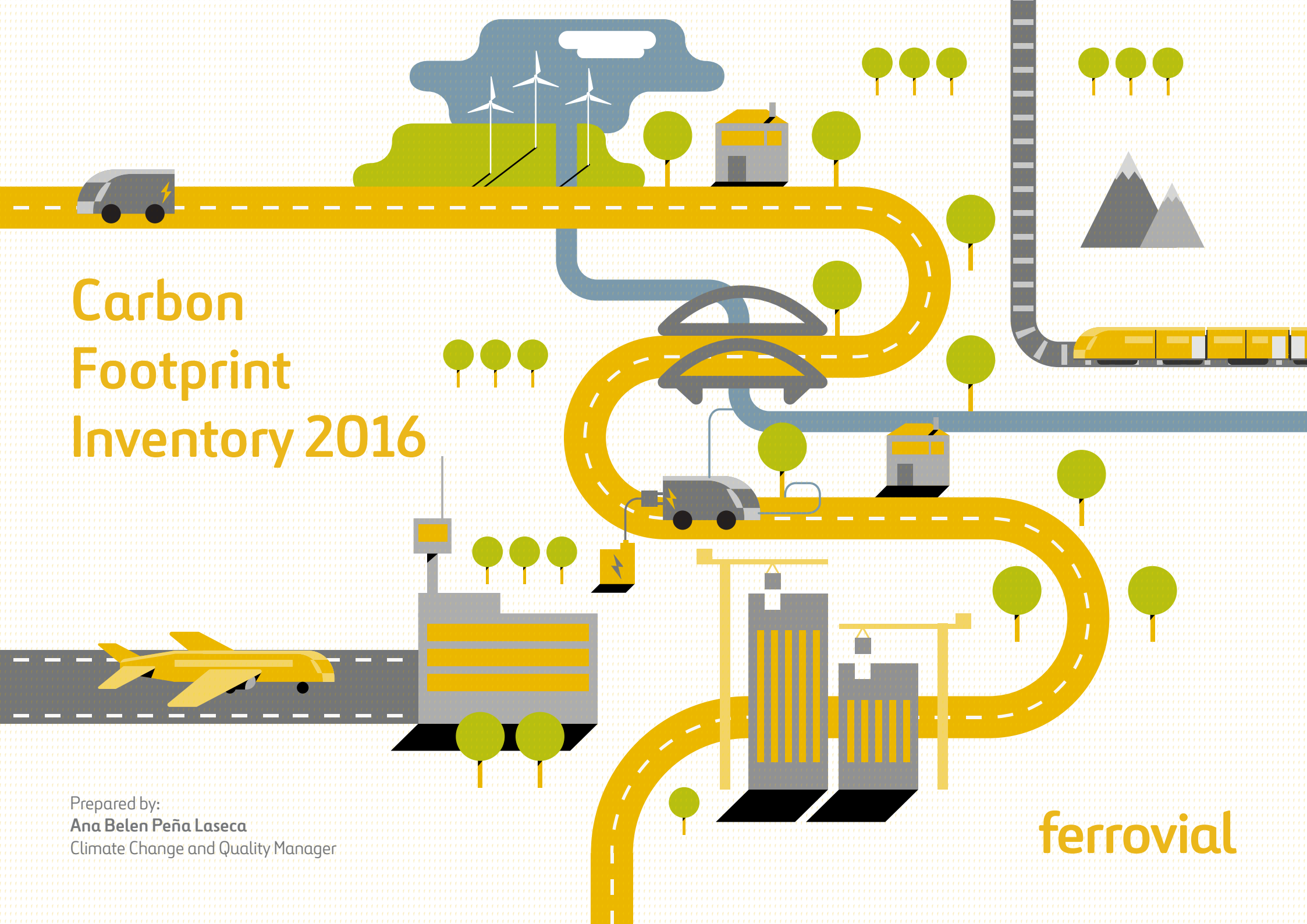


# Carbon Footprint Inventory 2016



Prepared by:  
**Ana Belen Peña Laseca**  
Climate Change and Quality Manager

**ferrovial**

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# INTRODUCTION

At the end of 2016, the United Nations Climate Change Conference took place in Marrakesh (COP 22) where, after an important agreement between the participating countries, a work programme was given the green light to allow the Paris Agreement to take effect from 2018.

A guide document was approved for establishing the rules governing the historic agreement, the main aim of which is to limit global warming to less than 2 degrees centigrade in comparison with levels prior to the industrial era, making efforts to limit global warming to 1.5°C.

In October of the same year, approx. one month before the COP 22 was held, the Paris Agreement was ratified, approved after a historic vote to exceed the threshold required for its entry into force earlier than expected.

This activation occurred thanks to the ratification of the commitment by 55 countries,

with said countries currently representing over 55% of global CO<sub>2</sub> emissions.

With these ambitious targets in mind, it is obvious that both technological advances and a focus on R&D are essential elements for facing this commitment and it is precisely along these lines that Ferrovial continues to increase its efforts on a daily basis.

However, carbon pricing also has a key role to play in encouraging the reduction of emissions.

In this context, companies are asked to get involved in the application and achievement of national and global objectives, fostering greater ambition in their mitigation and adaptation measures and using

corporate management with sustainable development as a basic principle.

At this point in time, they are performing carbon pricing for regions worldwide representing almost a quarter of greenhouse gas emissions, which amounts to almost 7 gigatonnes of carbon dioxide equivalent (Gt-CO<sub>2</sub>e) or almost 12% of global emissions.

Finally, within the increasing commitment to promote more responsible behaviours concerning the planet and aware of the importance of water in its performance, Ferrovial is also very involved with the “water footprint”. This indicator represents the total volume of fresh water used by a process, activity or organisation to produce goods or services.



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# FERROVIAL STRATEGY

## BUSINESS MODEL, VISION AND VALUES

Ferrovial is one of the main global operators of infrastructure and managers of services for cities. Its business model focuses on the development of the complete infrastructure cycle: Design, Financing, Construction, Operation and Maintenance.

Ferrovial's vision is to improve the future through the development and operation of sustainable infrastructure and cities, committed to the highest levels of safety, operational excellence and innovation. It continues to create value for the company and for our customers, investors and employees.

Ferrovial's value creation proposal is based on the industrial focus with which it participates in the global infrastructure cycle. Said focus is based on three differential capacities:

- Managing project risks minimising them in the various phases.
- Offering varied and innovative solutions to its customers.
- Generating operational efficiencies in project management.

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This value creation proposal is based on four strategic pillars:

- Profitable growth.
- Internationalisation.
- Operational excellence and innovation.
- Financial excellence.

Finally, all activities must be sustainable, both from an economic point of view and from a social and perspective.

The importance of the environmental aspects is considered in the development of projects and services intended to reduce the carbon footprint. In addition, the environment is a business opportunity that Ferrovial benefits from differentially.

## CLIMATE STRATEGY AND WATER FOOTPRINT

Global warming and the climate system are clear. Human influence is clear and climate change poses risks for human and natural systems.

This climate change affects all countries and continents, has negative impacts for the economy and the well-being of people, communities and countries.

According to data collected by the United Nations from the Intergovernmental Panel on Climate Change (IPCC), given the current concentration and continued green-

house gas emissions, the world's oceans will get warmer and melting will continue. Despite emissions slowing, the majority of the problems caused by climate change will continue for many centuries.

However, by adopting a positive view, we can consider that, thanks to the institutional and technological changes we have already seen, measures can be implemented to slow and adjust these predictions.

Therefore, a new line of action is the establishment of carbon pricing issued as "shadow pricing" which will serve as a tool for quantifying the risks and opportunities of new investments. This focus considers future changes to market conditions which will increase the cost of carbon emissions and lead to changes in use and the need for current products and services.

In this sense, Ferrovial continues its commitment to offering services and infrastructure meeting challenges such as climate change, water footprint management, the energy crisis and loss of biodiversity, with the aim of creating value in the long term.

Therefore, the company's strategy considers the risks and opportunities detected in each company activity, which is based on two basic objectives:

1



The responsible management of environmental impacts derived from its activities, from a preventive perspective. Include the development of actions to reduce GHG emissions.

2



Use of Ferrovial's capacities and knowledge in the development of infrastructure and services for a low-emission economy.

The efficient use of energy and natural resources, as well as a reduction in emissions and discharge, are priorities in production plants and a source of innovation and development of solutions which Ferrovial can then offer to its customers and users. Specifically, energy efficiency in buildings, comprehensive city management (SmartCities) such as in the example of Torrejón de Ardoz or the mobility of low emissions which are already being developed at London Heathrow airport. The conservation of biodiversity is also deemed to be a priority, based on the best state of scientific and technical knowledge.

For all that, a particularly significant aspect of Ferrovial's strategy is the way in which the organisation response to climate change opportunities in the medium and long term, maintaining very ambitious emission reduction targets as promoters, operators and managers of transport and city infrastructure.

Ferrovial is aware of its responsibility and the importance of its public commitments concerning climate change, however it is also aware that the the greatest challenges facing the company in the coming decades will require significant investments in innovative and complex solutions. Ferrovial has the capacity, knowledge and technologies for these solutions to open doors for new business opportunities.

In terms of problems relating to the global water footprint, the World Economic Forum has identified water as one of the three leading causes of conflict on a global scale, Mitigation of this risk requires solutions to the growing demand for drinking water, the deterioration in water quality due to contamination and impacts of floods and extreme weather events.

Due to the fact that Ferrovial is both a consumer and supplier of water-related services, the company began to calculate its "water footprint". This project has two phases, the first to define a calculation and reporting method for both consumption and discharge; and a second stage analysing the risks and opportunities related to the resource.

The company has developed a specific method with the base being the principles of "The Water Footprint Assessment Manual" (WFM) from the "Global Water Tool" (GWT) and GRI in version G4.

These methods consider aspects such as the country's hydric stress, the impact on the hydric resource, on its quality and accessibility to the water.

In 2016, Ferrovial presented the CDP "Water" method for the first time receiving an A-rating; this is recognition of the company's strategy and performance.

WATER IS ONE OF THE THREE MOST SIGNIFICANT CAUSES OF CONFLICT GLOBALLY

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Ferrovial's water footprint comprises three indices:



**BWI**

## BWI

**Business Water Index: 4,231,517.**

Water footprint related to water consumption and its discharge from activities developed by each of Ferrovial's business units.

## WTI

**Water Treatment Index: -322,183,025.**

The impact of Cadagua's water treatment processes and those to treat leachate in Ferrovial Services and Amey landfills on Ferrovial's footprint.



**WTI**



**WAI**

## WAI

**Water Access Index: -406,431.**

The impact of projects to supply water to communities in developing countries, within the company's social action programmes concerning Ferrovial's water footprint.

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This method was implemented throughout 2016.

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## CARBON FOOTPRINT MANAGEMENT

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With a permanent focus on the analysis and reduction of its carbon footprint, since 2009, Ferrovial has measured 100% of the emissions of greenhouse gas emissions from its activities worldwide. To quantify the same, it uses a calculation process certified in 2009 according to standard 14064-1 concerning the data collection method and calculation method.

The greenhouse gas emissions (GHG) reported in this report have been verified with limited assurance by PwC, in accordance with standard ISAE 3410 from “Assurance Engagements on Greenhouse Gas Statements”. This review also checked that the internal procedure “calculating and reporting of the carbon footprint”, approved by Ferrovial’s management, was prepared in accordance with that set out in international standard ISO 14064-1.

### Carbon and water footprint application

To calculate the footprint and monitor the reduction and information objectives related to climate change, an internal “carbon footprint” application is used to improve



the reliability, traceability and transparency of the data obtained.

Ferrovial performs this calculation for all its activities and in every country, which is a significant effort in terms of resources and people dedicated to the internal monitoring, integration and verification of emissions, as well as considering the enormous volume of geographically disaggregated data and the myriad of regulatory environments along with the relevant technical nuances.

As an innovation, during the second half of 2016, these calculations incorporated data from the Australian company Broadpectrum, recently acquired by Ferrovial, which resulted in recalculation work for the base

year to include emissions from this new subsidiary.

In addition, 2016 saw the development of a new tool for collecting water footprint information; this will be installed during 2017.

The development of this IT platform comprises notable operational improvements for managing both the carbon footprint and the water footprint.

Just like with the information on fossil fuels and electricity, all the data concerning water consumption and discharge is collected from existing applications and is centralized, reducing the risks and guaranteeing better traceability of the data.

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## GHG REDUCTION TARGETS

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The reduction of greenhouse gas emissions (GHG) is a target present in each and every one of the company's divisions.

Year after year, overcoming new challenges encourages us to continue improving and taking steps towards processes which are

more efficient and have less impact.

As a result of this continuous thinking process, 2016 saw a new revision of the targets and more ambitious ones were set, with the emission reduction target being 35.41% in relative terms compared with the net turnover (t CO<sub>2</sub> eq/ million €) for 2020. In absolute terms, the target is to maintain emissions at base-year level.

The reductions calculated for scope 1&2 in 2016 were in line with the 2020 road map,

since, in relative terms this was 31.03% and 17% in absolute terms (150,439 t CO<sub>2</sub> eq) with respect 2009.

Considering the challenge signed in the Paris Agreement to keep the planet's global warming below 2°C, including limiting this to just 1.5°C, an analysis of the methods set out in Science Based Targets (SBT) was launched with the idea of determining SBT-based reduction targets for 2030 and 2050 and continuing with our continuous improvement model and the creation of more efficient management models.

### Actions to reduce emissions

To comply with this commitment, Ferrovial has developed and implemented actions to reduce emissions, both specific to each business area and generally, such as:

- Incorporation of energy efficiency criteria in purchasing and service subcontracting, the purchase of electricity certified as renewable, the use of alternative fuels or the increase in alternative vehicles. In 2016, 30.1% of the electricity purchased was renewable and this was 34.14% for consumption.
- The sustainable mobility strategy for Ferrovial's workers began in 2008 and was gradually extended to the main corporate headquarters, as a pioneering experience in the corporate sector. These plans included actions to improve

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2020 TARGET

**35.41%**

REDUCTION IN COMPENSATION IN RELATIVE TERMS COMPARED WITH THE NET AMOUNT FROM THE TURNOVER

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vehicle fleets and training programmes to promote efficient driving (particularly concerning construction and services).

- The development of technology and processes intended to optimise avoided emissions.
- Incorporation of energy efficiency measures in the buildings of the corporate headquarters. As an example of these actions, Ferrovial's head office building in Principe de Vergara has been renovated with the inclusion of energy efficiency and lighting measures resulting in a 55% saving in electricity consumption compared with 2008. In addition, in 2016, Ferrovial Agroman's headquarters were renovated, adding to this building new energy efficiency and lighting measures.
- In 2016, it was also brought into line with the new standard RD 56/2016 which makes it mandatory for large companies to perform energy audits every 4 years.
- In relation to Scope 3, the scope for emissions from indirect sources, Ferrovial has solid relationships with governmental institutions where it takes parts in workshops and working groups concerning reducing these sources of emissions. These relationships may influence regulations responsible for developing new legal requirements for companies.

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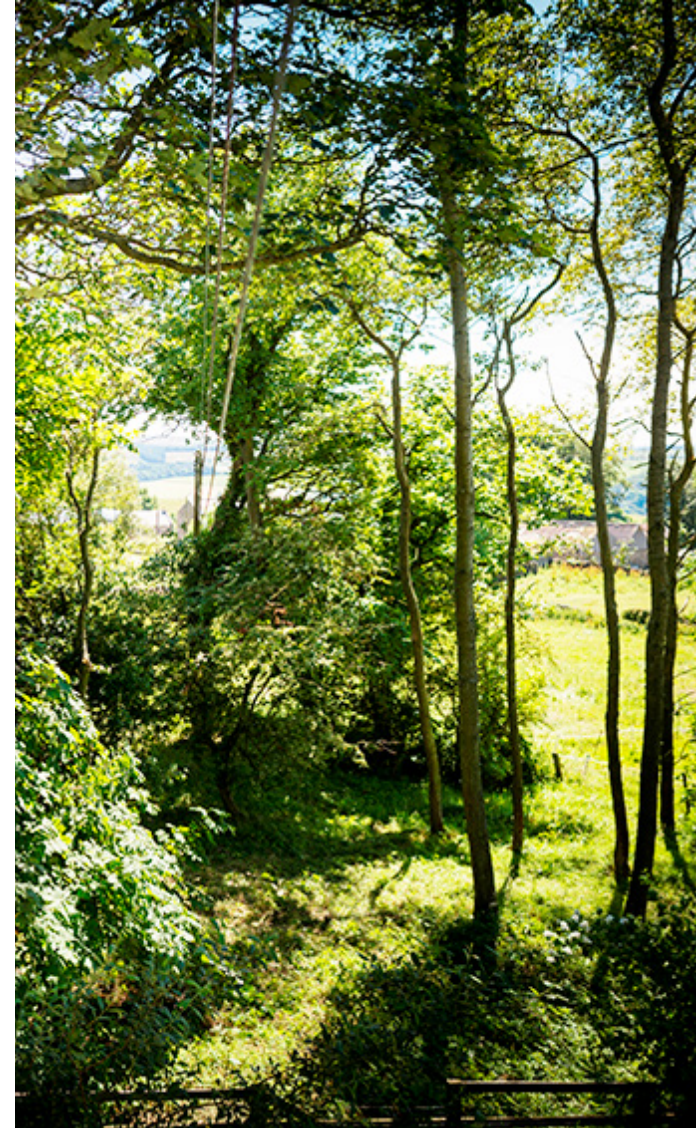
## ANALYSIS OF RISKS AND OPPORTUNITIES

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To analyse the impact that climate change had on the business, Ferrovial developed the "Ferrovial 2015-20" project. Its main aim is an analysis of how the group's activities fit into the new context derived from the policies and regulation of climate change, identifying the risks for the various areas on a global scale along with the opportunities for tackling new business. The purpose of this analysis is to make a useful and relevant contribution to the group's strategic planning in future years.

A total of 79 risks and opportunities were analysed and the following strategic areas were established based on "low carbon" infrastructure on which our business is based:

- Transport infrastructure: airports and motorways.
- Construction.
- Energy services.
- Smart cities.
- Smart forest.
- Landfills.



- Water.

Finally, the project is also closely related to commitments to reduce Ferrovial's carbon footprint on a global scale.

This process is revised annually through the system "Ferrovial Risk Management (FRM)".

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## Q&E STEERING COMMITTEE

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For Ferrovial, the climate change strategy forms part of the corporate strategy and is thus discussed in the works council meetings. The climate change strategy is coordinated through the Q&ESC throughout all Ferrovial's companies.

In 2008, Ferrovial founded the Q&ESC whose responsibilities are to debate, make decisions, set out requirements and review the results related to projects, initiatives

and practices concerning climate change and the implementation of the quality and environment policy throughout the company.

The Q&ESC is formed of the directors of the quality and environment departments from all the Ferrovial businesses, which also form part of the steering committee in each business unit.

Their participation is essential since they are familiar with the corporate environment and know the interest groups related to their business areas. Sometimes these members invite other participants whose knowledge is crucial to making decisions.

The committee meets quarterly or more frequently if necessary, making full use of video conference equipment, with the aim of reducing the CO<sub>2</sub> emissions derived from the travel of each participant.

The decisions and actions of the Q&ESC are derived from the application of the corporate responsibility policy determined by the management board. The decision-making process considers the following aspects: the needs of the countries in which Ferrovial operates, recommendations from governmental organisations and organisations, the emission reduction commitment, mitigation measures, the success of the measures adopted, etc.

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THE COMMITTEE MEETS QUARTERLY OR MORE FREQUENTLY IF NECESSARY

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## RELATIONSHIP WITH INTEREST GROUPS

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Ferrovial maintains a fluid relationship with the most relevant interest groups, with particular focus on those which are or may be involved in the main climate risks of the company's activities worldwide, those which have regulatory influence or which have an influence on the development of new business opportunities concerning environmental sustainability.

Considered particularly important are the relationships maintained with the analysts and investors specialised in socially responsible investing (SRI), with spokespersons from civil society (mainly NGOs and unions), governments and regulators, as well as with local communities. In the specific case of NGOs and other representatives of civil society, Ferrovial seeks common interest projects with some of the most relevant organisations dedicated to conservation such as the World Wildlife Fund (WWF) or Forest Stewardship Council (FSC) with the latter supported by global ecology groups and which Ferrovial has partnered with since 2012.

The company also works closely with institutions related to the public administration; this is the case with its long-term collaboration with the Biodiversity Foundation within



the scope of the Global Network for Monitoring Change, specifically with the “Global Monitoring of Change in National Parks”, which also involves the Spanish Office of Climate Change, the Meteorological Agency and the National Parks organisation.

Another example of collaboration is the “Plan Adapta” project. In 2016, Ferrovial developed and presented the pilot seawater desalination project in Alicante to the Spanish Office of Climate Change, being selected for the analysis and application of the methodology proposed for combating climate change in the construction division.

The project outlines the case for adapting the Alicante desalination plant constructed by Ferrovial Agroman where Cadagua, as manager thereof, presented its analysis on vulnerability, measures required and adaptation costs as well as offering results on the risks considered most significant, which were the increase in temperature and external meteorological events.

Pre-empting of regulatory trends, based on a close relationship and mutual benefit with the legislators and regulators, is considered an effective method for managing the impact on the emerging regulation on

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Ferrovial's activities. As a result, the company is very proactive in regulatory and legislative processes which may affect its activities worldwide, providing its experience and technical knowledge to matters concerning regulation.

When regulatory developments have a broad scope, specific working groups are activated with the presence of all business units and subsidiaries potentially affected, to achieve continuous monitoring anticipate the effects of the new regulation. Structured lobbying activities are also carried out internationally, always complying with the existing regulations on this matter.

Ferrovial also has an increasing influence on the development of policies and strategies with a broader scope. As an example of this, Ferrovial is a member of the EU Corporate Leader Group which is a group of leading companies working together lead by the Prince of Wales and with the support and advice of the University of Cambridge

Institute for Sustainability Leadership (CISL) with the aim being to find solutions to combat climate change together with legislators and companies in the European Union and globally.

We are also members of the EU Green Growth Group, an organisation where representatives of civil society, the academy and the business world advise the European Commission on the future of the economic and environmental agenda for 2030 and 2050.

Ferrovial signed the accession commitment to the Spanish Green Growth Group (GECV) created in late 2014 and has chaired the Spanish Green Growth Group since 2015. GECV is a public-private initiative between MAGRAMA and a small number of companies to highlight the opportunities of the "green agenda" for the Spanish economy. In May 2015, the GECV published the "Barcelona Declaration", a set of ten principles and recommendations post-Paris 2015

focused on creating bases for the development of a sustainable economy and low emissions in our country.

Since then, this initiative has resulted in growing interest in the environmental and institutional scope within and outside our borders. Therefore, in recent months, work has been done on preparing a report supporting, with figures and case studies, the assertions included in the aforementioned "Declaration".

This platform's objectives are to increase company participation, share information, identify opportunities and encourage Spanish presence in international forums. In national terms, the GECV has maintained a close relationship with the government which has resulted in various joint actions (Carbon Expo, Green Growth Forum, presentation of the conclusions of COP 21 Paris and preparation of COP22 Marrakesh, etc) and has held meetings to present the association to other institutions.

"Ferrovial welcomes the rapid ratification of the Paris Agreement. This fact conveys the need to act urgently, while providing security for long-term investments which are key for a transition to a low-carbon economy".

Valentín Alfaya

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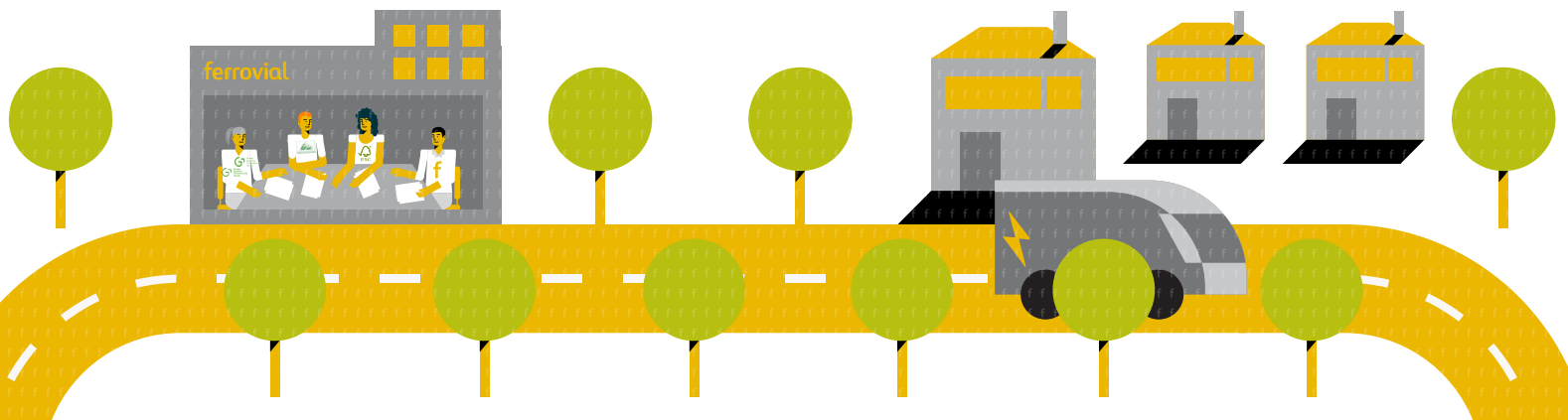
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Ferrovial and the city of Guadalajara presented the “Guadalajara Living Lab” project, an innovative platform to encourage the development of projects on Smart Cities.

Continuing with this strategic line of innovation and development, the company continues its commitment with the Massachusetts Institute of Technology (MIT) to work on projects to create infrastructures of the future and to reduce emissions. In 2015, thanks to this collaboration with MIT, software was developed for waste treatment plants and to improve the efficiency of their operations.

Since February 2017 >Ferrovial has been a partner of Climate-KIC< through the Spanish node. The involvement in this European network is an example of collaboration between the health and safety, quality and environment department and the innovation and processes department.

This collaboration aligns strategic interests concerning the environment and climate change and the focus on the group’s innovation, with the development of innovation projects accessing the network of entrepreneurs involved in Climate-KIC.

Ferrovial is also part of the climate change cluster promoted by Foretica. The initiative is a corporate meeting point for leadership, knowledge, exchange and dialogue on this matter, comprising 48 large Spanish



Website of #PorElClima.

companies with a third of them being listed on Ibex 35. The cluster’s objectives include adapting to the Spanish context the main global trends and conversations concerning climate change from a corporate perspective; contributing through studies to generating practical solutions and presenting the corporate community with the trends related to this topic and working with public administrations and opinion leaders making the cluster a reference point for climate change.

However, the company has also recently become a strategic ally of the #PorElClima community, with the aim of helping to create a community of people and entities acting to slow down climate change through the development of communication initiative actions and the programming of the >[www.porelclima.es](http://www.porelclima.es)< platform to be used as a meeting place for companies, entities, public administrations and people proactive in this matter in Spain.

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## Analysts and investors

Ferrovial aims to maintain a fluid and proactive relationship analysts and investors, anticipating their expectations and responding to the key issues on the global agenda for sustainable development.

>**Institutional Investor, a prestigious publication**< for Investor Relations (IR) professionals has highlighted the company's trajectory during 2016. Ferrovial has received six awards for its good performance, including the Best IR Website, Best Chief Financial Officer (CFO) and Best IR Programme.

The first is a newly-created category which appeared for the first time this year. Construction content of Ferrovial's IR website is continually being updated, including new aspects relevant to investors, such as environmental impact data or tools for representing the evolution of various financial parameters graphically.

This relationship, cemented during the last decade, has made Ferrovial the reference for the main sustainability ratings as well as in the portfolio of the main SRIs.

In 2016, Ferrovial remained a leader in its activity sectors, within the scope of environmental responsibility and sustainability, in the opinion of the main analysts and ratings (e.g. Dow Jones Sustainability Index, Carbon Disclosure Project, MSCI, STOXX). One of the company's most va-

lued aspects is its capacity to maintain the requirement level for reducing the environmental impact in all its activities as well as using the capacities and technologies developed to achieve this objective, as a lever for the generation of new ideas and business models in the context of a global environmental crisis. >**Carbon Clear**<, a consultant for sustainability, corporate responsibility and climate change services with its strengths being the analysis of the risks and opportunities to which the company is exposed, as well as the inclusion of innovative concepts such as natural capital in its processes. More recently, biodiversity conservation is deemed to be a priority, based on the best state of scientific and technical knowledge.

Therefore, aspects such as the efficiency of the use of energy and natural resources or the reduction of emissions and discharge, are a priority for reducing the global impact of the organisation as well as a source of innovation and development of solutions that Ferrovial can offer its customers and users.

Specifically, energy efficiency in buildings, smart cities or the mobility of low emissions meets the expectations of the most advanced societies as well as generating sustainable value for Ferrovial.

Based on this premise, the company performs regular monitoring of improvement

ferrovial

RESULTADOS FINANCIEROS  
ENERO - MARZO 2017

ACCIONISTAS E INVERSORES

COTIZACIÓN EN EUROS ÚLTIMOS SEIS MESES

Último: €19,32

Historial: 16, 15, 14, 13, 12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1

Información Inicial: Composición, dividendos, capital, acciones en y fuera de bolsa.

Información Financiera: Principales Indicadores, Rentabilidad y generación, Resultados, Información Financiera Semestral, Memoria Informe Anual y Gestión Medio Ambiente.

CONTACTO: Ponte en contacto con el equipo de Relaciones con Inversores para obtener más datos del negocio.

ACCESOS DIRECTOS: MEMORIAS FINANCIERAS, MEMORIAS ANUALES, MEMORIAS DE INFORMACIÓN, GOBIERNO CORPORATIVO, INFORMACIÓN AMBIENTAL, INFORMACIÓN SOCIAL, INFORMACIÓN DE ACCIONES, INFORMACIÓN DE ACCIONES, INFORMACIÓN DE ACCIONES.

ENLACES ENVI: MEMORIAS FINANCIERAS, MEMORIAS ANUALES, MEMORIAS DE INFORMACIÓN, GOBIERNO CORPORATIVO, INFORMACIÓN AMBIENTAL, INFORMACIÓN SOCIAL, INFORMACIÓN DE ACCIONES, INFORMACIÓN DE ACCIONES, INFORMACIÓN DE ACCIONES.

Cultura de emisiones: Principales referencias de los analistas que cubren el sector de Infraestructuras.

Emisiones y rating: Rating, Emisiones y Documentos.

Website of Ferrovial's IR, the winner of the award for the Best IR Website from the prestigious publication 'Institutional Investor'.

proposals on energy efficiency evaluating and quantifying projects related to lighting efficiency (benefiting from the advantages of LED technology and using the DALI management system to manage lighting based on existing natural light).

In terms of energy efficiency projects in lighting, Ferrovial Services has installed LED technology for the public lighting in the cities of Guadalajara, San Sebastián de los Reyes and Torres de Cotillas in Spain.

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MEMBER OF

# Dow Jones Sustainability Indices

In Collaboration with RobecoSAM



2016 Constituent  
MSCI Global  
Sustainability Indexes

Member 2015/2016

# STOXX

## ESG LEADERS INDICES



# FTSE4Good

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This technology, in addition to reducing energy consumption and emissions, has technical benefits such as greater luminosity and adjusts the intensity according to the needs of each street.

These measures represent an annual electricity consumption saving of 13,206 MWh which corresponds to the avoidance of the annual emission of 4,358 t CO<sub>2</sub> eq.

### Commitments and recognition

The following initiatives were key during 2016:

- Caring for Climate Business Leadership Criteria on Carbon Pricing promoted by CDP.
- Science Base Target promoted by CDP.
- NAZCA promoted by UNFCCC and CDP.
- #PorElClima community promoted by ECODES and MAPAMA.

- EU industry commitment Moving towards net zero buildings promoted by Corporate Leaders Group.
- Businesses call for bold reform of Emissions Trading System promoted by Corporate Leaders Group on Climate Change.
- Statement from the Coalition for Higher Ambition promoted by Corporate Leaders Group on Climate Change.
- Earth Hour campaign promoted by WWF.

Ferrovial has again been recognised for its climate change strategy, to be included in the “Climate A List” leadership category in the Climate Change edition, which ranks companies with the best practices for reducing emissions and their management to mitigate the effects. In addition, it once again has a leadership position in the Supplier Climate Performance Leadership

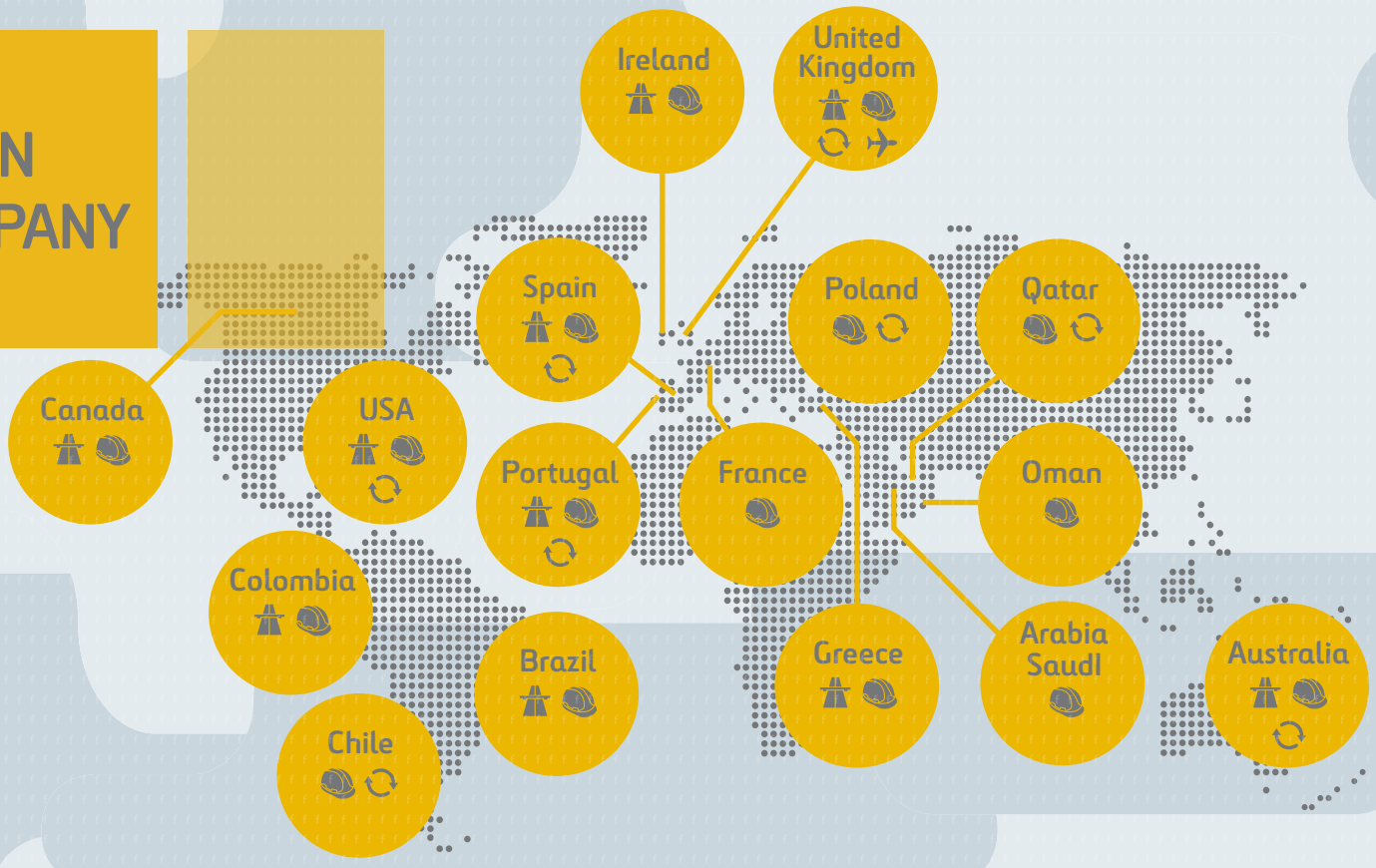
Index (SCPLI), an index recognising excellence as a supplier of products and services with low-emission business models.

For the first time, Ferrovial presented the “Water” method receiving an A- rating. CDP is the only global corporate environmental information system in the world. This is an international not-for-profit organisation which provides a system so that companies and cities can measure, divulge, manage and share relevant environmental information. It works with market agents including 827 institutional investors with assets totalling 100 billion dollars to encourage companies to publish their impacts on the environment and natural resources and to take measures to reduce them.

Well-known sustainability indices such as the Dow Jones Sustainability Index and FTSE4Good, MSCI, STOXX have also highlighted Ferrovial’s climate strategy and the management of its carbon footprint.



## DESCRIPTION OF THE COMPANY



## WHAT WE DO

Ferrovial is one of the main global operators of infrastructure and managers of services for cities. Its business model focuses on the development of the complete infrastructure cycle: Design, Financing, Construction, Operation and Maintenance.

Ferrovial's vision is to improve the future through the development and operation of sustainable infrastructure and cities, committed to the highest levels of safety, operational excellence and innovation. It continues to create value for the company and for our customers, investors and employees.

Ferrovial's activity is based on four sectors:

- **Services:** Urban services, maintenance and conservation of infrastructure and facility management.
- **Motorways:** Award and management.
- **Construction:** Civil engineering, building and industrial.
- **Airports:** shareholding with no operational control.

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## SERVICES

Ferrovial Services is an international reference in the efficient provision of urban and environmental services and the maintenance of infrastructure and facilities. They offer latest-generation services and solutions that meet the needs of customers (public and private) and citizens with the guarantee of quality, efficiency and innovation.

The services area is represented by the following business units:

- **In the United Kingdom:** Through Amey.
- **In Spain:** Through Ferrovial Services Spain.
- **At international level:** Through Ferrovial International Services present in countries such as Portugal, Chile and Poland with the aim of exploring the entry into new markets. Therefore, in 2016, the Australian service company Broad-spectrum was acquired, significantly increasing the company's presence in the Australian market.



## MOTORWAYS

Cintra is one of the largest private developers of toll roads in the world, both in terms of the number of projects and by investment volume; they are pioneers in innovative electronic and barrier-free toll services.

Directly and actively manages projects, seeking operational activity and optimising service quality. Cintra places significant value on the user and looks to ensure that the experience of using its infrastructure is as good as possible.

It manages a portfolio of 27 franchisees representing approx. 1,984 kilometres and present in 10 countries.



## CONSTRUCTION

Ferrovial Agroman is the parent company of the construction division. This activity is performed in all aspects of civil engineering, building and industrial work, both in Spain and abroad.

It has a growing international presence, with the weight of the international sector exceeding that of the national sector in all key operational aspects. In terms of civil engineering, it designs and constructs all types of infrastructure: roads, railways, hydraulic works, maritime works, hydroelectric works and industrial works.

The division also has significant experience in non-residential and residential buildings.

In Spain, Ferrovial Agroman has support from its subsidiaries for the development of part of its activity:

- The activity involving prestressing structures is carried out through Tecpresa.

THE WEIGHT OF THE INTERNATIONAL SECTOR EXCEEDS THAT OF THE NATIONAL SECTOR IN THE CONSTRUCTION

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## CONSTRUCTION

- Ditecpesa: a company dedicated to the development, manufacturing and sale of asphalt products.
- Edytesa: develops its activity in sliding formwork technology and in the lifting, movement and lowering of large loads (heavy lifting).

Outside Spain, the activity is carried out through subsidiaries such as Budimex in Poland or Webber in the USA, as well as through stable delegations in countries considered of strategic interest such as United Kingdom, Ireland, Italy, Portugal, Chile, Puerto Rico, Greece or USA. In this last country, it has also began to work at water treatment plants, specifically in Texas (USA) after the acquisition of Pepper Lawson.

This construction project division includes Cadagua: a specialist in the design, construction and operation of all types of water treatment plants.

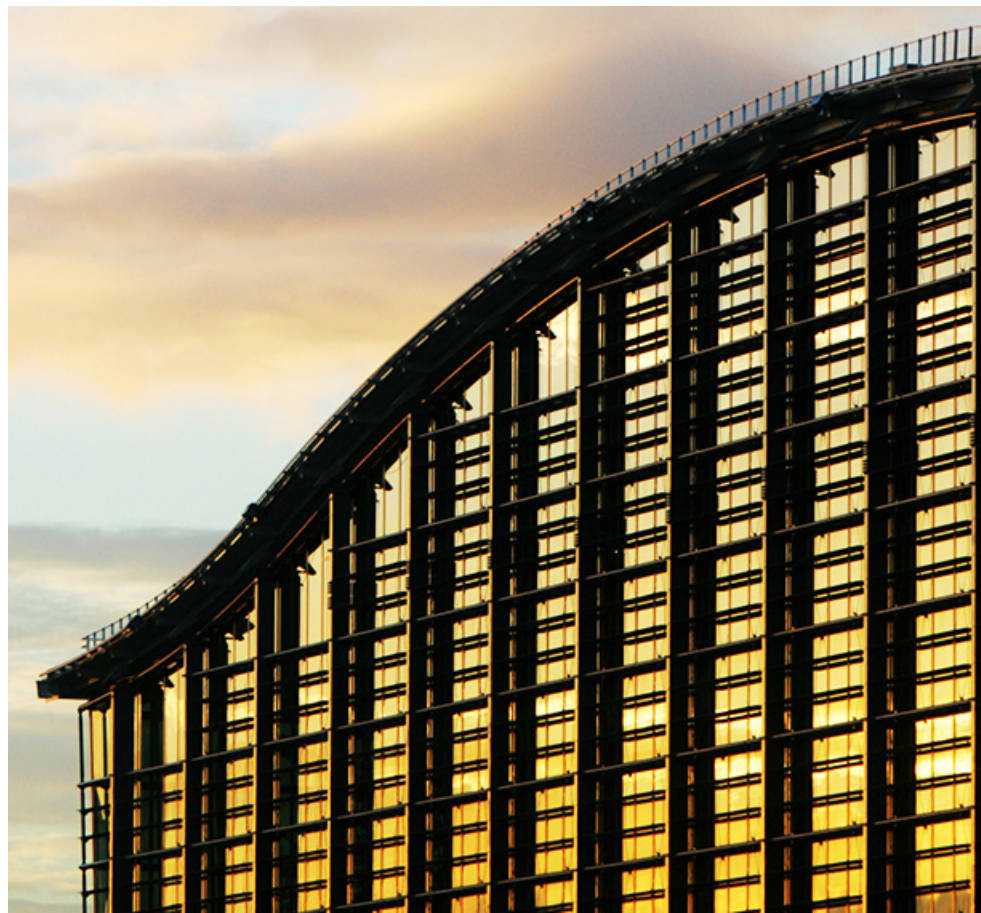


## AIRPORTS

At present, Ferrovial is an investor in several British airports with no operational control: Heathrow, Southampton, Glasgow and Aberdeen.



Inside Heathrow Britain's Aberdeen airport.



Details of Heathrow airport.

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# SUSTAINABLE BUSINESS MODELS



July 2016 saw the highest temperatures since records began and the predictions from the Intergovernmental Panel on Climate Change (IPCC) are not very encouraging so the need to take action is obvious.

There are many parties required for this, however, specifically, the corporate sector has a key role to play here to achieve targets on the reduction of current emissions. The private sector must lead the way for the climate through sustainable business models, adapting to the the current effects of climate change and working to mitigate this in the short, medium and long term.

Aspects such as energy efficiency in buildings, comprehensive city management or the mobility of low emissions as well as the conservation of biodiversity make Ferrovial a strategic partner for the governments in the countries where it operates, which contributes to meetings its global environmental targets.

THE PRIVATE  
SECTOR MUST LEAD  
CHANGE THROUGH  
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## SUSTAINABLE MODELS

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The transformation to low-emission transport infrastructures will involve integration with ICT, which will provide greater flexibility with the aim of reducing energy consumption and greenhouse gas emissions (GHG). Intelligent infrastructures, able to adapt to demand in real time, ensuring the fluidity of transport or activating solutions for more sustainable mobility.

Many practical applications in this area are developed within the Intelligent Infrastructure Innovation Centre (CI3). A pioneering corporate initiative in this area which uses an organisational model involving the private company (Ferrovial) and the university (university of Alcalá) and the administration (autonomous community of Castilla-La Mancha). Therefore, the gap between investigator knowledge generated by the university and the practical application in the production fabric is reduced. More information at [www.ci3.es](http://www.ci3.es).

In another area concerning sustainable mobility, Ferrovial has also developed projects such as the introduction of “zero-emission” vehicles at Heathrow airport or the use of efficiency programmes for managing large motorways.



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## SMART CITIES

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The services area has integrated the “smart city” concept within the framework of municipal services and energy efficiency, with a very practical focus on reducing costs for local administrations, investment in technology, increased energy efficiency and improved quality of life for citizens.

This new model has already been im-

plemented in various cities such as Birmingham or Sheffield (both in the United Kingdom) where Ferrovial Services has long-term contracts. In Ferrovial Services has energy efficiency contracts for public lighting in the cities of Guadalajara, San Sebastián de los Reyes and Torres de Cotillas.

The experience has been positive and well received by citizens, local unions and employees. According to preliminary estimates for this new model, a possible saving of approx. 30% compared with current costs of public services is expected.

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## SUSTAINABLE MODELS (SMARTFOREST)

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Since 2012, Ferrovial has worked to detect opportunities related to the conservation of biodiversity. In countries like Spain, the mountains are a source of natural resources, economic activities and employment in the rural environment; employment which

is essential for the local population and facilitating the long-term conservation of habitats. However, the current policy for reducing public spending has committed public investment to the conservation of forests, with the impacts and risks that this deficit may have for biodiversity and the economic activity in rural zones.

In this respect, Ferrovial believes that private capital can play a key role replacing the lack of public investment, provided that sustainable and long-term forest management is guaranteed as well as public

use of some mountains forming part of the heritage. With this in mind, in collaboration with ecology associations, Forest Stewardship Council (FSC) and the scientific community, Ferrovial currently works with various public administrations in Spain on developing a pilot project for managing public mountains.

In 2013, this model was launched in the autonomous community of Catalonia (Spain) through the installation of the first biomass plants using the by-product of forest management from a large mountain area.



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IN 2013, THE FIRST PLANTS WERE OPENED IN CATALUNYA USING BIOMASS FROM FOREST MANAGEMENT

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# MAIN PROJECTS IN 2016

Involvement in the dialogue to develop the **Climate Change and Energy Transition law**, organised by the secretary of state for the environment.

Inclusion as a strategic ally of the **#PorElClima** community with the aim of creating a community which acts to slow down climate change through the development of communication initiative actions and programming of the platform.

> [www.poreclima.es](http://www.poreclima.es) <

## Project FS\_ Energy Efficiency

Case study: Torrejón de Ardoz.

Collaboration with the Spanish Office for Climate Change with the Adapta project, the main aim of which is to extend the development of climate change to the private sector.

> **More information** <

## Climate projects

Optimisation of biogas in landfills to generate energy instead of fossil fuels in Villarasa (Huelva) and Golmayo (Soria).

**Ferrovia Agroman**  
Collaboration of the Ferrovia Agroman machinery park in extinguishing the fire in the Seseña tyre warehouse.

**Scope 3**  
Study of the climate change mitigation process in the city of Guadalajara.

## Rating

Ferrovia has again been recognised for its climate change strategy being included in the leadership **“Climate A List”** category in the **Climate Change** version and, for the first time, presented the **“Water”** method achieving rating A. In addition, achieved a leadership position in the **Supplier Climate Performance Leadership Index (SCPLI)**.

Partner of **Climate-KIC**, the largest public-private collaboration network for innovation focusing on the mitigation and adaptation of climate change. Its main aim is to gather together, inspire and empower a dynamic community to create a carbon-free economy and a society resistant to climate change.

## Amey project

In 2016, the services division represented by Amey was involved in an agreement to design NSW M4, a smart and revolutionary project for South Wales (United Kingdom).

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Carbon Footprint Inventory 2016

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# GHG EMISSIONS WITHIN THE GROUP

The calculation and reporting of the carbon footprint applies to the entire Ferrovial Group, including area business areas and subsidiaries.

The calculation methodology is mainly based on GHG Protocol (WRI&WBCSD) to be internationally accepted, also maintaining compliance with ISO14064-1. Scope 2 was calculated following “GHG Protocol Scope 2 Guidance” published in January 2015.

However, other methods were used to consider specific business aspects such as the

DEFRA and DECC methods for operations in the United Kingdom and the EPER method to estimate the emissions released from landfills.

The calculation considered the operational control as a organisational limit. With this focus, a company quantifies the emissions from those sources over which it has full authority to introduce and implement its operational policies, regardless of its shareholding in the company.

In its “calculating and reporting the carbon

footprint” procedure, Ferrovial states that its base year is 2009 and that it will recalculate its inventory in the event of a structural change, a change to the calculation methodology (emission factors, focus, etc) or changes to annual consumption with the aim being to compare the information from the different years.

In 2016, changes were made due to the acquisition of Broadspectrum. Due to this, the emissions from the base year were recalculated to guarantee the correct evolution of the same.

**FERROVIAL  
CALCULATES 100%  
OF ITS EMISSIONS  
(SCOPE 1&2&3&  
BIOMASS)**

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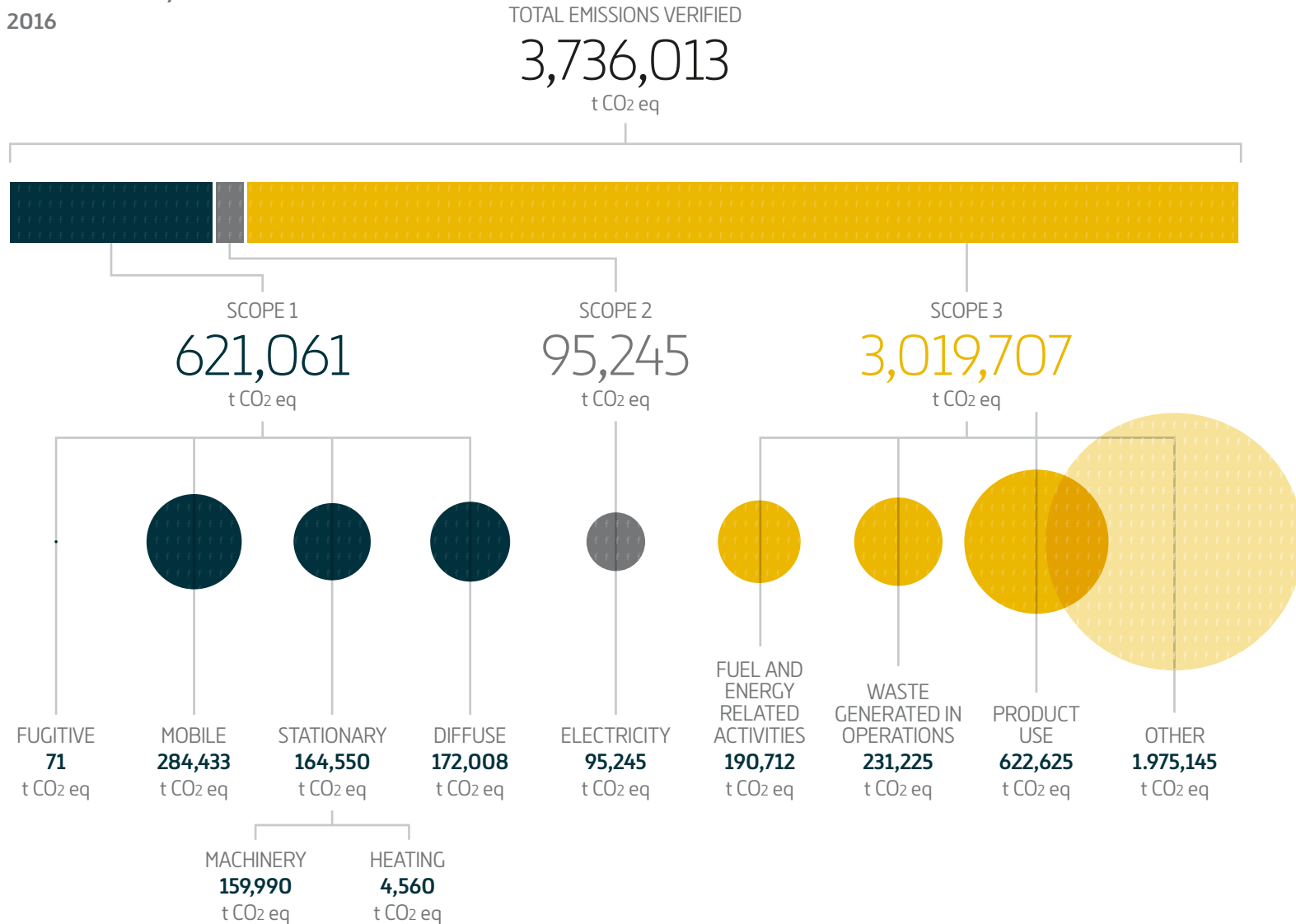


# GHG EMISSIONS (SCOPE 1&2&3)

100%

OF EMISSIONS  
VERIFIED (SCOPE  
1&2&3& BIOMASS)

GHG emissions by source.  
2016



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# GHG EMISSIONS (SCOPE 1&2)

45.8%

OF SCOPE 1  
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ARE MOBILE

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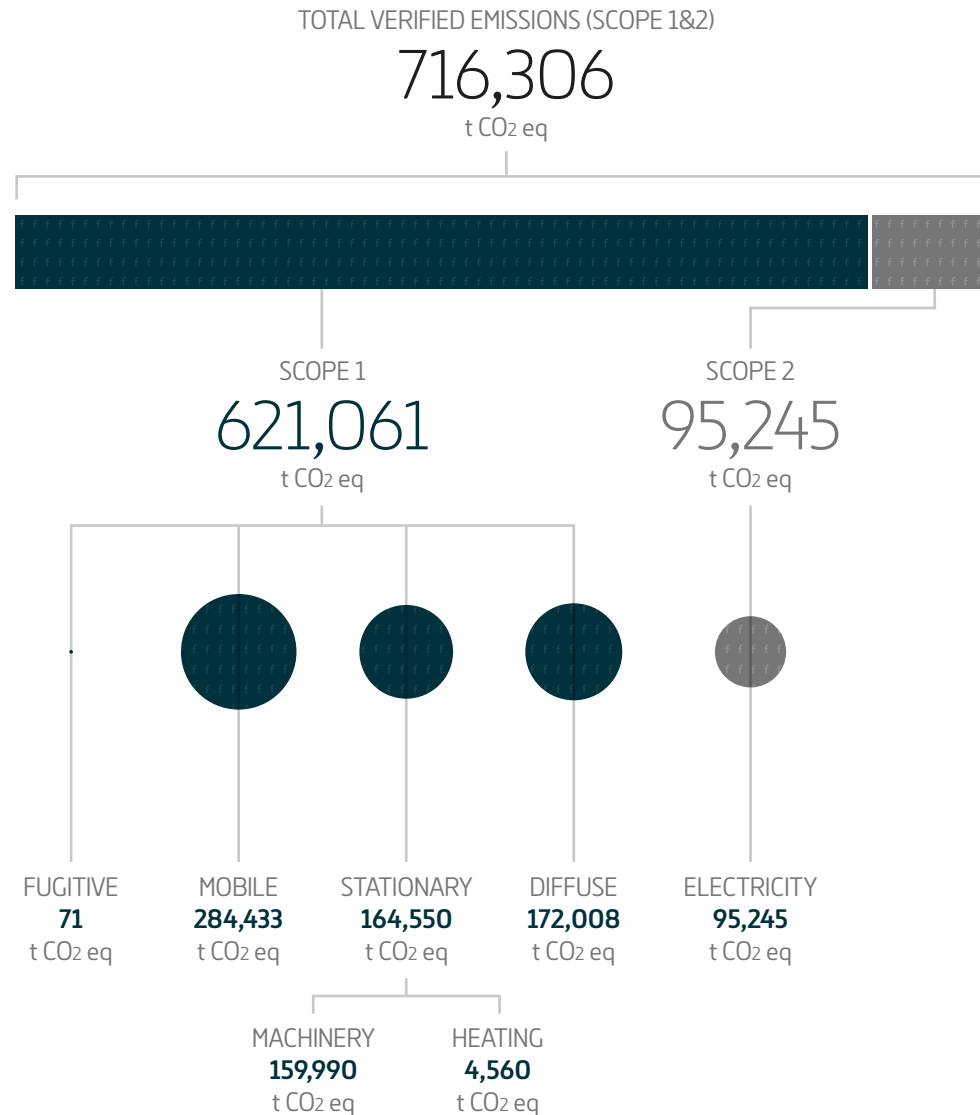
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## GHG emissions by source. 2016

The GHG emissions generated by Ferrovial's activities, in this scope, are classified into:

- Direct emissions.** These are emissions from sources which are owned or controlled by the company. They mainly come from:
  - Fuel combustion** in stationary equipment (boilers, furnaces, turbines, etc) for producing electricity, heat or steam. Fuel combustion in vehicles owned or controlled by the company.
  - Diffuse emissions.** Emissions not associated with a specific emitting source, such as biogas emissions from landfills.
  - Channelled emissions.** Emissions of greenhouse gases through a source, excluding those from fuel combustion.
  - Fugitive emissions.** Coolants.
- Indirect emissions.** These are emissions from the consumption of electricity purchased from other companies producing or controlling it.



## Evolution 2009-2016

In 2016, global emissions fell by 17% compared with the base year 2009 (150,439 t CO<sub>2</sub> eq) with billing having increased by 19.82%.

In comparable billing terms, emissions in absolute terms have fallen by 37.18% compared with the base year 2009. Emis-

sions in 2016, compared with 2015, fell slightly mainly due to the type of work contracted.

In general, there was a significant increase in the asphalt sector, which is more energy intensive. There was also an increase in construction activities with own means for works in countries where there

is no electricity supply with the electricity being generated using stationary equipment.

However, the economic recovery means that the amount of waste accepted at landfills is greater and therefore diffuse emissions have increased by 18.509 t CO<sub>2</sub> eq in Ferrovial Services landfills.

Emissions from companies and business areas by type of GHG. Tonnes of CO<sub>2</sub> equivalent

Scope 1&2	Variation								
	2009	2010	2011	2012	2013	2014	2015	2016	09-16
<b>Construction</b>	<b>238,014</b>	<b>226,361</b>	<b>224,47</b>	<b>213,003</b>	<b>191,019</b>	<b>189,673</b>	<b>185,129</b>	<b>232,616</b>	<b>-2.27%</b>
Budimex	47,665	47,665	56,59	68,853	62,394	60,974	55,495	60,011	
Cadagua	63,221	51,568	44,803	48,062	48,107	27,96	23,294	18,463	
FASA	74,934	74,934	78,509	50,283	50,255	70,11	75,544	121,040	
Webber	52,194	52,194	44,567	45,805	30,263	30,629	30,796	33,102	
<b>Corporate</b>	<b>896</b>	<b>860</b>	<b>724</b>	<b>711</b>	<b>638</b>	<b>781</b>	<b>704</b>	<b>703</b>	<b>-21.61%</b>
Ferrovial Corporate	896	860	724	711	638	781	704	703	
<b>Infrastructure</b>	<b>15,684</b>	<b>15,195</b>	<b>14,179</b>	<b>13,633</b>	<b>14,287</b>	<b>15,045</b>	<b>17,671</b>	<b>13,739</b>	<b>-12.40%</b>
Cintra	15,684	15,95	14,79	13,33	14,87	15,45	17,671	13,739	
<b>Services</b>	<b>612,152</b>	<b>592,458</b>	<b>531,677</b>	<b>450,325</b>	<b>449,077</b>	<b>440,052</b>	<b>458,723</b>	<b>469,249</b>	<b>-23.34%</b>
Amey	147,608	151,153	158,548	123,285	130,563	128,927	113,241	107,164	
Broadspectrum	60,27	60,27	60,27	60,27	60,27	60,27	60,27	60,270	
Ferrovial Services	404,274	381,036	312,859	266,77	258,244	250,855	285,213	301,816	
<b>Total Scope 1&amp;2</b>	<b>866,746</b>	<b>834,874</b>	<b>771,049</b>	<b>677,672</b>	<b>655,022</b>	<b>645,552</b>	<b>662,228</b>	<b>716,307</b>	<b>-17.36%</b>

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									Variation
Scope 1	2009	2010	2011	2012	2013	2014	2015	2016	09-16
<b>Construction</b>	<b>152,094</b>	<b>154,001</b>	<b>165,439</b>	<b>150,522</b>	<b>131,381</b>	<b>133,959</b>	<b>133,375</b>	<b>182,868</b>	<b>20.23%</b>
Budimex	27,744	27,744	37,261	44,895	37,678	38,522	37,316	42,687	
Cadagua	18,669	20,576	19,983	22,615	21,706	2,475	1,232	799	
FASA	61,287	61,287	70,423	44,284	44,901	65,145	67,916	110,315	
Webber	44,395	44,395	37,772	38,728	27,096	27,818	26,910	29,066	
<b>Corporate</b>	<b>375</b>	<b>341</b>	<b>234</b>	<b>274</b>	<b>236</b>	<b>423</b>	<b>316</b>	<b>317</b>	<b>-15.65%</b>
Ferrovial Corporate	375	341	234	274	236	423	316	317	
<b>Infrastructure</b>	<b>3,145</b>	<b>3,105</b>	<b>3,237</b>	<b>3,343</b>	<b>3,836</b>	<b>3,910</b>	<b>3,903</b>	<b>2,633</b>	<b>-16.29%</b>
Cintra	3,145	3,105	3,237	3,343	3,836	3,910	3,903	2,633	
<b>Services</b>	<b>573,492</b>	<b>552,383</b>	<b>488,875</b>	<b>404,818</b>	<b>413,526</b>	<b>409,478</b>	<b>425,575</b>	<b>435,244</b>	<b>-24.11%</b>
Amey	135,655	139,271	145,914	112,033	127,865	128,927	113,241	104,299	
Broadspectrum	48,036	48,036	48,036	48,036	48,036	48,036	48,036	48,036	
Ferrovial Services	389,801	365,075	294,924	244,749	237,624	232,515	264,298	282,909	
<b>Total Scope 1</b>	<b>729,107</b>	<b>709,830</b>	<b>657,785</b>	<b>558,957</b>	<b>548,980</b>	<b>547,770</b>	<b>563,169</b>	<b>621,061</b>	<b>-14.82%</b>
<b>Scope 2</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>09-16</b>
<b>Construction</b>	<b>85,920</b>	<b>72,360</b>	<b>59,030</b>	<b>62,481</b>	<b>59,638</b>	<b>55,715</b>	<b>51,755</b>	<b>49,748</b>	<b>-42.10%</b>
Budimex	19,921	19,921	19,329	23,957	24,716	22,453	18,179	17,323	
Cadagua	44,552	30,992	24,820	25,448	26,401	25,486	22,062	17,665	
FASA	13,647	13,647	8,087	6,000	5,354	4,965	7,627	10,725	
Webber	7,800	7,800	6,795	7,076	3,167	2,811	3,886	4,035	
<b>Corporate</b>	<b>521</b>	<b>519</b>	<b>490</b>	<b>437</b>	<b>402</b>	<b>358</b>	<b>388</b>	<b>386</b>	<b>-25.90%</b>
Ferrovial Corporate	521	519	490	437	402	358	388	386	
<b>Infrastructure</b>	<b>12,538</b>	<b>12,090</b>	<b>10,942</b>	<b>10,290</b>	<b>10,451</b>	<b>11,135</b>	<b>13,768</b>	<b>11,106</b>	<b>-11.42%</b>
Cintra	12,538	12,090	10,942	10,290	10,451	11,135	13,768	11,106	
<b>Services</b>	<b>38,660</b>	<b>40,075</b>	<b>42,802</b>	<b>45,507</b>	<b>35,552</b>	<b>30,573</b>	<b>33,149</b>	<b>34,005</b>	<b>-12.04%</b>
Amey	11,954	11,882	12,634	11,252	2,698	0	0	2,865	
Broadspectrum	12,233	12,233	12,233	12,233	12,233	12,233	12,233	12,233	
Ferrovial Services	14,473	15,960	17,935	22,021	20,620	18,340	20,915	18,907	
<b>Total Scope 2</b>	<b>137,639</b>	<b>125,044</b>	<b>113,264</b>	<b>118,715</b>	<b>106,042</b>	<b>97,782</b>	<b>99,060</b>	<b>95,245</b>	<b>-30.80%</b>

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**GHG emissions in relative terms.** Tonnes of CO<sub>2</sub> equivalent/INCN (millions of Euros)

	2009	2010	2011	2012	2013	2014	2015	2016	Variation 09-16
	97.19	92.08	87.50	74.39	68.94	63.49	59.93	67.04	<b>-31.03%</b>

GHG EMISSIONS  
IN RELATIVE  
TERMS

**-31.03%**

VARIATION  
BETWEEN  
2009 AND 2016

**Emissions by type of GHG**

	2009	2010	2011	2012	2013	2014	2015	2016
CO <sub>2</sub> (t)	715,604	565,507	500,086	563,051	525,057	531,096	497,239	543,882
CH <sub>4</sub> (t)	48	12,393	9,735	5,395	7,007	6,013	8,027	9,017
N <sub>2</sub> O (t)	124	660	448	253	2,039	913	1,107	1,122
CO <sub>2e</sub> (t)	866,746	834,874	771,049	677,672	655,022	645,552	662,228	716,307

The table's indicator measures the evolution of absolute emissions compared with the company's volume of activity using, as the best indicator of the same, the net turnover.

In 2016, Ferrovial reduced the relative intensity indicator by 31.03% compared with 2009 which is our base year, which reflects that we are on the roadmap established for compliance with the new reduction target of 35.4%.

The results obtained in 2016 reflect the results of the efficiency measures introduced over these years given that, although, from the base year, billing increased by 19.85%, emissions fell by 17.4%.

The reduction of emissions achieved is the result of the introduction of various reduction measures in business areas such as:

- Establishing efficiency criteria in the purchasing, renting or leasing of vehicles and machinery.
- Increase in alternative vehicles.
- Use of alternative fuels.
- Company mobility plans.
- Energy efficiency in buildings. Inclusion of active energy efficiency measures in buildings occupied by corporate headquarters.

- The contracting of electricity from renewable sources. In 2016, 30.1% of the electricity purchased was renewable and this was 34.14% for consumption.
- Decrease in the thermal drying activity which consumes large amounts of natural gas.

We should also consider the conjunctural effect of the crisis in Spain which had a direct effect on diffuse emissions from waste treatment as well as other activities.

However, the analysis of the results shows a recovery in consumption which is reflected in an increase in managed waste.

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Increased internationalisation results in a decrease in emissions in Spain and an increase in emissions in other countries.

The weight of diffuse emissions compared with other sources has fallen by 7 percentage points compared with 2009.

A decrease in consumption results in the generation of less waste in landfills and, as a result, a decrease in diffuse emissions.

This decrease is due to the introduction of energy efficiency measures in landfills and

the conjectural effect of the crisis in Spain in previous years, which had a direct effect on consumption. However, the analysis of the results shows a recovery in consumption last year, which is reflected in an increase in managed waste and thus diffuse emissions released.

#### Distribution of emissions by business area (Scope 1&2)

	2009	2010	2011	2012	2013	2014	2015	2016
Construction	27%	27%	29%	31%	29%	29%	28%	32%
Corporate	0%	0%	0%	0%	0%	0%	0%	0%
Infrastructure	2%	2%	2%	2%	2%	2%	3%	2%
Services	71%	71%	69%	66%	69%	68%	69%	66%

#### Distribution of emission by country (Scope 1&2)

	2009	2010	2011	2012	2013	2014	2015	2016
Spain	61%	59%	54%	50%	49%	45%	46%	41%
UK	17%	18%	21%	19%	20%	20%	19%	18%
Poland	5%	6%	7%	10%	10%	10%	8%	9%
USA	7%	7%	7%	8%	7%	7%	6%	7%
Other	10%	10%	11%	13%	14%	18%	21%	25%

2016



2009



IN 2016

41%

OF SCOPE 1&2 EMISSIONS COME FROM SPAIN

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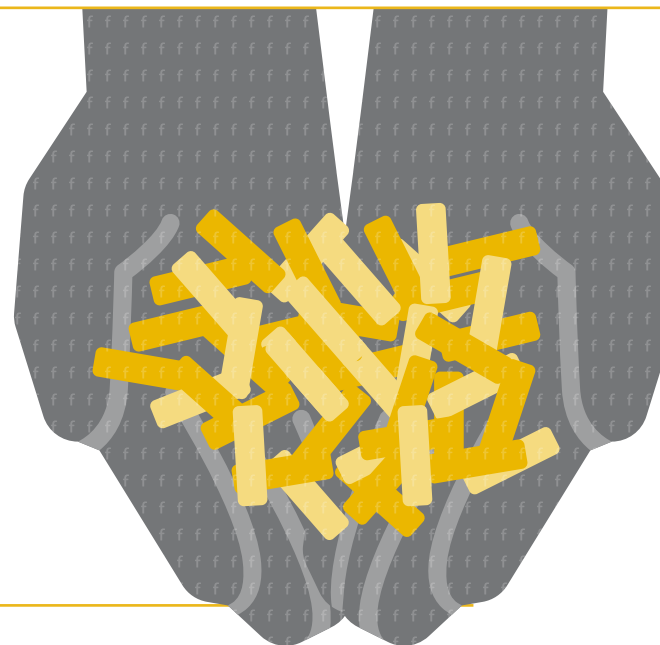
## Distribution of emissions by type of source (Scope 1&2)

	2009	2010	2011	2012	2013	2014	2015	2016
Diffuse	31%	30%	26%	17%	20%	23%	23%	24%
Electricity	16%	15%	15%	18%	16%	15%	15%	13%
Stationary	14%	15%	19%	19%	21%	27%	25%	23%
Mobile	39%	40%	40%	47%	44%	35%	37%	40%

## EMISSIONS BIOGENIC CO<sub>2</sub>

In accordance with the IPCC (Intergovernmental Panel on Climate Change) and the standard “Protocol for the quantification of greenhouse gas emissions from waste management activities”, the CO<sub>2</sub> from the combustion of the biogas collected and channelled which is burned in flares or in cogeneration processes must be reported as zero.

This due to the fact that this gas comes from the decomposition of products containing organic matter of animal or vegetal origin which was previously trapped by living organisms and therefore belongs to a carbon neutral cycle. However, the protocol recommends the quantification and reporting if “Biogenic CO<sub>2</sub>”.



### Biogenic CO<sub>2</sub> emissions. Tonnes of CO<sub>2</sub> equivalent

	2009	2010	2011	2012	2013	2014	2015	2016
Construction	1,191	1,407	14,699	16,672	50,160	53,339	52,143	59,288
Services	33,108	35,592	35,969	41,908	44,569	43,672	29,553	44,322
<b>Total Biogenic CO<sub>2</sub></b>	<b>34,299</b>	<b>36,999</b>	<b>50,668</b>	<b>58,580</b>	<b>94,728</b>	<b>97,010</b>	<b>81,696</b>	<b>103,610</b>

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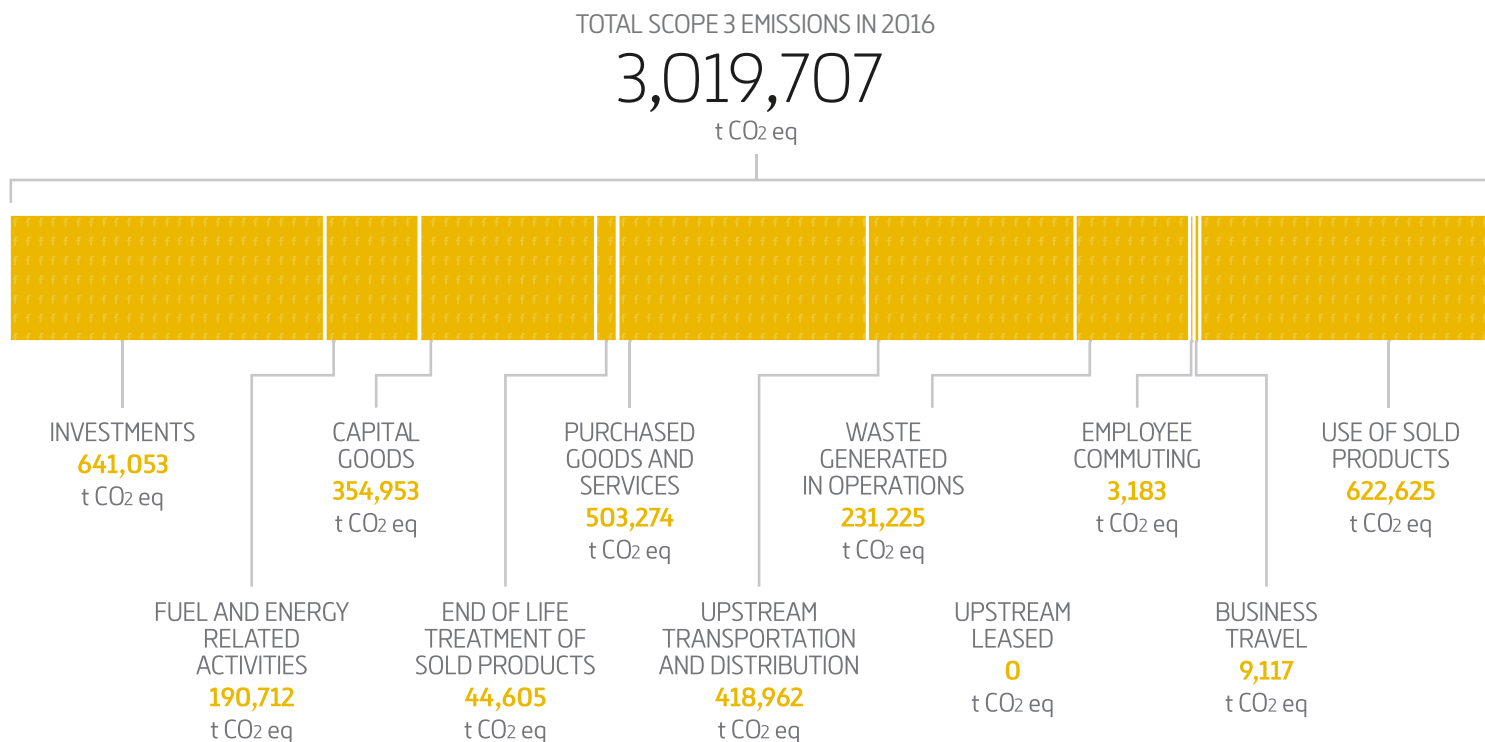
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# EMISSIONS (SCOPE 3). 2016



Ferrovial calculates all Scope 3 emissions according to the guidelines set out in the Corporate Value Chain (Scope 3) Accounting and Reporting Standard published by Green House Gas Protocol Initiative, WRI and WBCSD. At the same time, a specific method has been developed for reporting and calculating scope 3 emissions which is set out in a technical instruction.

Ferrovial calculates 11 of the 15 categories set out in the document: Corporate Value Chain (Scope 3) Accounting and Reporting Standard. The remaining categories do not apply to Ferrovial's activity:

- **Downstream transportation and distribution.** Ferrovial does not sell products which are transported or stored.

- **Processing of sold products.** Ferrovial does not have products to be transformed or included in other process to obtain another product.
- **Downstream leased assets.** Ferrovial does not lease assets to other companies.
- **Franchises.** Ferrovial does not act as a franchisor.

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The activities, products and services included in the scope 3 calculation are set out below:

### **Purchased goods and services**

This section includes emissions related to materials purchased by Ferrovia and used in products or services offered by the company. It includes emissions from different stages of the life cycle: extraction, prior processing and production.

It exclude the usage and transport stage.

This category considered the most relevant materials from an environmental and purchasing volume point of view as paper, wood, water, concrete, asphalt and asphalt agglomerate.

The method consists of applying a specific Defra conversion factor to the quantity of these materials purchased.

### **Capital goods**

This category includes all upstream water emissions (from the cradle to the gate) from the production of capital goods purchased or acquired by the company during the year.

The method consists of applying a specific Defra conversion factor to the quantity construction projects and office equipment and furniture.

### **Fuel and energy related activities (not included in Scope 1 or 2)**

This section considers the energy required to produce the fuels and electricity consumed by the company as well as the electricity for transport and distribution.

To calculate the emissions corresponding to fuels (petrol, diesel, natural gas, propane, LPG, etc) and electricity purchased, conversion factors are applied according to the 'Well-to-tank' source from Defra. In terms of electricity losses due to transport, the conversion factor is specific to each country and comes from the International Energy Agency.

### **Upstream transportation and distribution**

This includes emissions from the transport and distribution of products in the Purchased goods and services category.

The information required to calculate this category is:

- Quantity of the most relevant products and materials from an environmental perspective.
- Origin of materials and quantity purchased in each country.
- Type of transport used.
- Distance.

The GHG Protocol sheet is used for the calculation.

### **Waste generated in operations**

The emissions in this section are related to the waste generated by the company's activity reported during the year. This section includes:

- Construction and demolition waste.
- Non-dangerous waste: Assimilable to urban, wood, vegetal waste.
- Dangerous waste.
- Re-used excavated earth.
- Excavated earth taken to landfills.

A Defra conversion factor is applied to each quantity of this waste.

### **Business travel**

This includes emissions associated with business travel: train, plane, taxis and hire vehicles used to make journeys.

For this category, we use data provided by the travel agency or accounting such as type of journey, distance or expenses. Conversion factors are applied to this data to obtain the emission related to each type of journey.

The source of the same varies according to the country.

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REDUCTION OF

7.91%

OF EMISSIONS FROM BUSINESS TRAVEL

## Employee commuting

This category includes emissions from employee travel between their homes and places of work. Within this section, Ferrovial calculates the emissions from construction, services, infrastructure and Ferrovial group employees working at the central offices.

The information required is:

- Number of employees.
- Distance from employees' homes to the office.
- Type of transport used if the employee doesn't walk to the office: car, motorbike, metro, bus or train.

For more information on the type of transport used and distances, surveys were carried out. Conversion factors are applied to this data, using the GHG Protocol sheet to obtain the emissions related to each type of journey.

## Investments

Emissions related to investments in British airports. Considering the investment in the same for the following sources:

- Scope 1&2.
- Emission from scope 3 are more significant, of which we can highlight: Air traffic movements, Employee Commuting and Passenger transport.

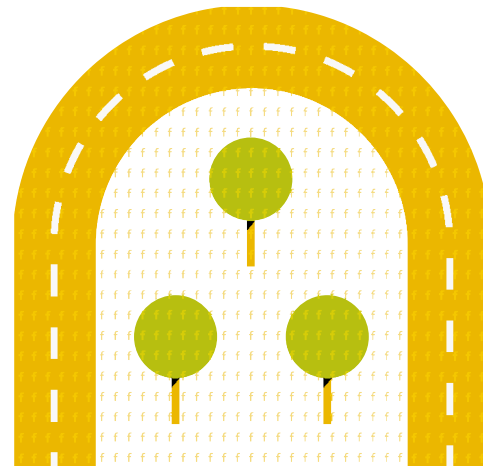
All airports are subject to independent external verification of their emissions. Once the data has been verified (consumption and emissions), it is communicated to Ferrovial to be included in this inventory.

## Use of sold products

Ferrovial calculates the emissions from the use of transport infrastructures by users managed by Cintra.

The method used depends on the location of the motorways:

- In terms of the input data for **European motorways**, the calculation tool requires the following input data: length, ADT, % of light and heavy vehicles and maximum speed on the motorway.
- In terms of the input data for **American motorways**, the calculation tool requires the following input data: length, ADT, % of light and heavy vehicles and maximum speed on the motorway, the status, State and type of motorway.



## End of life treatment of sold products

This category includes emissions from the disposal of waste generated at the end of the useful life of products sold by Ferrovial in the reporting year.

Ferrovial offers services and products. As services relate to labour, they do not generate emissions associated with this category. In terms of the products sold, they correspond to the construction of infrastructures. In this case, the most relevant materials from an environmental point of view and by volume associated with the construction of infrastructures are wood, paper, barrier material, asphalt and concrete. Therefore, at the end of the useful life of the infrastructures, waste from the same must be managed.

A Defra conversion factor is applied to these products to obtain the emissions from the disposal of waste generated at the end of the useful life of the infrastructures.

## Upstream leased assets

This includes emissions related to the consumption of electricity from customers' buildings in which Amey provides maintenance and cleaning.

A Defra conversion factor is applied to this energy consumption to obtain the emissions related to this consumption.

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REDUCTION OF

26.29%

OF EMISSIONS FROM THE USE OF SOLD PRODUCTS

## Scope 3 emissions. Tonnes of CO<sub>2</sub> equivalent

	2009	2010	2011	2012	2013	2014	2015	2016
Investments	814,108	803,018	827,550	805,044	629,635	650,761	636,150	641,053
Fuel and energy related activities				182,314	164,332	147,894	164,466	190,712
Capital Goods				569,407	648,426	672,295	607,931	354,953
End of life treatment of sold products			1,035	52,703	53,617	171,155	23,130	44,605
Purchased goods and services				743,192	593,438	750,808	601,164	503,274
Upstream transportation and distribution				461,487	461,333	451,359	492,843	418,962
Waste generated in operations				212,976	306,389	221,378	261,947	231,225
Employee commuting				792	819	1,379	1,547	3,183
Business travel	403	4,911	4,918	6,606	7,015	11,271	9,900	9,117
Use of sold products			690,845	641,031	669,249	732,877	844,645	622,625
Upstream leased	1,728	1,710	1,898	1,405	1,022	2,009	0	0
<b>Total</b>	<b>816,239</b>	<b>809,638</b>	<b>1,526,246</b>	<b>3,676,957</b>	<b>3,535,276</b>	<b>3,813,186</b>	<b>3,643,725</b>	<b>3,019,707</b>

### Evolution Scope 3

In 2016, global scope 3 emissions in absolute terms fell by 17.26% compared with 2015 and by 18.15% compared with the base year which is 2012 for this category, although billing was 17.29% higher than in this year.

In comparable billing terms with the previous year, scope 3 emissions in absolute terms fell by 19.41%.

The following categories showed a decrease in their emissions:

- **Capital Goods:** The decrease is due to less investment in equipment, machinery and office materials.
- **Purchased goods & services:** Less products were consumed in this category, specifically concrete.

- **Business travel:** The number of international journeys decreased despite our international presence growing.
- **Upstream leased:** In this year, there was no payment for our customers' electricity.
- **Investments:** These varied compared with the previous year due to energy efficiency measures in airports.
- **Upstream transportation & distribution:** This fell due to a reduction in the consumption of concrete, which was 15% less than the previous year.
- **Waste generated in operations:** This is another category subject to a decrease. Less waste was generated compared with previous years. Construction and demolition waste fell by 31% compared with 2015 and dangerous waste by 87%.

- **Use of sold products:** There was a disinvestment in motorways and mobility improvement measures were introduced.

The following categories showed an increase:

- **End-of-life treatment of sold products:** This category increased with 540% more wood being purchased compared with the previous year. Wood has a significant impact on this category. The purchase of this material is subject to the requirements of our customers involved in the projects.
- **Fuel-and energy related activities:** The number of construction sites has increased and the type of site is more energy intensive.
- **Employee commuting:** In 2016, the number of employees increased by 5.12%.

REDUCTION OF

18.15%

OF SCOPE 3  
EMISSIONS  
GLOBALLY  
COMPARED  
WITH 2012

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# ANALYSIS BY SECTOR



## SERVICES

In 2016, global emissions in absolute terms in the services division fell by 23.34% compared with the base year 2009 (142.903 t CO<sub>2</sub> eq) with billing having increased by 49.28%. In relative terms (t CO<sub>2</sub> eq/million €), emissions fell by 48.65% compared with the base year. This indicator is a good reflection of the disassociation existing between economic growth and the release of greenhouse gases.

It should be noted that this year saw the consolidation of emissions and billing for Broadspectrum from June 2016. This resulted in a recalculation of the emissions from the base year.

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## Emissions (Scope 1&2) in the Services sector

	2009	2010	2011	2012	2013	2014	2015	2016
<b>Amey</b>								
t CO <sub>2</sub> eq	147,608	151,153	158,548	123,285	130,563	128,927	113,241	107,164
t CO <sub>2</sub> eq/Million €	80.74	79.92	76.82	54.22	60.36	47.45	36.49	39
<b>Broadspectrum</b>								
t CO <sub>2</sub> eq	60,270	60,270	60,270	60,270	60,270	60,270	60,270	60,270
t CO <sub>2</sub> eq/Million €	41.67	41.67	41.67	41.67	41.67	41.67	41.67	41.67
<b>Ferrovia Services</b>								
t CO <sub>2</sub> eq	404,274	381,036	312,859	266,770	258,244	250,855	285,213	301,816
t CO <sub>2</sub> eq/Million €	259.39	246.26	202.59	182	174.98	149.22	159.97	160.12
<b>SERVICES</b>								
t CO <sub>2</sub> eq	612,152	592,458	531,677	450,325	449,077	440,052	458,723	469,249
t CO <sub>2</sub> eq/Million €	150.36	143.7	123.86	101.79	88.31	75.4	72.44	77.2
<b>Variation. Percentage</b>								
	<b>2009-2016</b>						<b>2015-2016</b>	
<b>Amey</b>								
t CO <sub>2</sub> eq	-27.4%						-5.37%	
t CO <sub>2</sub> eq/Million €	-51.7%						6.88%	
<b>Broadspectrum</b>								
t CO <sub>2</sub> eq	0%						0%	
t CO <sub>2</sub> eq/Million €	0%						0%	
<b>Ferrovia Services</b>								
t CO <sub>2</sub> eq	-25.34%						5.82%	
t CO <sub>2</sub> eq/Million €	-38.27%						0.09%	
<b>SERVICES</b>								
t CO <sub>2</sub> eq	-23.34%						2.29%	
t CO <sub>2</sub> eq/Million €	-48.65%						6.58%	

BETWEEN  
2009 AND 2016,  
THERE WAS A

23.34%

REDUCTION IN  
TONNES OF CO<sub>2</sub>  
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In absolute terms, emissions in 2016, compared with 2015, fell by 2.29% and, in relative terms, by 6.58% due to the economic recovery resulting in more waste being accepted at landfills and an increase of 18,509 t CO<sub>2</sub> eq of diffuse emissions in Ferrovial Services' landfills.

As is widely known, increases in this flow of emissions (biogas) have significant repercussions on the footprint given that CH<sub>4</sub> emissions have more warming potential than CO<sub>2</sub>.

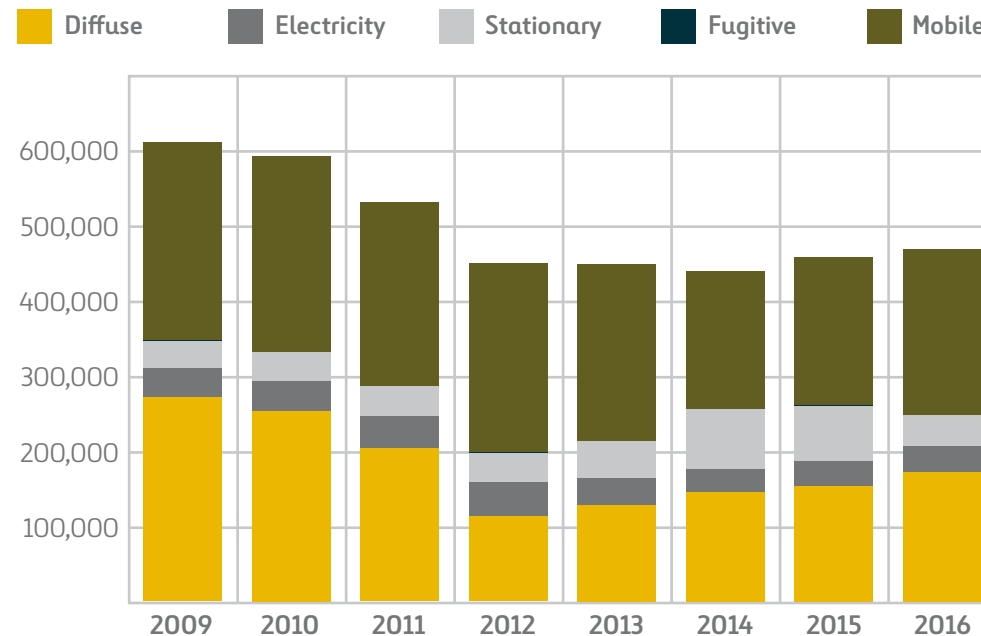
It is important to recalculate that both Ferrovial Services and Amey have in-depth knowledge of waste. Therefore, in the waste management activity, the focus is on recycling and subsequent energy use as a way of reducing methane emissions into the atmosphere.

The services division as a whole continues the trend of reducing emissions in absolute and relative terms relative to the base year and following the road map established for compliance with targets.

The trend is positive since, in a scenario where billing has increased by 49.28% compared with the base year, emissions in absolute terms have not increased but decreased by 23.34%.

The services division uses the latest technologies to generate clean energies through the

**Emissions by type of source (Scope 1&2).** Tonnes of CO<sub>2</sub> equivalent



biogas collected and to minimise the environmental impact. Therefore, the company's work has become a commitment to the environment and the challenges and needs of areas where its services are provided.

In addition, Ferrovial Services and Amey are pioneers in the management of cities including lighting, sanitation, traffic management, waste collection and infrastructure maintenance. This optimises processes, increasing efficiency and reducing the environmental impact. The redesign of the processes and the use of new technologies involves improvements in the efficiency and

productivity of services. Investments are made in innovative solutions. This results in a reduction in energy consumption and emissions for our customers.

One example of this is public lighting using LED technology and which allows central control of the lighting based on the activity in the urban space. This results in reduced management costs and a reduction in energy consumption. The software installed in Amey's vehicles optimises use on the roads, improves incident resolution, minimises traffic congestion, reduces fuel use and increases the effectiveness of winter maintenance.

REDUCTION OF

**48.6%**

OF TONNES OF CO<sub>2</sub> EQUIVALENT/ MILLION € BETWEEN 2009 AND 2016

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## MOTORWAYS

Cintra is one of the largest private developers of toll roads in the world, both in terms of the number of projects and by investment volume; they are pioneers in innovative automatic electronic and barrier-free solutions.

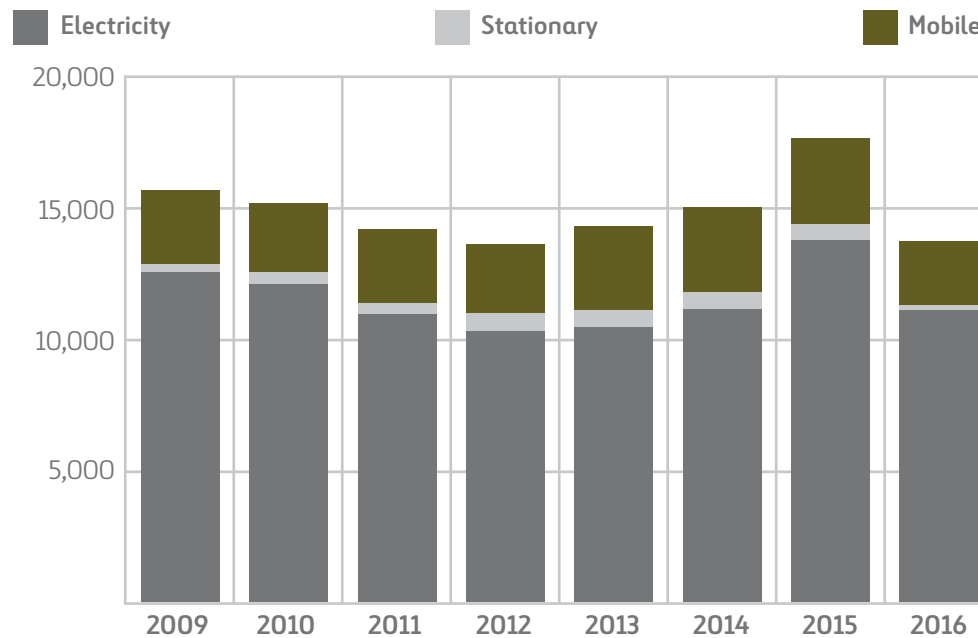
At the end of 2016, Cintra had operational control of 14 motorways in Spain, Ireland, Portugal and USA.

In this year, the American motorway Chicago Skyway was not consolidated and the Irish motorways were only reported for two months due to disinvestment concerning the same.

In 2016, global **emissions in absolute terms for the motorways division fell by 12.40% compared with the base year 2009 with billing having increased by 55.57%. In relative terms (t CO<sub>2</sub> eq/million €), emissions fell by 43.69% compared with the base year.**

This indicator shows the disassociation existing between economic growth and the re-

Emissions by type of source (Scope 1&2). Tonnes of CO<sub>2</sub> equivalent



lease of greenhouse gases. Emissions in absolute terms in 2016, compared with 2015, fell by 22.25% due to the disinvestment process and energy efficiency measures introduced, an activity of 20.11%.

80% of Cintra's emissions relate to elec-

tricity consumption for lighting for motorways, tunnels, tools and offices.

The installation of energy-efficient lighting measures results in lower consumption, reduced emissions and good reduction results obtained from the base year.

REDUCTION OF  
**12.40%**  
OF ABSOLUTE  
EMISSIONS  
BETWEEN  
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## Emissions (Scope 1&2) in the Motorways sector

	2009	2010	2011	2012	2013	2014	2015	2016
<b>Cintra</b>								
T CO <sub>2</sub> eq	15,684	15,195	14,179	13,633	14,287	15,045	17,671	13,739
T CO <sub>2</sub> eq/Million €	52.81	29.97	37.61	37.65	35.43	36.63	35.82	29.74
<b>Variation. Percentage</b>								
	<b>2009-2016</b>						<b>2015-2016</b>	
<b>Cintra</b>								
T CO <sub>2</sub> eq	-12.40%						-22.25%	
T CO <sub>2</sub> eq/Million €	-43.69%						-16.99%	

BETWEEN  
2009 AND 2016,  
THERE WAS A

**43.69%**

REDUCTION IN  
EMISSIONS IN  
RELATIVE TERMS  
(TONNES OF CO<sub>2</sub>  
EQUIVALENT/  
MILLION €)

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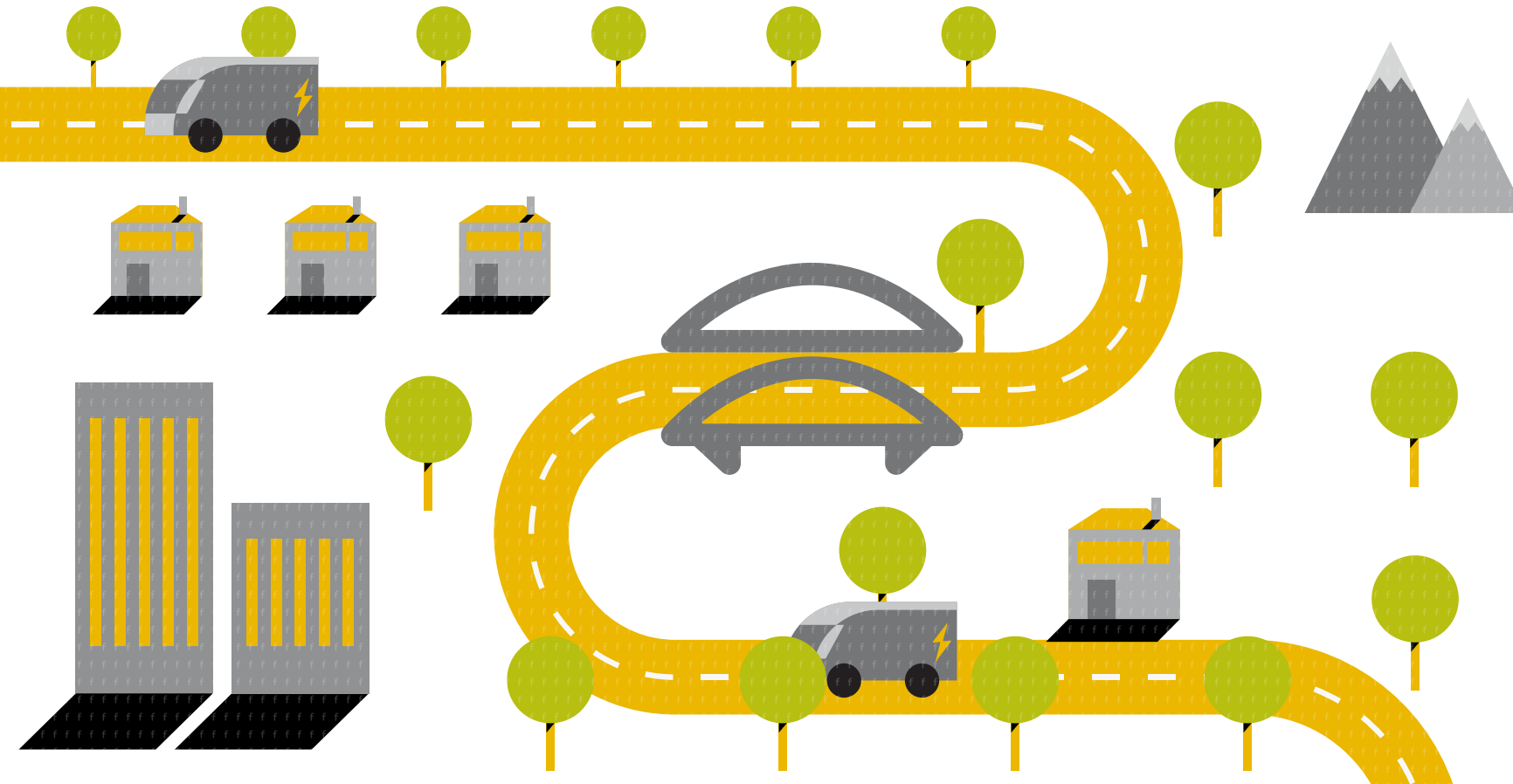
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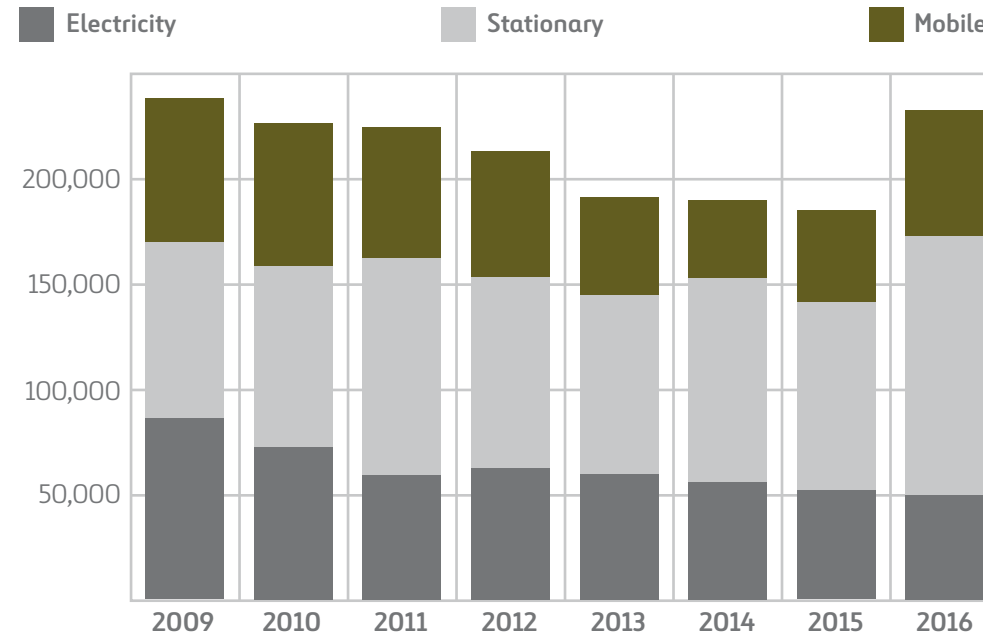
## CONSTRUCTION

The construction division in Spain, through the company Ferrovial Agroman, performs construction activities in all areas of civil engineering and buildings. In terms of civil engineering, it designs and constructs all types of infrastructure: roads, railways, hydraulic works, maritime works, hydroelectric works and industrial works. The division also has significant experience in non-residential and residential buildings.

Outside Spain, international construction division also performs the activity in all aspects of civil engineering and building. The division's activity takes place with local presence through subsidiaries such as Budimex in Poland or Webber in the State of Texas in the USA, as well as through Ferrovial Agroman delegations in countries considered to be of strategic interest.

There are currently offices in the USA, Canada, Poland, United Kingdom, Ireland, Portugal, Chile, Colombia, Puerto Rico, Brazil, Qatar, United Arab Emirates, Saudi

Emissions by type of source (Scope 1&2). Tonnes of CO<sub>2</sub> equivalent



Arabia, India, Oman, Singapore and Australia mainly.

The construction division also includes Cadagua which is one of the leading international companies, through references and prestige, in engineering and construction for water treatment plants, mainly for the desalination of sea water, as well as waste purification and treatment plants.

It has continued its great commercial efforts in international markets, streng-

thening, with resources from the activity in Spain, its presence in the Middle East, India, Poland and in various western European countries such as United Kingdom, Portugal and Ireland.

In 2016, global emissions in absolute terms from the **construction division fell by 2.27% compared with the base year 2009 with billing having decreased by 7.26%. In relative terms (t CO<sub>2</sub> eq/million €), emissions increased by 5.38% compared with the base year.**

REDUCTION OF

**2.27%**

OF ABSOLUTE EMISSIONS IN RELATIVE TERMS BETWEEN 2009 AND 2016

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## Emissions (Scope 1&2) in the Construction sector

	2009	2010	2011	2012	2013	2014	2015	2016	
<b>Budimex</b>									
T CO <sub>2</sub> eq	47,665	47,665	56,590	68,853	62,394	60,974	55,495	60,011	
T CO <sub>2</sub> eq/Million €	41.38	41.38	43.36	44.84	55.24	51.67	45.67	47.02	
<b>Cadagua</b>									
T CO <sub>2</sub> eq	63,221	51,568	44,803	48,062	48,107	27,960	23,294	18,463	
T CO <sub>2</sub> eq/Million €	483.45	508.16	494.35	401.72	382.62	265.08	103.7	236.32	
<b>Ferrovial Agroman</b>									
T CO <sub>2</sub> eq	74,934	74,934	78,509	50,283	50,255	70,110	75,544	121,040	
T CO <sub>2</sub> eq/Million €	27.85	27.85	33.94	23.94	24.05	35.42	33.15	57.69	
<b>Webber</b>									
T CO <sub>2</sub> eq	52,194	52,194	44,567	45,805	30,263	30,629	30,796	33,102	
T CO <sub>2</sub> eq/Million €	106.52	106.52	106.11	80.9	45.51	46.76	49.47	48.18	
<b>CONSTRUCTION</b>									
T CO <sub>2</sub> eq	238,014	226,361	224,470	213,003	191,019	189,673	185,129	232,616	
T CO <sub>2</sub> eq/Million €	53.32	51.05	54.37	49.29	47.63	48.39	43.87	56.19	
<b>Variation. Percentage</b>									
	<b>2009-2016</b>						<b>2015-2016</b>		
<b>CONSTRUCTION</b>									
T CO <sub>2</sub> eq	-2.27%						25.65%		
T CO <sub>2</sub> eq/Million €	5.38%						28.08%		

In general, there was a significant increase in the asphalt sector, which is more energy intensive. In addition, presence in countries with less infrastructure development saw an increase in energy consumption requiring them to self-generate the electricity required on site to run the same. For the

same reason, there was an increase in activities carried out with own resources.

In general, the construction sector presents the most disparity in energy demand from one year to the next depending on the activities carried out, although this is also in-

fluenced by the type of site and the degree of subcontracting. For example, the production of chipboard, a very energy intensive activity, depends directly on the construction of roads or the use of a tunnelling machine requiring a significant amount of electricity consumption compared with traditional tunnels, etc.

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## CORPORATE

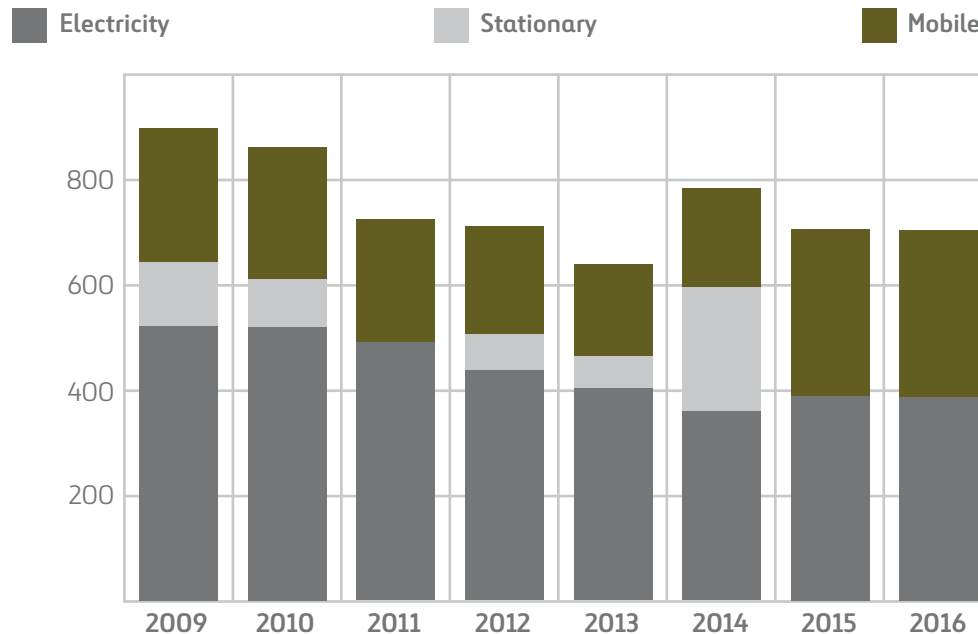
Corporate is Ferrovial's head office in Príncipe de Vergara where all the information available on the company is consolidated and where the board of directors is located. The corporate division provides support for all business units including the quality and environment departments.

In the Príncipe de Vergara building, a full energy analysis was carried out leading to a series of improvements. The work's purpose was the study of equipment and installations, as well as the study of energy consumption.

With the aim of optimising its energy efficiency through the identification of all types of improvements originating from a reduction in costs for said items, the energy saving was assessed, indicating the investment required to perform a study on the economic profitability that these saving measures would provide.

Thanks to the comprehensive energy analysis, the following challenges were set:

Emissions by type of source (Scope 1&2). Tonnes of CO<sub>2</sub> equivalent



ELECTRICITY  
EMISSIONS  
REPRESENT

54.9%

OF THE 2016 TOTAL

- Determining the building's initial energy situation, that is to say determining the initial status, function and energy efficiency of the installations and equipment.
- Having an inventory of the main energy equipment existing and identifying those which are most relevant, mentioning the status of the installations, maintenance characteristics, recent revisions and tests performed.
- Obtaining the global energy balance of the equipment and installations.
- Identifying the areas of opportunity offering energy saving potential.
- Determining and assessing saving volumes which are achievable and the measures technically applicable to their achievement.
- Analysing the relationships between the costs benefits of the different opportunities within the financial and managerial context to prioritise implementation.
- Using energy rationally, which will result in energy savings without too much investment.

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## Emissions (Scope 1&2) in the Corporate sector

	2009	2010	2011	2012	2013	2014	2015	2016
<b>Ferrovial Corporate</b>								
T CO <sub>2</sub> eq	896	860	724	711	638	781	704	703
T CO <sub>2</sub> eq/Million €	10.43	346.63	54.47	464.73	238.09	449.12	216.70	136.68
<b>Variation. Percentage</b>								
	<b>2009-2016</b>						<b>2015-2016</b>	
<b>Ferrovial Corporate</b>								
T CO <sub>2</sub> eq	-21.61%						-0.25%	
T CO <sub>2</sub> eq/Million €	1,210.71%						-36.93%	

BETWEEN  
2009 AND 2016,  
THERE WAS A

**21.61%**

REDUCTION IN  
TONNES OF CO<sub>2</sub>  
EQUIVALENT  
PRODUCED  
BY FERROVIAL  
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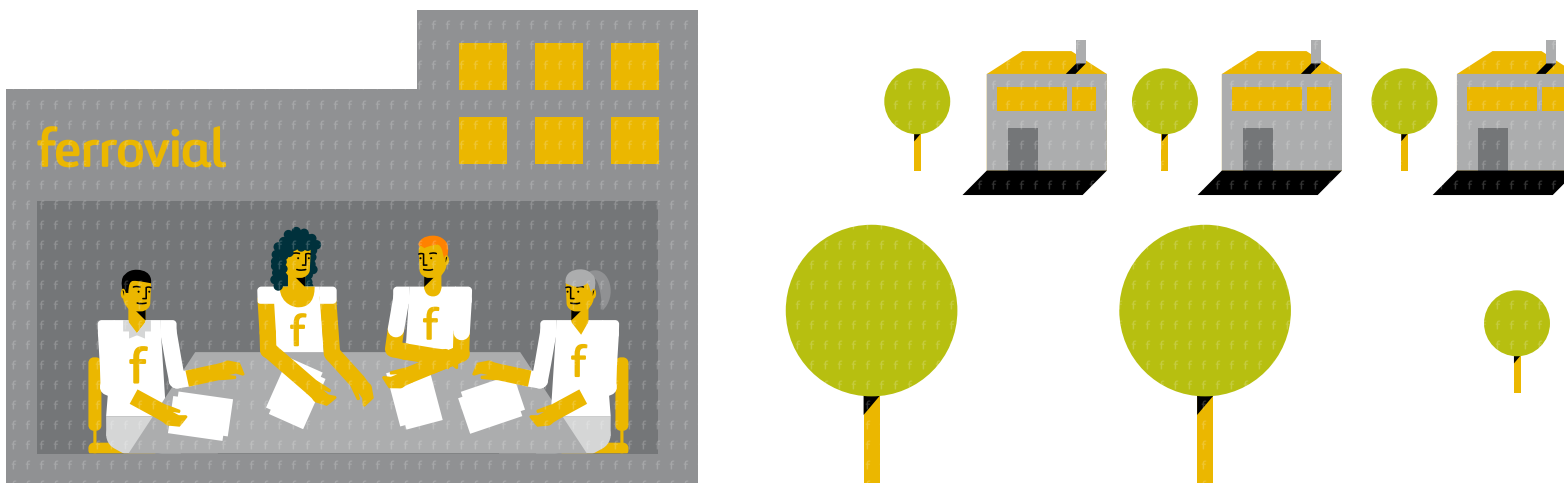
## VERIFICATION REPORT

According to the criteria previously set out, a series of improvements were established with a reasonable depreciation period as well as behaviours requiring better use of facilities and equipment, actively involving building staff.

Thus, from 2009, the measures introduced included changes to operating times for air-conditioning and lighting installations according to real building needs, lighting and temperature adjustments and changes to the installation of lighting (electronic

ballasts, energy-saving bulbs, presence detectors, control systems, etc).

This resulted in a 55% electricity saving compared with 2008, avoiding the emission of 477 tonnes of CO<sub>2</sub> equivalent into the atmosphere.



# EMISSIONS AVOIDED



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The emission avoided by Ferrovial come from:

- The biogas sorting and collection activity in landfills.
- The generation of “green” electricity in cogeneration plants.
- The extension of green purchasing policies throughout the supply chain.
- Emissions avoided in the construction sector.

# EMISSIONS AVOIDED IN THE BIOGAS SORTING AND COLLECTION ACTIVITY

Emissions avoided. Tonnes of CO<sub>2</sub> equivalent

	2009	2010	2011	2012	2013	2014	2015	2016
<b>Ferrovial Services</b>								
Biogas in landfills	520,075	631,681	710,009	575,757	885,330	900,790	834,691	749,514
Sorting	189,981	212,186	467,771	290,110	302,295	403,895	427,643	444,226
<b>Amey</b>								
Biogas in landfills			56,771	53,100	49,986	53,152	54,792	46,073
Sorting			8,522	53,797	35,798	87,612	97,984	149,895
<b>Cadagua</b>								
Water treatment						517,497	496,033	532,313
<b>Total</b>	<b>710,056</b>	<b>843,867</b>	<b>1,243,073</b>	<b>972,764</b>	<b>1,273,409</b>	<b>1,962,947</b>	<b>1,911,144</b>	<b>1,922,020</b>

In terms of waste management through the sorting activity, recovery is favoured over disposal, with the aim of reducing the rejected volume deposited in landfills and which generates GHG emissions. When final waste is deposited in the landfill, biogas emissions are produced through the decomposition of the latter. This biogas is collected in collector ne-

works to avoid the direct emission of methane (CH<sub>4</sub>) into the atmosphere and facilitate its use through energy energy. This generation of electricity from biogas allows a traditional landfill to be partially converted into an energy recovery plant which avoids GHG emissions into the atmosphere continuously originating from this type of facility (see following section).

Therefore, the constant investment made in technology for both the sorting activity and biogas collection has, in recent years, reduced GHG emissions and has increasing applications. In 2016, GHG emissions avoided through the biogas sorting and collection activity were 160% greater than in the base-year level.

IN 2016

**1,922,020**  
t CO<sub>2</sub>eq

AVOIDED THANKS  
TO THE BIOGAS  
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# EMISSIONS AVOIDED THROUGH ENERGY GENERATION IN LANDFILLS

## Energy produced GJ of energy

	2009	2010	2011	2012	2013	2014	2015	2016
<b>Ferrovia Services</b>								
Recovery of biogas	308,959	310,291	383,588	448,434	478,753	437,272	372,988	332,365
Valorization of biogas	146,666	102,568	102,946	134,060	187,632	163,964	241,604	197,104
<b>Ame y</b>								
Recovery in landfills	45,435	45,423	41,998	44,763	42,581	37,310		
<b>Total</b>	<b>455,625</b>	<b>412,859</b>	<b>531,969</b>	<b>627,917</b>	<b>708,383</b>	<b>645,999</b>	<b>657,173</b>	<b>566,779</b>

## Emissions avoided Tonnes of CO<sub>2</sub> equivalents

	2009	2010	2011	2012	2013	2014	2015	2016
<b>Ferrovia Services</b>								
Recovery of biogas	30,020	30,149	35,451	37,722	40,319	35,453	32,047	28,540
Valorization of biogas	14,251	9,966	9,319	11,126	15,573	13,254	20,493	16,719
<b>Ame y</b>								
Recovery of biogas	6,146	5,672	5,244	5,479	5,671	4,969		
<b>Total</b>	<b>44,271</b>	<b>40,115</b>	<b>50,915</b>	<b>54,520</b>	<b>61,136</b>	<b>54,186</b>	<b>58,211</b>	<b>50,228</b>

The biogas collected in landfills, mainly methane, is used in cogeneration plants for the generation of electricity and thermal energy.

In 2016, the landfills of Ferrovia Services and Ame y generated 566,779 GJ of ener-

gy. The collection process not only avoided the emission of GHG into the atmosphere but also generated energy from renewable sources. In recent years, there has been an increase in electrical and thermal energy. Therefore, in 2016, 24% more energy was

produced compared with our base year. Since this energy was from renewable sources, its consumption avoided 50,288 t CO<sub>2</sub> eq. This reduced the dependency on fossil fuels and avoids methane emissions, which have a greater effect on global warming than CO<sub>2</sub>.

IN 2016  
**50,288**  
t CO<sub>2</sub> eq  
AVOIDED THANKS TO  
THE CONSUMPTION  
OF RENEWABLE  
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## EMISSIONS AVOIDED THROUGH ENERGY GENERATION IN WATER TREATMENT PLANTS

Emissions avoided by type of energy generated. Tonnes of CO<sub>2</sub> equivalent

	2009	2010	2011	2012	2013	2014	2015	2016
Generated in EDAR	2,103	2,493	1,348	1,950	8,808	9,231	13,912	3,512
Generated in thermal drying	16,500	15,045	19,829	21,963	11,817	1,101	2,768	22,227
<b>Total</b>	<b>18,603</b>	<b>17,538</b>	<b>21,177</b>	<b>23,913</b>	<b>20,624</b>	<b>10,332</b>	<b>16,681</b>	<b>25,739</b>

In the thermal sludge drying processes at the sewage treatment facilities managed by Cadagua, natural gas cogeneration plants have been installed producing thermal energy for drying and electrical energy. This is another

sustainable way of generating energy resulting in emissions avoided for these installations.

In WWTS (Waste Water Treatment Stations), electricity is generated through

the combustion of the biogas generated. Through these processes, in 2016 the company generated a total of 84,294 Mwh, 54% more than in the previous year, and avoided emissions of 25,739 t CO<sub>2</sub> eq.

## EMISSIONS AVOIDED THROUGH THE PURCHASE OF ALTERNATIVE POWERED BY ALTERNATIVE VEHICLES

The initiative for buying vehicles powered by alternative fuels consists of improving the energy efficiency of these assets, through improvements in purchasing, renting or leasing criteria, efficient driving courses, the use of alternative fuels, and alternatives with hybrid engines, among others. Electric cars have recently been included in this series of improvements.

IN 2016

**4,157**  
t CO<sub>2</sub> eq

AVOIDED THANKS TO THE USE OF ALTERNATIVE VEHICLES

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IN 2016

**25,739**  
t CO<sub>2</sub> eq

AVOIDED THANKS TO THE CONSUMPTION OF RENEWABLE FROM RENEWABLE SOURCES



## EMISSIONS AVOIDED THROUGH THE PURCHASE OF RENEWABLE ENERGY

Emissions avoided through electricity purchased from renewable sources. Tonnes of CO<sub>2</sub> equivalent

	2009	2010	2011	2012	2013	2014	2015	2016
Cadagua	58	16,347	12,034	10,350	11,356	3,918	7,812	19,998
Amey	2,697	2,403	2,589	2,589	8,842	13,256	11,599	8,528
Ferrovial Services				433	181	164	238	4,073
Cintra								347
<b>Total</b>	<b>2,756</b>	<b>18,749</b>	<b>14,623</b>	<b>13,371</b>	<b>20,379</b>	<b>17,338</b>	<b>19,649</b>	<b>32,947</b>

The extension of the green purchasing policy throughout the organisation had an impact on the carbon footprint, specifically due to:

- In 2016, the electricity purchased by Ferrovial came from:
  - Non-renewable electricity purchased

and consumed: 220,787 MWh.

- Renewable electricity purchased and consumed: 97,731 MWh. There are two certificates guaranteeing its origin.
- Renewable electricity self-generated and consumed: 18,733 MWh. Therefore, 30.1% of the electricity pur-

chased is renewable and 34.14% of the electricity produced is renewable (purchased and self-generated).

- However, the increased consumption of electricity from renewable sources at Cadagua is due to some contracts concerning this type of electricity.

IN 2016

22,362  
t CO<sub>2</sub> eq

AVOIDED THANKS TO THE REDUCTION IN TRANSPORT DISTANCES

## EMISSIONS AVOIDED IN CONSTRUCTION

In 2016, Ferrovial Agroman continued working to reduce Scope 3 emissions focusing on reducing earth transport distances within sites using trucks or tubs.

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IN 2016

32,947  
t CO<sub>2</sub> eq

AVOIDED THANKS TO THE PURCHASE OF RENEWABLE ELECTRICITY



# EMISSION COMPENSATION

Emissions which cannot be avoided during the activity developed by the company can be compensated with other methods. The compensation of CO<sub>2</sub> emissions consists of the voluntary provision of an economic quantity, proportional to the tonnes of CO<sub>2</sub> generated here, for a project with the following specific aims:

- Collecting a quantity of tonnes of CO<sub>2</sub> equivalent to that generated in our activity, through the implementation of a carbon sink project through reforestation.
- Avoiding the emission of a quantity of tonnes of CO<sub>2</sub> equivalent to that generated in our activity through an energy saving and efficiency project, replacing fossil fuels with renewable energies, was-

te treatment or avoided deforestation.

The compensation policy is based on these two premises:

1. Climate change is a global problem; CO<sub>2</sub> emissions originating from a specific location affect the whole planet. Similarly, emission reductions which occur in one place contribute to reducing global warming as a whole.
2. According to the IPCC, stabilising the climate requires industrialised countries to reduce their CO<sub>2</sub> emissions and developing countries to achieve clean development, exploiting the transfer of resources and technology.

To guarantee the transparency and credi-

bility of compensation from organisations involved in the voluntary carbon market (NGOs, consultants relating to the carbon market, auditors, universities), various standards have been designed to verify the quantification of reductions in greenhouse gas emissions or acquisitions which generate compensation projects. In addition, these standards are also used to verify the contribution of the projects to the socio-economic development of communities where biodiversity conservation takes place.

In 2016, Ferrovial S.A compensated for the emissions from the use of corporate vehicles managed by the company in the project “Conservation of the Amazon in madre de Dios, Peru”. These emissions were 317 t CO<sub>2</sub> eq.

IN 2016

**317**  
t CO<sub>2</sub> eq

WERE  
COMPENSATED

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## PROJECT TO CONSERVE THE AMAZON IN MADRE DE DIOS IN PERU

At present, the Amazon is at serious risk of deforestation and limited control which guarantees the protection of natural forest resources. Therefore, the Amazon needs to be protected against the invasion of roads, growers, farmers, illegal factories and poachers, attracted by their incredible natural value. The most imminent consequence of this situation would be the loss of forest mass and biodiversity.

The project **REDD-Conservation of Madre de Dios in the Amazon**, will significantly reduce deforestation through monitoring methods, sustainable forest management (in accordance with the annual FSC certification) and actions benefiting local communities. Said project, which has validation from two prestigious standards from the Voluntary Carbon Market (VCM), Verified Carbon Standard (VCS) (having validated the number of CO<sub>2</sub> absorptions generated by the project (carbon credits) and Climate Community and Biodiversity Standard (CCBS) (validating the project's contribution to improving social and environmental aspects), has guaranteed its



transparency through Markit Environmental Registry.

It covers 100,000 hectares in one of the planet's key areas for biodiversity, less than 50 km from the new inter-oceanic road between Brazil and Peru. In fact, this enclave provides habitats for four species of flora and eleven species of fauna in danger of extinction.

Finally, the project also contributes to the sustainable development of rural producers and indigenous communities Yine tribe, indigenous and voluntarily isolated from the Maschco Piro tribe and other tribes still not identified) found in the area of influence.

The sale of carbon credits will become the main alternative for obtaining the funds necessary for financing these monitoring tasks.

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Free translation from the original in Spanish, in the event of a discrepancy, the Spanish language version prevails.

### INDEPENDENT LIMITED ASSURANCE REPORT ON GREENHOUSE GAS (GHG) STATEMENT 2016

To the Management of Ferrovial Corporación, S.A.:

#### Scope of work

We have undertaken a limited assurance engagement of the GHG statement of Ferrovial Corporación S.A. and its subsidiaries Badajoz, Cadiz, Ferrovial Agronomía, Webber, Citrus, Ansey, Broadpectrum and Ferrovial Servicios (hereinafter referred to as Ferrovial) for the financial year ended December 31, 2016, included in the Appendix of this report. This engagement was conducted by a team of sustainability and climate change assurance practitioners.

#### Responsibility of Ferrovial's Management

Ferrovial's Management is responsible for the preparation of the 2016 GHG Statement in accordance with the procedure Calculation and Report of Carbon Footprint of Ferrovial, which is described in pages 8, 24, 26, and 32-34 of the report Carbon Footprint Inventory 2016, available on the following website link <http://www.ferrovial.com/en/our-commitment/quality-environment/climate-strategy/carbon-footprint-management>. This responsibility includes the design, implementation and maintenance of internal control relevant to the preparation of a GHG statement that is free from material misstatement, whether due to fraud or error.

GHG quantification is subject to inherent uncertainty because of incomplete scientific knowledge used to determine emissions factors and the values needed to combine emissions of different gases.

#### Our responsibility

Our responsibility is to express a limited assurance conclusion on the GHG Statement based on the procedures we have performed and the evidence obtained. We conducted our limited assurance engagement in accordance with the International Standard on Assurance Engagements 3410 (ISAE 3410), 'Assurance Engagements on Greenhouse Gas Statements' issued by the International Auditing and Assurance Standards Board (IAASB) of the International Federation of Accountants (IFAC). That standard requires that we plan and perform this engagement to obtain limited assurance about whether Ferrovial's 2016 GHG Statement is free from material misstatement.

A limited assurance engagement undertaken in accordance with ISAE 3410 involves assessing the suitability in the circumstances of Ferrovial's use of applicable criteria as the basis for the preparation of the GHG statement, assessing the risks of material misstatement of the GHG statement whether due to fraud or error, responding to the assessed risks as necessary in the circumstances, and evaluating the overall presentation of the GHG statement. A limited assurance engagement is substantially less in scope than a reasonable assurance engagement in relation to both the risk assessment procedures, including an understanding of internal control, and the procedures performed in response to the assessed risks.

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Tel.: +34 915 064 400 / +34 905 021 111, Fax: +34 913 193 596, [www.pwc.com/es](http://www.pwc.com/es)

R. D. Madrid 12/2013 (L. 18/2007) (L. 5/2008) (L. 6/2010) (L. 13/2011) (L. 17/2013) (L. 1/2014) (L. 1/2015) (L. 1/2016) (L. 1/2017) (L. 1/2018) (L. 1/2019) (L. 1/2020) (L. 1/2021) (L. 1/2022) (L. 1/2023) (L. 1/2024) (L. 1/2025) (L. 1/2026) (L. 1/2027) (L. 1/2028) (L. 1/2029) (L. 1/2030)



The procedures we performed were based on our professional judgment and included inquiries, observation of processes performed, inspection of documents, analytical procedures, evaluating the appropriateness of quantification methods and reporting policies, and agreeing or reconciling with underlying records.

Given the circumstances of the engagement, in performing the procedures listed above we:

- Through inquiries and meetings with personnel of Ferrovial's various departments who have been involved in the preparation of the GHG Statement, obtained an understanding of Ferrovial's control environment and information systems relevant to emissions quantification and reporting, but did not evaluate the design of particular control activities, obtain evidence about their implementation or test their operating effectiveness.
- Evaluated whether Ferrovial's methods for developing estimates are appropriate and had been consistently applied. However, our procedures did not include testing the data on which the estimates are based or separately developing our own estimates against which to evaluate Ferrovial's estimates.
- Verification, through analytical and substantive tests based on the selection of a sample of the quantitative information (activity data, calculations and information generated) used to determine Ferrovial's 2016 GHG Statement and the correct compilation of information based on the internal procedure applied by Ferrovial.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained if we had performed a reasonable assurance.

#### Independence and Quality Control

We have complied with the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for accountants (IESBA), which includes independence and other ethical requirements founded on fundamental principles of integrity, objectivity, professional competence and diligence, confidentiality and professional behaviour.

The firm applies the International Standard on Quality Control 1 (ISQC 1) and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

#### Limited Assurance Conclusion

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention which may lead us to believe that Ferrovial's GHG Statement for the financial year ended December 31, 2016 is not prepared, in all material aspects, in accordance with the procedure applied 'Calculation and Report of Carbon Footprint' of Ferrovial, which is described in pages 8, 24, 26, and 32-34 of the report 'Carbon Footprint Inventory 2016'.



#### Use and distribution

Our report is only issued the Management of Ferrovial in accordance with the terms and conditions of our engagement letter. We do not assume any liability to third parties other than Ferrovial's Management. This report shall have to be read jointly with the report 'Carbon Footprint Inventory 2016' of Ferrovial.

PricewaterhouseCoopers Auditores, S.L.

Mª Luz Castilla

22nd June 2017

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**GREENHOUSE GAS (GHG) STATEMENT CORRESPONDING  
TO THE YEAR ENDED DECEMBER 31, 2016**

*Of Ferrovial Corporación S.A. and its subsidiaries Budimex, Cadagua, Ferrovial Agromán, Webber, Cintra, Amey, Broadspectrum y Ferrovial Servicios*

2016 GHG Statement	tCO <sub>2</sub> -e
Scope 1	621.061
Scope 2	95.245
Scope 3	3.019.707
1. Purchased goods & services	503.274
2. Capital goods	354.953
3. Activities related to fuel and energy not included in Scopes 1 and 2	190.712
4. Upstream transportation & distribution	418.962
5. Waste generated in operations	231.225
6. Business travel	9.117
7. Employee commuting	3.183
8. Upstream leased assets	0
9. Downstream transportation & distribution	NA
10. Processing of sold products	NA
11. Use of sold products	622.625
12. End of life treatment of sold products	44.605
13. Downstream leased assets	NA
14. Franchises	NA
15. Investments	641.053
<b>Biogenic CO<sub>2</sub></b>	<b>103.610</b>

Note: Ferrovial only measures the GHG Protocol categories described in the 'Corporate Value Chain (Scope 3) Accounting and Reporting Standard' document that apply to its activities.

**Criterion of quantification**

Ferrovial's 2016 GHG Statement has been prepared in accordance with the internal procedure 'Calculation and Report of Carbon Footprint', which is described in pages 8, 24, 26, and 32-34 of the report 'Carbon Footprint Inventory 2016'.

The report is available on the following website link <http://www.ferrovial.com/en/our-commitment/quality-environment/climate-strategy/carbon-footprint-management/>.



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