



Activity Report 2009
ABENGOA

7.3 Environmental Services

Befesa is an international company that specializes in the integral management and recycling of industrial waste and in water management and generation, with full awareness of its social responsibility to help create a sustainable world.

www.befesa.com

International Presence



Key figures 2009

Revenue (M€)	722
Gross Cash Flows (M€)	119
Desalination capacity (Mm ³ /day)	1.2
Waste managed (Mt)	1.8
Average number of employees	2,698
Hours of training	92,149

Our Business

The industrial waste treatment and recycling market's main growth vectors are the rapidly expanding world population and increased pressure from environmental laws and regulations.

These two macro trends are governing the development and evolution of the market in which Befesa carries out its industrial waste treatment and recycling activities. However, there is still considerable divide between the environmental laws and policies in different regions of the world: Europe is the area facing the greatest pressure from environmental legislation, whereas in Asia such laws and policies are still in their infancy, with the United States and Latin America standing somewhere in between.

As these regions gradually adopt stricter regulatory policies, the market for industrial waste treatment and recycling will slowly open up. In 2009, the global economic situation had a widespread impact on the markets in which Befesa operates, such as the automotive industry directly related to the aluminum recycling business.

Yet in spite of the prevailing gloom, Befesa has been able to take advantage of opportunities to improve its competitive standing in the markets in which it operates. An example of this is to be found in its acquisition of three salt slag recycling plants in Germany, which will enable Befesa to become a European market leader in that industry.

At Befesa we have taken the necessary steps to bring our business volume in line with current market levels. Coupled with the management policies which have been in place for some time, this move has allowed Befesa's industrial waste treatment and recycling units to report notably better results than the markets they serve.



Befesa's other line of business is the management and generation of the integral water cycle.

The water generation and transport market – and particularly the global desalination market – is currently experiencing sharp growth, which is set to continue for the next few years. This growth is mainly due to two global-scale events: on the one hand, the planet's growing population and, on the other, its scarce water resources, both exacerbated by global warming.

Befesa enjoys a dominant position in the main markets in which desalination is due to grow most significantly in coming years, such as Asia-Pacific, the Middle East, North Africa and the United States.

Having always been at the forefront of seawater desalination plant engineering and technology, Befesa leads the way in the Spanish water desalination market and is one of the providers of reference on the international stage. Thanks to this position of leadership, Befesa currently enjoys an unrivalled position for future growth on a global scale.



In short, Befesa carries out four different activities encompassed within two divisions: industrial waste management and water. These four activities are: salt slag and aluminum waste recycling, steel and galvanization waste recycling, industrial waste management and water. Befesa manages over 1.8 Mt of waste, allocating over 1 Mt to the production of new materials through recycling and preventing 0.6 Mt of CO₂ emissions per year. Befesa can desalinate over 1.2 Mm³ of water per day, equivalent to supplying 6 M people.

And this is how the company defines its mission: Befesa provides viable innovative solutions for industrial waste treatment and management and water generation and transport, the aim being to become a world reference in the sectors in which it operates, while helping to forge a more sustainable world. This commitment is reflected in Befesa's lines of business:

- Befesa recycles aluminum waste without generating more waste in the process, thus fully completing the cycle.
- Befesa manages ordinary steel and stainless steel waste, as well as waste from the galvanization process by recycling a variety of metals and, therefore, preventing their dumping and minimizing the need for further mining.
- Befesa designs and builds infrastructures for safe, efficient and environmentally friendly waste management.
- Befesa manages, transports, treats and temporarily stores hazardous and non-hazardous industrial waste for valorization, recovery, reuse or eventual controlled disposal.
- Befesa generates water using seawater desalination technologies, reusing urban wastewater and modernizing irrigation systems to reduce consumption.
- Befesa protects rivers and coastlines by purifying urban and industrial wastewater.
- Befesa contributes to social and financial development by making water drinkable and providing the rural and agricultural communities with irrigation systems.
- Befesa develops technologies to improve the efficiency of the integral water cycle.



Befesa aspires to become a world leader in integral industrial waste management and water generation, management and transport, thus contributing to sustainable development.

One of the main levers supporting Befesa in the pursuit of this goal is research, development and innovation (R&D&I). Befesa operates in areas in which technology plays a key role. Because of this, its strategic R&D&I plan aims to coordinate and manage actions in this area, focusing on the creation of value and generating returns from investments. In order to achieve this aim, Befesa has a new R&D&I center in the province of Seville (Spain), as well as a variety of strategic partnerships and external collaborations with universities, institutions and research centers, enabling it to stay abreast of the most recent developments and make more efficient use of resources.

Befesa has a significant worldwide presence, with offices in twenty countries in four of the five continents. In Europe, our salt slag and aluminum waste recycling activity and

steel and galvanization waste recycling activity are carried out in treatment plants located in Spain, Germany, France, Sweden and the United Kingdom. The industrial waste management business has a significant presence throughout Spain and Latin America. With regard to the water business, Befesa boasts a prominent global presence, with important projects in China, India, Algeria, the Maghreb, the Middle East, the United States and Latin America.

Befesa has an ambitious strategic plan in place to continue growing organically in the markets in which it operates. It intends to do so by building facilities to boost its market share (especially in China, the United States, India and Algeria) and by entering new markets in which the company does not currently operate and where it can use its technological knowledge as a tactic for development.

Befesa has a diversified customer portfolio, ranging from both regional and national public bodies to large companies in important industries, such as the steel, automotive and chemical sectors.

Recruiting and retaining talent is one of the main pillars on which Befesa's future growth strategy is based. This is because the nature of the company's activities, in which technological leadership plays a fundamental role, means that attracting and retaining both technical and commercial talent is key to ensuring future success.

The company's business is based on sustainable development, around which its activities and strategies revolve. Because of this, Befesa's mission, vision and values reflect its firm commitment to financial and social progress, preservation of the environment and respect for fundamental rights. Through this business model, Befesa's activities are aimed at:

- Creating long-term value for shareholders.
- Providing service to customers.
- The professional and human development of its employees.
- The growth of the societies in which it carries out its activities.
- Developing sustainable solutions for the management of industrial waste and the integral water cycle while fully respecting and preserving the environment.

2009 in Review

The year 2009, an intense one for Befesa, was largely characterized by two different factors: On the one hand, the global financial climate had a widespread impact on the markets in which Befesa's industrial waste recycling lines operate, with a knock-on effect for the company's business. On the other, the international water business made great progress and laid the foundations for future growth.

In 2009, Befesa acquired the production assets of the German companies Aluminium-Salzschlacke Aufbereitungs GmbH and Alsa Süd GmbH. These companies are fully-owned subsidiaries of Agor AG and specialize in salt slag treatment and recycling. The assets acquired comprise three production plants located in the German towns of Hannover, Lünen and Töging and featuring the most advanced technology in the market, with a combined treatment capacity of 380,000 t of waste per year and with a replacement value of over €100 M. This acquisition makes Befesa the European leader in salt slag recycling, with five production plants strategically distributed across Europe.



In the water business, Befesa carries out its international activities through subsidiaries created in other countries to perform specific projects and sustained work in “target” markets. Befesa is already operating in the Chinese and Indian local markets through the companies Befesa Infrastructure India, Pvt. Ltd. and Qingdao BCTA Desalination Co., Ltd, and through its liaison office in Beijing. In the North American market, it operates through NRS Consulting Engineers and Befesa WaterBuild. In other countries in which it wasn’t necessary to create a new company, it operates through the permanent establishments or branches of Befesa Agua.

2009 saw the completion of the construction and launch of the Skikda desalination plant (northern Algeria), which has now entered the production stage. Using reverse osmosis, the plant will produce 100,000 m³ of drinking water per day, with capacity to supply a population of 500,000. The expected income over 25 years for the company licensed to sell the water is estimated at over \$564 M. With regard to Befesa’s other projects in Algeria, 2009 witnessed the commencement of construction work on the Tenes desalination plant (Chlef region) and continued progress on the Tlemcem-Honaine desalination plant. Each plant will have a daily water production capacity of 200,000 m³.

On a separate matter, a financing deal was struck in July to design, construct and operate for 25 years the Qingdao seawater desalination plant in China. The project, which will

require a total investment of €135 M, will have a desalination capacity of 100,000 m³/day, with the capacity to supply a population of 500,000 with drinking water. It is estimated that the plant will generate revenues of over €654 M from the sale of water during its working life.

2009 also heralded an agreement with the Sri Lankan government for the first phase of the project to supply the city of Ratnapura and its surrounding area with drinking water. Among other actions, this project involves building a treatment plant in Muwagama, with a capacity of 13,000 m³/day and an investment value of almost €26 M.

During 2009, Global Water Intelligence (GWI), the prestigious international publication specializing in water, awarded Befesa Agua its best desalination company of the year accolade for its outstanding contribution to the desalination industry in 2008. The award was granted in recognition of Befesa's outstanding performance during the year, having secured its fourth contract in Algeria, namely the Tenes desalination plant; having created a joint venture in Qingdao to start work under the BOOT (Build, Own, Operate and Transfer) model, which will be the first desalination concession built and operated under this model in China; having penetrated the North American market through its acquisition of the Texan companies NRS and WaterBuild, which have extensive experience in desalinating sea and brackish water and conducting tests for the Texan public service; and, finally, having made considerable advances in relation to the Skikda plants (Algeria) and the construction of the Chennai desalination plant (India).

In the field of R&D&I, Befesa completed work on its new R&D&I center in Dos Hermanas, Seville (Spain), where it has already begun research on water generation and waste management. The facilities, which can house 70 researchers, have a total of 3,000 m² of floor space, used primarily for testing, laboratories, offices, control room, exhibition room and multi-use room.



Our Activities

The aluminum waste recycling area provides collection and treatment services for aluminum-containing waste, manufactures and markets aluminum alloys and designs, builds and assembles equipment relating to aluminum recycling. This line of business is particularly effective in reducing CO₂ emissions as compared with the primary aluminum

sector. It also recycles salt slag and hazardous toxic waste generated by the aluminum waste recycling process. Recovering salt slag is the alternative to dumping and its aim is to separate metallic aluminum, salt and aluminum oxide for subsequent reuse. This activity enables us to fully close the recycling cycle and use all aluminum-containing waste.

The steel and galvanization waste recycling line focuses on the treatment and recycling of waste resulting from the manufacture of ordinary and stainless steel and of waste produced in the steel galvanization process. Befesa has eight production plants in Europe to carry out such activities. These play a fundamental role in the zinc recovery cycle, avoiding the pointless loss of tons of this material by cutting down on dumping and helping reduce the need to mine zinc, nickel and chrome. Befesa is the European leader in the treatment and valorization of steel dust and the only company in Spain to offer an integral steel dust collection and treatment service for valorization.

The industrial waste management division carries out integral waste management in industry. It is involved in all stages of the industrial waste management cycle, ranging from transport, temporary storage, treatment and valorization to final recovery and disposal of the waste in a controlled and safe manner, in accordance with both Spanish and European environmental law. It also provides a broad range of high value-added industrial cleaning services to most industrial sectors. In addition, it has an area that provides effective solutions for the collection, transport and removal of PCB-contaminated materials, transformers and condensers, as well as in relation to the recycling of film used to cover greenhouses. This unit also performs desulfurization work to produce sulfuric acid from residual sulfur, while generating electricity, which is then sold and returned to the grid. Finally, it provides integral soil decontamination solutions.

Befesa Agua's activities include the production, management and transportation of water through new technologies, and the design, construction and operation of infrastructures. Befesa Agua specializes in the construction of large desalination plants that employ reverse osmosis technology and is widely considered to be one of the world leaders in this field. Other product lines include wastewater and industrial water treatment, hydraulic works and management of hydraulic infrastructures. Befesa thus operates throughout the integral water cycle.

Aluminum Waste Recycling

Befesa is the current European leader in aluminum waste and salt slag recycling. In addition, it is the only recycling company that carries out both sides of the aluminum waste recycling process.



Befesa's current growth strategy in this area contemplates organic growth in the aluminum recycling business in Central Europe, as well as international expansion in the salt slag business, thus promoting the company from its current status as European leader to a position of worldwide dominance.

The main competitive edges underpinning Befesa's goal of continued sustainable growth include an in-depth knowledge of the processes and technologies involved in aluminum waste recycling, a broad range of products derived from secondary aluminum and excellent commercial relations with customers and suppliers of raw materials.

Aluminum Waste Recycling

The Aluminum Waste Recycling business unit recovers aluminum contained in various types of waste and scrap metal. Befesa carries out this activity by collecting and transporting waste and aluminum scrap metal, carrying out its integral recovery and producing and marketing secondary aluminum alloys. The main use of recycled aluminum waste is the production of alloys and their sale to the automotive industry for the manufacture of components, as well as to the construction industry. It is worth noting that this line of business is particularly effective at reducing CO₂ emissions as compared with the primary sector. Befesa carries out these activities at three plants – Vizcaya, Valladolid and Barcelona (Spain).



2009 was dominated by a deep global recession and therefore witnessed a sharp downturn in both sales and prices, which plummeted to all-time lows. Despite this situation, Befesa remained a market leader and a key player not only in Spain – where its leadership is unquestionable – but also in Europe. June saw the successful completion and integration of the merger between the three secondary alloy production companies, Aluminio Catalán, S. L., Befesa Aluminio Bilbao, S. L. and Befesa Aluminio Valladolid, S. L., allowing us to streamline structural costs and improve the company's administrative management. All the actions undertaken during the year were intended to increase the productivity of our various plants, reduce energy costs and improve the service provided to our customers.

Thus, in 2009 Befesa Aluminio recycled around 89,100 t of various types of aluminum waste, leading to 68,300 t of alloy production and sales and avoiding the equivalent of 683,400 t of direct CO₂ emissions.



Salt Slag Recycling

Befesa's aluminum waste recycling system encompasses the recovery and integral valorization of all the waste generated in the aluminum industry, including both the primary and the secondary industries, as well as the goods produced with aluminum at the end of its life cycle. It is precisely the Salt Slag Recycling business line that brings this process round full circle and gives it its meaning.

As is also the case with the manufacture of parts and other products, oxides and other impurities are incorporated along the aluminum production value chain. The valorization of these is more costly, both because of the technical difficulties involved in the industrial process and because of the lower financial value of the products which can be recovered. Befesa has developed proprietary technology to increase the sustainability of an industry that deals with a metal with a particularly important role in reducing greenhouse gases in the transportation sector. It is worth remembering that one of the defining properties of this metal is its lightness in comparison with the alternatives.

Salt slag valorization plants are also designed to recover other types of waste from the aluminum industry, such as gas filtering dust from smelting furnaces and the dust obtained from milling and grinding aluminum sludge.

In 2009, Befesa acquired three salt recovery plants in Germany, thus becoming Europe's main salt slag management company. In addition, its technological knowledge will enable it to expand towards other geographical markets, such as the United States, the Persian Gulf and others.

Befesa is thus contributing to sustainable development through five plants specifically designed to treat this type of waste. The plants are located in Valladolid (Spain), Whitchurch (United Kingdom) and Lünen, Hannover and Töging (Germany) and have a combined capacity of 630,000 t. This is in addition to the management of smaller amounts of other by-products of the primary and secondary aluminum industries. A total of 238,400 t of waste was treated in 2009. This is down on the previous year, due to a slump in business within the aluminum industry. All this waste is fully converted into raw materials that can be used by the industry (aluminum, melting salts and aluminum oxide). Our salt slag recycling activity has eliminated the need to mine 267,100 t of non-renewable raw materials (mineral oxides and salts) and to dump 224,200 t of hazardous waste.

Our strategic goals and business processes are in line with the commitments assumed by the aluminum industry: To eliminate, in the mid-term, the dumping of solid waste directly and indirectly generated by the industry. Befesa is working to include innovative treatment technologies to valorize other types of waste, thereby helping the industry to move forward in a sustainable manner. A prime and practical example of this policy is the commissioning of a gas filtration dust treatment demonstration plant in Valladolid, based on one of the company's own projects. Also in 2009, a new process designed and patented by Befesa started running in the United Kingdom. The process aims to recover all the waste from used electrolytic cells, more commonly known as spent potlining (SPL), a hazardous waste generated by the primary aluminum industry. Each ton of aluminum produced generates around 24 kg of waste. Until now, it was only partially reused in some cases, with the remainder being dumped.



Sales of Machinery and Technology

The Machinery and Technology Sales division provides technical support to the aluminum waste recycling plants. It is also engaged in the design, construction, assembly and start-up of installations for the aluminum and zinc industries. It boasts an extensive portfolio of more than 100 installations in 40 countries. Its main products are automated lines used for the production of 5-25 kg aluminum ingots, casting wheels, rotary furnaces and sludge cooling and treatment facilities.

The most important projects carried out during this period include the design and construction of two 22 kg ingot casting lines for the company Emal (United Arab Emirates); the design and manufacture of three molding lines for Qatalum (Qatar); the design and manufacture of four molding lines with trailer-loader for Vedanta (India); and the design and supply of the last sludge cooler for the Almahdi plant (Iran). In spite of the difficulties arising from the widespread drop in investment, this business unit has completed all its projects and its portfolio levels are sufficient to practically guarantee work for the next twelve months.

Steel and Galvanization Waste Recycling

Befesa is the current European leader in iron and steel waste recycling. Through its steel and galvanization waste recycling unit, it provides high value-added environmental services to the steel industry. These involve the treatment and valorization of the residual dust generated from both ordinary and special steel manufacturing processes, as well as other waste with zinc content produced by the galvanization sector. Befesa employs eight production plants to carry these activities: Befesa Zinc Duisburg GmbH and Befesa Zinc Freiberg GmbH (Germany), together with Recytech S. A. (France) and Befesa Zinc Aser S. A. (Spain), operate manufacturing facilities to recycle steel dust from smelting and electric arc furnaces, whereas Befesa Valera S. A. S. (France) and Befesa ScanDust AB, in Landskrona (Sweden) recover and treat stainless steel waste. Lastly, the Befesa Zinc Sondika, S. A. and Befesa Zinc Amorebieta, S. A. (Spain) factories recycle the zinc and zinc alloy waste generated by the galvanization, metal injection and construction industries.

Befesa is currently Europe's leading recycler of steel waste, with a market share far above that of its competitors in the sector. The strategic distribution of its plants enables it to be close to customers and suppliers alike, affording it one of its main competitive edges. Other characteristics that differentiate Befesa from its competitors include its extensive knowledge of recycling processes and the technology it utilizes, and the fact that its commercial relations with customers are based on long-term collaboration agreements.

Growth in the steel recycling business has focused on organic growth in Europe and inorganic growth in other strategic locations.



The international steel waste recycling market continues to grow as regulatory pressure to protect the environment increases. This pressure has reached different maturity levels in different parts of the world, with Europe being the most advanced.

With regard to the market, this fell by approximately 19,7 % in comparison to 2008 as a direct result of the unavoidable underuse of some of the plants' installed production capacity. This was due to a lack of available raw materials, itself caused by a drastic fall in demand for steel in Europe and, therefore, in steel production. This slump in demand was caused mainly by the crisis in the automotive and construction industries as a result of the deep recession affecting the principal western economies over the period in question.



Furthermore, the positive impact on results due to the gradual recovery of the price of zinc in the international market (London Metal Exchange, or LME) over recent months has benefitted the companies operating in this line of business by offsetting most of the losses incurred from settling existing metal price hedging agreements.

During 2009, the plants in the steel waste recycling division treated a total of 502,500 dry tons of iron and steel dust with zinc content. Of this, 407,500 t of residual dust came from the production of ordinary steel, sidestepping the need to mine around 180,300 t of zinc and channeling 99,200 t of this metal back into the production cycle. In addition, a further 95,000 t of dust from the manufacture of stainless steel were valorized, and their content used to recover valuable and highly-sought-after metals, such as nickel and chrome. Both cases have led to major energy savings and reductions in CO₂ (greenhouse gas) emissions as compared with the cost of obtaining these products via primary treatments.

The above treatments resulted in 148,600 dry tons of waelz oxide, down on production for 2008. That said, overall production of the treated product (D-L.W.O.®) climbed to reach 105,400 t. In addition, the stainless steel dust recycling plants also produced 47,500 t of nickel alloys and other metals with a high market value, down on figures for 2008, and 42,800 MWh of electricity were self-generated at the Swedish production facility.



In relation to galvanization waste treatment, by the close of 2009 the Sondika and Amorebieta plants in Vizcaya (Spain) had together recycled 11,700 t of various types of zinc waste, down on the volume reported for 2008. The total product and by-product production of the two facilities stood at 11,200 t, with roughly half of this comprising zinc oxide (ZnO) produced at Sondika and the rest comprising the products obtained at the Amorebieta plant, primarily zinc ore ingots, electrolytic zinc ingots and fine zinc ashes. In addition, total sales for both Befesa Zinc Sondika and Amorebieta during this period amounted to 12,000 t, equivalent to 7 % over the two plants' global production volume. Both companies concluded raw material purchase agreements with both local and international suppliers.

Industrial Waste Management

Befesa is the leading company in Spain when it comes to managing industrial waste per volume treated. Befesa is also a relevant player in the Latin American countries in which it operates (Argentina, Chile, Mexico and Peru).

Befesa's main competitive advantage is the fact that it operates across the integral industrial waste management cycle, obtaining significant synergies between the various links in the chain.

Through its centers and offices around Spain, Befesa aims to provide its customers with an integral waste management service, minimizing or reducing potential environmental impact through adequate management.

Befesa's growth strategy in the area of industrial waste management is based on achieving organic growth in the management of non-hazardous waste in the countries in which it operates and on penetrating new territories with high potential.

The industrial waste recycling market will continue to grow, spurred on by increasingly heavy legislative and environmental pressure not only on production companies but also with regard to the treatments required.

Demand for Befesa's industrial waste management services flows in from small and medium-sized companies with a strong local component, and also from the environmental divisions of large industrial companies generally associated with the construction industry.

The current economic crisis affecting the automotive, steel, chemical, petrochemical and construction industries has led to a significant drop in waste generation. This is due to low levels of industrial activity, which have had a negative impact on the company's business.

Industrial Waste

Befesa manages, recycles, valorizes and reuses waste, integrating the latest technologies under the triple-R rule – Reduction, Reuse and Recycling, based on the premise that the best waste is no waste. This way, materials that can be put to subsequent use are recovered, thereby curbing consumption of new raw materials. The company accomplishes this through its network of more than 15 centers distributed throughout Spain, which treat waste to reduce the associated contamination, and also through its transfer centers, at which waste is separated, classified and sent off for recovery, recycling and/or valorization, thus reducing the consumption of natural raw materials. Finally, it has a safety storage deposit for the controlled disposal of waste that cannot undergo any further form of treatment.

Befesa maintained its prominent position in this sector during 2009. At the start of the year, it acquired the Derivados de la Pintura S. A. plant, located in the Spanish region of Catalonia, which specializes in the treatment and recycling of solvents and other industrial waste. In all, Befesa managed 860,000 t of industrial waste, 40 % of which was classified as hazardous. This represents a 32 % decrease on figures for 2008. Work also continued during the year to remodel the physicochemical treatment plant to enable it to treat third-party industrial waters, thus extending the management services offered to customers. The rainwater, potentially contaminated water and clean rainwater network at the Nerva center was also remodeled.



Industrial Cleaning

The Industrial Cleaning division's activities contribute to the sustainable development of the industries it serves, combining the goals of minimizing production and recovering waste with the reuse of raw materials on the one hand, with more efficient equipment on the other, thus leading to lower energy consumption. Its wide range of services includes mechanical and high pressure hydrodynamic cleaning processes, ultra-pressure hydrodemolitions and hydrocutting; chemical cleaning and steam blowing; air through circuits and boilers; changes of catalyst beds; cleaning of refinery tanks and oil installations, both manually and with automated systems; on-site waste treatment by means of mobile and fixed plants, and cleaning of exchangers.

In 2009, the division accomplished its objective of entering the market for pre-operational chemical cleaning at thermal and solar thermal power plants, securing contracts for cleaning work at Enel's combined cycle thermal power plant in Algeciras and for Abengoa Solar's Eureka and PS20 solar power plants. The company continued to expand overseas, where it carried out automatic cleaning of tanks, catalysts and heat exchangers in France, Switzerland and Italy, and bidding for work to be carried out in 2010. It also made its first commercial contacts in the Near East, where the construction of large petrochemical installations will provide the company with opportunities for further work, mainly in tank and catalyst cleaning.



Plastics

Befesa Plásticos manufactures low density polyethylene special pellets by recycling the film used for covering greenhouses. The sold pellets are then used for a variety of applications, such as manufacturing films for the construction industry (waterproofing and protection), sacks and bags, irrigation pipes and electrical and telecommunications ducts. They can also be injected to create pots or otherwise used to obtain modified asphalts. As the only Spanish company capable of carrying out the complete recycling cycle from collection to product manufacturing, Befesa is the European leader in this particular field.

Over 2009, Befesa recycled 11,700 t of film and used irrigation pipes, and likewise produced 9,000 t of polyethylene pellets, thus maintaining its position as market leader in the low density polyethylene recycling business, a field in which it operates in all the major regions of cultivation under plastic in Spain: Alicante, Murcia, Andalusia and Extremadura.

PCB

Befesa Gestión de PCB is located in Cartagena (Spain) and specializes in the provision of effective solutions for the collection, transport and elimination of transformers, condensers and materials contaminated with PCB. Using cutting-edge technology, the company recovers all reusable materials while eliminating all contaminated materials for good.

More than 4,000 t of PCB-contaminated devices and materials were treated by the company during 2009, confirming its leadership in Spain. This makes Befesa Gestión de PCB the company of reference for PCB treatment in the electricity industry.

Soil Decontamination

This division provides integral technical solutions to the problem of soil contamination. Over the last year, the company carried out numerous investigation and diagnostic projects relating to contaminated soil for top-tier customers within the

petrochemical, steel, real estate construction, energy and chemical industries, among others, as well as a host of soil decontamination activities, such as bioremediation treatments, on-site treatments, excavation and management.



In 2009, the division established itself as a leading provider of soil classification and decontamination services, offering an immediate and fully comprehensive service for the study and rectification of contaminated soil-related problems.

With regard to development, a new mobile on-site soil decontamination plant utilizing soil washing technology started operating in early 2009. This state-of-the-art plant was designed to resolve the problems arising from the wide range of contaminants that can be present in soil. The new plant has reported impressive production levels (35-45 t/h) and remediation performance.

Desulfurization

Befesa Desulfuración produces sulfuric acid and oleum (a compound rich in SO_3) using the residual sulfur recovered from petrochemical plants. It owns a plant that enables it to resolve the environmental problems associated with oil plants by applying the cleanest and safest processes.



During 2009, 218,100 t of equivalent acid were produced, with an associated electricity generation of 49,900 MWh, which, after deducting self-consumption, resulted in sales of 28,600 MWh of surplus electricity.

It is worth noting that in May 2008 the land on which the desulfurization plant is located was sold pursuant to the town of Baracaldo's (Vizcaya) Sefanitro Special Interior Reform Plan (Plan Especial de Reforma Interior Sefanitro). The plant is currently operating and the land will be handed over within a timeframe to guarantee that the business can be transferred to the new location.

Water

Befesa Agua is an international technology company specializing in water generation and management. It designs, builds and operates infrastructures to ensure an integral water cycle.

This enables the company to:

- Generate water by desalinating seawater, reusing urban wastewater and modernizing irrigation systems to reduce consumption.
- Protect rivers and coastlines by treating urban and industrial wastewater.
- Prevent emissions with renewable energies from its hydraulic power plants.
- Contribute to social development by making water drinkable and modernizing the rural and agricultural world with irrigation systems.
- Use systems that help make decisions leading to the sustainable management of the integral water cycle.

The water generation and transport market – and particularly the world desalination market – is currently experiencing huge growth. This is mainly the result of two global circumstances: the planet's growing population and its scarce water resources.

Befesa is the Spanish market water desalination leader and one of the main references in the international sphere. This company has been at the forefront of seawater desalination plant engineering and technology for years, investing heavily in R&D&I programs that have led to its current position of leadership.

Befesa's strategy to continue expanding in the desalination market involves growing organically in the main regions and markets in which it is already established (mainly China, the United States, India and Algeria) and entering new previously unexplored markets.



Befesa's main competitors in the water business are primarily large international companies within industrial groups.

The Spanish regulatory framework includes a number of plans, including the A.G.U.A. program (Actuaciones para la Gestión y la Utilización del Agua – Water Use and Management Actions), the Reuse Plan (Plan de Reutilización) and the National Water Quality Plan (Plan Nacional de Calidad de las Aguas), all of which will regulate the actions to be carried out over the next few years. We would also highlight the enactment of Royal Decree 1620/2007 of December 7th of 2007, which established the legal system governing the reuse of treated water.

The company has competitors overseas in the fields of desalination, hydraulics and water treatment, in addition to the large Spanish construction companies belonging to SEOPAN (the Association of Nationwide Public Works Companies) and technology companies in the water industry. Our Spanish competitors are mainly technology companies belonging to ATTA (the Spanish Technological Water Treatment Association) and those registered with SEOPAN.

For less specialized or technological work, however, our main competitors are mid-size construction companies operating in Spain and registered with the Spanish National Association of Independent Construction Companies (ANCI) or regional companies working on other hydraulic works.

Befesa Agua is one of the five largest companies in the world when it comes to the construction and ownership of desalination concessions or assets and is also the Spanish market leader in water treatment and hydraulic infrastructure construction.

Befesa Agua has five product lines:

- Desalination: Seawater and brackish water desalination. Befesa's facilities around the world produce over 1.2 Mm³ of desalinated water every day.
- Water treatment: Water potabilization, treatment and reuse. The company's facilities supply or treat water for over 8 M inhabitants.
- Industrial water: Treatment of process water, service water and wastewater, sludge treatment and water reuse and recycling. Over 200 important projects.
- Hydraulic works: Supply, treatment, pressurized pipelines, modernization of irrigation systems, hydroelectric power plants. Over 500,000 ha irrigated and over 200 projects.
- Hydrological and hydraulic infrastructure management: SAIH (Automatic Hydrological Information System), SAICA (Automatic Water Quality Information System), dynamic regulation of canals, control of irrigation areas, water supply and treatment control systems.

Milestone projects carried out in 2009 include:

- Award of the contract for the Arequipa (Peru) potable water treatment plant (PWTP). The mining company Cerro Verde awarded the Alto Cayma Consortium, which includes Befesa Agua, a €55 M contract to build the La Tomilla II PWTP in the city of Arequipa, Peru. The aim of the project is to extend and improve the drinking water system supplying the metropolitan area of Arequipa, Peru's second most populated city behind Lima. The project will involve collecting raw water from the Chili River and piping it approximately 11 km to the potable water treatment plant, where it will undergo physicochemical treatment, followed by filtering, disinfection, pH adjustment and chlorination. The plant will have a production capacity of 130,000 m³ of water per day, enough to supply roughly 850,000 inhabitants. The contract also includes the operation and maintenance of the infrastructures for three years.



- Completion of financing for the project to construct and operate the Qingdao (China) desalination plant. In 2009, the company closed the financing agreement to design, construct and operate the Qingdao (China) seawater desalination plant for 25 years. The plant, which will involve a total investment of €135 M, will have a desalination capacity of 100,000 m³/day and will be capable of supplying drinking water to a population of 500,000. The desalination plant will use reverse osmosis technology with groundbreaking designs both at the pre-treatment stage (ultrafiltration membranes) and for the centralized pumping system, thus achieving greater energy efficiency. It is estimated that, over the 25-year operation period, the plant will generate revenues of over €654 M from the sale of water and a further €25 M from the technical support required to operate it.
- Ratnapura (Sri Lanka) construction and supply agreement. In October 2009, an agreement was concluded with the Sri Lankan government's National Water Supply and Drainage Board to build the first phase of the project to supply the city of Ratnapura and its surrounding area with drinking water. The project, which consists of a water treatment plant in Muwagama with a 13,000 m³/day capacity, drinking water tanks, open-pit water collection points and transmission of water to the various tanks, will involve an investment of around €26 M.
- Start of the Skikda (Algeria) desalination plant's operation and maintenance period. 2009 marked the end of the construction and launch period for the desalination plant awarded to Befesa Agua in Skikda, north Algeria, which has now entered the water production stage. The desalination plant, whose construction and operation were awarded by the Algerian Energy Company (AEC) to the consortium formed by Befesa and Sadyt under a 25-year concession, will produce 100,000 m³/day of drinking water utilizing reverse osmosis technology. It will have sufficient capacity to supply a population of 500,000. It is estimated that the concessionaire will derive revenues of over \$564 M from water sales.



- Completion of construction on the Chennai (India) desalination plant. 2008 saw the end of the construction period for the Minjur seawater desalination plant in Minjur, Chennai, which has now entered the start-up and initial production stage. With this contract, the Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB) will meet the needs for drinking water to supply the city of Chennai, also known as Madras, in the southern Indian province of Tamil Nadu. Using reverse osmosis technology, the plant can desalinate 100,000 m³ of water/day. The contract provides for the plant's design, financing, construction, possession, operation and maintenance for an initial term of 25 years.
- Execution of pilot seawater desalination plant projects in Texas (U.S.A.). During 2009, NRS Consulting Engineers, a North American subsidiary of Befesa Agua, carried out several projects to turn seawater into drinking water in the State of Texas, U.S.A. The subsidiary is now a market leader in Texas in harnessing seawater and other limited natural resources. One of its many highlight projects is the development of the first pilot seawater desalination plant in Texas, carried out for the Brownsville Public Utility Board (BPUB), on the Brownsville Ship Channel. In addition, it is currently developing the second pilot seawater desalination plant for the Madre Laguna water district on South Padre Island (Texas). This desalination plant, which will be the first in Texas to take water directly from the Gulf of Mexico, will employ reverse osmosis to produce over 4,000 L/h.
- Award of the project to improve the Guadalhorce (Málaga, Spain) irrigation channels. Egmasa awarded Befesa the project to enclose the Guadalhorce Valley irrigation channels and improve their transportation capacity under a contract worth over €8 M. The aim of the agreement is to cover the main channel's open-air sections. This will prevent the risk of accidents and toxic spillage, which could affect the area's 550,000-plus inhabitants.



- Award of the contract to modernize the Canal de Estremera (Guadalajara, Madrid and Toledo, Spain) irrigation systems. The state-owned company Aguas de la Cuenca del Tajo, attached to the Spanish Ministry of the Environment and Rural and Marine Affairs (Ministerio de Medio Ambiente, y Medio Rural y Marino), awarded Befesa a contract worth over €15 M to modernize the Estremera Canal Irrigation Community. This will allow this irrigation system to be replaced by a pressure system, using either drip or spray technology, thereby reducing water loss, providing greater control over water use in each separate plot of land and leading to greater diversity of crops and yields.
- Award of the contract to reuse the Peñon del Cuervo treatment plant in Málaga (Spain). The state-owned company Aguas de las Cuenas Mediterráneas (Acuamed) awarded Befesa a €5.5 M contract to design and construct the Peñon del Cuervo wastewater treatment plant tertiary treatment works in Málaga (Spain). The project will make it possible to reuse over 9,000 m³ of water per day, giving the treatment plant a new tertiary treatment system that will allow its effluent water to be used for irrigation of urban parks and green spaces instead of using new resources.
- Award of the contract to extend the Santomera treatment plant in Murcia (Spain). The Murcia Regional Ministry of Agriculture and Water (Consejería de Agricultura y Agua) awarded Befesa the contract, worth over €1.3 M, to extend the wastewater treatment plant north of Santomera. The plant will have a treatment capacity of almost 6,000 m³ of water per day, benefiting a population of over 20,000.
- Award of the contract to improve the Plaza de España square in Seville (Spain). Empresa Metropolitana de Abastecimiento y Saneamiento de Aguas de Sevilla (Emasesa), awarded Befesa a contract to install a water treatment system for the pond in Plaza de España square. The project produces water that can be used to turn the pond into a boating lake, with fish, freshwater tortoises and birds. The treatment will enable the Spanish city to use the water to irrigate the adjoining Maria Luisa Park and to supply the city's non-potable water network.

- Award of the contract to modernize Canal del Viar in Seville (Spain). The Andalusian Regional Government's Department of the Environment (Consejería de Medioambiente de la Junta de Andalucía), through the Andalusian Water Agency, awarded Befesa a contract worth over €13 M to modernize the Canal del Viar canal, so that it can be used both for irrigation and to supply the city of Seville. This will be achieved by using 30 km of the existing Canal del Viar, downstream from the reservoir, where Befesa will carry out works to repair, adapt, rebuild and improve its structure, as well as work on the aqueducts, tunnels, drainage systems, service paths, and bridges.



- Award of the contract for the tertiary treatment system for the Blanca water treatment plant in Murcia (Spain). The Murcia Regional Ministry of Agriculture and Water awarded Befesa a contract, worth over €1.2 M, to construct the Blanca wastewater treatment plant's tertiary treatment system. The aim of the contract is to treat the water from the treatment plant so that it can be subsequently used in agriculture. This treatment system, with a capacity of over 208 m³/h, consists of flocculation, open filtration and ultraviolet disinfection.
- Award of the contract for the construction of a regulating tank in Kurkudi, Vizcaya (Spain). Consorcio de Aguas de Bilbao Bizkaia awarded Befesa Agua a contract worth over €4 M to construct a regulating tank in Kurkudi (Vizcaya). This will improve the supply of water to over 200,000 people in the region of Uribe-Kosta, which could be at risk in the event of ruptures upstream of Kurkudi and faults in the emergency pumping system.

Latin America

Befesa Argentina

Befesa Argentina's activities include handling, transportation, recycling, recovery, treatment, incineration and final disposal, using hazardous waste landfills, of non-hazardous industrial waste and special or hazardous waste. It also provides industrial liquid and water cleaning services to the oil industry. These environmental

management services are carried out using state-of-the-art technology under strict international environmental standards, combining experience, technology and responsible handling of resources. The company thus contributes to sustainable industrial development by providing suitable treatment for each type of waste. The company has two plants with which to attain this goal: Campana, which provides inertization and final disposal services, and Pacheco, which acts as an incineration plant.



At the Campana plant, work has been completed to make it possible to work with zero effluent within the plant and to install and implement new software to trace the waste arriving at, and processed in, the plant. In Pacheco, a new bulk waste inertization area near the cell has been included with the aim of supplementing the inertization capabilities of the rotating equipment installed in 2008. In addition, the lixivate pond installations were completed and an application was filed with the Provincial Water Authority (Autoridad Provincial del Agua) for a permit to discharge duly treated water into a nearby stream.

With effect from January 1st, 2009, industrial cleaning, mud centrifuging, oil and derivative product tank cleaning services, physical chemical treatments and hydrocarbon recovery were split off from Befesa Argentina, S. A., together with all associated equipment and staff, and merged with the assets of the company Soluciones Químicas, S. A. This resulted in a new company, Befesa Servicios, S. A., which started operating on that date, continuing the activities of the companies that had provided their assets and industrial cleaning staff.

Befesa Chile

Befesa Chile, through its company Soluciones Ambientales del Norte, carries out the integral management of solid hazardous and non-hazardous industrial waste. It does this through temporary storage, final disposal systems and treatments aimed at valorizing the waste and minimizing the hazard posed by it, recycling wherever possible. The waste, which is mainly produced by mining and industry, is managed safely and responsibly, contributing to the country's sustainable development.



Its Sierra Gorda plant, located in the Atacama desert 120 km inland from Antofagasta and 1,600 km from the capital Santiago, occupies a 40 ha plot of land and has been operative since May 2008. This year, it managed over 12,000 t of waste. In addition, its first two trucks were placed at its customers' service and it carried out the integral management of two sites in Codelco Norte. Furthermore, the company is now at the final stage of implementing its integral management system to obtain ISO 9000, ISO 14000 and OHSAS 18000 certification. It is also implementing laboratory procedures to obtain certification under Chilean Standard 17025.

Befesa Peru

Befesa Peru specializes in providing industry with integral environmental services, including the collection, transportation, treatment and final disposal of industrial and hazardous waste, environmental management of industrial installations, recycling of metallic containers and exports of PCB. All this is accomplished through tried and tested techniques pursuant to national and international standards that guarantee respect for the environment. This way, the company employs the best available technology to help protect both the environment and public health, ensuring that waste is kept in strict isolation and permanently removing any risk by monitoring it during operations and following its sealing.

Over 2009, Befesa improved the efficiency of its operations and developed new services and infrastructures to serve a greater number of customers. During the last quarter, a fixed dual-chamber incinerator came into operation, and work began on the construction of the facilities for the new safety storage deposit in Trujillo, 500 km north of Lima.

Befesa is the first and only company in Peru to be authorized by the Ministry of Health's Directorate-General for Environmental Health (DIGESA) to carry out the treatment and final disposal of hazardous industrial waste. In addition, it enjoys the approval of the Environmental Impact Study (Estudio de Impacto Ambiental). The company has successfully managed over 21,000 t of waste.

Befesa Mexico

Befesa Mexico and its subsidiary, Sistemas de Desarrollo Sustentable (SDS), carry out the management, processing and confinement of hazardous waste for industry and the public sector. These activities help promote sustainable development by offering a responsible alternative to the management of hazardous waste, which might otherwise lead to significant environmental contamination.

The year's main projects include managing the hydrocarbon and soda-contaminated land of the former "18 de Marzo" refinery in Mexico City as part of the project to remedy this situation in preparation for the Federal Government's plans for its Bicentenario park.