

A GUIDE TO CLIMATE CHANGE ADAPTATION FOR BUSINESS IN THE FRAMEWORK OF CORPORATE SOCIAL RESPONSIBILITY



LIFECITYADAP3



CátedraRSC

Universidad de Murcia







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O1

What is climate change?

“A change of climate attributed directly or indirectly to human activity that alters the composition of the global atmosphere and that is in addition to natural climate variability observed over comparable time periods”

UN Framework Convention on Climate Change



O2

Source: Climate Change 2014. Impacts, adaptation, and vulnerability.
Summary for policymakers. IPCC

*https://ec.europa.eu/jrc/sites/default/files/pesetaiv_summary_final_report.pdf

How climate change is acting/working

A

Climate change is already happening and is set to continue

B

Average temperatures in Spain and Italy are increasing by around 0.3°C per decade*

C

Precipitation distribution is changing

D

Natural water resources are decreasing in most basins

E

Sea levels are rising

F

Even if we manage to reduce the emissions causing climate change, and thus avoid its worst consequences, these trends will continue in the coming decades due to the inertia of the climate system

03



Source: Climate Change 2014. Impacts, adaptation, and vulnerability.
Summary for Policymakers. IPCC

Responses to climate change: mitigation and adaptation

Mitigation strategies aim to reduce net emissions of greenhouse gases into the atmosphere

Adaptation strategies aim to limit the risks arising from climate change

Climate change adaptation measures aim to reduce risks, limit impacts, reduce vulnerabilities and increase resilience to climate change of human and natural systems, including biodiversity, forests, coasts, cities, agriculture and industry



04

Source: Ihobe, Sociedad Pública de Gestión Ambiental, 2019. "Guide for the development of climate change adaptation plans for organisations". Published by: Ihobe, Sociedad Pública de Gestión Ambiental. Department of Environment, Territorial Planning and Housing Basque Government.

Why should businesses take action to adapt to climate change?

01

Most organisations are already exposed to climate change either directly or indirectly: to natural resource constraints, to logistical or manufacturing disruptions, and to economic or financial crises as a result of climate change.

04

Organisations that develop and maintain competitive advantages tend to be characterised by their foresight.

02

In most cases, adaptation to climate change is not yet integrated into the organisation's activities.

05

To avoid risks to workers from the effects of climate change. In southern European regions, the main impacts on people's health are high temperatures, extreme weather events, air and aeroallergen pollution, and diseases transmitted by infectious vectors, food and water.

03

The long-term viability of an organisation is underpinned by its social, economic and environmental environment.

In particular, climate change will aggravate existing occupational risks and bring new ones to the surface. Environmental temperature extremes already have an impact on the health, safety and well-being of the working population.

05



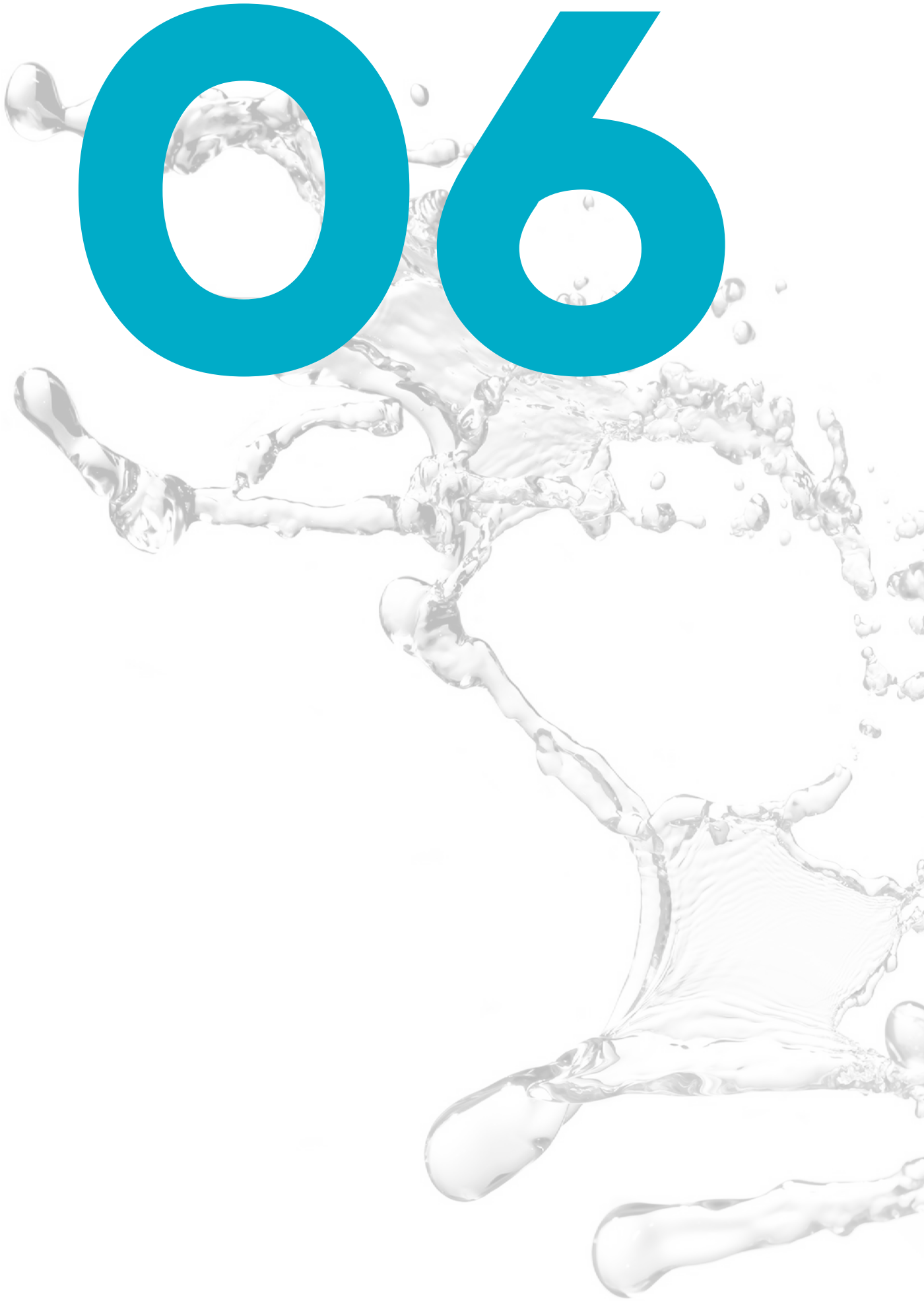
PRO

What can businesses do to adapt to climate change?

Making voluntary environmental commitments as part of its Corporate Social Responsibility (CSR)* and specifically adopting climate change adaptation measures in the development of its business.

What is Corporate Social Responsibility?

The responsibility of an organisation for the impacts of its decisions and activities on society and the environment EU Commission. Communication 25 October 2011.



How businesses can adapt to climate change

01

Adopting simple and general climate change adaptation measures.

02

Carrying out climate change risk analyses in order to adopt adaptation measures in a progressive manner appropriate to the specific case of each company.

02.1

Applying measures to prevent occupational risks derived from climate change.



01

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General measures

Occupational health and safety

Include measures to prevent the effects of climate change in occupational health and safety plans to avoid the occurrence of occupational accidents and diseases.

Flood prevention and vulnerability of buildings

Adopt measures to protect buildings in flood-prone areas by carrying out feasibility studies taking into account this risk and using appropriate materials for this purpose.

Promote the Circular Economy

Reduce the consumption of resources and make the most of the circular economy by reusing waste and adding value to it.

Supporting suppliers

Helping suppliers to protect themselves against climate change by analysing how they will be affected in sourcing their materials

Supporting the local community

Helping the local community prepare for the future to ensure people's mobility, health and safety.

Public-private partnerships

Enhance public-private partnerships to take action on climate change as local governments and the private sector are key actors in community climate change adaptation.

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General measures Water use and treatment

Reuse water for a second use.

Reduce soil sealing and capture and use of rainwater. borm

Reduce runoff in heavy rainfall by applying sustainable drainage techniques and nature-based solutions as elements of adaptation to the increased frequency and aggressiveness of rainfall.

Implementing water-saving systems

Use of adapted plants

Choose plants for gardens and agricultural uses that can adapt to the changes in each geographical area and, increase seasonal shading.

Preventing the effects of rising temperatures

Use insulating structures in building by installing passive heat/cold protection systems such as awnings, blinds or overhangs and by using nature-based solutions.

Preventing the effects of sea level rise

Take into account the foreseeable effects of sea level rise, both permanent and occasional, and take appropriate measures to prevent and defend against occasional flooding.

01

General measures

20

Reasons for general climate change adaptation measures

Because it does not require large investments or efforts and can bring significant improvements to business activity and help to identify opportunities for organisations.

Because they are changes in business practice or implementation of simple techniques that produce improvements and benefits regardless of the occurrence or non-occurrence of variations in the weather, which can be carried out at times when it is necessary to renew facilities and machinery, or redefine new strategies.

02 Risk analysis



01
Know the impacts of climate change on the business sector in which the company is included.

02
Identify which of the organisation's activities are most likely to be exposed to these impacts.

03
Understand the capacity of the company to manage and respond to these impacts.

04
Assess the vulnerability of the company based on the risks identified in terms of the capacity to manage them.

05
To come up with solutions and measures to manage the risks.

02

Risk analysis

22

Viabilidad y priorización de las medidas

Climate risk reduction potential

Technical feasibility

Co-benefits contribution
(environmental, social, etc.)

Economic viability

6.2.B

Prevention of occupational risks arising from climate change

One of the clearest consequences of climate change in Spain and Italy is the increase in the frequency, intensity and duration of periods of extreme heat.

High ambient temperatures are causing a significant increase in occupational exposures to heat stress, which is the main risk to be addressed in the field of occupational health.

There is a need for a specific action plan to deal with extreme temperatures, risks from chemicals and environmental pollution, etc., as part of the occupational risk prevention plan.

These situations should be considered, and measures should be taken to reinforce the protection of workers' health.

STEPS

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01

Preliminary assessment: identify all jobs and tasks in which the exposure to heat stress is possible, taking into account whether the risk is also increased by other factors contributing to heat stress (physical exertion and work clothes or personal protective equipment that prevent perspiration).

02

When the level of risk is highly changeable (affected by weather conditions), the prevention plan should specify the method to be used to assess the hazard of each work situation.

03

Have a set of appropriate preventive measures planned for each task and establish the necessary resources for them.

04

Organise monitoring, first aid, health surveillance and follow-up of the plan.

05

Establish responsibilities by giving precise instructions on how to work in each situation.

06

Train and inform all staff about prevention measures.

02.1

Rationale for climate change risk analysis

01

It provides valuable knowledge of the current, short-, medium- and long-term climate-related risks and opportunities.

02

It is the basis for undertaking risk management which, if not known by the organisations, will result in losses and damages of different kinds.

03

It makes possible to demonstrate to investors that you know the risks and are in a position to manage them.



07



Source: Sauma Uribe, O.; Rojas Wang, P; Vega Méndez, J. and Pessoa Albertazzi, R, 2018. "Guide to experiences in adaptation to climate change". Ed.: Business Alliance for Development.

Benefits for business in adopting climate change adaptation measures*

01

Adaptation to climate change, in addition to avoiding and mitigating risks arising from climate impacts, can generate options for improvement, and give rise to new opportunities as well as competitive advantages for each company.

02

Climate change risk management allows anticipating the response to changes in markets and products, enabling better investment and loan decisions.

03

Supporting suppliers to protect themselves against climate change can help secure the supply of raw materials and thus production. It allows the adoption of diversification strategies that help reduce the risks of supply disruption.

04

Incorporating climate risks into site selection can help maintain operational efficiency and the optimal location of the company.

05

Transparency about climate change adaptation measures, and the management of the risks involved, give confidence to investors, customers and other stakeholders, improves insurability and reduces claims.

06

Measures to protect the health and safety of workers from the effects of climate change ensure work continuity and efficiency.

07

Helping communities adapt and being seen as a solution provider helps the company gain reputation.





Mitigation and adaptation are complementary

Many of the above-mentioned climate change adaptation measures imply mitigation and vice versa.

A company that adopts adaptation measures and does not take care to reduce greenhouse gas emissions intensifies the change whose effects it wishes to avoid.

A company that adopts mitigation measures and does not integrate adaptation criteria may be at risk from the impacts of climate change.





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What is Project life cityadap3

**The aim is
to improve
adaptation to
climate change
in the urban
environment:**

**Promoting green
infrastructures and
nature-based solutions**

**Raising public
awareness on the
importance of climate
change mitigation and
adaptation**

**Developing concrete
adaptation actions in 4
European municipalities
(Lorquí, Molina de Segura
and Alcantarilla in the
Región de Murcia and
the Italian municipality
Reggio-Emilia)**

**Involving the private sector
in the implementation
of action plans
through Public-Private
Partnerships based
on Corporate Social
Responsibility**

**Implementing local
adaptation plans (PACES),
in the framework of the
Covenant of Mayors for
Climate and Energy**



LIFECITYADAP3

life cityadap3 project why participate

01

Help the local community to protect itself from climate change by collaborating in adaptation projects in the municipality, demonstrating the company's involvement and commitment to society.

02

Promote alliances with the City Council and other local companies, associations, non-profit organisations and the University of Murcia to solve problems that affect local residents.

03

To form part of transnational networks with other European companies that help to obtain European funds.

04

To turn the territory into a pole of reference that attracts companies and sustainable investments from which local companies and the residents of the municipality can benefit.

05

Apply CSR in two areas: Environment and Society. Help present progress through companies' CSR reports and/or non-financial reporting statements.

In particular to be accountable and transparent on:

A Climate change issues (measures to adapt to the consequences of climate change, pollution, waste management, sustainable use of resources, greenhouse gas emissions and biodiversity protection).

B Social issues related to public-private partnerships (impact on local development, impact on local populations and on the territory, patronage actions).

C Issues related to health and safety at work.



06

Contribute to the achievement of the SDGs, in particular SDG11, SDG 13 and SDG17.



07

Obtain a “Responsible Business” label that explicitly recognises the contribution of companies to the project.

08

To achieve greater brand recognition and an improvement in corporate reputation in the municipality and among citizens.

09

Improve employee satisfaction by belonging to a company that is valued and socially recognised and that favours the attraction and retention of talent.

10

Improve the health and well-being of citizens.

11

Improve the competitiveness of committed companies.

09



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How to participate?

Information can be obtained from the following addresses:

CITY COUNCIL ALCANTARILLA
jose.fernandez@ayto-alcantarilla.es

CITY COUNCIL LORQUÍ
agentedesarrollo@lorqui.es

CITY COUNCIL MOLINA DE SEGURA
santiago.pastor@molinadesegura.es

CITY COUNCIL REGGIO EMILIA
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Good practice. Reference materials



An

**Good practices in
climate change
adaptation
and mitigation
by partner
companies**



SECTOR:
Mobility: local public transport

TITLE ACTION(S) ADAPTATION TO CC:
“TIL per il clima”

DESCRIPTION ACTION ADAPTATION TO CC

TIL Forest: a major urban afforestation project was financed in 2011, partly on municipal land and partly on state property, for a total area of about 3 hectares, where about 2,600 trees and shrubs were planted; TIL also took care of the maintenance of the forest for the first three years.

Climate-friendly parks (Life CityAdap3 pilot action): with a co-financing of 20,000 euros, TIL has supported the City Council in the design and implementation of four innovative afforestation projects in four parks in the city, where the dominant logic is to create resilient green spaces that bring well-being to those who frequent them, for a better adaptation of the city to climate change.

DESCRIPTION ACTION MITIGATION TO CC

Econoleggio: TIL offers individuals, companies and institutions the rental of electrically powered Porters. To date, there are 658 electric vehicles on the road in Italy, with annual CO2 savings of 442 tonnes and 368,000 litres of fuel.

New, more energy-efficient company headquarters: the result of the refurbishment of an existing building, the new company headquarters has been designed and built with a view to saving energy and using environmentally friendly materials, resulting in a total saving of 870 tonnes of CO2.

OTHER ENVIRONMENTAL COMMITMENTS

Accounting for CO2 emissions: In the management report, which forms an integral part of the company's financial statements, a section is dedicated to the characteristics of the vehicles

it owns, especially with regard to the emission class, the total CO2 emissions generated by its main activity, and a comparison with the previous year.

SECTOR:

Mobility: local public transport

TITLE ACTION(S) ADAPTATION TO CC:
“Sercomosa Innova”

DESCRIPTION ACTION ADAPTATION TO CC

Technical hydraulic performance of 90.68%: year after year Sercomosa maintains a high level of performance in the hydraulic network of Molina de Segura, which means a considerable saving in water consumption. This result is the sum of all the efforts made in network control, constant renovation, search and repair of leaks, fraud control, application of the latest technologies and digitalisation, professional, motivated and environmentally committed staff, self-analysis and continuous improvement.

Digitalisation of MSW and Street Cleaning services: Since 2018, a fleet geolocation platform and a container volumetric sensor system have been implemented. These tools optimise route

performance, which translates into a large reduction in the atmospheric emissions produced.

Adaptation to climate change in Molina de Segura of the Nelson Mandela Park by adopting nature-based solutions, creation of a bioclimatic classroom and study of alternatives for the definition and signposting of a sustainable urban path, as a friendly route connecting green areas (Life CityAdap3 pilot action). Sercomosa supports the City Council of Molina de Segura by co-financing these three projects with a financial contribution.

DESCRIPTION ACTION MITIGATION TO CC

Contracting 100% of electricity from renewable sources: in 2020, a public tender was issued for the supply of all of Sercomosa’s electricity from renewable energies. This energy is applied to all our facilities, including the pumping facilities of the drinking water and sanitation networks. This measure avoids the emission of more than 840 tons of CO2 each year.

Renewal of the vehicle fleet: Since 2019 our vehicle fleet has been renewed with clean

energy alternatives. Until 2021, 4 urban waste collection trucks and 2 CNG-powered vans have been acquired, as well as 3 electric vehicles. The continuous renewal plan foresees the continued acquisition of vehicles that reduce both air pollution and noise generation.

OTHER ENVIRONMENTAL COMMITMENTS

Training activities aimed at the youngest children: “Know your carbon footprint” is an awareness-raising workshop started in 2019 in a school in which pupils were shown the effect of air pollution on Climate Change and Health. They also worked through an interactive application

developed by Sercomosa, which calculates their contribution to the carbon footprint and the alternatives to reduce it and, finally, a tree planting was carried out at the school itself.

SECTOR:
Plastic manufacturing/recycling. Packaging

TITLE ACTION(S) ADAPTATION TO CC:
“Walki Plasbel Recycle, Reduce, Reuse”

DESCRIPTION ACTION ADAPTATION TO CC

Boosting the circular economy. Development of plastic recycling processes, increasing the use of post-consumer recycled material by 46% in 2020 through the expansion of the recycling plant with another state-of-the-art mechanical industrial recycling machine to transform plastic waste/by-products into new material. This will result in 17,936 tonnes of recycled material (up 27% on the previous year).

Multimodal platform adapted to climate change. Walki Plasbel supports the Alcantarilla City Council by co-financing the Life CityAdap3 project, the pilot project consisting of the design of a multimodal pedestrian and cyclist platform, adapted to climate change, and its implementation in the priority axis of the future basic network of sustainable mobility, pedestrian/cyclist, connecting the neuralgic centre of the municipality with the West Industrial Estate.

DESCRIPTION ACTION MITIGATION TO CC

Responsible energy consumption. Replacement of chillers, renewal of motors and office air conditioning equipment. With these actions, the emission of 611.23 tonnes of CO2 per year has been reduced.

- **Monitoring of machine consumption and performance, implementing energy meters in cutting section machinery, in the machine room and in the extrusion plant.**
- **Replacement of extruder main motors from DC (direct current) motors to high efficiency AC (alternating current) motors, achieving average energy savings of 15%.**
- **Intelligent system centralised in managing the control of all compressors, through optimisation of the compressor pressure**

band, reducing it to the minimum necessary, with energy savings of 3.5%. Energy savings of 68,756 KWh/year in the compressors.

- **Replacement of mercury vapour lamps with LED technology lamps, achieving an increase in light output of more than 10% and energy savings of around 40%.**
- **Design, development and implementation of a process water cooling system using energy-efficient water-air chillers through the replacement of water chillers with ESSER=2 performance by high-performance water chillers with ESSER=4.5 performance. Energy savings in cooling production of more than 40%.**

OTHER ENVIRONMENTAL COMMITMENTS

Raising awareness among our suppliers to reduce their environmental footprint as much as possible.

**Greenplast Project (financed by CDTI)
This project has led to the acquisition of new**

machinery that makes the manufacturing process of biodegradable packaging and packaging made from recycled raw materials more efficient and environmentally sustainable, reducing CO2 emissions into the atmosphere.





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