equivalent to the emissions of 200,000 French people i.e. the populations of Calais, Dunkirk and Boulogne-sur-mer combined:

- Eurotunnel freight and passenger Shuttles (powered by electric traction): 580 ktCO₂e per year - compared to alternative ferry journeys;
- Eurotunnel - freight rail operators + Eurostar (powered by electric traction): 1400 ktCO₂e per year - compared to hGV traffic (40 tonnes) or air travel for passenger traffic;
- Europorte (mixed electric and diesel fleet depending on the train paths of the rail network on which it operates): 90 ktCO₂e per year - compared to heavy goods traffic. In 2019, Europorte's rail traffic avoided the movement of more than 250,000 40 tonnes equivalent trucks, on journeys averaging 300 km.

Exhibit 8: A note on the social cost of carbon

Models used to estimate the social cost of carbon require the input of both climatologists and economists. The IPCC gathers hundreds of scientists working on this topic.

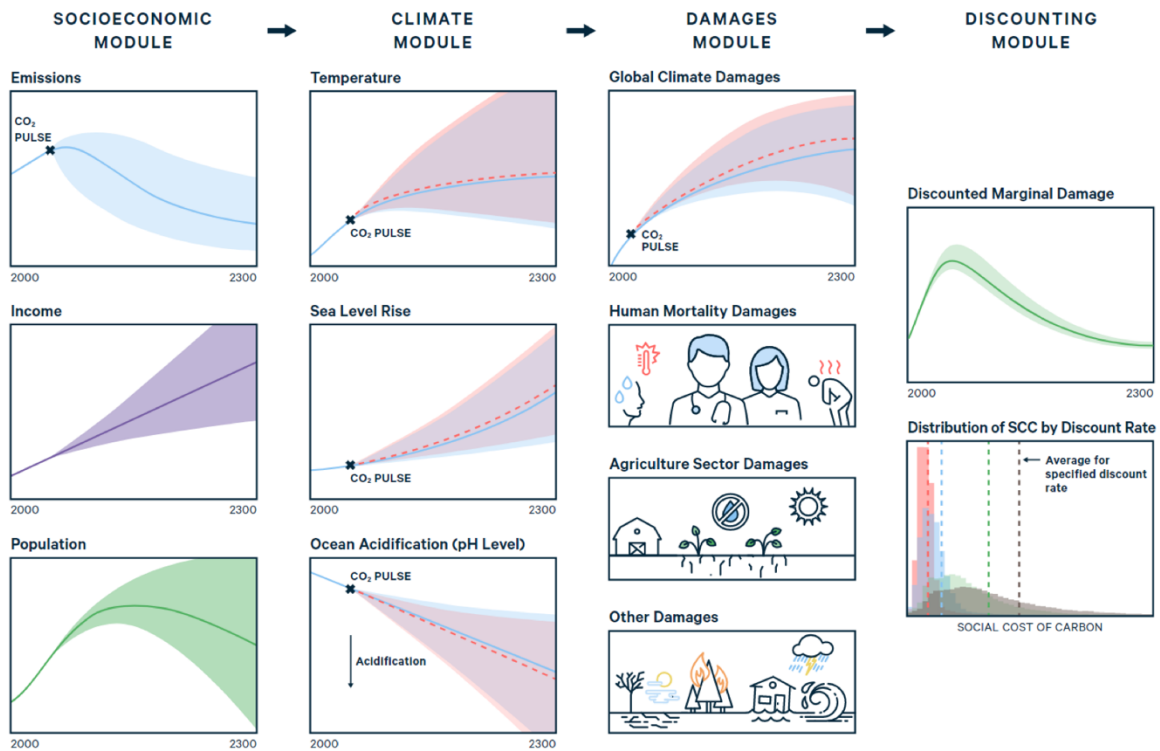
- First, economists propose socioeconomic projections: How many people will be alive in 2150? How fast will the economy grow next century? How will political and individual decisions lead to a reduction in carbon emissions and mitigate the impact of climate change? This provides a scenario for carbon emissions.

- Second, climatologists build a “climate module”: How will the climate change in response to carbon emissions? How quickly will sea levels or temperatures increase? What about rainfall patterns and extreme weather events?

- Third, benefits and damages are analysed: How will climate change affect crop yields? What is the cost of living with, or adapting to sea level rise? How do increased temperatures affect labour productivity or energy use for heating and cooling? How can we value non-market impacts, such as loss of species and habitats?

- Finally, the fourth element uses discounting to value future benefits and costs in today’s money. It is crucial to note that since carbon emitted today will persist in the atmosphere for hundreds of years, the social cost of carbon incorporates future costs, discounted into today’s money. The long-term rate used for this discounting is of utmost importance. State agencies are usually in charge of computing long-term discount rates to weigh the benefits of public policies against their costs. A high discount rate induces to put more weight on the expenses today relative to potential future benefits, which favours current generations against future ones. The computation and choice of a long-term discount rate triggers lots of debates among economists and regulators, and the level of the social cost of carbon is highly sensitive to the choice of the long-term discount rate.

Figure 2. Estimating Social Cost of Carbon under Uncertainty



Note: Estimation involves a baseline case (solid) versus a pulse of emissions (red dashed lines and areas). Shading depicts probability distributions on projections.

Sources: <https://www.carbonbrief.org/qa-social-cost-carbon>

Rennert et al, 2021, The Social Cost of Carbon: Advances in Long-Term Probabilistic Projections of Population, GDP, Emissions, and Discount Rates, WP

Exhibit 9: Carbon intensity related to activities by Getlink and its main competitors

Data Getlink		Name	Value	
Variable				
Annual Number of Channel crossings by Getlink's Shuttle, per 1,000 passengers	Q		10 500	
Average Price of a Channel crossing by Getlink's Shuttle, per 1,000 passengers	Price		35 000	
Average Cost of a Channel crossing by Getlink's Shuttle, per 1,000 passengers	Cost		10 000	
Price elasticity of demand	eta		5	
Getlink and competitors				
Market share (in %)	Getlink's Shuttle	Ferries	Air traffic	Eurostar (train)
	MS_Getlink	MS_Ferries	MS_Air	MS_Train
	22%	38%	17%	23%
Carbon intensities (average tCO ₂ e emitted per Channel crossing)	Getlink's Shuttle (1)	Ferries (2)	Air traffic (3)	Eurostar (train) (4)
	CI_Getlink	CI_Ferries	CI_Air	CI_Train
	0.5	36.75	55	2.75
(1)	Carbon intensity of a Channel crossing by Getlink's Shuttle from Calais to Dover based on medium size car transporting 4 passengers, per 1,000 passengers			
(2)	Carbon intensity of a Channel crossing by ferry from Calais to Dover based on medium size car transporting 4 passengers, per 1,000 passengers			
(3)	Carbon intensity of a Channel crossing by air from Paris to London, per 1,000 passengers			
(4)	Carbon intensity of a Channel crossing by Eurostar train from Paris to London, per 1,000 passengers			

