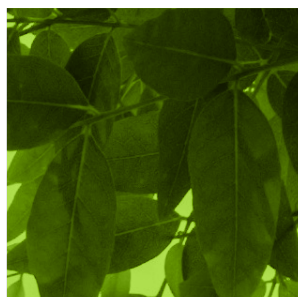
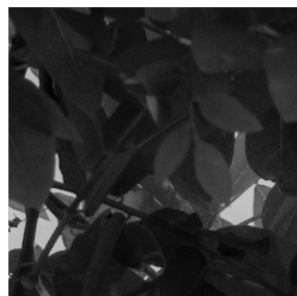
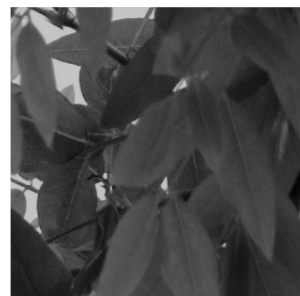




Annual Report
2021



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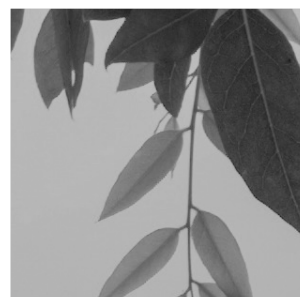
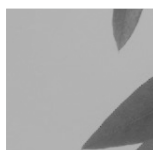
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Geographical divisions and sector analysis. Strategy

The Environmental Services Area of the FCC Group has been delivering **municipal services** and **end-to-end waste management**, serving today **60 million people** in more than **5,200 municipalities**

For over 110 years, the Environmental Services Area of the FCC Group has been delivering municipal services and end-to-end waste management, serving today 60 million people in more than 5,200 municipalities.

In 2021 the company operated in a total of 11 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, street cleansing, maintenance of sewage systems, ground maintenance, treatment and disposal of industrial waste or the recovery of contaminated soil, among others.

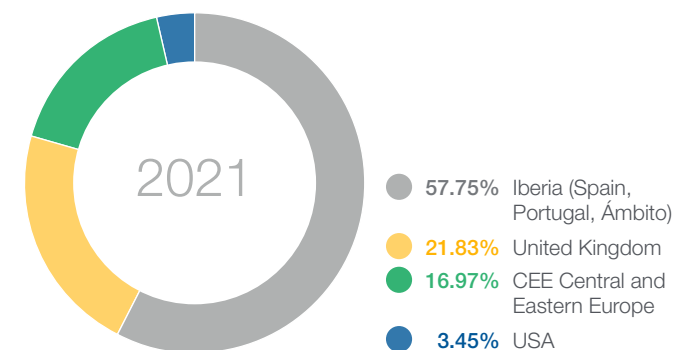
FCC Servicios Medio Ambiente Holding S.A.U., which is the backbone of the Environmental Services activities is structured into four geographical divisions:

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

During the financial year 2021, the global pandemic of COVID-19 has continued to generate very unfavourable socio-economic circumstances and has affected the development of all economic activities. While it is true that the vaccination of

a significant part of the population and the subsequent partial immunisation have enabled an upturn in economic activity, the pandemic continues to highlight the importance of the services provided by this entity, services that have been graded 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.

TURNOVER 2021. DIVISIONS



Under these circumstances, the performance of FCC Servicios Medio Ambiente has been exceptional. The area's annual turnover reached €3.25 billion, an increase of 12.35% over the previous year, and the gross operating profit amounted to €535.1 million, 16.5% on turnover and an improvement of 18.68% over 2020. Particularly noteworthy is the profit before tax of €246.3 million, which represents an increase of +58.73% over 2020. Order intake rose to €4.7 billion (+123.04%) and generated a record portfolio of €10.75 billion.

Even in adverse conditions, FCC Servicios Medio Ambiente managed 24 million tonnes of waste in 2021 and produced nearly 4 million tonnes of secondary raw materials (SRM) and refuse-derived fuel (RDF). The company has more than 770 operational waste management facilities, of which over 200 are environmental compounds dedicated to the treatment and recycling of waste, including 11 waste-to-energy projects with a processing capacity of 3.2 million tonnes per annum and 360 MWe of clean non-fossil electricity.

As a relevant financial milestone for FCC Servicios Medio Ambiente Holding S.A.U. and as expressed in the recently published 'Second Green Bond Report', it should be noted that out of the €1.1 billion in ecological bonds issued according to the 'Green Bond Framework' by the company in November 2019, at the close of 2020 more than €1.025 billion had already been allocated to projects for prevention and control of pollution, biodiversity protection, energy efficiency and vehicles powered by clean energies. These investments have generated significant environmental benefits in the communities in which FCC Servicios Medio Ambiente works. In Spain and Portugal, more than 27 million inhabitants have been served through the treatment of almost 6 million tonnes of waste and a total of 1,859,252 tonnes of CO₂e of greenhouse gas (GHG) emissions



Street cleansing service in A Coruña (Spain).

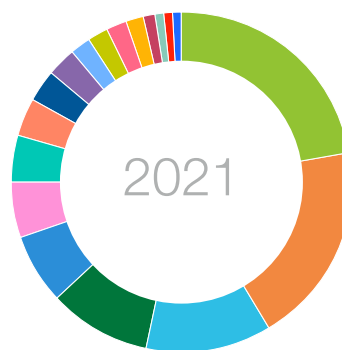
have been avoided. On the other hand, in United Kingdom, more than 475,000 tonnes of waste have been processed, generating 315 GWh of non-fossil energy and avoiding the equivalent of 838,000 tonnes of CO₂ of GHG emissions.

[Access the second Green Bond Report here](#)

FCC Medio Ambiente Iberia (Spain, Portugal and Ámbito)

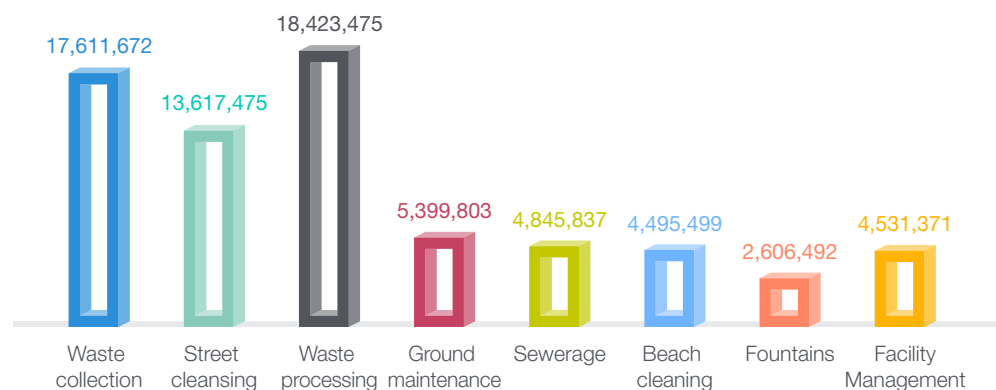
FCC Medio Ambiente provides environmental services in over 3,700 municipalities in Spain and Portugal (FCC Environment), serving a population of more than 32 million inhabitants with activities including street cleansing, the collection and transport, treatment and disposal of waste, ground maintenance, maintenance of sewage systems, beach cleaning, and energy efficiency services, among others. During the 2021 financial year, FCC Medio Ambiente Iberia managed 11.9 million tonnes of municipal solid waste.

TURNOVER 2021. GEOGRAPHIC LOCATION

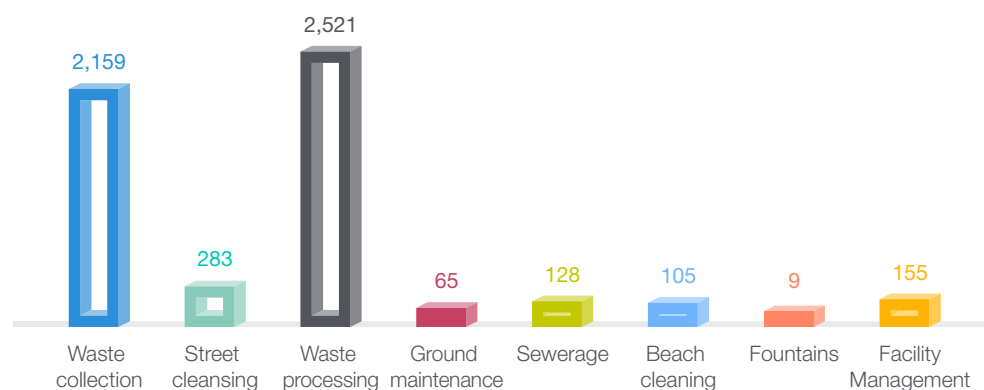


22.4%	Catalonia	2.6%	Murcia
19.2%	Community of Madrid	2.0%	Portugal
11.8%	Valencian Community	2.0%	Asturias
9.6%	Andalusia	1.9%	Navarre
6.7%	Basque Country	1.6%	Balearic Islands
5.5%	Aragon	1.3%	Extremadura
4.2%	Canary Islands	0.8%	Castilla-La Mancha
3.8%	Castilla y León	0.8%	La Rioja
3.0%	Galicia	0.7%	Cantabria

INHABITANTS SERVED 2021



MUNICIPALITIES SERVED 2021





Although the vaccination of a significant part of the population and the consequent partial immunisation have allowed an up-turn in economic activity, the COVID-19 pandemic continues to have a particular impact in Spain and Portugal, highlighting the importance of the essential services provided by FCC Medio Ambiente and the commitment of its people, whose professionalism and dedication have made it possible to maintain excellence and a high level of service.

The European Next Generation funds of the Spanish Recovery, Transformation and Resilience Plan (in Spanish, PRTRE) are playing a key role in alleviating the unfavourable socioeconomic situation and FCC Medio Ambiente, on its own or in consortium with other entities, has presented in 2021 manifestos of interest (MOIs) and applications worth €1.5 billion. FCC Medio Ambiente will accompany its clients in this development opportunity, contributing value and know-how when addressing their approaches to the future.

In these circumstances, FCC Medio Ambiente Iberia's performance has been excellent, with the winning of important contracts such as the renewal of the collection and cleansing services in Barcelona, which have been provided since 1915 and represent a portfolio of €830.87 million. Or the contracts for street cleansing and ground and urban furniture maintenance in Madrid, with a combined value of €652 million. A record €3.4 billion were contracted, bringing the order book to €6.34 billion. Annual turnover reached €1.87 billion, an increase of 7.52% compared to 2020. The gross operating profit grew by 7.11% to €284.8 million and profit before tax increased by 20.45% over 2020 to €179.1 million.

In March 2021, FCC Medio Ambiente presented its 2050 Sustainability Strategy, which is an ambitious 30-year business development project, reflecting the company's commitment to support the achievement of the Sustainable Development Goals (SDGs) and to address economic, social and environmental challenges on a global scale. This roadmap integrates very demanding environmental, social, excellence and governance commitments with high added value.

[Access here the 2050 Sustainability Strategy video](#)

FCC Medio Ambiente
presented its
**2050 Sustainability
Strategy**, which
is an ambitious
30-year business
development project

The 2020 Sustainability Report, under the slogan "Actions showing our commitment", published at the end of the year and verified according to the principles of the Global Reporting Initiative, details the progress of the Strategy in the two-year period.

[Access here the Sustainability Report 2020 Video-Summary](#)

A fundamental part of this Strategy is innovation, an element that is in FCC Medio Ambiente's DNA and is the basis of its competitive differentiation. In this line, its multi-award-winning 100% electric chassis-platform for urban service vehicles has continued to add awards in 2021, such as the Ecological Industrial Vehicle of the Year at the National Transport Awards. Likewise, the award of European funds to the H2TRUCK project, which aims to develop a heavy-duty chassis-platform with 100% electric propulsion powered by a hydrogen cell and lithium-ion battery hybrid system.

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 treatment centres



across Spain and Portugal, with more than 67 process lines that guarantee the performance of the facilities. Internationally, FCC Ámbito has a significant presence in Portugal, where it operates through its subsidiary ECODEAL.

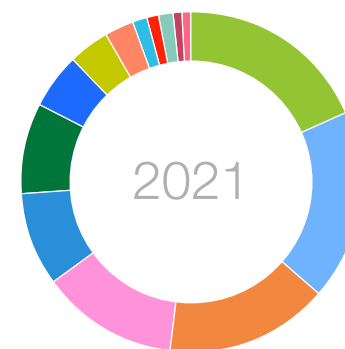
Within the Spanish market, throughout 2021, and despite the impact of the pandemic on production and consumption, an increase of industrial and commercial waste has continued to be observed. This rise has been driven by increased activity in certain industrial sectors which have managed to compensate for the decline in others more related to consumption. As a result, FCC Ámbito's activity shows a slight increase of 7% in the tonnes managed, thus consolidating the previous year trend. This growth is taking place in a context characterised by the intense competition established by the 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 manager. Legislative changes coming into force tend towards greater control of waste traceability by the regional governments.

These changes will undoubtedly benefit waste management companies that have final treatment facilities, such as FCC Ámbito.

In Portugal, there has also been an increase in activity with the main recurring customers and a recovery of prices, so that the year closed above forecasts with an increase of 15% in tonnes.

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 waste recovery markets, as that of a key player in the circular economy.

TURNOVER 2021. GEOGRAPHIC LOCATION



18.4%	Catalonia	4.0%	Asturias
18.2%	Portugal	2.6%	Castilla y León
15.5%	Community of Madrid	1.5%	Valencian Community
12.9%	Aragon	1.2%	La Rioja
9.1%	Basque Country	1.2%	Castilla-La Mancha
8.6%	Andalusia	0.9%	Extremadura
5.2%	Cantabria	0.7%	Navarre

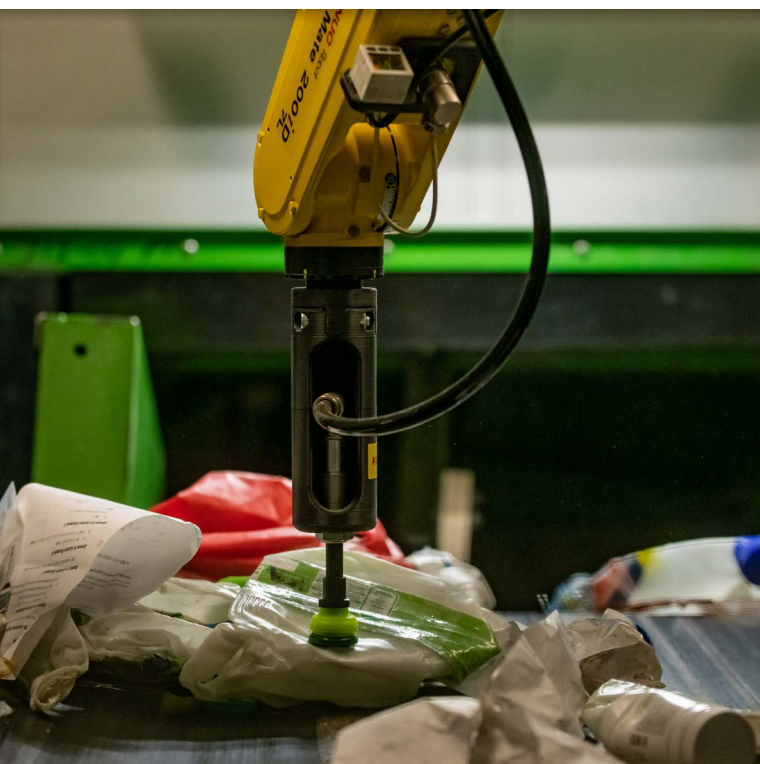
FCC Environment UK

FCC Environment is one of the leading companies in the United Kingdom for comprehensive waste management and recycling and continues to focus on releasing the full potential from the resources it collects, targeting on greater volumes of reuse, recycling and the generation of green energy in line with Government policy as well as the regeneration of its landbank, bringing closed facilities back into positive economic use. The company

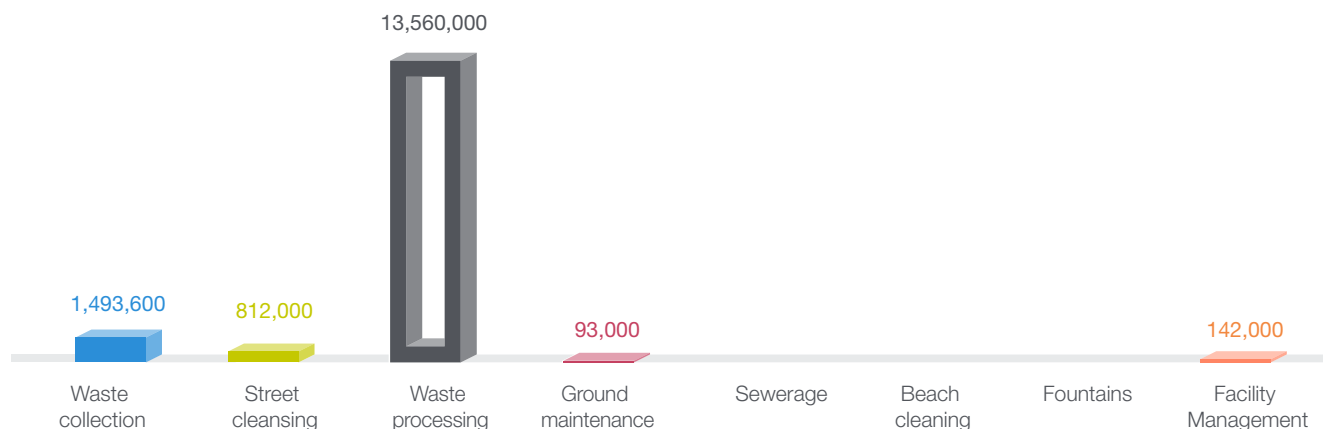
has invested in a wide range of waste management facilities that aim to minimize the amount of waste disposed of at landfill sites by processing the material to ensure it reaches its full potential as a valuable resource.

Across the country, FCC Environment serves over 16 million citizens and in 2021 the business managed 6.2 million tonnes of waste as a resource, generating 117 MW of green energy from the waste than cannot be recycled.

In a year which saw the UK host COP26, the UN Climate Change Conference, the focus for the UK businesses has clearly been on delivering environmental excellence to get the country to Net Zero. On 20th April 2021, the Government in the UK announced a plan to reduce emissions 78% by 2035, compared to 1990 levels, and in October it released its Net Zero Strategy as part of COP26 commitments.



INHABITANTS SERVED 2021



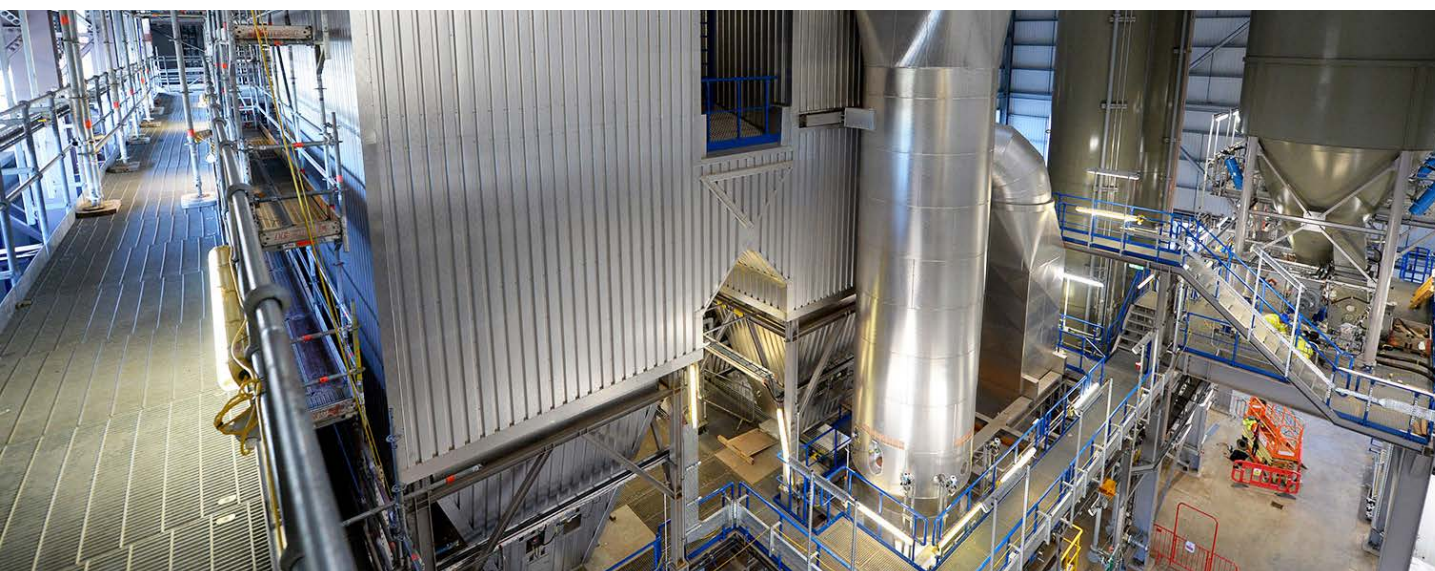
FCC Environment has signed up to support this goal and the recycling and waste management sector's supporting plan to cut 8% of UK total greenhouse gas emissions to net zero by 2040, invest £10 billion and create 40,000 new jobs over the next decade.

Underpinning the push for Net Zero in the UK is the Environment Act, which was passed late in 2021 to set new, legally-binding, long-term national targets for environmental excellence. The Act regards important measures like a Plastics Tax to drive the use of recycled content in packaging, set the Extended Producer Responsibility ensuring the producer of packaging pays the full cost of its collection and either recycling or disposal, a Deposit Return Scheme for packaging and consistent collections for mandated food waste and a core list of materials and household-like business waste.

In this context FCC Environment's performance in 2021 was excellent, with revenues of €708.3 million and a gross operating profit of €135 million, which represents increases of 17.02% and 31.40% respectively, compared to 2020.

As the COVID crisis continued to affect the globe, the UK business 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.

FCC Environment UK's performance in 2021 was excellent, with revenues of **€708.3 million** and a **gross operating profit of €135 million**, which represents increases of 17.02% and 31.40% respectively, compared to 2020

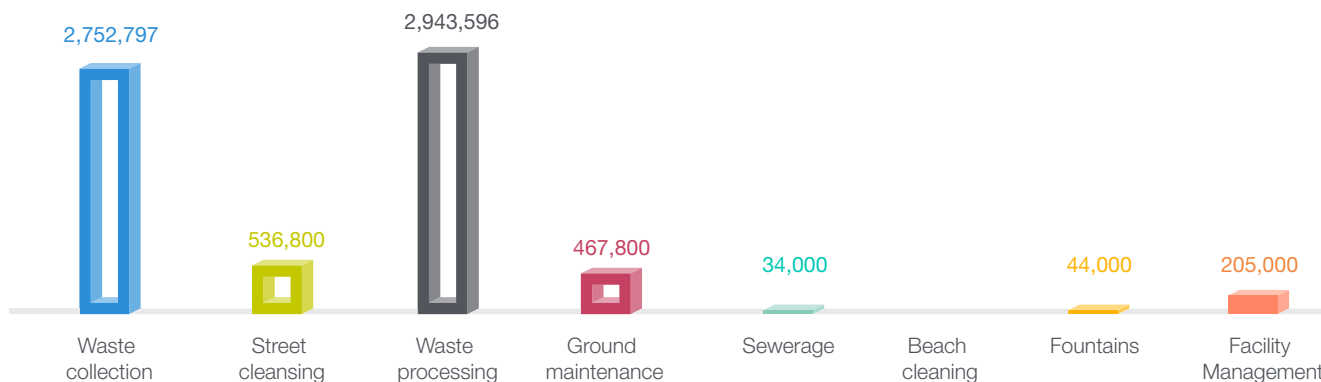


FCC Environment CEE

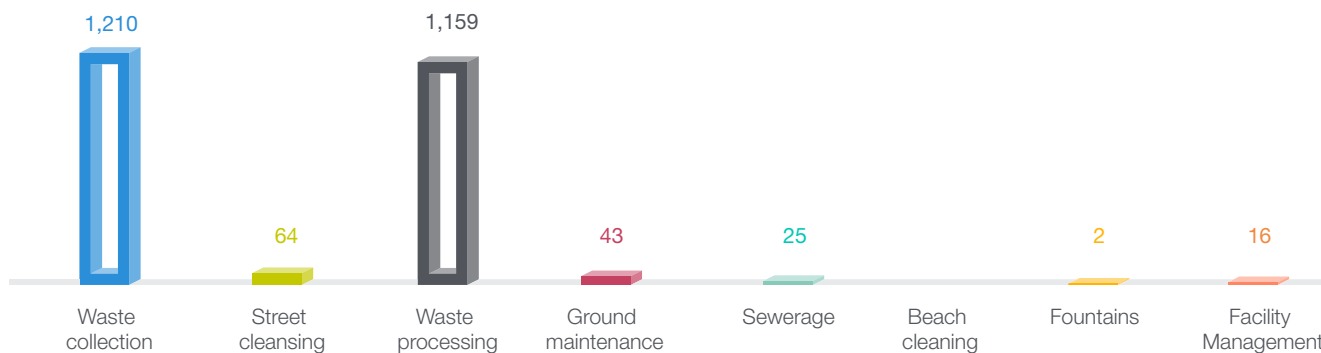
FCC Environment is one the leading global groups in Central and Eastern Europe (CEE) in the comprehensive management of urban solid waste and recovery of renewable energy. It applies innovative systems and the cleanest, most advanced technologies in the provision of quality services that are sustainable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

The year 2021 saw a very successful performance for the Central-Eastern European business. Despite the sale of the Bulgarian activity in 2020, the annual turnover grew 18.5% compared to 2020, reaching €550.7 million, whereas EBITDA reached a value of €95.4 million and profit before tax €52.8 million, almost 30% and 180% year-to-year increase respectively. Order intake amounted to €588 million, a raise of nearly 39% on the prior year.

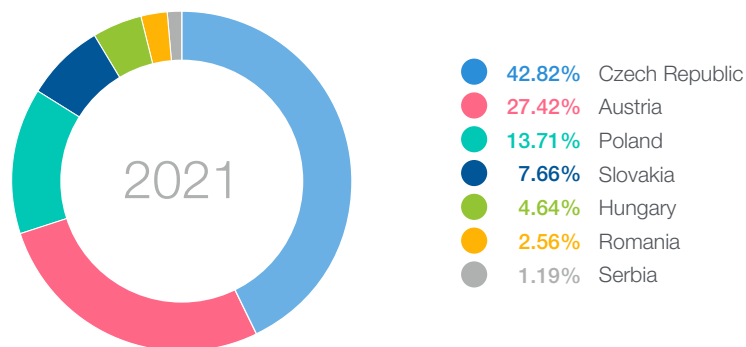
INHABITANTS SERVED 2021



MUNICIPALITIES SERVED 2021



TURNOVER 2021. GEOGRAPHIC LOCATION



On one hand there was a significant GDP growth versus previous year, which led the segment of commercial and industrial waste to develop accordingly in all the countries. On the other hand, an exponential increase in secondary raw material prices took place, specially paper, ferrous metals and oil. Prices for paper thrived annually from an average of €50 per tonne to an average of €140, due to a high demand and shortage in supply. FCC Environment CEE marketed approximately 650,000 tonnes of secondary raw materials in 2021. A further boost in sales & profit was pushed by large-scale remediation projects in Czech Republic and Slovakia.

Finally, large tenders were awarded to the Group, many of which already affected this year's results. Among them, the collection and disposal services for the City of Bytom, in Poland with approximately 100,000 inhabitants; or the supply of landfill services to the community of Érd and surroundings, in Hungary, close to Budapest and with a population of around 100,000 inhabitants. In Austria, a 10-year disposal contract for the energy recovery facility of Zistersdorf with the Tyrolean Waste Management Association generated a backlog of €33 million, the largest single contract ever signed in the country.

During 2022 FCC Environment will continue the adaptation of the CEE countries business to the upcoming changes in the national waste management legislations due to the circular economy recycling and landfill deviation targets from the European Union, by developing waste-to-energy projects and promoting selective collections and sorting and bio-treatment plants.



FCC Environmental Services USA



FCC Environmental Services is one of the top 20 companies in the United States for comprehensive management and recycling of urban solid waste. The company operates in the states of Texas, Florida and Nebraska. Across these states over 8 million inhabitants are served in 15 locations and in 2021 748,000 tonnes of waste and 272,500 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, 2021 has been exceptional with the award of several long-term contracts (up to 20 years) in some of the main municipalities in Florida, like Wellington and Hillsborough, and the acquisition of Premier Waste Services LLC, a commercial collection company in the Dallas-Fort Worth area.

FCC Environmental Services also successfully completed the startup of these two main contracts, Wellington and Hillsborough.

The acquisition of Premier Waste has consolidated the commercial business in 2021 and this fact will place FCC as the largest local commercial company in the Dallas-Fort Worth region.

INHABITANTS SERVED 2021

3,946,135

Waste
collection

4,360,000

Waste
processingStreet
cleansingGround
maintenance

Sewerage

Beach
cleaning

Fountains

Facility
Management

Revenues for 2021 reached €111.9 million, nearly a 50% increase on 2020

FCC Environmental Services Commercial Division has a total of seven locations across three states, including Texas (Houston and Dallas), Florida (West Palm Beach, Daytona Beach, Lakeland, and Orlando), and Nebraska (Omaha). Currently, the commercial business provides service to industrial customers such as ExxonMobil, Indorama Ventures, major manufacturing facilities and large universities.

There's a three-prong growth strategy for the commercial line of business. First, to sell front-load and roll-off services to small, medium and large businesses. Second, expanding the current customer's portfolio and market all the additional services that FCC has to offer. Third, bringing new customers in and selling them profitable business by capitalizing on/off cycle and annual price increases.

In 2021 the commercial line of business exceeded the budgeted revenues and profitability by 95% and 44% respectively. Commercial sales included over 1,200 new customers from all FCC's locations across the US. Regarding demographics of commercial customers, 60% are retail, 30% manufacturing and industrial customers and 10% miscellaneous.

Revenues for 2021 reached €111.9 million, nearly a 50% increase on 2020, and the expected figure once all the contracted business is running in 2022 will be around €250 million. In the second year of the COVID Pandemic the company multiplied its EBITDA by 2.3.

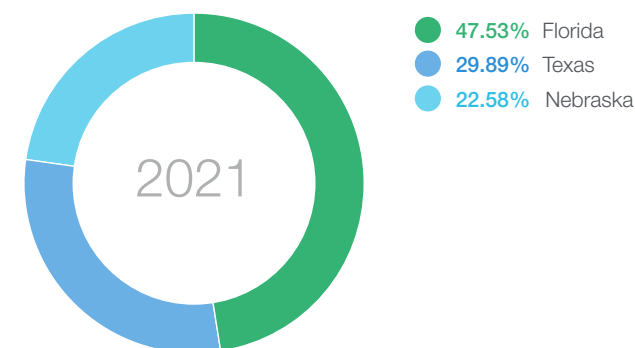
2021 FCC Environmental Services Activity

- City of Garland recycling material process contract renewal for 5 years (Texas, USA)
- Award of the solid waste collection contract for the Village of Wellington for 10 years (Florida, USA)
- Start of operations of the solid waste collection contract for the Village of Wellington (Florida, USA)
- Award of the solid waste collection contract for Hillsborough County for 8 years and 8 months (Florida, USA)
- Material Recycling Facilities of Houston and Dallas awarded the "gold level-certification" from the Glass Recycling Coalition of USA
- City of Mesquite recycling material process contract renewal for 1 year (Texas, USA)
- Expansion of the Omaha gas station (Nebraska, USA)
- Acquisition of Premier Waste Disposal (Texas, USA)

Facing 2022, FCC's strategy in USA is to keep tendering for and winning waste collection and recycling contracts and to consolidate the commercial business. It will also continue its vertical integration along the value chain, with the incorporation of post collection contracts and the acquisition of companies that fit in FCC's long-term development plan.

Regarding 2022, the Commercial line of business is budgeted to grow revenues over 60% YOY. This activity is one of the fastest growing businesses at FCC Environmental Services with limitless potential and upsides.

TURNOVER 2021. GEOGRAPHIC LOCATION



Activity in the Environment Area



Highlights Environment 2021

Play

January

- + FCC Medio Ambiente reinforces its presence in the East of Spain with the waste collection and street cleansing contract in Elche (Alicante, Spain)
- + FCC Medio Ambiente's ie-Urban wins Spain's Ecological Industrial Vehicle of the Year 2021 award (Spain)
- + FCC Environment achieves five-star grading in the British Safety Council's Occupational Health and Safety Audit (United Kingdom)
- FCC Environment's waste collection and street cleansing contract in the Sousa Valley starts operations (Portugal)

March

- + The Environmental Compound of the East Madrid Municipalities Association starts operations (Madrid, Spain)
- + FCC Medio Ambiente presents its new Sustainability Strategy 2050 (Spain)
- + FCC Medio Ambiente renews the contract for waste collection with the Municipalities Association for the region of Pamplona (Navarre, Spain)

May

- + FCC Medio Ambiente renews the contract for waste collection and street and beach cleansing in Mataró (Barcelona, Spain)
- + FCC Environment receives double accolade at the International Institute of Risk and Safety Management (IIRSM) Excellence Awards 2021 (United Kingdom)
- + FCC Environmental Services reinforces its presence in Florida with a new contract in the Village of Wellington (USA)

July

- + FCC Environmental Services obtains Gold Glass certification for its Dallas and Houston recycling facilities in the USA
- + FCC Environment expands its activities to the West Tyrol region (Austria)
- + FCC Ámbito awarded the glass management contract by Ecodrio for the Autonomous Regions of Aragón, La Rioja, Valencia and the provinces of Ávila and Segovia (Spain)

September

- + FCC Medio Ambiente takes charge of the waste collection and street cleansing service in Torrejón de Ardoz (Madrid, Spain)

November

- + FCC Medio Ambiente publishes its eighth Sustainability Report aligned with the SDGs (Spain)
- + FCC Environment delivers its 2021 Avanza Awards for quality, innovation, environment, and social initiatives (Spain)

February

- + FCC Medio Ambiente renews the contract for waste collection, street cleansing and sewerage maintenance in Cornellà de Llobregat (Barcelona, Spain)
- FCC Medio Ambiente reinforces its commitment to Barcelona with a new contract for waste collection and street cleansing (Spain)

April

- + FCC Medio Ambiente honoured with the Distinction for Equality at the Company (Spain)
- + FCC Environment reinforces its presence in the UK with the contract for food waste and recycling collection in East Lothian (Scotland)
- + FCC Ámbito participates in a wind-turbine blade recycling project to promote circular economy (Spain)

June

- + FCC Medio Ambiente is awarded the contract for the refurbishment and operation of the Valladolid Environmental Centre (Spain)
- + FCC Medio Ambiente first entity in the sector to join the Corporate Network for LGBTI Diversity and Inclusion (Spain)
- + FCC Medio Ambiente honoured at the IV Diversity and Inclusion Awards for Best practice in labour inclusion by the 4th CSR Master Plan 2018-2020 (Spain)
- + FCC Environmental Services reinforces its leadership position in Florida with a contract in Hillsborough County (USA)

August

- + FCC Medio Ambiente renews the 'Calculo-Reduce' ('Calculate-Reduce') seal granted by the Spanish Office for Climate Change (Spain)

October

- + FCC Medio Ambiente renews its commitment to Madrid city services (Spain)
- + FCC Medio Ambiente will build and operate the new organic material treatment facility in Valdemingómez, Madrid (Spain)
- FCC Environment is awarded the contract for the urban waste collection and treatment services for the city of Tarnobrzeg (Poland)

December

- + FCC Medio Ambiente takes charge of waste collection and street cleansing in Pozuelo de Alarcón (Madrid, Spain)
- + FCC Medio Ambiente awarded as a business showcase of best practice and sustainability in promoting health in the workplace (Spain)

2021

Other highlights

Distribution table of eligible investments by category in 2020

CATEGORY	SDGs	Investment (Million €)	(%)
Pollution prevention and control	   	191	94.86%
Energy Efficiency		0.63	0.31%
Clean Transportation	  	8.38	4.16%
Biodiversity Conservation		1.33	0.66%
TOTAL		201.34	

Distribution table of eligible investments by category in 2019

CATEGORY	SDGs	Investment (Million €)	(%)
Pollution prevention and control	   	744.52	90.35%
Energy Efficiency		11.72	1.42%
Clean Transportation	  	60.40	7.33%
Biodiversity Conservation		7.37	0.89%
TOTAL		824.01	

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

During 2021, the company DNV GL Business Assurance España, S.L. (DNV GL) has carried out the second external verification audit of the Green Bond annual report of FCC Servicios Medio Ambiente Holding S.A.U., on the use of the resources from the Bond until 31st December 2020

In November 2019 FCC Servicios Medio Ambiente Holding, S.A.U. published its framework for the issuance of sustainable bonds, linked to the United Nations Sustainable Development Goals (SDGs). Days later, FCC Servicios Medio Ambiente Holding S.A.U. issued its first green bond for a total of €1.1 billion.

At the close of 2020 more than €1.025 billion had already been allocated to projects for prevention and control of pollution, energy efficiency, vehicles powered by clean energies and biodiversity protection.

These investments have generated significant environmental benefits in the communities in which FCC Servicios Medio Ambiente operates. Thus, with projects in Spain, Portugal and United Kingdom, 2.7 million tonnes of CO₂e of Greenhouse Gas (GHG) emissions have been avoided.

IBERIA

FCC Medio Ambiente Spain



FCC Medio Ambiente takes charge of waste collection and street cleansing in Pozuelo de Alarcón (Madrid)

Pozuelo de Alarcón City Council renewed its trust in FCC Medio Ambiente and awarded the company the contract for the city's waste collection and street cleansing services, as it has been doing since 1983. The new contract involves a €150 million order book value for a 10-year period. To serve the 83,800 inhabitants of the municipality, the service has a workforce of around 240 people and a fleet of 96 vehicles and specialised machinery. The fleet is almost entirely ECO or Zero Emission environmental label. FCC Medio Ambiente's commitment to the city's sustainable development goes beyond the environmental sphere, so the company actively collaborates with the Gil Gyarre Foundation, whose mission is to attend to and support the life projects of people with intellectual disabilities and their families.



FCC Medio Ambiente renews its commitment to Madrid city services

Madrid City Council has awarded FCC Medio Ambiente the service contracts of two lots for street cleansing and another two for the comprehensive ground maintenance, which will serve more than one and a half million inhabitants. These services, together with the recent award of the maintenance of urban furniture service for lots 1 and 2, which cover the seven districts of the city's central area, represent a total portfolio of €652 million. To serve the 1,800,000 inhabitants, cover 2,300 kilometres of streets, 1,500 hectares and 166,000 trees, the contract has a fleet of more than 540 vehicles and a staff of more than 1,100 people. It should be noted that a large majority of the street cleansing vehicles and all of ground maintenance vehicles will be ECO or Zero Emission electric vehicles, which demonstrates Madrid City Council's commitment to a more sustainable and environmentally friendly city.



Awarded the contract for waste collection and street cleansing in Torrejón de Ardoz (Madrid)

Torrejón City Council has awarded a joint venture led by FCC Medio Ambiente the contract for municipal solid waste collection and street cleansing for the next 10 years for more than €142 million. FCC Medio Ambiente has been providing services in one of the most important towns in the Corredor del Henares area since 1983. The new service, which has a staff of 204 people, is based on greater mechanisation in the provision of services and on increasing the human and material resources on the streets, such as mixed sweeping and washing teams. 80% of the fleet will be renewed with low-emission hybrid, electric and Compressed Natural Gas (CNG) vehicles, which will have their own refuelling facilities.

IBERIA

FCC Medio Ambiente Spain



FCC Medio Ambiente will build and operate the new organic material treatment facility in Valdemingómez (Madrid)

The Madrid City Council has awarded a Joint Venture led by FCC Medio Ambiente the contract for the construction and operation of a new organic material treatment facility at the Valdemingómez Technological Park, which will serve the city's more than three million inhabitants. The order book value amounts to €33 million for a term of 4 years and 9 months with a possible 2-year extension. The plant is expected to be fully operational in 2023. The technological solution awarded will guarantee a high-quality level of the more than 37,000 tonnes per year of compost expected to be obtained in the production process, which will facilitate its use as class-A compost or fertiliser in accordance with the legal criteria established for this purpose.



FCC Medio Ambiente is awarded the contract for the refurbishment and operation of the Valladolid Environmental Centre

A Temporary Joint Venture led by FCC Medio Ambiente has been awarded the contract for the refurbishment and operation of the Domestic Waste Treatment and Disposal Centre (CTR in Spanish) by the Valladolid City Council, which serves 521,000 inhabitants all over the province. The total contract portfolio amounts to €138.43 million for a period of 11 years. The investment in the refurbishment of the environmental complex is around €45 million, it will be carried out along 15 months and aims to adapt the facility to the new waste management legislation. The new design is based on five separate lines for processing the corresponding collection fractions: organic or separately collected organic fraction (in Spanish, FORS), inorganic or residual fraction, lightweight packages, paper-cardboard, and glass. The new plant is scheduled to be operational at the end of 2022 and the contract provides for a 9-year operating period.



FCC Medio Ambiente reinforces its commitment to Barcelona with a new waste collection and street cleansing contract

Barcelona City Council has signed with FCC Medio Ambiente the new waste collection and street cleansing contract for the city centre and Ciutat Vella. The total order book value of the contract amounts to €830.87 million and is expected to last for eight years with the possibility of a two-year extension. FCC Medio Ambiente has been providing environmental services in Barcelona since 1911, with the first collection and cleaning contract dating back to 1915. It is worth highlighting the city council's commitment to sustainable development and to the environment, since of the 572 vehicles to be incorporated into the contract, more than 93% will have a ZERO or ECO environmental label, with 65% electric or electro-hybrid vehicles and 28% Compressed Natural Gas (CNG). The most notable novelty in waste collection is that the services have been designed to increase the selective collection rate from the current 36% to 55% by 2025. The service will be staffed by a team of more than 1,081 people.

IBERIA

FCC Medio Ambiente Spain



FCC Medio Ambiente renews the contract for waste collection, street cleansing and sewerage maintenance in Cornellà de Llobregat (Barcelona)

FCC Medio Ambiente has signed the renewal of the contract for waste collection, street cleansing and sewerage maintenance in Cornellà de Llobregat for a period of 10 years. The total order book value amounts to €100 million. FCC Medio Ambiente has been linked to the municipality for nearly 35 years. To attend to the almost 90,000 inhabitants of the city, the service has a staff of 145 people and a fleet of 61 vehicles and specialised machinery.



FCC Medio Ambiente renews the contract for waste collection with the Municipalities Association for the region of Pamplona (Navarra)

FCC Medio Ambiente signed with the company Servicios de la Comarca de Pamplona S.A. (SCPSA, Services for the Region of Pamplona) the renewal of the contract for the collection of solid urban waste for four years and an order book value of €48.6 million. The relationship with the Municipalities association of Pamplona, made up of 50 municipalities in Navarre, comes from September 1985, and the service has been provided uninterruptedly since that date. The contract provides service to more than 370,000 inhabitants with a fleet of 109 vehicles, to which 12 new units will be added, and from 2022 onwards the entire fleet will begin to be renewed with Compressed Natural Gas (CNG) vehicles, in line with the association's concern to achieve a cleaner and more sustainable environment. The workforce is formed by 183 people.



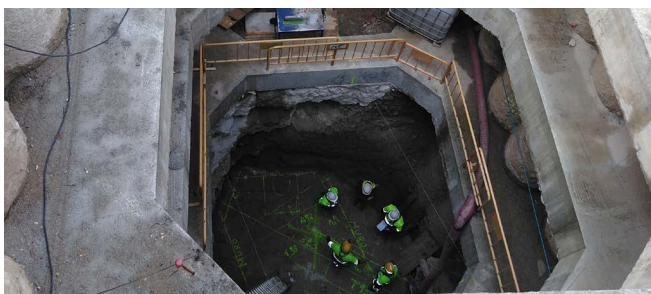
"La Campiña" Resource Recovery Centre in Loeches, for the Eastern Municipalities Association of the Region of Madrid, starts operations

'La Campiña' comprehensive Resource Recovery Centre (RRC) owned and promoted by the Eastern Municipalities Association of the Region of Madrid, and developed and operated by ECOMESA, 100% subsidiary of FCC Medio Ambiente, is located in the municipality of Loeches. It extends over a 60-hectare site and serves the more than 735,000 inhabitants of the 31 municipalities that make up the Eastern Association. The entry into service of the complex, on 1st April 2021, will avoid the annual emission of 90,000 tonnes of CO₂, give a definitive boost to the Circular Economy model in the Community of Madrid and meet the demanding recycling and landfill diversion targets of the European Union.

The facility, which supposed an investment of over €130 million is at the forefront of waste recovery and recycling technology in Europe, with the capacity to process up to 265,000 tonnes per year.

IBERIA

FCC Medio Ambiente Spain



Repair work on the Can Caralleu sewerage collector in Barcelona has been completed

FCC Medio Ambiente has repaired the collector of Barcelona's sewerage network that collects the water at the top of the Can Caralleu basin. The company has carried out the necessary actions and works on the collector and associated structures as a result of the blockage that caused the retention of the water that usually flows through the collector and caused serious drainage problems, including a "cushion" effect on the passage of vehicles. In order to access the collapsed area safely, a structural foundation pit of 75 square metres and 17-metre deep was built. Some of the main actions carried out were: earth-moving to prepare the working platform, soundings to locate the collector, repair of the collapsed section of the collector and its auxiliary structures, and reconstruction of the retaining wall.

FCC Ámbito



FCC Ámbito awarded the glass management contract for Ecodrio

FCC Ámbito has been awarded for its glass recycling division the public contract for the selective collection and temporary storage of glass packaging waste managed by ECOVIDRIO for the Autonomous Regions of Aragón, La Rioja, Valencia and the provinces of Ávila and Segovia, the latter through the Group company Marepa. The contract represents an order book value of €13.5 million for a period of eight years from 1st February 2022 in the regions of Aragón and La Rioja, Ávila and Segovia; and three years for the Valencian Community. FCC Ámbito has been providing uninterrupted service in these regions for more than 25 years, reaffirming its commitment to building more sustainable societies and strengthening the environmental values that unite the firm with ECOVIDRIO, the integrated glass management system with which it has been collaborating since its creation. This new contract involves collecting 62,000 tonnes/year of selective glass, which are placed in more than 20,000 containers (bottle banks) located throughout the country.



Finalisation of the second phase of soil decontamination in San Pedro da Cova (Portugal)

FCC Ámbito, through its Portuguese subsidiary ECODEAL, has executed the second phase of soil decontamination of an old mine located in the Portuguese town of San Pedro da Cova. During this phase, 163,000 tonnes of waste and contaminated soil have been removed. Most of the waste was transported via the railway network, with the consequent reduction of the carbon footprint, calculated at 461,161 kilograms of CO₂e.

Waste management contract at the Port of Seville

FCC Ámbito was awarded the waste management contract in the Port of Seville for a total of €1.2 million. The work was carried out in several phases throughout 2020 and 2021 and nearly 11,000 tonnes of various types of waste from an old industrial facility were managed.

IBERIA

FCC Ámbito



New waste linked to the energy transition

FCC Ámbito has continued to take firm steps to develop new lines of business related to the management of emerging waste linked to the energy transition, such as wind turbine blades, photovoltaic panels and electric vehicle batteries. During this year, a project has been launched to recycle wind turbine blades from the repowering of wind farms or those that have reached the end of their useful life or are defective, in which FCC Ámbito contributes its extensive experience in the recycling and commercialization of Secondary Raw Materials (SRM). This industrial-scale project would place Spain at the technological forefront of this industry in Europe and would contribute to the creation of more than 400 direct jobs and an innovative and exporting value chain.

UNITED KINGDOM

FCC Environment UK



Buckinghamshire Council awards Household Recycling Centres contract to FCC Recycling (UK) Ltd.

Buckinghamshire Council has awarded the new contract to manage and operate its nine Household Recycling Centres to FCC Recycling UK Ltd., FCC Environment UK's subsidiary (which in turn is 100% owned by FCC Servicios Medio Ambiente) as it has been doing since 2012. This renewal is worth £15 million (nearly €18 million) for a 5-year period with a possible extension of 5 years. The contract will serve 221,200 households representing more than 540,000 inhabitants and started operations on 1st April 2022. The awarded sites cover a total land area of over 1,500 km² and handle more than 60,000 tonnes of waste a year.



Five Star Occupational
Health and Safety
Audit 2020

Five-star grading in the British Safety Council's Occupational Health and Safety Audit

FCC Environment has successfully completed the best practice Five Star Occupational Health and Safety Audit conducted by the British Safety Council, demonstrating its commitment towards the continual improvement of their health and safety management systems. The company underwent a comprehensive, quantified and robust evaluation of its occupational health and safety policies, processes and practices. The audit procedure included documentation review, interviews with senior management, employees and other key stakeholders, together with sampling of operational activities. They have also demonstrated to an independent panel of experts that they are excellent in their health and safety management throughout the business – from the shop floor to the boardroom.

UNITED KINGDOM

FCC Environment UK



FCC Environment UK reinforces its presence in the UK with the contract for food waste and recycling collection in East Lothian

East Lothian Council has awarded FCC Environment the contract for food waste and recycling collection for a term of eight years. The total order book value of the contract amounts to £22.4 million (€26.14 million); service began on 1st May of this year. To service around 106,000 inhabitants of East Lothian, there will be 15 recycling vehicles and a staff of more than 40 people. Approximately 7,255 tonnes of recyclable material and 2,954 tonnes of food waste are collected annually. With the population expected to grow significantly over the length of the contract, FCC Environment will have a clear focus on driving up recycling rates and improving material quality in line with the Scottish Government's Household Recycling Charter.



FCC Environment receives double accolade at the International Institute of Risk and Safety Management (IIRSM) 2021 Risk Excellence Awards

FCC Environment has won two prestigious accolades at the Risk Excellence Awards from the International Institute of Risk and Safety Management (IIRSM). The company won the Barry Holt Award for Outstanding Risk Practice and Paul Stokes, its head of Safety, Health, Environment and Quality, was awarded the IIRSM President's commendation. In the past few years, FCC Environment's commitment with health and safety has been recognised with several awards, such as the 2020 International Safety Award granted by the British Safety Council or the Sword of Honour distinction which recognises companies that achieve excellence in risk management and occupational safety, among others.



The development of the Lostock Waste-To-Energy plant continues

Work continues with the first phase of the Energy from Waste (EfW) plant in Lostock which will be one of the largest EfW plants in the UK and Europe. It will have an electrical output of 60MW, enough to meet the needs of 110,000 homes, and will offset more than 200,000 tonnes of CO₂ per year. Located in the Northwest of England, it will process 600,000 tonnes of waste per year contributing to the UK government's strategy to reduce landfill and waste export. In April 2019, Copenhagen Infrastructure Partners (CIP) and FCC Environment jointly started the development of the facility which represents an investment of €570 million.

CENTRAL AND EASTERN EUROPE

FCC Environment CEE



Waste Collection and treatment contract in Tarnobrzeg (Poland)

FCC Environment has strengthened its position in Poland with the award of the waste collection and treatment contract for the city of Tarnobrzeg. The company has thus secured a turnover of around €7.5 million for the next three years. The collected waste will be treated at FCC Environment's treatment plant in Tarnobrzeg.



Awarded the contract for waste collection and treatment in Zabrze (Poland)

A consortium led by FCC Environment has successfully participated in the public contracting process for waste collection and treatment services for the city of Zabrze in Poland. The contract represents a turnover of €11 million for the next two years and ensures greater utilisation of the increased capacity of the company's treatment plant located in Zabrze.



Awarded the tender for the operation of waste treatment facilities in Braila County (Romania)

FCC Environment has won the tender for the operation of waste treatment facilities in Braila County, Romania. The company has been appointed to operate a transfer station, a sorting plant and a landfill in the region for the next eight years, with an order book value of €6.5 million. Thanks to this success, FCC Environment significantly expands its geographical reach in Romania.

CENTRAL AND EASTERN EUROPE

FCC Environment CEE



FCC Environment Austria expands its activities to the West Tyrol

FCC Austria Abfall Service AG has been awarded the contract for the transport and treatment of the municipal waste of the West Tyrol Waste Disposal Association (ABV Abfallbeseitigungsverband Westtirol). The contract, which started on 1st January 2022, has a term of five years, can be extended for up to 5 more years and represents an order book value worth up to €33 million. The waste will be transported from the Roppen transfer station, which is operated by the Contracting Authority, to the waste-to-energy facility of FCC Zistersdorf Abfall Service GmbH (100% subsidiary of FCC Austria Abfall Service AG) where it will be thermally recycled in accordance with the legal conditions and official requirements. The transportation of the approximately 20,000 tonnes of waste per year will be carried out via an intermodal MOBILER system with 53 m³ containers. Most of the journey (634 kilometres) will be done by rail. This solution is extremely environmentally friendly and avoids the emission of more than 1,400 tonnes of CO₂ every year.



Ending of soil remediation works at the wastewater treatment facility of Mořina (Czech Republic)

FCC Environment successfully completed in June the soil remediation project at the former wastewater treatment plant in the city of Mořina, near Prague (Czech Republic). The aim of the project was to remove soil contaminated by heavy metals that were a source of pollution for surface water and groundwater near the Budňanský stream. The area of the remediation works exceeded 4,000 m² and a total of 11,603.95 tonnes of waste was removed. The excavation sites were backfilled with inert material and covered with humus soil. As part of the land reclamation, 1,120 broad-leaved trees and 330 shrubs with the capacity to absorb heavy metals through their root system were also planted. The total investment of the project was €2.1 million.



FCC Environment continues remediation works at KIV/CIZ sewage lagoon (Czech Republic)

For the decontamination and recovery of the sewage lagoon of DIAMO s.p FCC's own patented technology is being used, based on the formation of an elastic final cover made by shredded end-of-life tyres and other recovery materials, mainly own certified products from the Hůrka and Temelín facilities. In 2021, 227,000 tonnes of both non-hazardous and hazardous waste were received at the Hůrka facility and used to produce the certified material. Approximately 560,000 tonnes of materials were used in the year in the rehabilitation of the KIV/CIZ lagoon; of these, 292,000 tonnes were of certified product, 80,000 tonnes of tyres and 188,000 tonnes of other materials. The project turnover was €9.6 million. For the remediation process, 188,000 tonnes of materials were transported to a railway siding, which has been restored and upgraded together with DIAMO s.p.

USA

FCC Environmental Services



FCC Environmental Services acquires a company in the USA

FCC Environmental Services has made its first acquisition in the North American market with Premier Waste Services, a company that has been providing commercial solid waste collection services in the Dallas-Fort Worth metropolitan area for more than 20 years. The company serves over 4,000 contracts with a fleet of more than 50 lorries. Premier's historical presence in the main commercial market in Texas, together with the experience of its workforce, assets, customer base and synergies with the existing FCC Environmental Services business, will be a real catalyst for the growth of FCC's commercial division in the area.



FCC Environmental Services obtains Gold Glass certification for its Material Recycling Facilities in the USA

FCC Environmental Services, has recently obtained the Gold Glass certification by the Glass Recycling Coalition for its Dallas and Houston Material Recycling Facilities (MRFs). This certification recognises the production of top-quality glass, as well as the efficient and state-of-the-art technology used for its recovery. It is one of the first companies in the country and the first in Texas to obtain this certification for material recovery plants. The US Glass Recycling Coalition evaluated the technology used and the saleability of the final product according to the glass quality specifications of the Institute of Scrap Recycling Industries (ISRI).



Leadership position in Florida with the contract in Hillsborough County

Hillsborough County (Florida) has awarded FCC Environmental Services the largest of the three lots in the new contract of residential and commercial solid waste collection. The contract foresees a term of eight years and eight months, with a potential extension of 4 years, and represents a total order book value of \$280 million (around €230 million). This agreement also grants FCC the exclusive franchise to provide the commercial collection service in the area which will add further \$100 million to the backlog. To service the city's 105,000 residences in the awarded area and cover the apartment blocks and commercial collection service, a fleet of 96 Compressed Natural Gas (CNG) lorries will be put into service. The mentioned fleet will be based at newly built facilities and will also include the necessary gas refuelling station.

USA

FCC Environmental Services



New contract for the residential urban solid waste collection service in The Village of Wellington (Florida)

The Village of Wellington in Palm Beach County (Florida) has awarded FCC Environmental Services the new contract for the residential urban solid waste collection service. The contract foresees a term of 10 years, with a possible five-year extension, and the order book value amounts up to \$135 million (around €112 million). The service started on 30th December 2021 and it also includes attending more than 670 commercial businesses. This contract will be managed from the company's existing facilities in the county, taking advantage of operational synergies and demonstrating FCC Environmental Services' commitment to environmental sustainability.



FCC Environmental Services awarded 3-year contract with the City of Garland (Texas)

FCC Environmental Services has been awarded the city of Garland's \$14 million (about €12.5 million) three-year recyclables management contract. With this contract, the company will process nearly 14,000 tonnes of recyclables produced each year by Garland's 230,000 residents at its recently opened recycling plant in Dallas, Texas.



FCC Environmental Services awarded new contracts and renewals in Texas and Nebraska

FCC Environmental Services strengthens its presence in the states of Texas and Nebraska with new contract awards and renewals. On one hand, it has been awarded a new waste collection contract in Omaha (Nebraska) for one year, and the contract for the city of Mesquite (Texas) for the management of recyclables has been extended. On the other hand, it has renewed for one year the contract for the management of recyclables for the city of Huntsville, a service provided at the company's recycling plant in Houston, Texas.

Excellence and sustainability

Service excellence

FCC Medio Ambiente's commitment to excellence benefits its entire value chain, from customers, suppliers, employees and, of course, all the citizens living in the communities in which the company provides services, mainly public customers.

For all these reasons, the services offered must have the alliances of all stakeholders and must respond to their expectations and to the trends in sustainability that mark the environment in the medium and long term in a constantly evolving context.

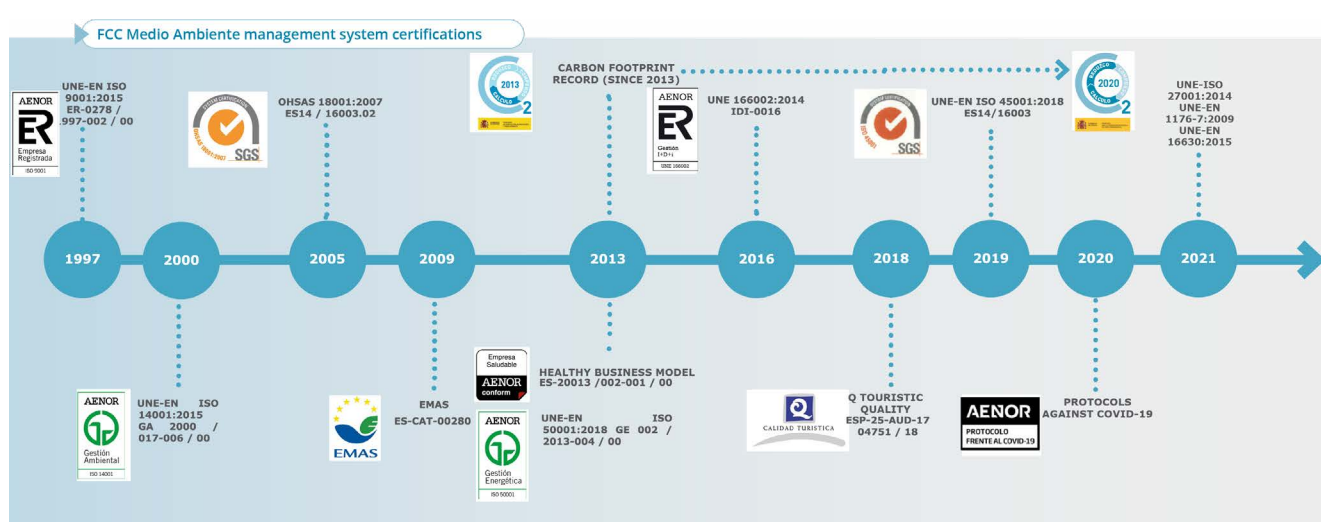
Since its implementation nearly 25 years ago, the FCC Environment Management System has evolved towards a 360° integrated system model (quality, environment, OHS, R&D&I and energy efficiency), based on the requirements of the main international standards of recognised prestige and standardises the work methodology developed in all the company's contracts, guaranteeing that the processes are carried out with rigour and in accordance with common procedures.

The Management System is an effective tool for assuring excellence to all stakeholders regarding quality, socially and environmentally sustainable and innovative services. The constant concern for customer satisfaction and the improvement of environmental performance is what led FCC Medio Ambiente to implement and certify management systems since 1997. The system includes procedures for Quality, Environment, Occupational Health and Safety, Energy Efficiency, Healthy Organisation, the

AENOR COVID-19 Protocols and even Tourism Quality. Taking a further step forward in 2021, FCC Medio Ambiente has certified the information security system, specifically VISION, the "Smart platform for the delivery of services to cities", the tool for comprehensive management which allows to meet objectives

for excellence thus responding to current and future requirements from customers, referred to the provision of services.

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



Sustainability

2021 Sustainability highlights



There have been several important milestones in terms of sustainability within FCC Medio Ambiente during the year 2021:

- FCC Medio Ambiente launched its **Sustainability Strategy** with a vision to **2050**, aimed at all activities in Spain and Portugal. It is an ambitious 30-year project, reflecting the company's commitment to support the achievement of the Sustainable Development Goals (SDGs) and address economic, social and environmental challenges at a global scale.

The 2050 Sustainability Strategy reflects the commitment to support the achievement of the **Sustainable Development Goals** and address economic, social and environmental challenges at a global scale

1 Environment: Circular Economy, Climate Action and Biodiversity Protection



CIRCULAR ECONOMY:

Achieving the EU's 2035 waste management targets



≥65%
of waste
recycling

≤10%
of waste disposed of
in landfills



CLIMATE, ENERGY AND POLLUTION:

Reducing GHG, pollution and noise emissions

Reducing GHGs by
-35%
between 2017-2030

Achieving **Climate
Neutrality**
by 2050

100%
ECO or zero-emission
vehicle fleet by 2050



WATER:

Addressing water stress by promoting efficient water use

Alternative sources:

50%
in 2030

100%
in 2050



BIODIVERSITY:

Protecting natural capital in the performance of our activity

100% of staff aware

2 Social: Human Resources and Society



STABLE EMPLOYMENT AND TALENT PROMOTION:

Creating quality jobs to attract and retain talent



Staff pride
and identification
with the company

National and international
**promotion and
internal mobility**

Increasing
percentage
of new recruits
of young
graduates



**Gender
balance**
in 2050

EQUAL OPPORTUNITIES:

Promoting diversity, social inclusion and equality

Increasing the volume and activity of
inclusive employment



SAFE AND HEALTHY COMPANY:

Ensuring safe working conditions and occupational health and well-being

Zero
serious or fatal
accidents

Among
2019-2050
in accident
rates

-50%
in accident
rates

-25%
in sick leave



STRATEGIC ALLIANCES:

Generating unions, partnerships and alliances for sustainable service management



Forging new **public-private partnerships** linked to the SDGs

3 Excellence: Smart Management, Innovation and responsible value chain



RESPONSIBLE PROCUREMENT AND MANAGEMENT SYSTEMS:

Spearheading the implementation of systems ensuring the quality and transparency of the value chain



Digitising management processes

Implementing a **green, responsible and innovative
procurement** model

Certification/accreditation

according to new standards, specifications, protocols and regulations



INNOVATION:

Maintaining our leadership in Research, Development and Innovation

Investing
at least 1% of Turnover
by 2050

FCC Medio Ambiente **honoree** as the
best Innovative Idea
at Smart City Awards in Barcelona



SMART CITIES:

Contributing to sustainable urban development through ICTs

100% of services under the "Smart Human & Environmental" model

4 Governance: Risk Management, Ethics and Anti-Corruption



RISK MANAGEMENT:

Organisational resilience

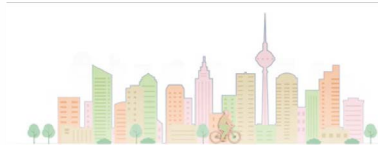
Supporting **contingency plans** for emergency situations



ETHICS AND ANTI-CORRUPTION:

Leading the way in compliance with ethical principles and the fight against corruption

Certification of the **compliance model** under ISO 37301



A long-term strategic vision for a
**MORE PROSPEROUS,
MODERN, COMPETITIVE AND
CLIMATE-NEUTRAL WORLD**

- Verification of the 2019-2020 Sustainability Report which publishes the achievements of the Sustainability Action Plan 20-22. This Plan is based on an integrated and inclusive management model, aligned with the principles of the 2050 Sustainability Strategy and within the framework of the global challenges that mark the path to achieving the SDGs. The publication of the report on a biennial basis allows the company to take stock and report on the progress made in achieving the goals and targets set for the periods indicated.
- Summary of the progress achieved in these two years. The pandemic and the economic and social crisis resulting from it have not allowed the company to meet some of the challenges set for the year 2020, which has led it to extend them until the year 2022.

The Sustainability
Action Plan 20-22 is based
on an integrated and inclusive
management model

Total:



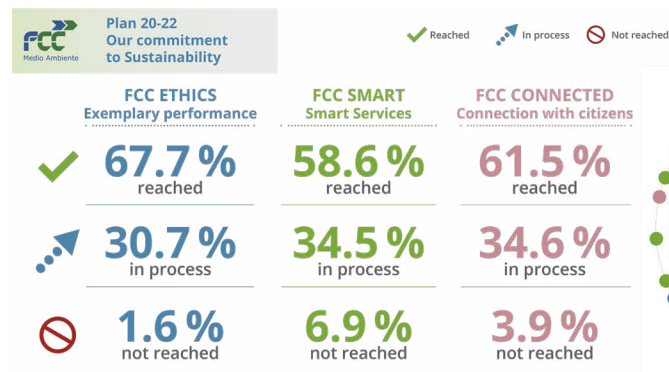
Progress made
Plan 20-22

63 % reached.

33 % in process.

4 % not reached.

Referred to categories:



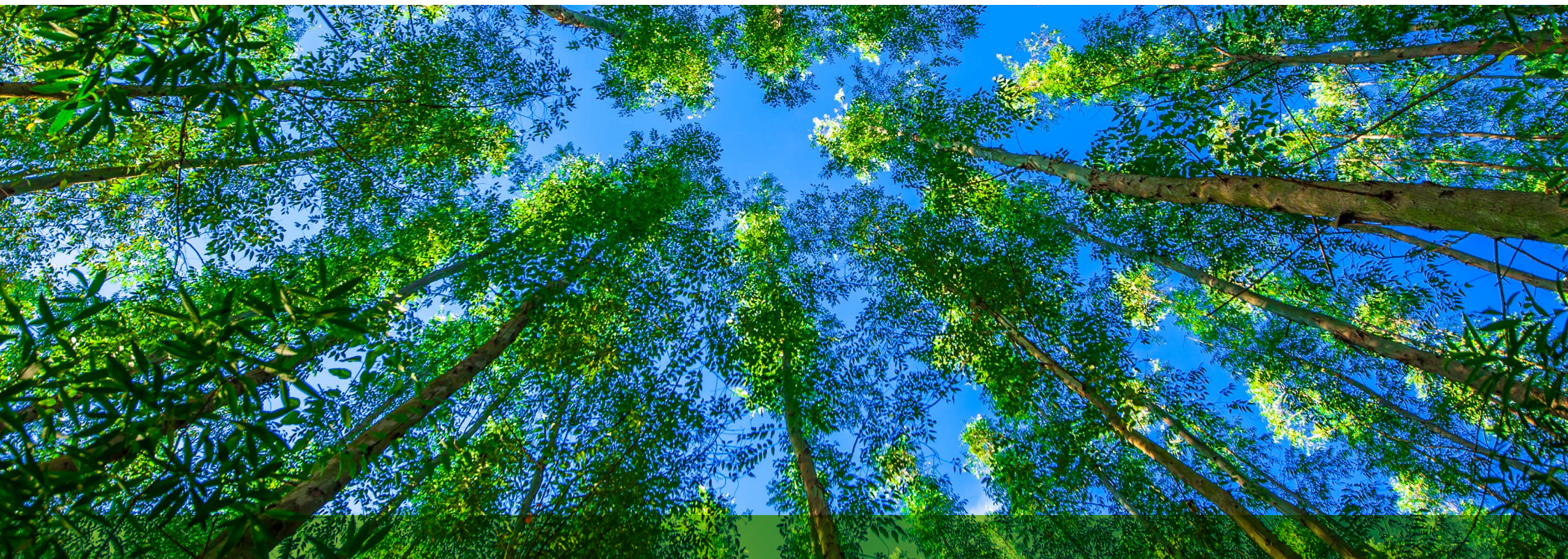
Other Sustainability highlights

In terms of climate change, FCC Medio Ambiente achieved an average emission intensity reduction for the period 2018-2020 of 4.28% compared to the three-year period 2017-2019, for Scopes 1, 2 and 3, on its way to achieving carbon neutrality by 2050.

- The Eastern Delegation of the Industrial Waste business adhered to Catalonia's climate action commitments.
- Joining the "Sustainable Digitalisation" initiative. This solidarity initiative, promoted by the CEOE Foundation and the SCRAPS, consists of donating electrical and electronic

equipment for reuse by disadvantaged people in order to reduce the digital divide in Spain.

- FCC Medio Ambiente was awarded the contract for the implementation and support of the ZERO WASTE certification in Las Tablas building (Madrid), headquarters of the FCC Group.



AVANZA AWARDS

Innovation Category

Ex aequo for the projects:

- **Implementation of Multi-fraction Containers with restricted access and Smart Collection System**

Delegation: Catalonia I

Authors: Miquel Boix i Moradell, Francesc Esquerra i Miró, Carles Gimeno Romero and Julio Arribas Ríos

In the city of Girona, a new waste collection system has been implemented, where the usual configuration of containers for the five fractions has been replaced by a configuration of one container for the organic fraction, one container for sanitary textiles and a multi-fraction container, which each day is allocated to a different fraction (paper/cardboard, packaging, glass and residual fraction) following a predefined allocation schedule. In addition, smart containers with access control and volumetric sensors have been installed.



- **Energy recovery from combustible waste as a replacement for natural gas**

Delegation: TRISA, FCC Ámbito East Delegation

Authors: Alberto Arense Morales, Judit Ríos Llamas, Laura Benítez Clemente, Agustí Gil Armengol and Ignasi Oller Corney

The project proposes the use of combustible liquid waste as a fuel in the Evapo-Oxidation Unit, thus replacing natural gas. This achieves the recovery of waste as opposed to elimination or disposal, as well as a reduction in CO₂ emissions compared to other types of processes. In economic terms, the consumption of a resource for which we pay (natural gas) is reduced, compared to a recoverable combustible waste for which we receive an income, which means increasing the margin in the management of this waste.



Environment Category

- **E-mobility Technologies in Building and Facility Maintenance services**

Delegation: Barcelona Capital City and Balearic Islands

Author: Daniel Sanz Caro

FCC Medio Ambiente is committed to the implementation of green technologies, which is why 22 units of PHEV KIA NIRO cars with the Spanish DGT's environmental Zero-Emission Label have been incorporated, previously adapted for industrial use. Moreover, additional charging points have been installed throughout the work area so that the maintenance technicians can optimise their journeys and thus maximise effective working times. In this way, employees start their working day at the customer's own centre without having to travel to the central facilities, also helping to minimise polluting emissions and reduce the CO₂ carbon footprint. Finally, a process of total digitalisation of the service has been carried out.



NEW FLEET WITH THE SPANISH DGT'S ENVIRONMENTAL ZERO-EMISSION LABEL FOR THE CATALAN HEALTH INSTITUTE AND CHARGING POINT FOR THE NEW ELECTRIC VEHICLES (BARCELONA)



Innovation and technology

Throughout 2021 and despite the pandemic situation, **FCC Servicios Medio Ambiente** kept on developing innovation projects.

To alleviate the unfavourable socio-economic conditions caused by the pandemic, the **Economic and Social Recovery or Next Generation Funds** promoted by the European Union represented a development opportunity for many municipalities. FCC will bring its customers value and know-how with the mission of addressing an approach for the future based on ground-breaking and innovative changes that will set the path for growth in the coming years.

For another year, **FCC Medio Ambiente** upheld the certification of its R&D&I Management System, in accordance with the UNE 166002 standard. The projects under development or in launching phase hosted by the system reached an investment of €3.77 million in 2021 compared to €2.34 million in 2020, an increase of 60.87%. They are classified into four areas of knowledge:

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

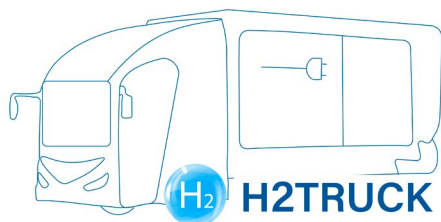
The **Economic and Social Recovery or Next Generation Funds** represented a development opportunity for many municipalities



Projects under development by line of work

Vehicles, mobile machinery and facilities

Projects associated with VEHICLES AND MOBILE MACHINERY



As the most important and remarkable milestone of the year 2021, FCC Medio Ambiente has been granted funds for the development of a new project named **“Research and development of a new heavy-duty vehicle for urban service applications with battery-hydrogen fuel cell hybrid technology (H2TRUCK)”** as part of the PTAS programme (Sustainable Automotive Technology Programme) in the framework of the funds granted by the Centre for the Development of Industrial Technology (CDTI) and supported by the Ministry of Science and Innovation within the Recovery, Transformation and Resilience Plan funded by the European Union.

The project is being developed by a consortium led by FCC Medio Ambiente and formed by prestigious companies such as Irizar, Jema and Calvera, and complemented by important public research bodies (PRBs) such as Insia, Tecnalia, Cidetec and the National Hydrogen Centre. It must be completed by December 2023, with a possible six-month extension, and has an eligible expenditure of over €5.5 million.

The aim of the project is to manufacture a prototype waste collection vehicle on a heavy-duty chassis-platform with 100%-electric propulsion powered by a hydrogen cell and lithium-ion battery hybrid system, with the ambitious objective that in the future this hybrid chassis can be applied to any equipment or machine that provides urban services, regardless of the number and layout of axles or the bodywork installed on it. Additionally, a mobile hydrogen-compression station will be developed thus allowing the prototype vehicle to be refuelled anywhere and therefore to work and be tested at any location.

On the other hand, throughout 2021 FCC Medio Ambiente has consolidated the new research projects launched in the previous year and, with the collaboration of its suppliers, it now has real prototypes under construction that will soon be in operation.



Rear-loading electric compactor collector.

These include the following:

- New rear-loading electric compactor collector with double-compartment bodywork, of 10 m³ capacity and very small dimensions on a special narrow chassis 2.2 metres wide. It works in electric mode throughout the collection process and has a self-recharging system for the batteries by means of a CNG engine.

- 100% electric tank vehicle for watering and washing streets, pavements and pedestrian areas on a 2-metre-wide chassis with a maximum authorised mass (MAM) of 18 tonnes. FCC Medio Ambiente has worked with a European manufacturer of new generation lithium-ion batteries so that they can be installed in this first prototype.

- First unit of an innovative compressed natural gas compactor collector, with a 2-metre-wide, side-loading body, on a chassis of very reduced dimensions (2 metres wide and maximum 7 metres long), which allows a legal payload of 5 tonnes of waste and which covers a range of side-loading collectors that did not exist to date.

■ **Pilot testing of the first all-electric urban service vehicle in Omaha, Nebraska**

FCC Environmental Services has tested its first all-electric collection vehicle in Omaha Nebraska. The pilot test was conducted in extreme conditions with very low temperatures.

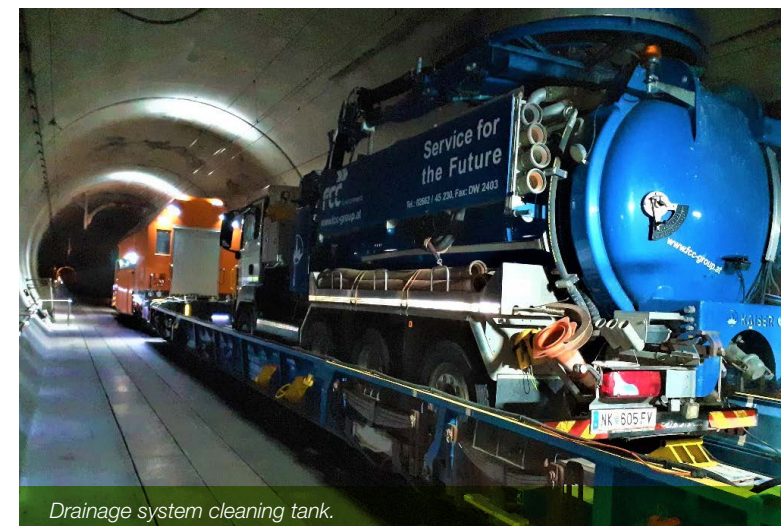
Innovative compressed natural gas compactor collector on a chassis of very reduced dimensions

■ **Validation of the European Union project “Assets4Rail” of FCC Environment Austria**

FCC Environment has been taking part in the EU project “Assets4Rail” which started in December 2018. Assets4Rail is a 30-month Shift2Rail project for cleaning drainage systems in railway tunnels without blocking the traffic. The new technology is able to clean tunnel drainage systems, including their slots, and simultaneously provide images of the pipe. During the validation test in May 2021 in the Pummersdorfer tunnel in Austria (near Vienna), FCC successfully tested the system and achieved a cleaning length of 1,024.5 metres.



USA Electric truck.



Drainage system cleaning tank.

Projects associated with FACILITIES

Compressed Natural Gas Station Expansion in Omaha, Nebraska

Successfully completed in 2020 the new state-of-the-art Compressed Natural Gas refuelling station in Omaha, with 72 refuelling slots and expecting an increase in customers due to the signing of several commercial contracts, FCC Environmental Services has planned an expansion to a total of 88 refuelling slots for current lorries and the future fleet, which has been carried out by TRU STAR in May 2021.

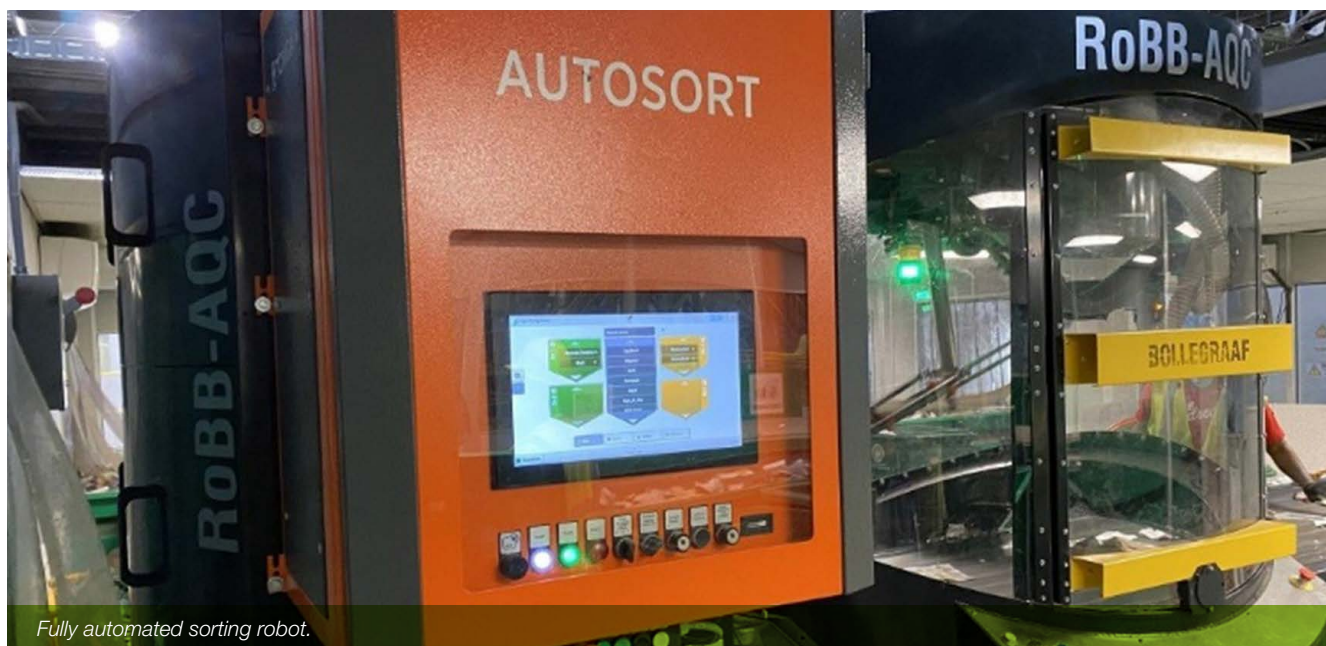
Installation of sorting robots at the Dallas and Houston Plants

FCC Environmental Services is committed to innovation in technology as an essential tool to consolidate and develop its position in the communities in which it operates. Over the past 6 years, fully automated robots capable of sorting and separating valuable materials during the final stages of the

waste sorting process have been installed at the Dallas and Houston Recovery Plants. The technology provided by the robot is based on a near-infrared (NIR) system that is highly accurate in identifying materials.



Compressed Natural Gas refuelling station in Omaha.



Fully automated sorting robot.

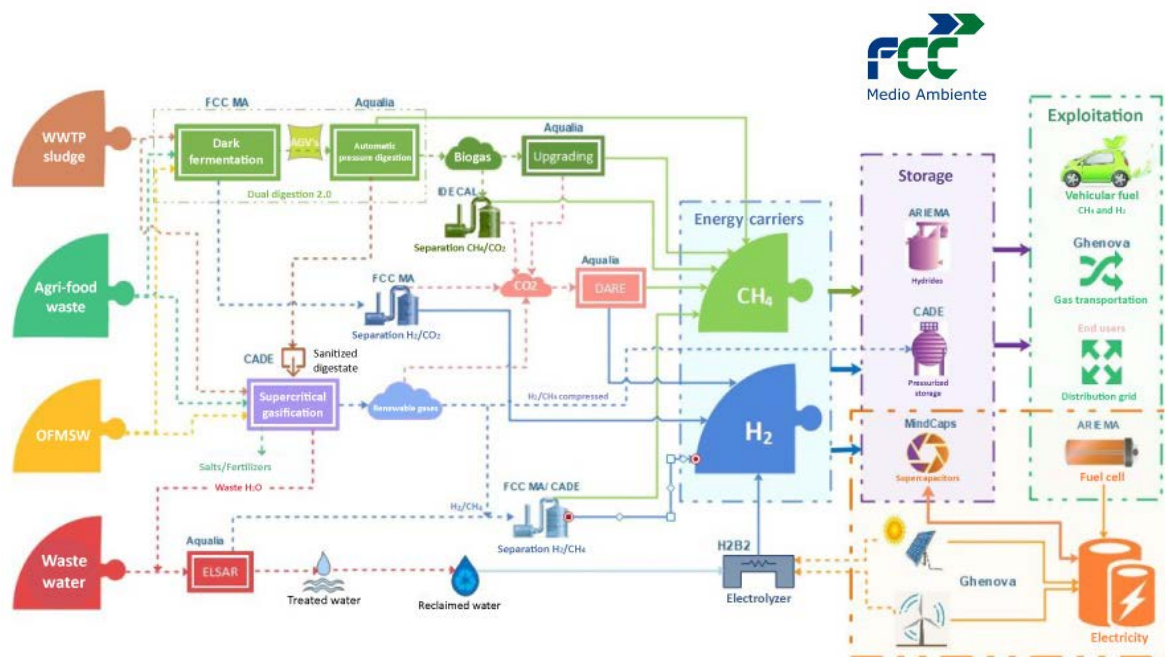
Management and recycling of waste - Circular economy

Leader in renewable fuels

FCC Medio Ambiente is committed to converting the “waste treatment centre” into a “producer of renewable fuels”. To this end, it has opened a line of research through the development of several projects financed within the framework of the EU's LIFE programme and a recently created line in which hydrogen is generated from bio-waste:



ECLOSION: New materials, technologies and processes for the generation, storage, transport and integration of renewable hydrogen and biomethane, generated from bio-waste (2021-2024)



The ECLOSION project will develop new materials, technologies and processes for the generation, storage, transport and integration of renewable hydrogen and biomethane, generated from bio-waste (urban, agri-food, wastewater and sewage sludge).

Developed by a consortium of eight Spanish companies, it has the collaboration of 10 prestigious research organisations, including research and technology centres (IMDEA Energía, CSIC, CIEMAT, CARTIF and AICIA) and universities (Valladolid, Extremadura, Castilla-La Mancha, Autónoma of Madrid and Girona).

FCC Medio Ambiente will validate at the Valladolid Waste Treatment and Disposal Centre (WTDC) a novel biological (Dual Fermentation 2.0) and thermochemical (supercritical gasification) system for the energetic use of the organic fraction of municipal solid waste (MSWOF) and agri-food waste, transforming it into hydrogen and biomethane at low cost. The resulting gas mixtures will be purified using innovative polymeric membranes and membrane contactors. The technical feasibility of using the plant's leachates to produce H₂ by means of an electrochemical process (electrolysis) will also be investigated.

The project has a budget of €6.6 million and funding of €4.45 million from the Centre for the Development of Industrial Technology (CDTI), within the framework of the 2021 call of the MISIONES CIENCIA E INNOVACIÓN Programme (Recovery, Transformation and Resilience Plan), and is supported by the Ministry of Science and Innovation of Spain. The aid granted to the project is financed by the European Union through the EU Next Generation Fund.



Project funded by the
European Commission
under the Life programme
LIFE19 ENV/ES/000283

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

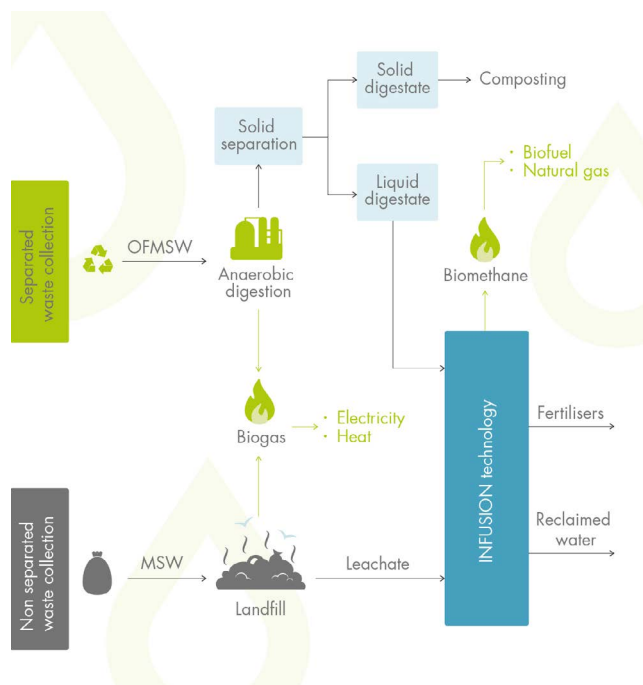
For more information: www.lifeinfusion.eu

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.



Prototype of the valorisation of the liquid fraction of the SSOF from the Life Infusion project.

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.



LIFE INFUSION Scheme.



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

For more information: www.landfillbiofuel.eu

Project co-financed by the European LIFE programme and approved in June 2019. It has a budget of €4.67 million and aims to enrich landfill biogas to produce biomethane suitable for vehicle use, achieving more efficient management by obtaining biomethane from a clean and abundant energy source.



Light vehicle powered by biomethane.

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



VALOMASK: Design and development of a sustainable management process for discarded masks (2021-2022)

Project developed by FCC Medio Ambiente with the participation of CARTIF to prevent masks from being disposed in landfills, providing a new solution to one of the major current environmental challenges arising from the context of COVID-19. This project will develop a process to characterise, classify separate and finally recover value from them.

This project has a total budget of €630,000 and will be co-financed by the Institute for Business Competitiveness of Castilla and León, within the R&D Line 2021 projects in the context of the COVID-19 outbreak.

been under development since 2018 at the Ecocentral Environmental Compound in Granada, and in 2021 another project started at the Domestic Waste Treatment and Disposal Centre (CTR in Spanish) in Valladolid:



LIFEPLASMIX (LIFE18 ENV/ES/000045: Plastic Mix Recovery and PP & PS Recycling from Municipal Solid Waste) (2019-2024)

For more information: www.lifeplasmix.com

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 PP). It has a budget of €5.34 million.



LIFE4FILM (LIFE17 ENV/ES/000229 Post-consumption film plastic recycling from municipal solid waste) (2018-2022)

For more information: www.life4film.com

Project led by FCC Medio Ambiente, its main objective 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 Compound in Granada, with the aim of demonstrating its profitability and replicability at a European level.



LIFE PLASMIX Scheme.



The sustainable path for waste management in optimisation of composting



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

A CIEN (National Business Research Consortium) programme project 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 high added value for the industry (human food sector, nutraceuticals/pharma, animal nutrition, fertilisers and chemicals).



Creation of new by-products and biomaterials



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 817788

SCALIBUR (Scalable Technologies for Bio-Urban Waste Recovery)

For more information: www.scalibur.eu

Horizon 2020 project that seeks to make the most of bio-waste, producing new by-products and biomaterials from it. A complete study of the quality, logistics and treatment systems for municipal solid waste and WWTP sludge is carried out in order to obtain new by-products with high added value.



SCALIBUR Scheme.

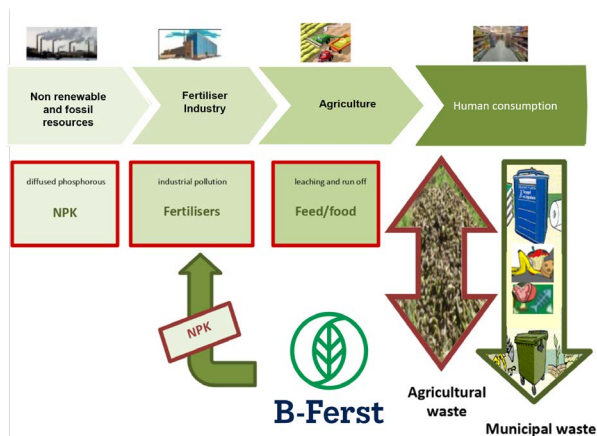
Creation of new by-products and biomaterials (cont.)



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

For more information: www.bferst.eu

The main goal of the project is to integrate the recovery of bio-waste into agriculture by creating new bio-based circular economy value chains, generating new mineral and organomineral fertilising products, as well as developing appropriate nutrient blends for agricultural application.

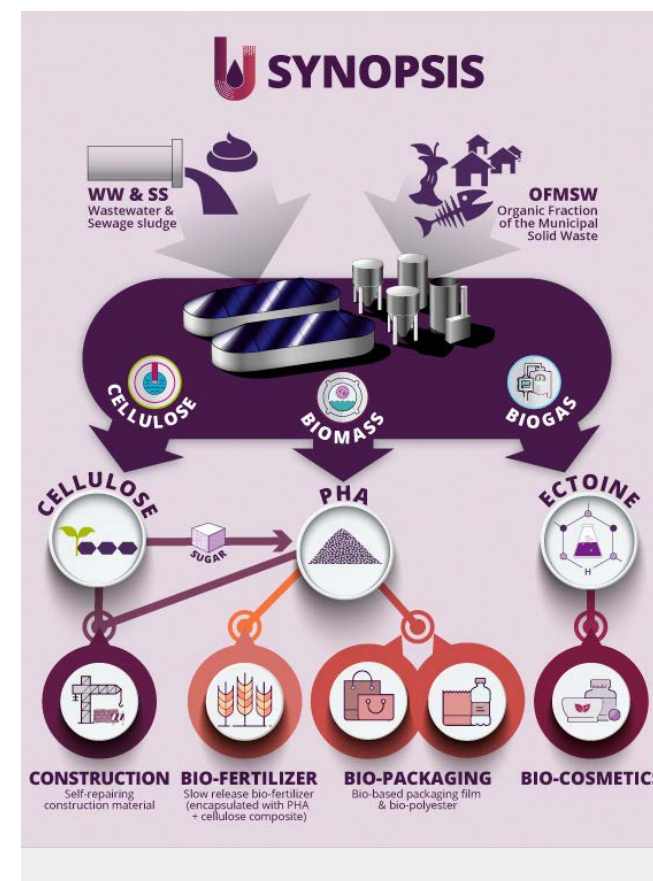


DEEP PURPLE Domestic Extraction of Emerging Products with Purple Phototrophic Bacteria

For more information: www.deep-purple.eu

This project is co-funded by the Bio-Based Industries Joint Undertaking in the European Union's Horizon 2020 Framework Programme for Research and Innovation.

The project proposes a synergistic and integrated treatment for the valorisation of three types of bio-waste: the organic fraction of municipal solid waste, sludges from wastewater treatment plants (WWTP) and urban wastewater, by means of a multi-platform photo-biorefinery based on phototrophic purple bacteria. This new concept will enable the generation of five new bio-products with commercial applications in the cosmetics, plastics, construction and fertiliser sectors.



Waste gasification



RECYGAS Urban solid waste recovery through the production of recycled Syngas

For more information: <https://www.energy.sener/es/proyectos/recygas-valorizacion-residuos-solidos-urbanos-mediate-gas-reciclado>

The project studies in more detail 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 towards recycling.



Europar Batasuna
Unión Europea

Fondo Europeo de
Desarrollo Regional (FEDER)
"Una manera de hacer Europa"

Eskualde Garapenerako
Europar Funtza (EGEF)
"Europa egiteko modu bat"



EUSKO JAURLARITZA
GOBIERNO VASCO

Waste management and recycling: Use of wastewater for forestry and agricultural applications

FCC Environment in Czech Republic in cooperation with experts from Technical University of Ostrava, the Institute of Environmental Technologies and the University of Ostrava, is seeking a method for the use of such waste sludge in agriculture and forestry, within the framework of the Sludge-based Substrate to Agricultural and Forest Land (SSTAFL) research project.

The aim of the project is to develop and analyse mixed substrates or soil improvers or plant preparations using dewatered, sanitized, stabilized sludge from municipal wastewater treatment plants. Knowledge and technologies applied in practice will lead to an increase in agricultural and forestry production bearing in mind the climate change (especially regarding the lack of soil water content) as well as to improved soil quality, consistent with the principles of sustainable soil management.



Information and communication technologies

VISION

Within the framework of providing services to cities, it is essential to consolidate ICT (Information and Communication Technology) tools or technological systems that allow for the definition of main challenges and that support the provision of effective, efficient, sustainable and comprehensive services.

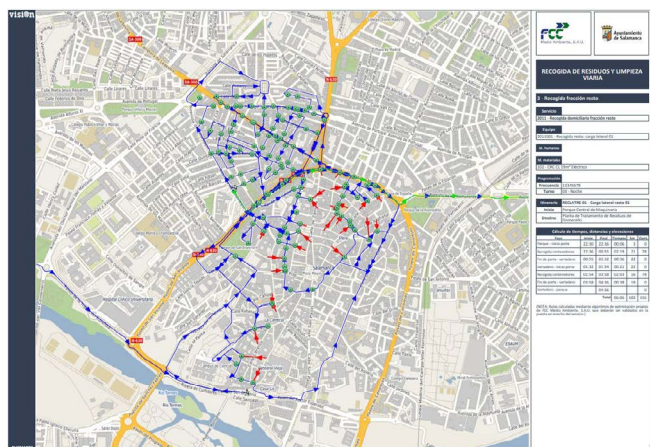
In order to store and manage production, legal, environmental, resources (material and human), validations and services aspects that facilitate the orientation towards excellence in the work, it is necessary that they are managed together through a comprehensive system.

FCC Medio Ambiente has developed “VISION – Smart platform for the delivery of services to the cities” which allows to meet the objectives described, responding to the current requirements of the customers and being prepared for the future challenges that appear in the provision of the services.

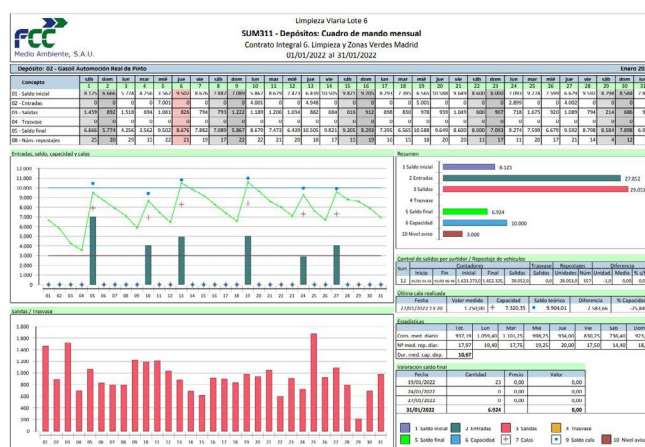
During 2021 technological upgrades were undertaken to ensure performance, security and continuity for the business and specifications have been created and extended in different modules, among which the following stand out:

- Integrated management of vehicle insurance. The insurances generated by the insurance company are obtained, including the policies, and their subsequent distribution to the contracts.

- Analysis of water risk parameters associated with work centres. Based on graphic and alphanumeric information imported from an international database, it makes it possible to study the level of exposure to the main water risk parameters for each work centre.
- Map reports with VISION backgrounds. Added functionality to print reference cartography in sector maps according to user-defined backgrounds.
- Integration with SIRA, eSir and GAIA platforms to comply with RD 553/2020. Creation of the necessary entities and structures for the creation of Shipment Preliminary Notes, as well as Waste Identification Documents.
- Management of each contract's occupational health and safety risk assessment and issuance of the legal document, which is required for all contracts.
- Integration of data associated with waste collection, between the VISION platform and the management platforms from the Municipalities Association for the region of Pamplona and from El Prat de Llobregat City Council.
- Running jointly with Spot Amazon. Thanks to the operational scale of AWS, Spot instances offer scalability and cost savings for running workloads.



Collection route with time calculations, distances and bin lifts.



Monthly deposit score card.

FCC ONLINE SOLUTIONS

In line with the priorities defined in its strategy for the 2018-2022 term, FCC Environment continues to improve the existing online products and developing and implementing new solutions and communication channels with its customers.

- **“Back2Life”** (<https://www.back2life.sk/>): **virtual second-hand shop** that supports the principle of reuse and the circular economy, giving a second life to waste.
- **Moje Smeti** (My rubbish): Launch in June of an Innovative automated electronic container emptying registration system for cities, municipalities and citizens in Slovakia.

Sustainable development

Effective sealing solution for metal mining waste deposits for the control of potentially toxic elements

Project initiated in 2021 that develops a novel effective sealing procedure for mining waste deposits consisting of the installation of a multi-layer physical barrier based on a technology proved in a pilot test on a small scale but pending validation at higher levels to see its industrial viability. In addition, during the project, the suitability of incorporating materials from waste of different origins in the formation of granular sealing layers will be

researched, thus combining in the same project the development of environmental care solutions with the promotion of the circular economy.

The project has received funding from the he Centre for the Development of Industrial Technology (CDTI), with the collaboration of the Polytechnic University of Cartagena. The work will be carried out in the region of Murcia, in an area with significant environmental liabilities and it is expected that the project will provide positive results that can be applied in this region and contribute to improving its environmental quality.

