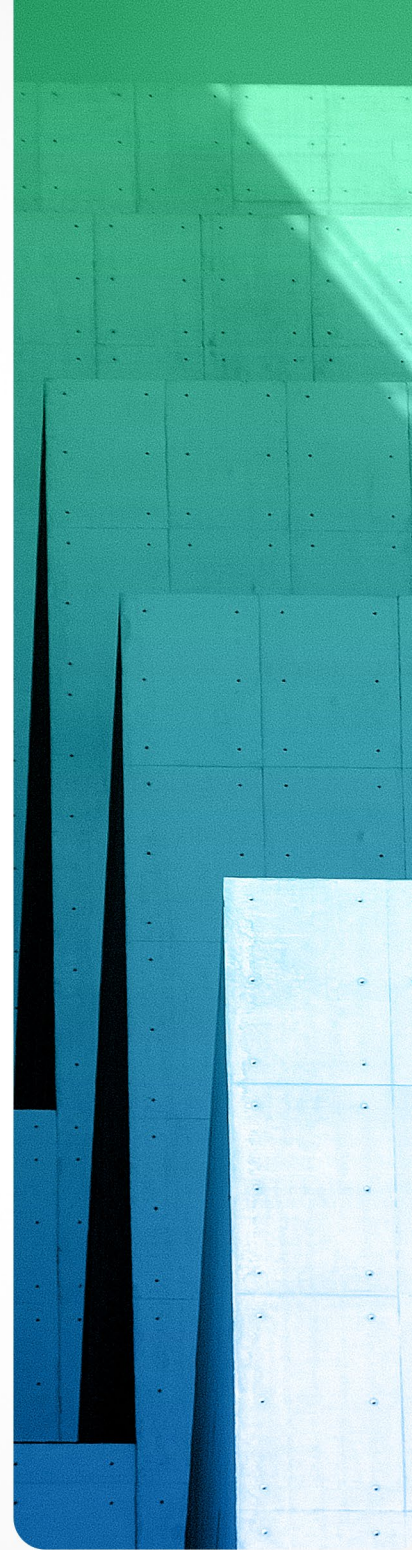




Annual Report

20
20

During the financial year 2020, the **area's turnover** amounted to **€2.89 billion**, the **gross operating profit** amounted to **€450.9 million** and the **profit before tax** **€155.2 million**, 15.61% and 5.37% on turnover respectively.

Environment

Geographical divisions and sector analysis.
Strategy _ 90

Activity map _ 99

Highlights Environment _ 100

Other highlights _ 101

Excellence and sustainability _ 112

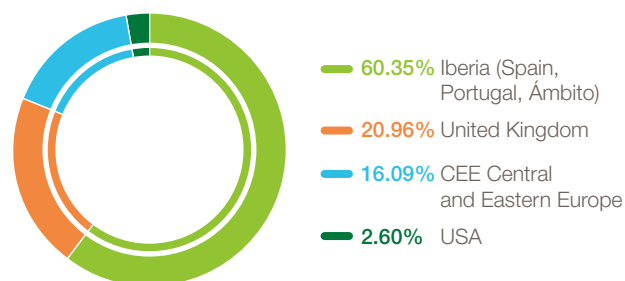
Innovation and technology _ 118

Geographical divisions and sector analysis. Strategy

For 110 years the Environmental Services area of the FCC Group has provided municipal services and end-to-end waste management, serving in excess of 66 million people in more than 5,000 municipalities.

Turnover 2020. Divisions

FCC Servicios Medio Ambiente



In 2020 the company operated in a total of 12 countries, providing a range of services which demonstrates its varied experience in the sector: collection, treatment, recycling, energy recovery and disposal of urban solid waste, public street cleaning, maintenance of sewage systems, ground maintenance, treatment and disposal of industrial waste, and the recovery of contaminated soil.

FCC Servicios Medio Ambiente Holding S.A.U., which is the backbone of the Environmental Services activities **is structured into four geographical divisions:**

- **Iberia:** FCC Medio Ambiente (Spain), FCC Environment Portugal and FCC Ámbito (Industrial Waste)
- **United Kingdom:** FCC Environment UK
- **Central and Eastern Europe:** FCC Environment CEE
- **USA:** FCC Environmental Services

During the financial year 2020, the area's turnover amounted to €2.89 billion, a slight decrease (-0.93%) on the previous year, the gross operating profit amounted to €450.9 million and the profit before tax €155.2 million, 15.61% and 5.37% on turnover respectively. This performance is most remarkable under the very unfavourable socioeconomic circumstances that have been brought about by the **worldwide pandemic of COVID-19**. This event has affected the development of all economic activities and has highlighted the importance of the services provided by this entity, services that have been graded as **essential** for citizens, since they must continue to be provided even in the most adverse circumstances and contribute fundamentally to the **resilience** of a society.

Even in adverse conditions, FCC Servicios Medio Ambiente managed 23.6 million tonnes of waste in 2020 and produced nearly 3.3 million tonnes of secondary raw materials (SPM) and refuse-derived fuel (RDF). The company has more than 750 operational waste management facilities, of which more than 200 are environmental complexes dedicated to the treatment and recycling of waste, including 11 waste-to-energy projects with a capacity of 3.2 million tonnes per year and 360 MW of non-fossil electricity.

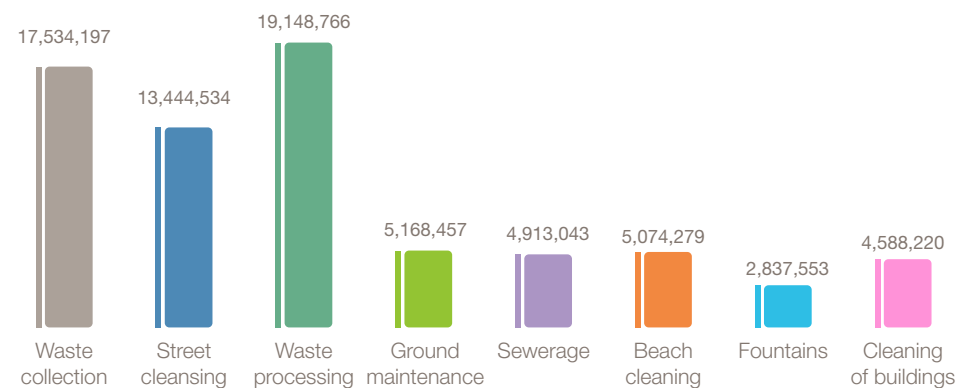
A significant milestone was the entry of the investment group iCON as a minority shareholder in the group of energy recovery companies in the United Kingdom, which strengthens FCC Servicios Medio Ambiente's leading position in that country.

FCC Medio Ambiente Iberia (Spain, Portugal and Ámbito)

FCC Medio Ambiente provides environmental services in over 3,600 municipalities in Spain and Portugal (FCC Environment), serving a population of more than 31 million inhabitants through activities including street cleansing, the collection and transport, treatment and disposal of waste, ground maintenance, maintenance of sewage systems, beach cleaning, and energy efficiency services, among others. During the 2020 financial year, FCC Medio Ambiente Iberia managed 11.2 million tonnes of urban solid waste

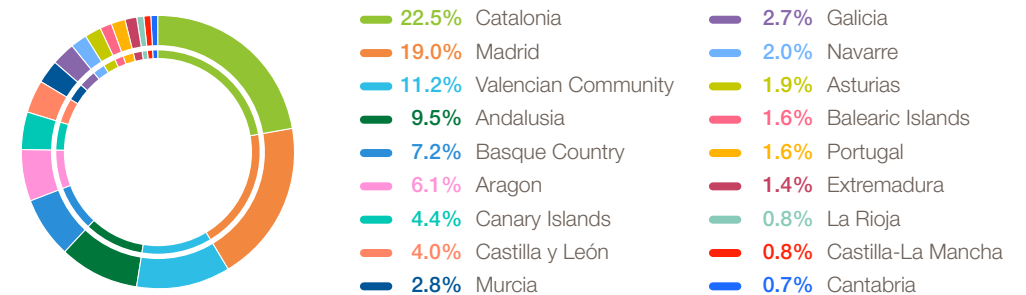
Inhabitants served 2020

FCC Medio Ambiente Iberia



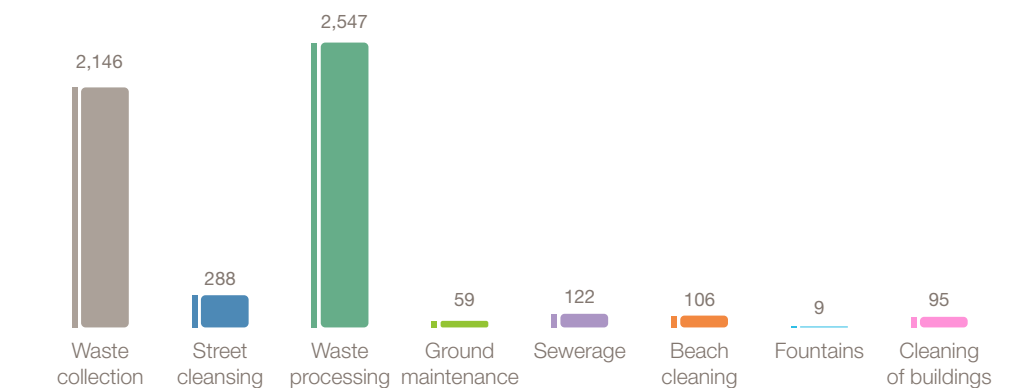
Turnover 2020. Geographic location

Medio Ambiente Spain and Portugal + Ámbito (Industrial Waste)



Municipalities served 2020

FCC Medio Ambiente Iberia





The COVID-19 pandemic has been a worldwide health emergency that had a special impact in Spain and Portugal. This extraordinary situation has highlighted the importance of the essential services provided by FCC Medio Ambiente and the commitment of its staff, whose professionalism and dedication have made it possible to maintain excellence and a high level of service.

To alleviate the unfavourable socioeconomic situation, the **Economic and Social Recovery Funds or Next Generation** promoted by the European Union will provide an opportunity for development for many of FCC Medio Ambiente's client municipalities, to which the firm will bring value and know-how with the mission of addressing a future approach based on ground-breaking and innovative changes that will set the path for growth in the coming years.

FCC Medio Ambiente has developed the **2050 Sustainability Strategy**, aligned with its business strategy and which represents an ambitious 30-year project, reflecting the company's commitment to achieving the Sustainable Development Goals (SDG) and facing economic, social and environmental challenges on a global scale. The new strategy is a roadmap that integrates environmental, social, excellence and good governance commitments that are very demanding and of high added value for the company and the society as a whole. FCC promotes a comprehensive service management model to promote economically, socially and environmentally sustainable cities, in which **policies of equality** and social and employment **integration of disadvantaged groups** are fundamental pillars, as well as **innovation** projects in **Clean Energy** Technologies and **transformation** to the **Circular Economy** social model.

On this line, the prize-winning **100%-electric, industrial chassis-platform for Urban Service vehicles**, developed by FCC Medio Ambiente, has continued to achieve important awards in 2020, such as the European Business Awards for the Environ-

The **annual turnover** of FCC Medio Ambiente Iberia reached **€1.74 billion**, an increase of **1.08%**. The gross operating profit stood at **€265.9 million**, with a pre-tax profit of **€148.7 million**, a very noteworthy performance under the circumstances of the health emergency

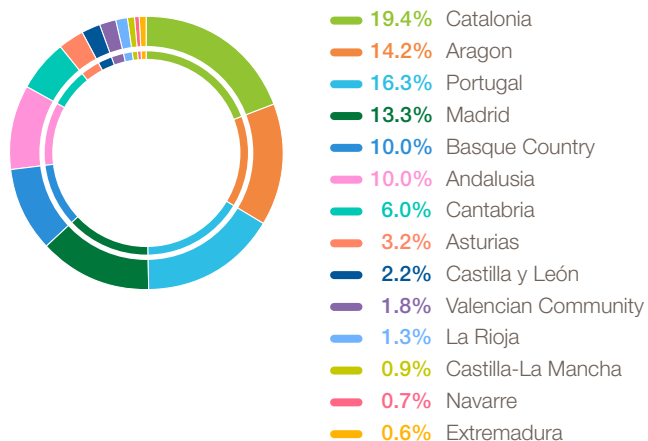
ment (EBAE) in the category of Best Product or Service, managed in Spain by The Biodiversity Foundation, from the Ministry for Ecological Transition and the Demographic Challenge.

Within this framework, the annual turnover of FCC Medio Ambiente Iberia reached €1.74 billion, an increase of 1.08% compared to 2019. The gross operating profit stood at €265.9 million, with a pre-tax profit of €148.7 million, equivalent to 15.26% and 8.53% of the turnover respectively, a very noteworthy performance under the circumstances of the health emergency.



Turnover 2020 - Geographic location

Ámbito Industrial Waste. Spain and Portugal



FCC Ámbito (Industrial Waste)

FCC Ámbito specialises in the integrated management of industrial and commercial waste, recovery of by-products and decontamination of soil. Through innovative solutions for making the most of the resources contained in the different types of waste, Ámbito has become a strategic partner of industries and businesses which, in line with the circular economy, develop their activities ensuring environmental, social and economic sustainability. Overall, it has a total of 39 processing centres across Spain and Portugal, with more than 67 treatment lines that guarantee the performance of the facilities. Internationally, FCC Ámbito has a significant presence in Portugal, where it operates through its subsidiary ECODEAL.

Within the Spanish market, throughout 2020, and despite the impact of the pandemic on production and consumption, an increase of industrial and commercial waste management has continued to be observed. This rise has been driven by increased activity in certain industrial sectors which have managed to compensate for the decline in others more related to consumption. As a result, FCC Ámbito's activity shows a slight increase of 6% in tonnes managed. This growth is taking place in a context characterised by the intense competition established by waste producers themselves and which is facilitated by the absence of subsequent responsibility of the producer when the waste is handed over to an authorised handler.

Legislative changes coming into force tend to lean towards greater control of waste traceability by regional governments. These changes will undoubtedly benefit waste management companies that have final treatment facilities, such as FCC Ámbito.

Ámbito's annual turnover raised by 5.65% on 2019, reaching **€129.6 million** and the gross operating profit also increased by **21.97%** to **€31.8 million**

In Portugal, there has also been an increase of activity with the main recurring customers and a recovery of prices, so that the year closed above forecasts with an increase of 3% in tonnes.

In this context, Ámbito's annual turnover raised by 5.65% on 2019, reaching €129.6 million. The gross operating profit also increased by 21.97% to €31.8 million, equivalent to 24.5% of turnover.

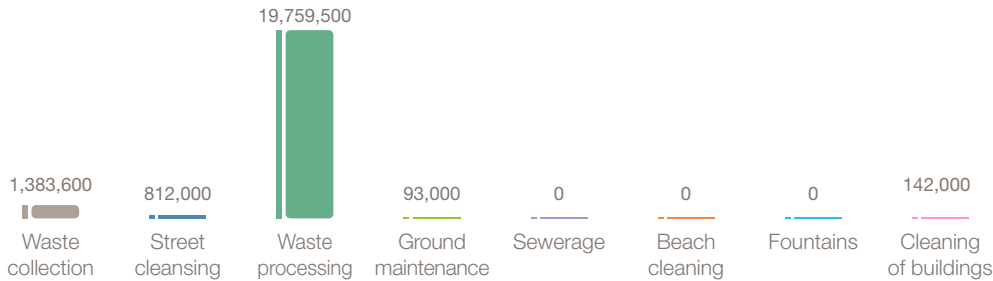
Along this year the industrial waste activity will continue to focus on the efficiency of operations and growing the activity. The incorporation of new technologies will allow FCC Ámbito to consolidate its position in the recycling and value recovery markets as a key circular economy player.



FCC Environment UK's annual turnover reached €605.3 million which represents 16.98% of revenue

Inhabitants served 2020

FCC Environment UK



FCC Environment UK

FCC Environment is one of the leading companies in the United Kingdom for comprehensive waste management and recycling. It is uniquely placed to provide services in an ever-changing waste sector. The business continues to focus on increased recycling volumes and green energy generation in line with government policy. The company has invested in a wide range of waste management facilities that aim to minimise the amount of waste disposed of to landfill sites by processing the material to ensure it reaches its full potential as a valuable resource.

During 2020, FCC Environment served over 22 million inhabitants across the whole country, managed in excess of 6 million tonnes of waste and produced nearly one million tonnes of recyclable material and Refuse-Derived Fuel (RDF). Thanks to its 6 Waste-to-Energy facilities (EfW), FCC has processed 1.5 million tonnes of waste that cannot be recycled and generated 1.17 million MWh of green energy.

With Brexit transition issues already at the forefront of the company's planning, the business was hit by a global pandemic and has been working hand in hand with the UK Government, as well as municipal and business clients to ensure that the waste and recycling services offered to citizens and industry were maintained. FCC Environment in the UK is proud to have met this challenge in every way.

Working hard in the early stages to ensure de UK Government recognized the waste sector as an essential service by designating staff as key workers was vital to business continuity throughout the year including the Household Waste Recycling Centres Service. The first lock down in England and, throughout the year, the closure of leisure and hospitality have had an impact on business waste and recycling volumes, but there has been a commensurate rise in household waste and recycling tonnages.

The UK Government has continued to do its groundwork in 2020 to revolutionise the waste management sector within the aim of achieving higher recycling rates and meeting its stated goal of 'leaving the environment in a better place than we found it'. FCC Environment supports this aim and through the year has continued to work closely with the UK Government to shape policy and, whilst the eventual signing of a Brexit trade deal has not adversely affected the business, the push for greater on-shoring of both recycling and waste processing will drive the UK business planned investment programme to build out energy from waste capacity and, as policy becomes clearer around recycling technologies and methodologies, the company will also address these opportunities

In this context, annual turnover reached €605.3 million, with a gross operating profit of €102.8 million, which represents 16.98% of revenue.

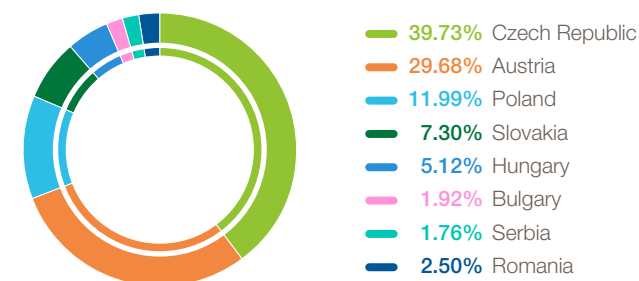
FCC Environment CEE

FCC Environment is one the leading global groups in Central and Eastern Europe (CEE) in the comprehensive management of urban solid waste and recovery of renewable energy. It applies innovative systems and the cleanest, most advanced technologies in the provision of quality services that are sustainable on the medium and long term and adapted to customers' needs.

In 2020, the division has been present in 8 countries: Austria, Czech Republic, Slovakia, Hungary, Poland, Romania, Bulgaria and Serbia, though Bulgarian activities were sold along the year. Across these countries, nearly 5 million inhabitants in over 1,400 municipalities were served, and in 2020, in excess of 5.5 million tonnes of waste and 680,000 tonnes of recovered material and Refuse-Derived Fuel (RDF) were managed.

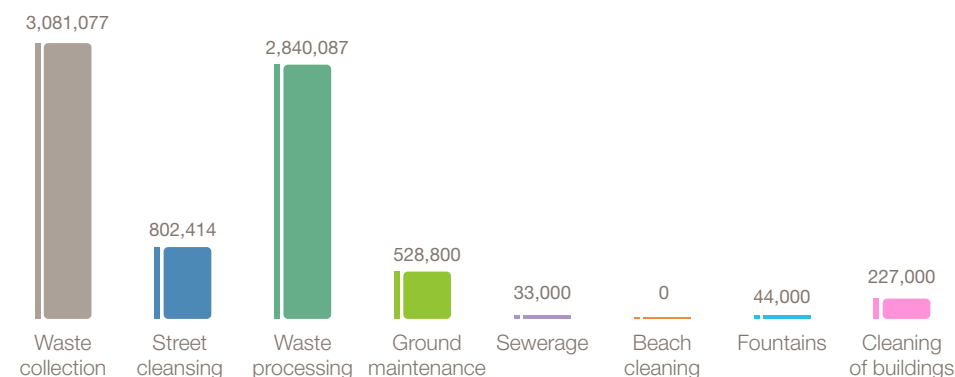
Turnover 2020 - Geographic location

FCC Environment Central and Eastern Europe



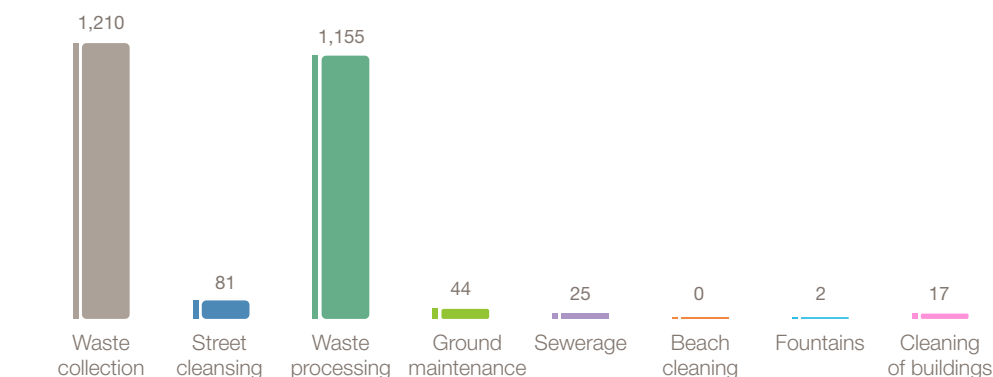
Inhabitants served 2020

FCC Environment CEE



Municipalities served 2020

FCC Environment CEE





During 2020, FCC Environment continued with the activities to prepare the CEE countries for the upcoming legal changes in the national waste management legislations due to the circular economy targets from the European Union. In countries where a landfill ban is expected soon or already in place (Czech Republic, Slovakia and Poland), FCC Environment intensified its efforts to develop waste to energy plants. In countries without landfill ban, the firm strengthened its market position by developing additional landfill capacity. The company will further develop the existing business models at every country in order to implement and/or spread selective collection, waste treatment (such as sorting and composting) and recycling.

Under these circumstances, the annual turnover was €464.7 million, and the EBITDA reached €73.7 million, an increase of 14.3% on the previous year. The earnings before tax thrived to €19 million, a remarkable performance improvement of 80% compared to 2019.

FCC Environment CEE's **annual turnover** was **€464.7 million** and the earnings before tax thrived to **€19 million**, a remarkable performance improvement of 80% compared to 2019



FCC Environmental Services USA

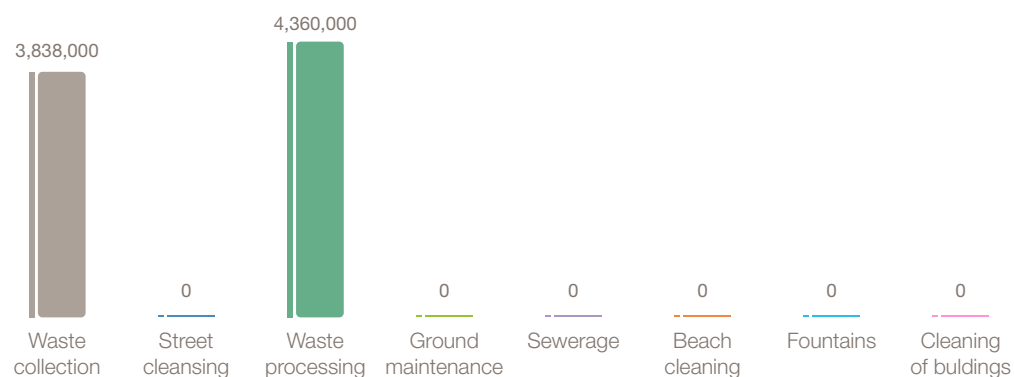
FCC Environmental Services is one of the top 20 companies in the United States for comprehensive management and recycling of solid urban waste. The company operates in the states of Texas, Florida and, since the start of this year's waste collection contract in Omaha, also in Nebraska. Across these states over 8 million inhabitants are served in 15 locations and, in 2020, 635,000 tonnes of waste and 252,000 tonnes of recyclable material were managed.

Just a few years after the start of the activity in the US, the market continues to offer important opportunities in the field of the solid waste management, in residential and commercial collection and in the treatment and recycling business.

Once again, 2020 has been exceptional with the award of several long-term contracts (up to 20 years) in some of the main municipalities in Florida (Edgewood, Volusia Facilities) and Nebraska (Omaha recycling centers).

Inhabitants served 2020

FCC Environmental Services USA



FCC Environmental Services
USA's **annual turnover** reached
€75.1 million and **gross
operating profit** grew by
157.42%

FCC Environmental Services successfully completed the start-up of three main contracts (Palm Beach, Volusia and Omaha) awarded to FCC in 2019.

The company has also consolidated its commercial business in 2020 and today FCC is present in 7 locations including West Palm Beach, Orlando, Lakeland, Daytona Beach, Houston, Dallas and Omaha.

Houston Recycling Facility, with a treatment capacity of 145,000 tonnes per year, has been honoured as the 2020 Best Recycling Facility in the USA by the National Waste Recycling Association (NWRA).

For 2021, FCC Environmental Services strategy is to continue with the consolidation of the collection and post-collection activities and the development of the commercial business. The company is also analyzing some opportunities of vertical inte-

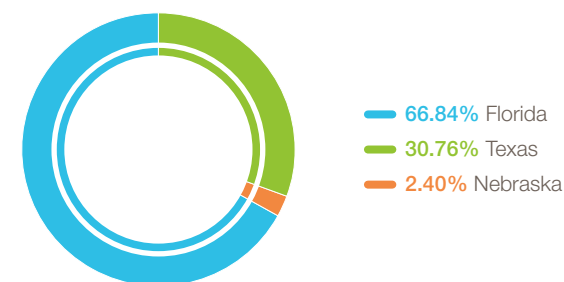
gration, with the incorporation to the business of some post collection activity that will fit in FCC's long-term strategy.

The growth strategy for the commercial waste business line is threefold. Firstly, to contract front-loading and roll-off services to small, medium and large companies. Secondly, to expand the current customer portfolio and market all the additional services offered by FCC. Third, to sell profitable services by taking advantage of annual and off-cycle price increases. The commercial customer line has great growth potential.

In these circumstances, annual turnover reached €75.1 million in 2020, an increase of 79.22% over 2019, and will exceed €100 million once the awarded contracts are operating at full capacity. In the year of the COVID-19 pandemic, gross operating profit grew by 157.42%.

Turnover 2020. Geographic location

FCC Environmental Services USA



FCC Environmental Services Activity in 2020

- Contract for the transportation of recyclables from Omaha (Nebraska) drop-off points for 5 years
- Contract to collect waste from public facilities in Volusia County for up to 7 years
- Contract of Municipal Waste Collection at the City of Edgewood (Florida) for up to 20 years
- Waste Collection Service starts at Volusia County (Florida)
- Houston (Texas) Material Recycling Facility named Best Recycling Facility 2020 in the US by NWRA
- City of Huntsville (Texas) Recyclable Materials Processing Contract Renewal
- Waste Collection Service starts at the City of Omaha (Nebraska)
- City of Laporte (Texas) Recyclable Materials Processing Contract Renewal

Activity in the Environment area

1 USA

- Edgewood (Florida)
Waste collection.
10 million euros
- Omaha (Nebraska)
Transportation of all recyclable materials.
2.1 million euros
- Volusia County (Florida)
Collection of Waste from public facilities.
1.3 million euros
- Huntsville (Texas)
Management of recyclable materials
- Laporte (Texas)
Management of recyclable materials

2 PORTUGAL

- FCC Environment Portugal
- Valle de Sousa
Waste collection and street cleansing.
12.5 million euros

3 ENGLAND

- Kent
Management 12 Recycling Centers and
3 transfer stations in Mid & East Kent.
46.7 million euros
- Buckinghamshire
Management and treatment of green,
food, bulky and wood waste.
30.4 million euros

4 SCOTLAND

- Drumgray - North Lanarkshire
Energy Recovery Centre (DERC). Planning
application approved.
292 million euros investment

5 SPAIN

○ FCC Medio Ambiente Spain

- Elche (Alicante)
Waste collection and street cleansing.
255 million euros
- A Coruña
Street cleansing. 105 million euros
- Oviedo
Extension waste collection, selective
collection, and street cleansing.
95.1 million euros
- Segovia
Waste collection, street cleansing and
landfill closure. 56 million euros
- Las Rozas (Madrid)
Waste collection, street cleansing and
ground maintenance. 47.3 million euros
- Rubí (Barcelona)
Waste collection and street cleansing.
20.9 million euros
- Roses (Girona)
Waste collection, street cleansing and
beach maintenance. 16.1 million euros
- Monforte de Lemos (Lugo)
Waste collection and street cleansing.
16.1 million euros
- Barcelona
Removal of graffiti and billboards.
12.5 million euros
- San Sebastián
Beach maintenance. 6.9 million euros
- Yaiza (Las Palmas)
Street cleansing lot 4. 6.5 million euros
- Madrid
Project, works and maintenance of
Valdemingómez Landfill Deodorisation
System (Lot1). 6.1 million euros
- Zaragoza
Sewage maintenance. 6.1 million euros
- FCC Ámbito
- Valencian Community
WEEE waste management
- Alicante
Soil decontamination Playa Postiguat

6 POLAND

- Bytom
Collection, transport, treatment and
selective collection. 15.8 million euros
- Zabrze
Deodorisation of composting plant.
3.2 million euros

7 CZECH REPUBLIC

- České Budějovice
Classification, loading and transport of old
landfill waste. 14.6 million euros
- Hyundai Motor
Management of recyclable and hazardous
waste, and treatment of SRM.
6.8 million euros

8 HUNGARY

- Gyal
Reverse osmosis leachate treatment plant

Highlights_Environment Services _2020

January

FCC Medio Ambiente and the City Council of El Puerto de Santa María, have presented the Chamaeleo Biodiversity Conservation Project, financed by FCC (Cádiz, Spain) +

FCC Medio Ambiente delivers its 2019 Avanza Awards (Madrid, Spain) +

March

FCC Medio Ambiente continues to work to ensure essential services during the COVID-19 pandemic (Spain) +

FCC Medio Ambiente's staff at the University of Zaragoza collaborates in the fight against COVID-19 by making face masks (Zaragoza, Spain) +

May

FCC Environment wins the prestigious 2020 International Safety Award from the British Safety Council (United Kingdom) +

FCC Environment installs two new electric charging stations in Himberg (Austria) +

July

FCC Medio Ambiente grows in the municipal services market in northwestern Spain with the award of the A Coruña street cleansing contract (Spain) +

FCC Environment awarded the waste collection and street cleansing contract in Vale de Sousa (Portugal) +

September

FCC Medio Ambiente pioneer in obtaining the SIGOS certification as a healthy organisation from AENOR in all its branches (Spain) +

FCC Medio Ambiente renews the waste collection and street cleansing contract in Segovia (Spain) +

FCC Environmental Services's Material Recycling Facility at Houston (Texas) honoree by the NWRA as the Best Recycling Facility 2020 of the United States (Texas, USA). +

November

FCC Medio Ambiente recognised for second time with the 'Calculo-Reduzco' seal from the Spanish Office for Climate Change for its commitment to reduce the carbon footprint of its activity in 2019 (Spain) +

FCC Environment renewed the national contract of complex waste management and recycling for 3 years with Hyundai Motors Manufacturing facilities (Czech Republic) +

February

FCC Medio Ambiente renews the contract with Servicios de Txingudi for the cities of Hondarribia and Irún (Guipúzcoa, Spain) +

April

Madrid's selective collection workers and FCC Medio Ambiente make a donation to Médecins Sans Frontières (MSF) in the fight against the coronavirus (Madrid, Spain) +

FCC Environmental Services begins operations for Volusia County (Florida, USA) +

June

FCC Medio Ambiente winner of the OHS 'Bonus Prevention' awarded by Mutua Universal (Spain) +

FCC Medio Ambiente renews the contracts for the waste collection and street cleansing service, and the vehicle-towing service in Oviedo (Spain) +

August

The entry of investment group iCON in the FCC Group's Environmental Services area enhances its leadership position in the United Kingdom +

New reverse osmosis leachate treatment plant at Gyal landfill site (Hungary)

October

FCC Medio Ambiente winner of the Spanish edition of the 2019/2020 EBAE Awards in the Product/Service category for its 100%-electric, industrial chassis-platform for heavy-duty urban service vehicles (Spain) +

FCC Environment is awarded the waste collection and treatment, and selective collection contract in Bytom (Poland)

December

FCC Medio Ambiente is awarded the certificate of protocols against COVID-19 from AENOR for its corporate headquarters in Las Tablas (Madrid) and for the Exhibition Centre of Granada (Spain) +

FCC Environmental Services started operations in Omaha contract (Nebraska, USA) +

Other highlights

Page 6 of 11

DNV GL

SCHEDULE 1: NOMINATED ACTIVITIES REFINANCED THROUGH FCC MA GREEN BOND

Activity	Eligible Green Category	SDG	Funded Amount (Million EUR)
Funding by 31.12.2019			
Urban Sanitation	Pollution prevention and control	7	200,81
Waste treatment		11	114,20
Energy Valorization		12	418,55
Sewer Cleaning and Maintenance		13	2,52
Industrial waste		13	8,44
Total	Pollution prevention and control		744,53
Energy efficiency	Energy efficiency	7	11,72
ECO vehicles	Clean Transportation	9, 11, 13	60,40
Garden Cleaning and Maintenance	Terrestrial and aquatic biodiversity conservation	15	7.37
Total funding allocated			824,01

Distribution of investments in the audit report.

First external verification audit of the annual report of the Green Bond of FCC Servicios Medio Ambiente Holding, S.A.U.

During 2019, FCC Servicios Medio Ambiente Holding, S.A.U. issued Green Bonds worth €1.1 billion.

During 2020, the company DNV GL Business Assurance España, S.L. (DNV GL) carried out the first external verification audit of the annual report of the Green Bond of FCC Servicios Medio Ambiente Holding, S.A.U., on the use of the resources from the Bond until 31 December 2019. This way, it has verified the financing and refinancing of projects and assets for a total value of €824.01, included in several categories, all of which are eligible (Pollution Prevention and Control, Energy Efficiency, Clean Transportation and Terrestrial and Aquatic Biodiversity Conservation).

Therefore, at the end of 2019 €824.01 million of the €1.1 billion initially issued have been accounted for.

IBERIA

FCC Medio Ambiente Spain



Letter of gratitude from the CEO to FCC Medio Ambiente's employees

Jordi Payet, Chief Executive Officer (CEO), showed his gratitude and acknowledged the responsibility and the effort that employees have been demonstrating in their daily work, which is paramount to continue delivering essential services to communities under these difficult circumstances due to the Coronavirus pandemic. He also highlighted that the activities that the company carries out have always had a high social engagement and, as part of its commitment, FCC joined in 2020 the food fundraising campaign for the Spanish federation of food banks, FESBAL, with the immediate goal that all families have food available at these critical times.



FCC Medio Ambiente certifies its protocols against COVID-19 with AENOR

FCC Medio Ambiente has received the certificate of protocols against COVID-19 from AENOR for its corporate headquarters in Las Tablas (Madrid) and the Exhibition Centre at Granada. The rigorous evaluation carried out by AENOR assesses aspects such as risk analysis; health management in the workplace; training, information and communications developed; organisational measures (capacity and distance control) and protection measures (use of personal protection material), the business continuity plan, as well as good cleansing and hygiene practices. This certificate demonstrates that the efforts made and measures adopted by the company to prevent and alleviate the effects of the pandemic comply with current legislation and are aligned with AENOR's demanding criteria on this area.



FCC Medio Ambiente winner of the EBAE Awards 2019/2020

FCC Medio Ambiente has won the prize at the 2019/2020 European Business Awards for the Environment (EBAE Awards) in the products & services category, for the ie-Urban, a modular, versatile 100%-electric Plug-in Chassis-Platform developed jointly with the Irizar Group. The award ceremony was chaired by His Majesty King Felipe VI, who emphasized in his message that this award shows the commitment of Spanish companies, a fundamental element for development and innovation, in facing the challenge of the ecological transition; as well as the importance of companies being able to meet the needs of current generations without compromising the future of upcoming generations. The ie-Urban also won the World Smart City Awards at the Smart City Expo World Congress 2019. Recently, it also became the Ecological Industrial Vehicle of the Year 2021 at the National Transport Awards.

IBERIA

FCC Medio Ambiente Spain



Successful implementation of e-mobility technologies in facility management services for the Catalan Health Institute (Barcelona)

The Catalan Institute of Health (Institut Català de la Salut) awarded FCC Medio Ambiente the 2-year facility management contract with a 2-year possible extension. The company's relationship with this entity dates back to 2007, since then FCC has provided uninterrupted service. At this contract the company is committed to implementing clean technologies, that's why 22 PHEV units with a Zero Emission Label from the (DGT) (equivalent to MOT) have been set up. In addition to the intelligent electric recharging installations that the company already has in its central base, additional charging points have been installed throughout the working area so that maintenance technicians can optimise their journeys and thus maximise effective working times.



FCC Medio Ambiente achieves the 'Calculo-Reduzco' seal from the Spanish Office for Climate Change

FCC Medio Ambiente has achieved for the year 2019 and for the second time the Reduzco ("I reduce") seal by the Spanish Office for Climate Change (Oficina Española de Cambio Climático, OECC), as part of the process of registering carbon footprint and CO₂ compensation, and absorption projects set up by the Spanish Ministry for Ecological Transition and Demographic Challenge (MITERD). The OECC delivered the Reduzco seal certificate to FCC Medio Ambiente at a ceremony held at the company's corporate headquarters in Las Tablas (Madrid) on 4th December. This accreditation joins the previous Calculo ('I calculate') seal, which since 2013 has endorsed FCC Medio Ambiente's registration in the aforementioned process and which has been maintained ever since.



Renewal of the waste collection and street cleansing contract in Segovia

Segovia City Council and FCC Medio Ambiente have signed the renewal contract of municipal solid waste collection and street cleansing services for a 10-year period, which represents an order book value of €56 million. FCC Medio Ambiente's relationship with the city of Segovia goes back to 1996. To serve the 51,964 inhabitants the service has a fleet of 17 brand new vehicles including 15 Compressed Natural Gas (CNG) lorries. As for the street cleaning service, which covers more than 300 kilometres of streets, the company will have 40 vehicles and specialised machinery. FCC Medio Ambiente will have a staff of 124 employees to carry out the different services.

IBERIA

FCC Medio Ambiente Spain



FCC Medio Ambiente pioneer in obtaining AENOR's certification as a Healthy Organisation in all its locations in Spain

FCC Medio Ambiente is the first company in its sector in migrating to AENOR's new SIGOS (Healthy Organisation Management System) model. The wide scope of the certification covers nearly all FCC Environment's activities in Spain. This distinction highlights all those initiatives that the entity is carrying out in relation to occupational safety, health promotion, sustainability and social responsibility with the community where it operates, showing its commitment to continuous improvement. The SIGOS model is a very simple tool for its application and integration, and of great effectiveness in the management of safe, healthy, sustainable and committed companies, regardless of their size, industry and geographical location.



FCC Medio Ambiente grows in the municipal services market in northwest Spain with the award of the A Coruña street cleaning contract

A Coruña City Council has awarded a joint venture led by FCC Medio Ambiente the new contract of street cleaning for 8 years with an order book value of almost €105 million. In order to serve the more than 245,700 inhabitants and cover 617 kilometres of city streets, the new service will have a fleet of 19 vehicles and specialised machinery, both electric and Compressed Natural Gas (CNG), with "Zero Emission" or "Eco" rating and a total workforce of 209 employees. As new features the service was reinforced in the city's busiest areas, noise emission has been reduced due to the use of electric machinery and the city's litter bins were renewed.



Renewal of the waste collection and street cleansing service, and the vehicle-towing service in Oviedo

Oviedo City Council and FCC Medio Ambiente signed the renewal of the contract for waste collection and street cleaning for a 5-year period. At the same time, it was carried out the legal extension of the vehicle-towing service contract for the same period. The achievement of both contracts represents an order book value over €102 million. FCC Medio Ambiente's relationship with the city of Oviedo goes back to 1967, and since that year the firm has been providing service continuously. To serve the 220,000 inhabitants, the collection service has a fleet of 43 vehicles, including 31 Compressed Natural Gas (CNG) lorries. As for the street cleaning service, which covers 384 kilometres of streets, the company has a fleet of 104 vehicles and specialised machinery. To carry out the different services, the company will have a staff of 367 employees and, as part of its social commitment to inclusion and gender equality, will incorporate a minimum of three women per year into the job pool.

IBERIA

FCC Environment Portugal



Awarded the waste collection and street cleansing services in the Sousa Valley

The City Councils of Felgueiras and Lousada have awarded FCC Environment the contract for the collection and transport of urban waste and street cleansing for a period of 8 years. The total portfolio of the contract represents an order book value over €12.5 million and an investment of almost €2 million. FCC Environment will serve more than 18,000 inhabitants and will operate for the first time in the Intermunicipal Community of Tamega and Sousa, in the north of Portugal.



Renewal of the electrical waste management contract in Valencian Community

FCC Ámbito renewed its contract with Ambilamp for the management of electrical waste at the region of Valencia for 3 years. The service is provided from the company's facility in Vall d'Uixó (Castellón) and also includes the collection of lamps and fluorescent tubes. This service has been delivered continuously since 2016. It is noteworthy Ámbito's presence in the Waste from Electrical and Electronic Equipment (WEEE) management industry where, through a network of 4 plants, the WEEE is recovered to recycle the resources it contains.

FCC Ámbito



Soil decontamination works in Postiguet Beach (Alicante)

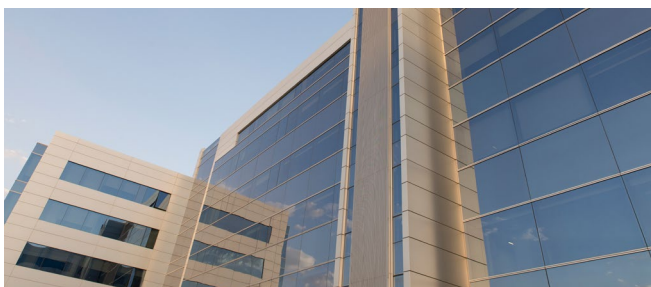
FCC Ámbito has carried out the soil decontamination work at the Postiguet Beach in Alicante in an area affected by hydrocarbon contamination from an old pipeline that ran along the sea-front, as a result of a storm. The company proceeded to install a barrier to intercept and pump out the contaminating flow, to selectively excavate the affected sand with strong measures to mitigate the effect on the environment and to put in place the clean sand again. These works were carried out at the beginning of the summer season and allowed the beach to maintain its blue flag status and the full recovery of its use in the high season.

Recovery work continues on the Arganda del Rey lagoon (Madrid)

FCC Ámbito has continued working on a pioneering project in Spain to recover a very characteristic and recurrent contamination at European level, such as the "acid tar lagoons" originating as a result of the regeneration processes of used automotive oils existing in the mid-20th century.

UNITED KINGDOM

FCC Environment UK



The entry of investment group iCON in the FCC Group's Environmental Services area enhances its leadership position in the United Kingdom

FCC and the investment group, iCON Infrastructure Partners (iCON), have reached an agreement for the latter to acquire 49% of the capital of FCC's new subsidiary, Green Recovery Projects Limited (GRP). The deal for the stake in the owner of five Energy from Waste plants under FCC's Environmental services division in the United Kingdom is worth £198 million, giving the company a total value, including its debt, of £650 million. The conclusion of the agreement is subject to the corresponding regulatory approvals. FCC Servicios Medio Ambiente Holding will retain control over the new subsidiary and its full consolidation, in addition to 50% stake in the Mercia incinerator and 40% in the Lostock incinerator. The inclusion of iCON in GRP will help FCC to enhance its leadership position in the waste recovery sector in the United Kingdom and the development of new treatment plants, which are essential in succeeding in the ecological transition and boosting the circular economy.



FCC Environment reinforces its presence in the south of United Kingdom with a new contract in Kent

FCC Environment signed a new contract for the management and operation of 12 Household Waste Recycling Centres (HWRC) in the Mid and East Kent area for a 5 year period with a possible 5 year extension. The total order book value is £40 million. The contract started on the 1st November 2020. The company will bring a range of benefits to the contract including a dedicated haulage fleet and an experienced management team, with extensive knowledge and understanding of operating both haulage and HWRC management. To date, FCC Environment has been present in Kent with the contract for the management of the Pepperhill transfer station and the construction of its HWRC, which began in 2008. The company also owns and operates the Allington Energy from Waste facility (EFW), which services the entire county.



Midlothian City Council appoints Swedish energy firm Vattenfall as preferred bidder for long-term joint venture partnership

Midlothian City Council, has appointed Swedish state-owned energy company Vattenfall as a leading candidate to become its 50/50 partner to set up an innovative new Energy Services Company (ESCO). The new entity will focus on delivering a wide range of energy projects, the first of which will be an innovative fourth-generation, low-carbon district heating network to the new Shawfair town in the north of the city area, on the outskirts of Edinburgh. The network will benefit from heat supplied by FCC Environment, which operates Edinburgh and Midlothian Councils' state-of-the-art Energy from Waste facility (EfW) near Millerhill. The EfW is fuelled by waste collected by Midlothian, East Lothian and Edinburgh councils that would otherwise go to landfill.

UNITED KINGDOM

FCC Environment UK



[New equipment to speed Buckinghamshire's recycling \(England\)](#)

FCC Environment has introduced 9 loading machines for Buckinghamshire County Council's Household Recycling Centres and 5 new roll-on/off vehicles that will ensure that waste and recycled materials from the centres reach the right destination. The 5 new vehicles will speed the process of getting full skips to compost and recycling destinations or to Greatmoor Energy from Waste facility (EfW) and bring empty skips back. The cost of these new vehicles is £1.8 million, providing an annual saving of £1.2 million across the waste management service. The new vehicles have the latest Euro VI engines with Adblue exhaust systems to make them more efficient and reduce emissions. They are fitted with real-time monitoring systems that allow the County Council to track and improve fuel efficiency.



[Planning Application approved for FCC Environment's new Energy from Waste facility in Drumgray \(Scotland\)](#)

North Lanarkshire Council's Planning Committee unanimously approve the planning application for the development of the Drumgray Energy Recovery Centre (DERC) near Greengairs. Following the approval, the company will seek to bring the development of the DERC forward as soon as possible, with an anticipated full-operational date of summer 2024.

The DERC, which represents a major investment of over £250 million, will significantly improve the way FCC Environment deals and treats residual waste, in line with the Scottish Government strategy and North Lanarkshire Council's aspirations. Furthermore, the facility has the capability of exporting up to 25.5MW of electricity, as well as the potential of exporting heat to buildings in the local area such as commercial developments, existing and proposed housing developments, schools and hospitals.



[FCC Environment UK awarded several accolades during the year including the prestigious British Safety Council Sword of Honour 2020](#)

FCC Environment won the prestigious Sword of Honour 2020 from the British Safety Council. The company was one of the only 66 organisations worldwide to achieve this distinction, which is awarded to companies which have demonstrated excellence in the management of health and safety risks. In order to compete for the Sword of Honour, an organisation first have to achieve the maximum five stars in the British Safety Council's management Audit Scheme in the period August 2019 to November 2020. It has also demonstrated to an independent panel of experts that it has achieved excellence in their Health and Safety management across the business, from the shop floor to the boardroom.

CENTRAL AND EASTERN EUROPE

FCC Environment CEE



Finalisation of the deodorisation System of the composting plant in Zabrze (Poland)

The air deodorisation of the composting plant at the Zabrze environmental complex has been successfully completed. The aim of the investment, which started in September 2018, is that the entire composting process of biodegradable waste generated from municipal waste (which currently takes place partly outdoors), will be carried out in a hermetic hall. The post-process air will be directed to the biofilter, where it will be cleaned and stripped of all harmful substances and prevented from reaching the atmosphere. The value of the investment exceeds €3 million (PLN 15 million).



Renewal of the operating period for the extension and expansion of the Arad landfill in Romania for 10 years

FCC Environment has signed the renewal of the operating contract for the extension and expansion of the Arad landfill for a further 10-year term. The contract, which was signed in 2002 for 20 years, will now run until 2032. The company transformed the local open-air landfill into an official regional landfill, and later on started the operation of waste transfer stations and one of the composting plants, all serving the County of Arad. During these years FCC Environment has become one of the most important partners of the local community in waste management issues and has continuously strengthened its position as an essential partner in the new Integrated Waste Management system of Arad County.



FCC Environment Czech Republic renewed for 3 years the contract with Hyundai Motor Manufacturing Czech s.r.o.

FCC Environment has renewed for 3 years the contract for the complex waste management of Hyundai Motors Manufacturing Czech s.r.o. across the whole Czech Republic which includes the collection and disposal of all waste, as well as the treatment of recovered raw materials (RWM). Hyundai is one of the leaders in the automotive industry in Czech Republic and has been an FCC Environment client since its establishment in the country in 2008. In 2020 it represented a turnover of more than €2 million.

CENTRAL AND EASTERN EUROPE

FCC Environment CEE



Official opening of Biala Landfill in Poland: investment in ecology, health and safety of residents

On September 23, the new asbestos landfill was officially opened in Biala (Wieluń powiat, Lodz province); a new FCC Environment investment long awaited by the local authorities. Thanks to the new facility it will be possible to store hazardous waste in a completely health safe and environmentally friendly way. The new landfill has a storage basin of more than 2 hectares, social rooms, offices, manoeuvring yard and weighbridge with accompanying infrastructure. FCC Environment has extensive experience in the field of specialized waste storage and disposal of hazardous waste. In Poland it already operates a landfill for hazardous waste, including asbestos, in Radomsko, and is also operating two municipal landfills. This investment solves the problem of illegal asbestos dumping faced by Biala municipality authorities.



Awarding of the solid urban waste collection and treatment services in Bytom (Poland)

FCC Environment was awarded the contract for the collection, transportation, treatment and selective collection of solid urban waste of Bytom in the province of Upper Silesia (Poland). The contract also covers the collection of bulky waste and the municipal recycling centre. The company will also collect construction waste by providing BIG BAG containers and bags.

To serve the more than 164,000 inhabitants of this city, the service will have a staff of approximately 130 people and 27 specialized vehicles for various purposes, such as compactor-collectors, open-box vehicles with crane for BIG-BAG containers or vehicles equipped with washing machines.



New reverse-osmosis leachate treatment plant at Gyál landfill (Hungary)

Early 2020, following a trial period when all data were thoroughly controlled and processes were refined, the two-stage reverse-osmosis plant at Gyál landfill site in Hungary, equipped with ion exchangers, went into full operation.

The system has already been working for 1,500 hours and has treated 10,000 liters of leachate, resulting in an economic production of 4,600 liters of absolutely clean water, which goes into the tank where rainwater is also collected. The purification system is not only environmentally friendly, but also represents an enormous saving in leachate treatment costs, the amount of which is increasing due to the expansion of the landfill's surface area and the increase in treatment prices of the subcontractors.

USA

FCC Environmental Services



Waste Collection contract in the city of Edgewood (Florida)

The city of Edgewood, in Orange County, Florida, awarded FCC Environmental Services the urban solid waste collection contract for a period of up to 20 years and a total backlog of \$12 million. This award also includes the franchise to collect all the city's commercial solid waste. As Edgewood is located in Orange County where the company already provides services and has a significant presence with a large yard and its own Compressed Natural Gas (CNG) station, the fleet for this new contract will share the same depot and will also be gas powered. FCC continues with its commitment to sustainability, with significant environmental advantages and providing important operational synergies to the contract. With this award, FCC Environmental Services consolidates its presence in the State of Florida, where it already provides collection services to more than one million inhabitants.



Operations begins for Volusia County (Florida)

FCC Environmental Services began operations in Volusia County in April 2020. The new urban solid waste collection contract, which will serve 45,000 households, has a term of 7.5 years, with a possible 7-year extension, and represents a potential book value of up to \$90 million. The contract has a staff of 45 employees and a fleet of 35 new Compressed Natural Gas (CNG) vehicles, fuelled through an on-site fuel compressor system. Volusia represents the fourth FCC Environmental Services' contract in Florida, the second one operating with CNG vehicles, and is based in Daytona Beach Township.



Waste collection contract for Volusia County municipal facilities (Florida)

Volusia County, located in the East coast of Florida, has awarded FCC Environmental Services the contract to collect the solid waste from its public facilities. The contract started on March 1, 2021, and is serviced from FCC's Daytona Beach yard, which is currently providing residential collection services for Volusia County, with a backlog of more than \$77 million.

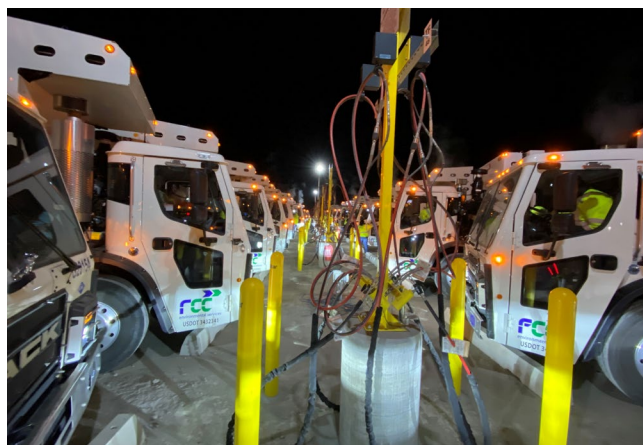
USA

FCC Environmental Services



Awarded the contract for the transportation of recyclables in the City of Omaha, Nebraska

The city of Omaha (Nebraska) has awarded a new contract to FCC Environmental Services for the transportation of all recyclable materials for a period of 5 years and a value of \$2.5 million. This contract is additional to the two existing agreements with the City from 2019, one for the 10-year collection of residential solid waste with possible extensions and a backlog up to \$560 million; and another for the collection of seasonal yard waste.



Commissioning of the service in Omaha Nebraska

On 30th November, FCC Environmental Services started delivering urban solid waste and pruning waste collection, and household recycling centre management in the city of Omaha, Nebraska. The new contract represents an order book value of more than \$500 million for a period of up to 20 years.

The company will provide the service with a fleet of 69 vehicles powered by Compressed Natural Gas (CNG), with the important benefits of reducing the environmental impact and carbon footprint in the city. In addition to its important size, the contract has a special strategic importance for FCC, since it will serve as a development pole for its future expansion in the Midwest.



Renewal of the recyclable management contracts in Huntsville and Laporte (Texas)

FCC Environmental Services has renewed for a year the recyclable processing contracts for the cities of Huntsville and Laporte (Texas). The processing of materials will be carried out at the company's material recycling facility (MRF) in Houston, which has been operating since April 2019 and was honoree by the NWRA as the Best Recycling Facility 2020 of the United States. FCC has processed nearly 200,000 tonnes of materials in its Texas recycling facilities.

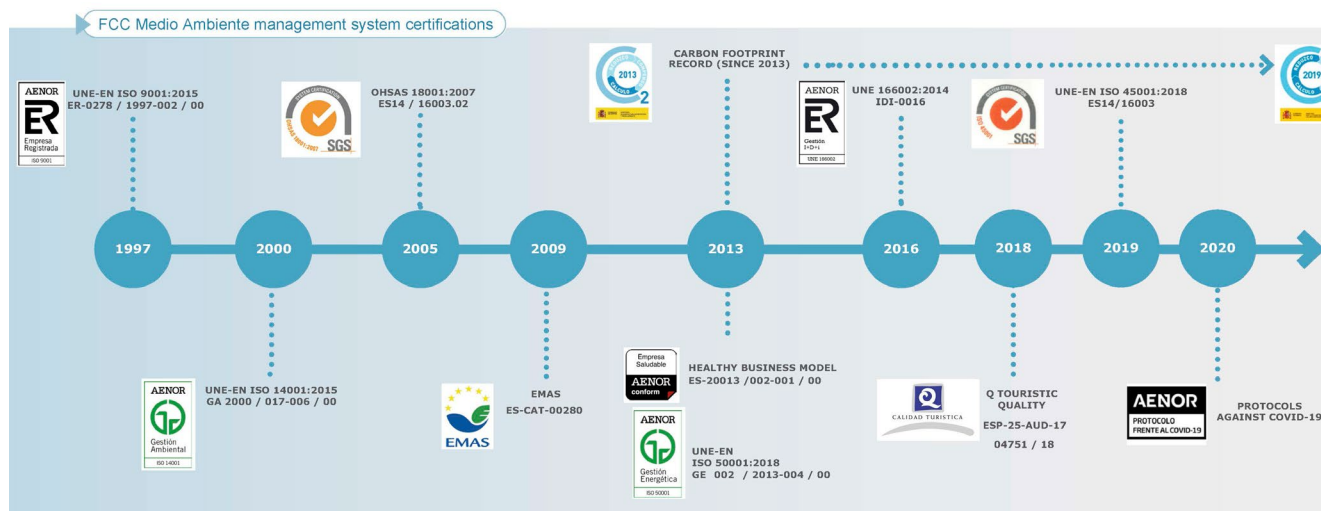
Excellence and sustainability

Service excellence

FCC Medio Ambiente has been helping municipalities for over 110 years with the management of services they offer their citizens. The company is aware of the importance these services have for the development of the cities, and this constant concern for customer satisfaction has led it to establish a commitment to excellence which has been certified by entities of recognised prestige outside the organisation. In today's society it is fundamental to consider not only customers, but all stakeholders, so the company's commitment to excellence is manifested in a Management System that covers other areas, such as caring for the environment, seeking efficiency in services, the health and safety of workers, innovation and, especially, working towards the social and labour integration of the disadvantaged groups that may be at risk of exclusion.

Since 1997 FCC Medio Ambiente has been implementing different aspects of the Management System and certifying them with external organisations, whether related to quality and environmental or occupational health and safety procedures, or about energy efficiency, healthy organisation or even tourist quality. It was the first company in the sector to obtain the SIGOS Healthy Organisation certificate and its protocols against COVID-19 have recently been certified in accordance with AENOR requirements.

The following graph shows the historical evolution of certifications and accreditations obtained in Spain by FCC Medio Ambiente:



Milestones in terms of Excellence



Sara Afu-Clackett, participant in FCC Environment UK's 'Graduates' programme.

United Kingdom

- FCC Environmental Graduates Programme. Despite the difficulties caused by the pandemic, waste and recycling companies, including FCC Environment UK, have once again supported National Apprenticeship Week held from 8-14 February. The programme is designed to give new graduates hands-on experience and training in a range of waste management projects. Each graduate is assigned a mentor to guide them every step of the way and is awarded qualifications relevant to their specific role, from mechanical and electrical to sustainable resource management and business administration.

Spain

- First Company in its sector to obtain the SIGOS (Health Organisation Management System) certificate from AENOR.
- Spain: certified for the second time with the "Reduzco-Calculo" (I reduce – I calculate) seal by the Spanish Office for Climate Change (Oficina Española de Cambio Climático, OECC) from the Ministry for Ecological Transition and Demographic Challenge.
- Achieved the AENOR certification of Protocols against COVID-19.
- Ámbito: UNE-EN-ISO 9001:2015 certification is achieved for the affiliate company Mediciones Comerciales Ambientales, S.L. incorporating the activity of hazardous and non-hazardous waste management as a trader.
- Ámbito: extension of the EMAS register for the Vall d'Uixò (Castellón) facility, seventh industrial waste treatment plant to achieve this registration.





Sustainability

In 2020, the resources invested by FCC Medio Ambiente Iberia for the development and implementation of initiatives whose benefits directly or indirectly reverted to society have resulted in an economic valuation of €2.6 million.

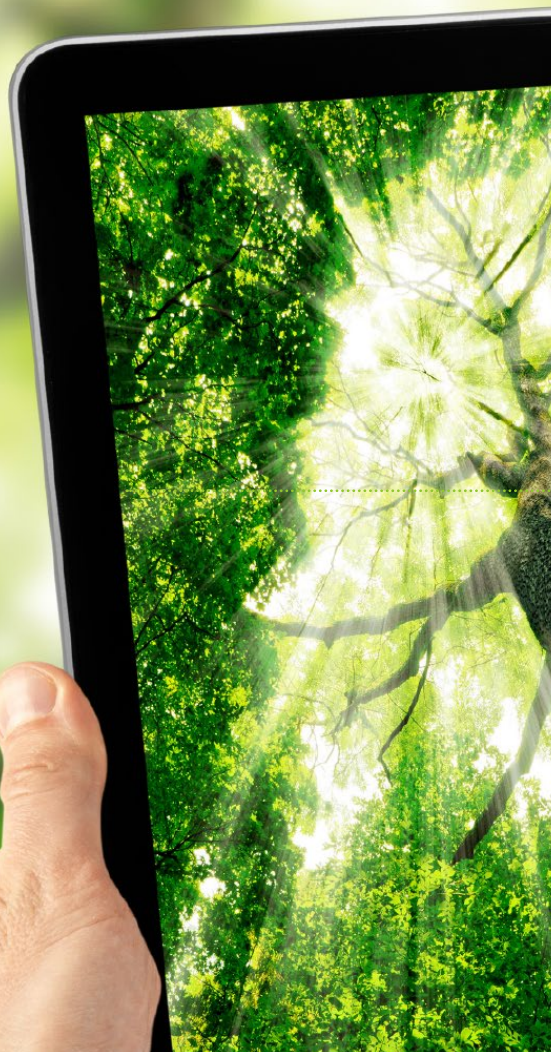
According to the classification criteria, 66% of the resources have been dedicated to environmental initiatives and the remaining 34% to social actions. However, in terms of the distribution of initiatives in numbers, social actions predominate with 62%.

Sustainability highlights 2020

During 2020, the following achievements in sustainability should be highlighted:

- Sustainable activities and projects imply a balance in the economic, social and environmental spheres of the company. To achieve this balance, FCC Medio Ambiente has developed a **sustainability strategy with a 2050 horizon**, which has recently been presented and will be disseminated externally throughout 2021.
- In terms of Climate Change, FCC Medio Ambiente achieved an average emission intensity reduction of 5.39% compared to the three-year period 2016-2018, for scopes 1, 2 and 3, on its way to **reaching carbon neutrality by 2050**.
- In addition to the aforementioned improvements in the waste treatment facilities, the improvement of the Carbon Footprint is influenced by the increase of more efficient machinery with a **total of €3,688,455 invested in electrical machinery** compared to the €2,800,000 invested in 2019.
- In 2020, the coronavirus pandemic and the lockdown has increased the sense of belonging and collaboration. **A total of 357 insertions of people at risk of exclusion have taken place** representing a strong commitment with the local communities affected.
- From an occupational safety point of view, **the accident reduction** plan was implemented with great success in 2020, with a **reduction of almost 30% in the frequency rate and almost 20% in the severity rate**.

PRESENTATION OF THE NEW SUSTAINABILITY STRATEGY 2050



A road map that includes very demanding goals and commitments with a high level of added value for the company and society as a whole



We support the Sustainable Development Goals

2050 Sustainability strategy

During 2020 FCC Medio Ambiente has laid the foundations for future business development, establishing its **Sustainability Strategy with a vision to 2050** aimed to all activities in Spain and Portugal. It is an ambitious 30-year project, reflecting the company's commitment to support compliance with the Sustainable Development Goals (SDG) and tackle economic, social and environmental challenges on a global scale.

Access [here](#) the video on FCC Medio Ambiente's 2050 Sustainability Strategy.

Aligned with the 2030 Agenda: A new strategy to 2050

The new strategy is a roadmap that integrates very demanding **environmental, social, excellence and good governance** commitments which have high added value for the company and society as a whole.

● Circular economy and climate protection



FCC Medio Ambiente Iberia has continued with the innovation projects launched in the area of the circular economy and the use of clean energy, which are described in the corresponding chapter, and measures have been taken to raise awareness of the need to improve waste treatment facilities through participation in different forums: UNE, Chamber of Commerce, MITERD and the UN's Global Compact.

Achieving carbon neutrality, 100% "ECO" or "Zero emission" vehicle fleet or increasing investment in R&D&I up to 1% of annual revenues, are some of the objectives of the climate protection goals for 2050.

● Water and biodiversity protection



FCC Medio Ambiente has set as a key objective to encourage the rational and efficient consumption of water and to promote the use of water from alternative sources. By 2050, the goal is for 100% of the water used to come from these sources. It therefore promotes the use of reclaimed water and water-saving technologies, mainly in watering parks and gardens and in street washing.

The company is known for its involvement in the protection of biodiversity in the urban context through its ground maintenance activities (3,825 ha of green areas and 786,355 trees managed), as well for beach and coast line cleaning services, which contribute to improving the quality of the Spanish coastline lodging marine fauna.

● Social and employment objectives



In line with SDG3, SDG5, SDG8 and SDG10, the company makes a series of commitments to employees linked to the generation and retention of talent, diversity and inclusion, equal opportunities and occupational health and safety. The company aims to achieve gender equality by 2050 and will develop the Female Mentoring Program. A reduction of accident rates to 50% is expected by the same date.

● Excellence and good governance objectives



FCC Medio Ambiente, in line with SDG9, SDG11 and SDG12, is a benchmark in terms of the implementation of systematic and homogeneous work guidelines within the organisation, which enable it to make its processes efficient, as indicated in the Excellence section.

With regard to good governance, compliance controls focused on the fight against corruption and other crimes, and the encouragement of transparency in the value chain, are maintained and improved.

Other sustainability milestones



- FCC Medio Ambiente winner of the EBAE Awards 2019/2020 for its 100%-electric, industrial chassis-platform for urban service vehicles. +



- El Puerto de Santa María City Council and FCC Medio Ambiente presented the Chamaeleo Biodiversity Conservation Project, financed by FCC at the Coto de la Isleta Municipal Environmental Education and Activities Centre (CEAN). +



- FCC Medio Ambiente selected as one of the “101 Business Climate Initiatives” for 2020. +



- FCC Medio Ambiente's ie-Urban wins Spain's Ecological Industrial Vehicle of the Year 2021 award. +



R&D&I projects have involved an investment of €2.34 million in 2020, a 2.63% increase over 2019

Innovation and technology

Despite the complicated year 2020, mainly due to the anomalous situation in which companies, suppliers, collaborators, research entities and public institutions have been immersed as a result of the COVID-19 pandemic, FCC Medio Ambiente has not stopped working on innovation projects, some of which will come to light in the near future.

At national level, a new **Spanish Strategy for Science, Technology and Innovation (EECTI) 2021-2027** was approved in 2020, including activities aimed at solving the problems caused by COVID-19 and stresses the importance of consolidating and enhancing science and innovation as a tool for the social, economic and industrial reconstruction of our country.

It should also be noted that in September 2020, the material recycling facility in Houston (Texas), built, financed and managed by FCC Environmental Services, and operational since April 2019, has been honoured with **the Best American Recycling Facility of the Year 2020 award by the NWRA (National Waste and Recycling Association)**. FCC already won the same award in 2017 for its facility in Dallas (Texas), allowing it to become the biggest recycling company in Texas.

For another year, FCC Medio Ambiente upheld the certification of its R&D&I Management System, in accordance with the UNE 166002 standard.

R&D&I projects have involved an investment of €2.34 million in 2020, a 2.63% increase over 2019, and are classified into four knowledge areas:

- Vehicles, mobile machinery and facilities
- Management and recycling of waste - Circular Economy
- Information and Communication Technologies
- Sustainable development

Most significant projects of the R&D&I Management System

VEHICLES, MOBILE MACHINERY AND FACILITIES

Projects associated with vehicles and mobile machinery

During 2020, FCC Medio Ambiente has developed alternative channels and means in order to continue working with its collaborators and thus be able to launch new research projects, most of which will have real prototypes along 2021.

- Design and manufacture of a new rear-loading compactor collector, non-existent on the market, of very small dimensions, with a 10 m³ double-compartment bodywork with pure electric propulsion and body drive and battery self-recharging system by Compresses Natural Gas (CNG) engine on a 2.2 metres-wide, special narrow chassis and with a legal payload of over 2 tonnes of waste.

- Final work on obtaining pure electric chassis, 2 metres wide and 18 tonnes GVW (registrable with 19 tonnes), which is not existing on the market, and whose first prototype will be fitted with a tank for watering and washing streets, pavements and pedestrian areas. FCC Medio Ambiente has worked with a European manufacturer of new-generation lithium-ion batteries to install them on this first prototype, and which may also be used in other diverse equipment.
- Development and start of production of the first unit of a new 2 metres wide, side-loading compactor collector on a compressed-natural-gas chassis, also of very small dimension (2 metres wide and a maximum of 7 metres long), which allows a legal payload of 5 tonnes of waste and which covers a range of side-loading collectors non existing to date.
- Development and manufacture of a new vehicle called FASE 3: Unit of very small dimensions for collection in areas of maximum access difficulty on a pure electric chassis, which will incorporate a system of four 240-litre bins for 4 different fractions with a loading and unloading system on the chassis platform by means of a set of pulleys and belts for minimum operator effort, with a waste hopper for a fifth fraction.



FCC Medio Ambiente has also laid the grounds for establishing consortiums with other companies, technological organisations and universities that will enable it to undertake two additional lines of research in 2021, which will be materialised in new projects eligible for public support over the next 3-4 years. The first one is dedicated to street cleansing machinery which, by incorporating certain automatisms, aims to make the street cleansing service cheaper than with current machinery; the second line seeks to take advantage of synergies in the commitment to new and future energy vectors that are completely respectful of the environment, with the ambitious objective of being applied to any equipment or machine that provides urban services.



Drainage system cleaning tank.



CNG Station Omaha, Nebraska (USA).

● Further progress on the EU Project “Assets4rail” by FCC Environment Austria

FCC takes place in the 30-month EU research project “Assets4rail” since tend of 2018, to clean drainage systems in railway tunnels without blocking traffic.

During this EU project, the “HIPPO 1,500m” system is being developed out of the “HIPPO 600m”, with the aim of extending from 600 to 1,500 metres the advantages of this high-pressure head cleaning system with built-in camera for simultaneous inspection of 600-metre-long circular tunnel drainage ducts for the Austrian Railway Company (ÖBB). It is intended to reach lengths of up to 3,000 metres. The cleaning system offers the great advantage that tunnel traffic can continue almost uninterrupted, thus avoiding traffic jams. It also represents a significant cost reduction for customers compared to current cleaning and inspection solutions.



Projects associated with facilities

● New state-of-the-art Compressed Natural Gas Station in Omaha

In October 2020, FCC Environmental Services signed a three-year agreement with New York-based compressed natural gas marketer TruStar, which led to the construction of a new, state-of-the-art compressed natural gas (CNG) station in Omaha in just six months.

TruStar meets the requirements for the Low Carbon Fuel Standard (LCFS) in California, allowing for a credit in the value of 1 metric tonne of CO₂ reduction compared to the baseline CO₂ emission. In meeting the Renewable Identification Number (RIN) under the US EPA standards, FCC will receive 5% of the value of all RINs for the life of the TruStar agreement.



Charging station Himberg (Austria).

● Installation of two new electric charging stations in Himberg (Austria)

In May 2020, FCC Environment installed the first two charging hubs at the base in Himberg, Lower Austria. These two new stations include 'P30 X 22kW' charging boxes, mounted on a double bracket, and allow for additional points when needed in the future. Charging stations for electric vehicles are also planned to be introduced at the Linz, Graz and Klagenfurt bases in 2021.

MANAGEMENT AND RECYCLING OF WASTE - CIRCULAR ECONOMY

Leader in biomethane: Green gas

FCC Medio Ambiente commits to turn the “waste treatment centre” into a “biomethane fuel producer” with the capacity to supply all types of vehicles. To do this, it has started research with the development of some projects financed under the EU LIFE programme:

● LIFE LANDFILL BIOFUEL (LIFE18 ENV/ES/000256: Integral management of the biogas from landfills for use as vehicle fuel) (2019-2022)

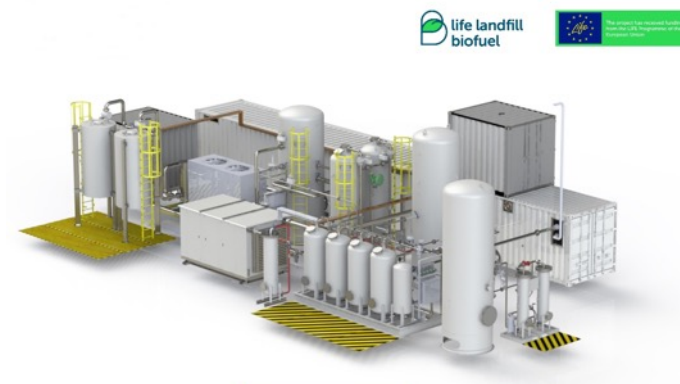
Project official website: <https://www.landfillbiofuel.eu/en/>

Project developed by a consortium made up of seven entities (FCC Medio Ambiente as project leader, Sysadvance, Gasnam, Cartif, Seat, Iveco and University of Granada), co-financed by the European LIFE programme and approved in June 2019.

The project has a budget of €4.67 million and will last 3.5 years. The Project aims to upgrade landfill biogas to produce biomethane suitable for vehicle use. The objective is a more efficient management by obtaining biomethane from a native and abundant energy source.

It is planned to generate enough biomethane to supply annually 93 heavy-duty vehicles and 2,036 light vehicles at the Ecocentral Environmental facility, operated by FCC in Granada. Subsequently, it will be replicated in other facilities in Europe.

FCC Medio Ambiente commits to turn the **waste treatment centre** into a **biomethane fuel producer**



Integral management of the biogas from landfills for use as vehicle fuel.

Development of circular economy and decarbonisation of transport

- **METHAmorphosis** (LIFE 14/CCM/ES/000865: Waste streams treatment for obtaining safe reclaimed water and biomethane for transport sector to mitigate GHG emissions) (2015-2020)

Project official website:

<https://www.life-methamorphosis.eu/en/home>

The METHAmorphosis project, funded by the EU's LIFE programme, is an example of exploiting synergies in the FCC Group, between FCC Medio Ambiente and Aqualia. The project ended in 2020, reaching all the objectives pursued. Performance tests with biomethane have been successfully carried out on FCC Medio Ambiente waste collection vehicles. The European Commission has placed METHAmorphosis as an example of the LIFE programme and appears within the five best policies related to climate change in the EU, which meant a budget of €200 billion along the period 2014-2020.

The objective was to develop an innovative process for treating effluents and obtaining biofuel (biomethane) from municipal waste as well as agro-industrial waste.

- **LIFE INFUSION** (LIFE19 ENV/ES/000283: Intensive treatment of waste effluents and conversion into useful sustainable outputs: biogas, nutrients and water) (2020-2024)

Project official website:

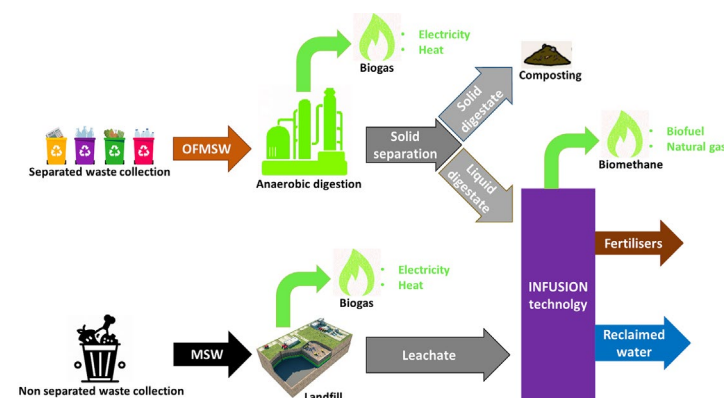
<https://eurecat.org/en/portfolio-items/life-infusion/>

Project developed by a consortium in which FCC Medio Ambiente participates through its subsidiary in Ecoparc del Besós, EBESA, together with seven entities (Fundació Eurecat as project leader, AMB, AMIU, Aqualia, Cogersa, Detricon BVBA, EBESA and IRTA), co-financed by the European LIFE programme. It has a budget of €3.12 million and will last 4 years. Once this period is over, two replications will be carried out in Spain.

The main objective of LIFE INFUSION is to demonstrate, with a circular economy vision, an innovative scheme for the recovery of resources (biogas, biofertilizers and reclaimed water (RW)) from effluents in municipal management through an almost zero discharge process.



Technical tests for using biomethane as fuel in heavy-duty vehicles in METHAmorphosis Project.



LIFE Infusion scheme.

Leading a circular economy for plastic

FCC Medio Ambiente's strategic objective is to avoid landfill disposal of plastics contained in urban waste and reduce their processing by energy recovery, both through the implementation of innovative recycling processes. This new line of research has been under development since 2018 at Ecocentral environmental complex in Granada:



Life4Film treatment line in the Ecocentral plant, in Granada (Spain).

● LIFEPLASMIX (LIFE18 ENV/ES/000045: Plastic Mix Recovery and PP& PS Recycling from Municipal Solid Waste) (2019-2022)

Project official website: <http://lifeplasmix.com/en/plasmix/>

Project developed by a consortium led by FCC Medio Ambiente with other seven entities (Stadler, Lindner, Pellenc, Andaltec, Anaip and University of Granada), co-financed by the European LIFE programme and approved in June 2019.

The Plasmix Project aims to study the recovery and the flow of the Mix of Plastics from municipal waste, searching for the optimal recovery line for each type of material contained in such flow (PP, EPS, and PVC). It has a budget of €5.33 million and will last 3.5 years.

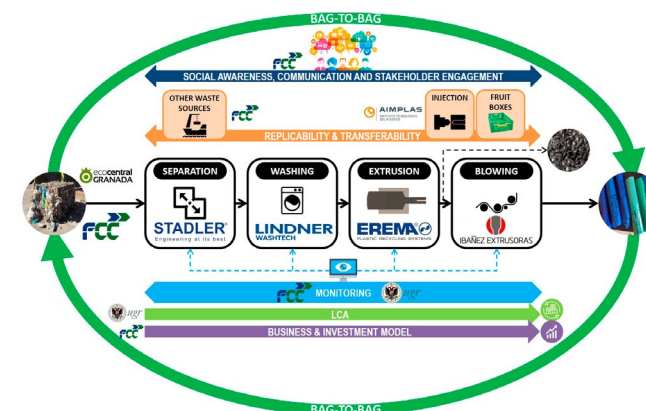
● LIFE4FILM (LIFE17 ENV/ES/000229 Post-consumption film plastic recycling from municipal solid waste). Spain and Germany (2018 –2021)

Project official website: <http://life4film.com/en/4film-en/>

The main objective of LIFE4FILM, a project led by FCC Medio Ambiente, is to avoid landfill or energy recovery of plastic film (LDPE) present in urban waste through an innovative recycling process on a semi-industrial scale using a 10,000 t/year capacity recovery line at the Ecocentral plant in Granada, with the aim of demonstrating its profitability and replicability at an European level.

The project has a budget of €4.54 million and a term of 2.5 years. Once the project is finished, five replicas will be carried out in other plants in Europe.

FCC Medio Ambiente implements innovative recycling processes to avoid landfill disposal of plastics contained in urban waste



LIFE4Film scheme.



The sustainable path in waste management: optimisation of **composting**

🕒 **INSECTUM: (Recovery of urban by-products and bio-waste through bioconversion with insects to generate innovative products in strategic sectors)**

A CIEN (National Business Research Consortium) programme from the CDTI (Centre for the Development of Industrial Technology), led by FCC Medio Ambiente, which involves implementing an innovative urban bio-remediation recovery system based on its bioconversion through insects in products with a high added value for the industry (the human food sector, nutraceuticals/pharma, animal feed, fertilisers and chemicals). It proposes feeding insects with organic matter from selective collection, organic matter recovered from MSW and digestate from biomethanation.



Creation of new by-products and biomaterials

🕒 **SCALIBUR (Scalable Technologies for Bio-Urban Waste Recovery)**

Project official website: www.scalibur.eu

SCALIBUR is a project from the Horizon 2020 edition, led by ITENE (ES), in which FCC Medio Ambiente and Aqualia participate as well as various entities from different European Union countries.

Prototypes will be rolled out in three pilot cities across Europe: Madrid (Spain), Albano Laziale (Italy) and Kozani (Greece) to

carry out a comprehensive study on urban waste quality, logistics and treatment systems and WWTP sludge to obtain new by-products and biomaterials with a high added value for the chemicals industry.

The project has a budget of €10 million and will last 4 years.

SCALIBUR
LEADING A REVOLUTION
IN BIOWASTE RECYCLING



Co-funded by the Horizon 2020 programme
of the European Union

Leader:



Partners:



● B-FERST Bio-based fertilising products as the best practice for agricultural management sustainability

Project official website: www.bferst.eu

Objective: Integrate the recovery of biowaste in agriculture by creating new mineral and organomineral fertilisers as well as developing the corresponding nutrient mixtures for agricultural application.



● DEEP PURPLE Domestic Extraction of Emerging Products with Purple Phototrophic Bacteria

Project official website: www.deep-purple.eu

Objective: investigate, at a pilot scale, the integrated application of the most innovative techniques in the management of the different effluents generated in an organic-waste treatment facility (digestate, leachate and biogas), by applying purple phototrophic bacteria for the recovery of by-products, such as polyhydroxy-alkanoates and hydrogen, single cells, or nitrogen and phosphorus for its use as fertilisers.



Waste gasification

● RECYGAS Urban solid waste recovery through the production of recycled Syngas

Project official website: www.energy.sener.es/proyecto/recygas-valorizacion-residuos-solidos-urbanos-mediate-gas-reciclado

Project subsidized by the Hazitek program of the Basque Government, with the support of the European Regional Development Fund. FCC Medio Ambiente is working on this project in partnership with the companies SENER, Ingeniería y Sistemas, S.A. and ZABALGARBI, S.A. The research centres GAIKER, TECNALIA, Institute of Carbochemistry of CSIC, CENER and Institute of Chemical Technology of the Polytechnic University of Valencia will also participate in this project.

Recygas is focused in the investigation of waste gasification and enables the use of clean synthetic gas obtained from the gasification process to start chemical synthesis routes or its use in power generation with high efficiency cycles. The technology incorporated in the project would allow to climb the waste management hierarchy pyramid to improve recycling.



Fondo Europeo de
Desarrollo Regional (FEDER)
"Una manera de hacer Europa"
Eskualde Garapenerako
Europar Funtza (EGEF)
"Europa egiteko modu bat"





Project CURSOR. Drone tests.

Recycling construction timber

Project CURSOR: Saving lives with drones

FCC Environment Austria is participating in this EU project, which runs until the end of August 2022 and aims to optimise search campaigns for people in emergency situations with the latest technology using drones, miniature robots and new types of sensors. FCC provides free of charge wood waste for the search tests of the emergency services, thus supporting ISCC (International Security Competence Center GmbH).

INFORMATION AND COMMUNICATION TECHNOLOGIES

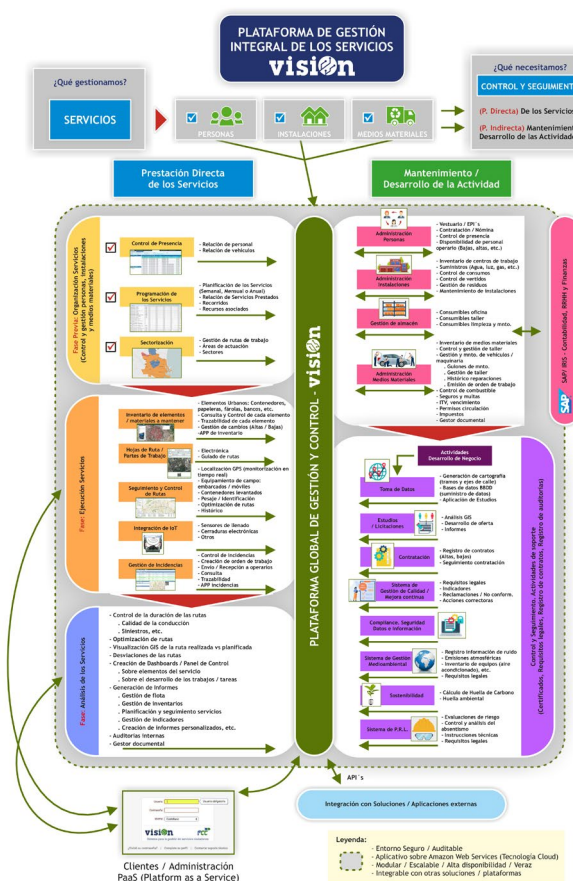
VISION

Within the framework of providing services to cities it is essential to have ICT (Information and Communication Technology) tools that support the provision of effective, efficient, sustainable and comprehensive services.

The agile management of information must be a priority, that's why it's necessary to gather the knowledge accumulated in the management of services in order to offer the different agents involved (administration, citizens, companies), the best practices, efficient processes and optimised communications with modern and collaborative tools.

It is also needed for managing, through an integrated system, all operational, legal, environmental, resources (material and human), validation and service matters that allow achieving excellence in the workplace.

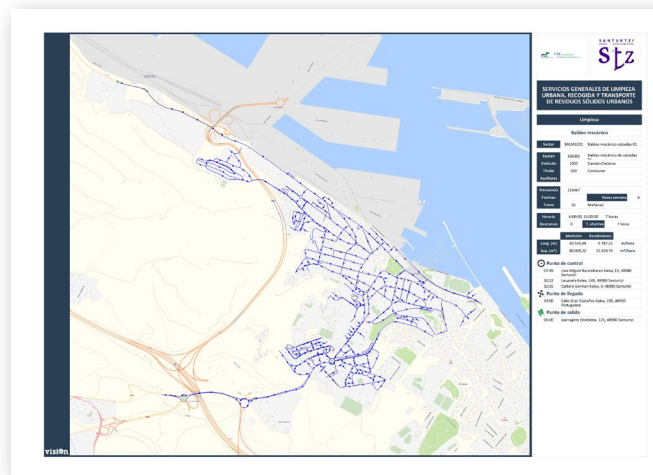
FCC Medio Ambiente has developed "VISION – Intelligent platform for the provision of citizen services" which allows to meet the objectives described, responding to the current requirements of our customers and being prepared for the future challenges that appear in the provision of the services.



VISION Operational Scheme.

During 2020 technological upgrades were undertaken to ensure performance, security and business continuity. The incorporation of processes into the platform went on and innovative solutions for service management were implemented, among them:

- Hosting of the whole infrastructure of the platform in the AWS cloud with system redundancy to ensure high availability both physically and geographically.
- Integrating the “Map Server” functionalities in the system, which allows an increased efficiency in the management of geographic information.
- Deployment of the Occupational Risk Prevention module, fully integrated with the rest of the information in the system, including the preparation of Risk Assessments, which is the central point of the system.
- Development of a “Facial Recognition” system focused on offering reliable, agile and contact-free identification solutions. It has been implemented on a personnel check-in and check-out system.
- Inclusion of the Environmental Footprint calculation in the platform to provide more information on the company’s sustainability system.
- Incorporation of mobile inspection technology in the sewerage network.
- On site street data survey when studying the urban environment as part of the making of a tender proposal.
- Tax reporting system based on biogas generation data from treatment operations.



VISION Software. Map servers.

Evaluaciones - peligros	Desc / Tarea	Peligro	Causas	Medidas	Prot.	Sacc	Probabilidad	Consecuencia	Informe específico	Nivel riesgo	Valor riesgo	Prioridad
200-Oficina	1- Caídas de personas a distinto nivel	1- Caídas de personas a distinto nivel	3	5	1	Baja	1- Ligero	1- Ligero	1- Trivial	1- Aceptable	1- Baja	SSCC
200-Oficina	16- Contactos eléctricos	16- Contactos eléctricos	4	15	1	Baja	2- Daño	2- Daño	2- Tolerable	1- Aceptable	1- Baja	SSCC
200-Oficina	17- Incendios	17- Incendios	19	44	1	Baja	2- Daño	2- Daño	2- Tolerable	1- Aceptable	1- Baja	SSCC
200-Oficina	2- Caída de personas al mismo nivel	2- Caída de personas al mismo nivel	24	25	1	Baja	1- Ligero	1- Ligero	1- Trivial	1- Aceptable	1- Baja	SSCC
200-Oficina	3- Caída de objetos por desplomamiento	3- Caída de objetos por desplomamiento	4	16	1	Baja	2- Daño	2- Daño	2- Tolerable	1- Aceptable	1- Baja	SSCC
200-Oficina	6- Golpes y cortes con objetos inmóviles	6- Golpes y cortes con objetos inmóviles	14	19	1	Baja	1- Ligero	1- Ligero	1- Trivial	1- Aceptable	1- Baja	SSCC
201-Vestuarios	16- Contactos eléctricos	16- Contactos eléctricos	4	15	1	Baja	2- Daño	2- Daño	2- Tolerable	1- Aceptable	1- Baja	SSCC
201-Vestuarios	17- Incendios	17- Incendios	19	44	1	Baja	2- Daño	2- Daño	2- Tolerable	1- Aceptable	1- Baja	SSCC
201-Vestuarios	2- Caída de personas al mismo nivel	2- Caída de personas al mismo nivel	24	25	1	Baja	1- Ligero	1- Ligero	1- Trivial	1- Aceptable	1- Baja	SSCC
201-Vestuarios	3- Caída de objetos por desplomamiento	3- Caída de objetos por desplomamiento	4	16	1	Baja	2- Daño	2- Daño	2- Tolerable	1- Aceptable	1- Baja	SSCC
201-Vestuarios	6- Golpes y cortes con objetos inmóviles	6- Golpes y cortes con objetos inmóviles	14	19	1	Baja	1- Ligero	1- Ligero	1- Trivial	1- Aceptable	1- Baja	SSCC
201-Vestuarios	9- Pisasas sobre objetos	9- Pisasas sobre objetos	6	10	1	Baja	1- Ligero	1- Ligero	1- Trivial	1- Aceptable	1- Baja	SSCC
202-Almacén	16- Contactos eléctricos	16- Contactos eléctricos	4	15	1	Baja	2- Daño	2- Daño	2- Tolerable	1- Aceptable	1- Baja	SSCC
202-Almacén	17- Incendios	17- Incendios	13	23	1	Baja	3- Extremadamente dañado	3- Moderado	1- Aceptable	1- Aceptable	2- Medio	SSCC
202-Almacén	2- Caída de personas al mismo nivel	2- Caída de personas al mismo nivel	24	25	1	Baja	1- Ligero	1- Ligero	1- Trivial	1- Aceptable	1- Baja	SSCC
202-Almacén	20- Atropellos	20- Atropellos	7	30	1	Baja	3- Extremadamente dañado	3- Moderado	1- Aceptable	1- Aceptable	2- Medio	SSCC
202-Almacén	3- Caída de objetos por desplomamiento	3- Caída de objetos por desplomamiento	4	16	1	Baja	2- Daño	2- Daño	2- Tolerable	1- Aceptable	1- Baja	SSCC
202-Almacén	6- Golpes y cortes con objetos inmóviles	6- Golpes y cortes con objetos inmóviles	14	19	1	Baja	1- Ligero	1- Ligero	1- Trivial	1- Aceptable	1- Baja	SSCC
202-Almacén	9- Pisasas sobre objetos	9- Pisasas sobre objetos	6	10	1	Baja	1- Ligero	1- Ligero	1- Trivial	1- Aceptable	1- Baja	SSCC
204-Entrenamiento de	17- Incendios	17- Incendios	13	23	1	Baja	3- Extremadamente dañado	3- Moderado	1- Aceptable	1- Aceptable	2- Medio	SSCC

VISION Software. Risks assessment.

● FCC ONLINE SOLUTIONS: applications that allow customers the online request of container rentals and collection services

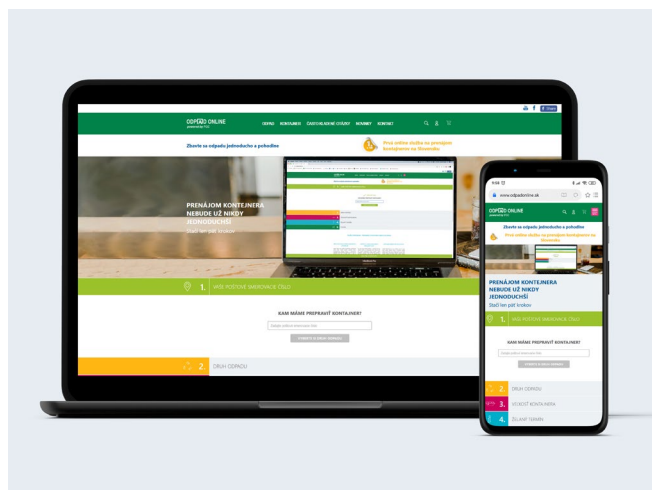
FCC Environment CEE, aligned with the priorities defined in its 2018 - 2022 strategy, is constantly developing and implementing new online solutions and communication channels with its customers. Saving time with simple solutions, flexibility and great customer service - anytime, anywhere - are some of the advantages of the online products offered by the company. These products demonstrate that new B2C (Business to Consumer) technologies can also be effectively integrated into traditional businesses, such as waste management.

During 2020 FCC Environment introduced online new features in Slovakia and the Czech Republic:

Odpadonline.sk. Online tool which allows customers to order containers and ensure the safe removal and disposal of their waste with just a few clicks

Vylož Smeti (Eslovaquia). App available on Google Play and App Store that offers a digital calendar for tablets and mobiles with the collection dates of the different types of waste and where reminders can be set to notify collections in advance.

Naše Popelnice (Chequia). Updating of the portal for the electronic registration of waste container emptying. On this portal, municipalities and citizens can view detailed data and track the waste production and the container emptying, as well as the waste weight of containers.



SUSTAINABLE DEVELOPMENT

In 2020, the Interreg SUDOE project “KET4F-Gas – Reduction of the Environmental Impact of Fluorinated Gases in the Sudoe Space through Key Enabling Technologies”, in which FCC Ámbito takes part, has continued to be developed. The project is financed by the European Regional Development Fund through the European programme Interreg Sudoe, and aims to respond to the challenges of climate change in the Sudoe space. The project goal is to investigate alternatives that contribute to the reduction of greenhouse gas emissions by developing and improving technologies to recover and replace fluorinated gases.



KET4F-Gas Project poster.

KET4F-Gas is coordinated by Universidade Nova of Lisboa, has a duration of 3 years and an overall funding of €1.7 million. The project is made up to 14 partners and 6 associates, from Spain, France, Portugal and United Arab Emirates, among which are universities, companies, waste and environmental agencies and other public and private entities with the common interest of dealing the Kigali Amendment.

FCC Ámbito's participation in this project reflects its strong commitment to sustainable development and the fight against climate change through innovation, and the firm brings value by offering its extensive experience in residual refrigerants, acquired over 22 years in the management of discarded refrigerators at its plant in Pont de Vilomara (Barcelona). Along this time, nearly 100,000 tonnes of refrigerators have been treated. FCC Ámbito also has an exclusive facility for the reception and reconditioning of gas-containing refuse for its shipment to final management, located in Fustiñana (Navarra).

🕒 Bici Sendas (Cycle Lane) project

FCC Ámbito takes part in the Bici Sendas (Cycle Lane) CIEN project, led by FCC Construcción. The project goal is to develop a new generation of cycle lanes that will be sustainable, energy self-sufficient, intelligent, decontaminating, integrated and safe. They will also be modular, produced with sustainable materials and can be custom-designed to integrate various technologies according to the needs to be covered.

The Project is expected to last 4 years (2019-2023), and is supported by the most advanced universities and technology centres: CSIC (Consejo Superior de Investigaciones Científicas), University of Zaragoza, UPC (Universitat Politècnica de Catalunya), AITIIP, CIMNE (International Centre for Numerical Methods in Engineering), LEITAT and Luraderra.

Among others, the specific objectives of FCC Ámbito include:

1 Refuse valorisation:

- Select, adapt and characterise refuse with high Si/Al content for their potential incorporation as raw material in an AAM agglomerant.
- To study the suitability of different wastes as support materials for the adsorption of hydrocarbons and for the immobilisation of micro-organisms.

2 Development or biodecontamination techniques:

- Isolating strains of microorganisms from real environment, determining their hydrocarbon degrading capacity, and investigating their immobilisation in the conditioned materials to generate the biomaterial that will be incorporated into the cycle lane modules.

3 Integrating the developed materials with other researched technologies in the project, as a form of a final demonstrator.

