

An aerial photograph of a dense forest with a central pond. The forest is composed of various shades of green, brown, and grey, suggesting a mix of tree species and possibly some dead or dormant trees. The pond is dark and has some ripples on its surface. The text is overlaid on the image.

# CORPORATE ENVIRONMENTAL PROGRAM

2020-2022

**GRIFOLS**



## AIR EMISSIONS

**ENVIRONMENTAL  
PROGRAM 2020-2022**  
Our commitment to the  
Environment





# AIR EMISSIONS

## REDUCTION OF CO<sub>2</sub>e EMISSIONS BY 23,400 TONS PER YEAR USING 68,4 MILLION KWH OF RENEWABLE ELECTRICITY

Objective	Company	Sub-Objectives
Construction of two photovoltaic plants in the facilities of the Hospital division in Murcia (Spain). Reduction of 98 metric tons of CO <sub>2</sub> e emissions per year.	Laboratorios Grifols	Construction of two 100 kW and 150 kW photovoltaic plants that will generate 350.000 kWh per year.
Purchase 18 million kWh of renewable electricity annually for the facilities of the Bioscience division in Barcelona (Spain). Reduction of 6,300 metric tons of CO <sub>2</sub> e emissions per year.	Grifols, S.A.	Purchase 18 million kWh of renewable electricity through a PPA (Power Purchasing Agreement).
Purchase 50 million kWh of renewable electricity annually for different Grifols plants in USA and Europe. Reduction of 17,000 metric tons of CO <sub>2</sub> e emissions per year.	All	Purchase 50 million kWh of renewable electricity annually through PPAs and purchasing of renewable origin certified electricity.



# AIR EMISSIONS

## REDUCTION OF CO<sub>2</sub>e EMISSIONS BY 6,700 TONS PER YEAR IMPLEMENTING ECO-EFFICIENCY MEASURES IN EXISTING FACILITIES

Objective	Company	Sub-Objectives
Study energy efficiency measures at the Bioscience division plant in Barcelona (Spain).  Reduction of 1,400 metric tons of CO <sub>2</sub> e emissions per year.	Instituto Grifols Grifols, S.A.	Study improvements in the cooling capacity system.
Increase the electrical energy generated and the useful heat produced by the cogeneration plant in the Bioscience division of Barcelona (Spain).  Reduction of 600 metric tons of CO <sub>2</sub> e emissions per year.	Grifols, S.A.	Expand the working time of the plant,
Installation of a new variable speed compressor at the Bioscience division plant in Clayton (USA).  Reduction of 48 metric tons of CO <sub>2</sub> e emissions per year.	Grifols Therapeutics	Installation of a new variable speed compressor.
Improve the compressed air network in the Hospital division plant in Murcia (Spain).  Reduction of 33 metric tons of CO <sub>2</sub> e emissions per year.	Laboratorios Grifols	Implement improvement measures in the compressed-air network and reduce energy consumption.



# AIR EMISSIONS

## REDUCTION OF CO<sub>2</sub>e EMISSIONS BY 6,700 TONS PER YEAR IMPLEMENTING ECO-EFFICIENCY MEASURES IN EXISTING FACILITIES

Objective	Company	Sub-Objectives
Optimize the energy consumption in the Madrid work center (Spain). Reduction of 1 metric tons of CO <sub>2</sub> e emissions per year.	Grifols Movaco Madrid	Implementation of a Building Management System.
Reduce the use of high GWP refrigerant gases at the Haema (Germany) and Biomat (Spain) facilities. Reduction of 4,600 metric tons of CO <sub>2</sub> e emissions per year.	Biomat Haema	Replace refrigerant gases in refrigerant installations by others with a Global Warming Potential (GWP) lower than 1500.
Implement energy efficiency measures in Grifols Italia. Reduction of 25 metric tons of CO <sub>2</sub> e emissions per year.	Grifols Italia	Implement energy efficiency measures in the lighting and air conditioning systems of the offices and warehouse.
Optimize energy consumption in the quality control building at the Bioscience facilities of Los Angeles (USA). Reduction of 0,48 metric tons of CO <sub>2</sub> e emissions per year.	Grifols Biologicals	Replace the current lighting with LED in the quality control building.



# AIR EMISSIONS

## REDUCTION OF CO<sub>2</sub>e EMISSIONS BY 1,860 TONS PER YEAR IMPLEMENTING ECO-EFFICIENCY MEASURES IN NEW FACILITIES

Objective	Company	Sub-Objectives
Reach the LEED Certification (Silver/Gold) of the new office building in Sant Cugat del Vallès (Spain). Reduction of 60 metric tons of CO <sub>2</sub> e emissions per year.	Grifols, S.A.	Reach the LEED Certification (Silver/Gold) of the new office building. Annual savings of 188,000 kWh compared to a standard building.
Reach the Green Globe Certification for the two new manufacturing buildings of the Bioscience division in Clayton (USA). Reduction of 1,800 metric tons of CO <sub>2</sub> e emissions per year.	Grifols Therapeutics	Reduce energy consumption by 30% in the two new buildings of fractionation and protein purification.
Installation of a new cooling plant avoiding the use of greenhouse gases in the Grifols International warehouse expansion at Parets del Vallès (Spain).	Grifols International Grifols, S.A.	Installation of a new cooling plant using ammonia as a natural refrigerant gas. Global Warming Potential of ammonia is zero.



# AIR EMISSIONS

## DECARBONIZATION IN BUSINESS TRAVEL AND EMPLOYEE COMMUTING

Objective	Company	Sub-Objectives
Promote the home-office program at all Grifols facilities that will be feasible.	All	Implement technical solutions to allow working from home when possible. Evaluate the results from the home-office pilot program.
Promote the use of videoconferences in order to reduce business travel.	All	Promote the use of videoconferences and Skype to avoid business travel when possible.
Offset emissions associated with business travel and rental cars.	All	Reach agreements with airlines and rental cars companies for the offset of emissions generated during Grifols employees' business travel.



# ENERGY

**ENVIRONMENTAL  
PROGRAM 2020-2022**  
Our commitment to the  
Environment







# ENERGY

## EXPLORE OPPORTUNITIES FOR INCREASING ENERGY EFFICIENCY

Objective	Company	Sub-Objectives
Implement energy efficiency measures at Haema (Germany) and Biomat (Spain) facilities.	Haema Biomat	Perform energy audits at Haema facilities in Germany.
		Explore energy savings in Biomat cold rooms in Spain.
Implement good practices in the use of energy in Raleigh's Bioscience facilities (USA)	Grifols Therapeutics	Adapt work instructions to include good practices in energy use in R&D building in Raleigh (USA).



# WATER CYCLE

**ENVIRONMENTAL  
PROGRAM 2020-2022**  
Our commitment to the  
Environment





# WATER CYCLE

## REDUCE WATER CONSUMPTION BY 87,700 M3 PER YEAR IN EXISTING FACILITIES

Objective	Company	Sub-Objectives
Reduce the water consumption by the treatment of water for manufacturing process in the Bioscience division at Clayton (USA). Reduce water consumption by 75,600 m3 per year.	Grifols Therapeutics	Replace a reverse osmosis unit for the treatment of water for manufacturing process by a high-efficiency one.
Implement more efficient automated cleaning processes in selected manufacturing areas of the Bioscience and Hospital divisions in Spain. Reduce water consumption by 2,100 m3 per year.	Instituto Grifols Laboratorios Grifols Grifols Engineering	Implement new cleaning systems Clean In Place (CIP) more efficient in the designated manufacturing areas.
Recovery and reutilization of water from manufacturing processes in the Bioscience division plants at Los Angeles (USA) and Dublin (Ireland). Reduce water consumption by 10,000 m3 per year.	Grifols Biologicals Grifols Worldwide Operations Dublin	Implement water recovery and reutilization projects in the pasteurization baths for vials.  Implement the measure in one of the sites located in a water-stressed area (California, USA).

## REDUCE WATER CONSUMPTION BY 400 M3 PER YEAR IN NEW FACILITIES

Objective	Company	Sub-Objectives
Obtain the LEED certificate (Silver/Gold) in the new office building in Sant Cugat del Vallès (Spain). Reduce water consumption by 400 m3 per year.	Grifols, S.A.	Implement measures for reducing and reusing water consumption. Use of storm water for watering and implement more efficient watering systems.



# WATER CYCLE

## EXPLORE OPPORTUNITIES FOR OPTIMIZING WATER CONSUMPTION

Objective	Company	Sub-Objectives
Explore saving water options for irrigation in the facilities of the Bioscience division at Los Angeles and Clayton (USA).	Grifols Biologicals	Explore saving water options for irrigation in order to reduce water consumption.  Implement the measure in one of the sites located in a water-stressed area (California, USA).
	Grifols Therapeutics	Implementation of good practices for saving purified water in the manufacturing facilities.

## MINIMIZE THE IMPACT OF WASTEWATER DISCHARGE PARAMETERS

Objective	Company	Sub-Objectives
Reduce the organic matter from the wastewater discharged in the Bioscience facilities.  Reduction of 680 metric tons per year.	Grifols Therapeutics Grifols Engineering Grifols, S.A.	Extend the wastewater treatment plants of the Bioscience division in Barcelona (Spain) and Clayton (US) for reducing the organic matter discharged.
	Grifols Therapeutics	Reduce suspended solids and nitrogen discharged in the wastewater of the Bioscience plant in Clayton (US).



# WASTE

**ENVIRONMENTAL  
PROGRAM 2020-2022**  
Our commitment to the  
Environment





# WASTE

## KEEP THE 'ZERO WASTE TO LANDFILL' CERTIFICATION

Objective	Company	Sub-Objectives
Maintain Zero Waste To Landfill Certification at the Bioscience division plant in Clayton (USA).	Grifols Therapeutics	Explore alternative ways of waste management and new recycling opportunities in order to avoid landfill for 98% of waste.

## REDUCE WASTE GENERATION BY 4,700 METRIC TONS PER YEAR

Objective	Company	Sub-Objectives
Reduce waste generation in the facilities of the Bioscience division in Barcelona (Spain).  Reduce waste generation by 4,700 metric tons per year.	Instituto Grifols Grifols Engineering	Expand the storage capacity of polyethylene glycol and sorbitol effluents. Installation of a new evaporator to increase the treatment capacity and meet the future operational requirements.

## INCREASE WASTE RECYCLING BY 500 METRIC TONS PER YEAR

Objective	Company	Sub-Objectives
Increase the waste recycling in the facilities of the Bioscience division in Clayton (USA).  Increase waste recycling by 500 metric tons per year.	Grifols Therapeutics	Install a new plastic bottle grinder in the new fractionation plant for recycling all plastic bottles that have contained plasma.



# WASTE

## EXPLORE MORE SUSTAINABLE MANAGEMENT OPPORTUNITIES FOR 628 METRIC TONS OF WASTE

Objective	Company	Sub-Objectives
Reduce the biohazardous waste generation at the Bioscience division plant in Barcelona (Spain). Reduce waste generation by 618 metric tons per year.	Instituto Grifols Grifols Engineering	Explore measures for reducing the generation of hazardous waste produced during the fractionation process.
Reduce the quantity of waste to landfill or incineration at the Bioscience and Diagnostic divisions facilities in Los Angeles and Emeryville (USA). Reduce waste generation by 9,5 metric tons per year.	Grifols Biologicals	Improve the management of 2 tons of chemical waste from laboratories at the Los Angeles facilities (USA). Find new waste management companies to implement recovery treatments for manufacturing waste such as compost or energy recovery.
	Grifols Diagnostic Solutions	Implement new waste management treatments to reduce by 7,5 metric tons the biohazardous waste generation currently incinerated.

## IMPROVE THE STORAGE OF HAZARDOUS WASTE

Objective	Company	Sub-Objectives
Build a new hazardous waste storage area for 70 capacity drums at the facilities of the Bioscience division in Clayton (USA).	Grifols Therapeutics	Design and build a new hazardous waste storage area for the required capacity.



# RAW MATERIALS CONSUMPTION

**ENVIRONMENTAL  
PROGRAM 2020-2022**  
Our commitment to the  
Environment







# RAW MATERIALS CONSUMPTION

## REDUCE ALCOHOL CONSUMPTION BY 76 METRIC TONS PER YEAR

Objective	Company	Sub-Objectives
Increase ethanol recycling by 76 metric tons per year in the ethanol distillation tower of the Bioscience division manufacturing plant at Los Angeles (USA).	Grifols Biologicals	Implement improvement measures in the ethanol distillation tower to increase ethanol recycling by 8%.

## REDUCE SODIUM HYDROXIDE CONSUMPTION BY 28 METRIC TONS PER YEAR

Objective	Company	Sub-Objectives
Reduce the sodium hydroxide consumption in the plants of the Bioscience and Hospital divisions at Barcelona (Spain).	Instituto Grifols Laboratorios Grifols Grifols Engineering	Implement automated processes for cleaning reactors and manufacturing lines more efficient in terms of water and chemicals use.

## REDUCE PACKAGING MATERIAL CONSUMPTION BY 1,1 METRIC TONS PER YEAR

Objective	Company	Sub-Objectives
Reduce the packaging material used in the facilities of the Diagnostic division in Barcelona (Spain).	Diagnostic Grifols	Modify cardboard and plastic packaging materials of diagnostic products in order to optimize the consumption.

# OTHERS

**ENVIRONMENTAL  
PROGRAM 2020-2022**  
Our commitment to the  
Environment



# OTHERS

## DEVELOP WILDLIFE PROTECTION PROGRAMS IN GRIFOLS NATURAL AREAS AND NEARBY AREAS

Objective	Company	Sub-Objectives
Develop wildlife protection programs in the natural areas of the Bioscience facilities at Clayton (USA).	Grifols Therapeutics	Maintain protection, inventory and training programs, as well as the certification of Wildlife Habitat Area in the natural area of Clayton (USA).
Establish collaboration agreements for the protection of the biodiversity in the areas under Grifols influence in manufacturing plants in Barcelona (Spain).	Grifols, S.A.	Establish a collaboration agreement with Consorci del Besòs-Tordera in order to protect the aquatic wildlife carrying out studies of bioindicators such as mammals and fish.

## PROMOTE THE USE OF RENEWABLE ENERGY AND BEST PRACTICES FOR EMPLOYEE COMMUTING

Objective	Company	Sub-Objectives
Promote the use of clean energy and good practices for employee commuting in the facilities of the Hospital division at Murcia (Spain)	Laboratorios Grifols	Installation of new charging points for electric vehicles in the facilities.

# OTHERS

## PROMOTE SUSTAINABLE CONSTRUCTION IN NEW FACILITIES

Objective	Company	Sub-Objectives
Reach the LEED Certification (Silver/Gold) of the new office building in Sant Cugat del Vallès (Spain). Reduction of 60 tons of CO2e emissions per year.	Grifols, S.A.	Reach the LEED Certification (Silver/Gold) of the new office building. Annual savings of 188,000 kWh compared to a standard building.
Reach the Green Globe Certification for the two new manufacturing buildings of the Bioscience division in Clayton (USA). Reduction of 1,800 tons of CO2e emissions per year.	Grifols Therapeutics	Reduce energy consumption by 30% in the two new buildings of fractionation and protein purification.



**GRIFOLS**