



...the world needs to multiply its efforts fivefold to achieve the goal of 1.5°C?

Global greenhouse gas emissions must be reduced by 7.6% each year between 2020 and 2030 for the world to slow global warming by 1.5°C this century, according to the United Nations Environment Programme's (UNEP) Emissions Gap Report. **Countries cannot afford to wait until the end of 2020, when new climate commitments come into force, to intensify action.** The UN has already warned that time is running out in the fight against global warming. **States must therefore multiply their efforts fivefold if they are to meet the more ambitious goal of the Paris Agreement.** G20 countries account for 78% of all greenhouse gas emissions, but only five have committed to a long-term zero-emissions target. The most ambitious are European: France, Germany, Italy and Spain.

...the Chinese and European citizens emit, on average, the same amount of CO2 per year?

On average, each person in Europe and China emits 7 tonnes of CO2 per year. **China holds the title of the world's leading emitter of CO2: it accounts for 27% of global emissions, with 9.839 billion tonnes of CO2 annually.** The United States accounts for 15% of total emissions, with 5.27 billion tonnes of CO2. The per capita emissions of both countries, however, are very different: each person in the US emits 16 tonnes of CO2 per year while each Chinese citizen emits the aforementioned 7 tonnes. Can you imagine what would happen if China followed the same energy and consumption model as the United States? Qatar wins by a landslide: it is the country with the

highest per capita CO2 emissions. Every citizen there is responsible for 49 tonnes of CO2 per year.

...Indonesia could be the first country to move its capital due to climate change?

Jakarta, the Indonesian capital, is sinking at a rate twice as fast as the world average for coastal megacities. The precarious and extreme situation of the city, which is home to 10 million people, is due to the rise in the overall sea level as a result of global warming and melting ice, and the subsidence of the land as groundwater supplies are drained to meet the needs of the population. Some parts of Jakarta subside by up to 25 cm per year. **By 2050, approximately 95% of the north of the city could be submerged.** The relocation of the capital, already announced by the government, could cost US\$33 billion.

...climate change is affecting our health?

Indeed, **it influences the social and environmental determining factors of health: clean air, clean water, sufficient food and safe housing.** Between 2030 and 2050, climate change is expected to cause an additional 250,000 deaths each year due to malnutrition, malaria, diarrhoea and heat stress. Pollen seasons that aggravate allergies and asthma will also be prolonged, while territories favourable to ticks and mosquitoes will expand.

...the rise in sea level is accelerated and could become unstoppable?

The sea level could rise by more than one metre between now and 2100 if the current rise in temperatures is sustained. **This rise has been accelerated by the melting of ice sheets at the planet's northern and southern poles, and, in particular, the loss of ice in Greenland and the Antarctic.** By 2050, the IPCC predicts a multiplication of extreme events linked to the warming of the oceans, which until now have been considered exceptional. Where previously they occurred once every hundred years, from the middle of the century they could occur at least once a year in many parts of the planet, especially in tropical regions.

...the world's tropical forests are disappearing at a rate of 30 football fields per minute?

In 2018 alone, 12 million hectares of tree cover were lost, an area almost the size of England. Forests are natural carbon sinks. **They play a critical role in the storage of CO2, the main greenhouse gas.** Stopping deforestation and restoring forests could eliminate 7 billion metric tons of carbon each year. In other words, the equivalent of neutralising the effects of 1.5 billion cars. Tropical deforestation accounts for 11% of

global CO₂ emissions. If it were considered a country, it would represent the third largest emitter after China and the USA.

...we face a more severe extinction of species than what happened to the dinosaurs?

The global rate of extinction of animal and plant species is 10 times higher than it has been, on average, during the last 10 million years, as a result of human action and climate change. Animals, for example, are on the brink, and face three options: adapt, change their habitat or die out. **Each species has a series of climate conditions (humidity, temperature) in which it is comfortable, but global warming is altering the climate.** Some animals adapt. For example, diurnal animals start to resort to nocturnal activity, waiting for temperatures to drop. Others change their migration patterns or stop migrating altogether. And others simply disappear, unable to cope with the situation. By the way, an excess of CO₂ may also have triggered the extinction of the dinosaurs, according to several studies.

...pines are the trees that absorb the most CO₂?

In Spain one can find some of the most effective tree species in reducing CO₂ in the environment. Specifically, the Aleppo pine and the stone pine. **A mature Aleppo pine can absorb about 50 tonnes of CO₂ in a year.** This means that a single tree absorbs the equivalent of the emissions of 30 medium-size vehicles that travel approximately 10,000 kilometers per year.

...there are two types of actions against climate change?

They are **mitigation and adaptation**. The former affects the causes. They reduce greenhouse gas emissions and prevent the degradation of natural sinks. This type of measure aims to reduce climate change as much as possible. The latter deal with the consequences. They allow us to adapt to the current or potential effects and changes of climate change and thus contribute to making our systems more resilient to climate change. **An appropriate combination of both types of actions could minimise the economic and personal damage caused by the effects of climate change.**

...changing the energy model is vital in the global reduction of emissions?

Electricity and heat generation account for more than 40% of global CO₂ emissions, mainly due to production technologies based on fossil fuels. Fortunately, **thanks to the innovation and competitiveness of renewable technologies, the electricity sector can be decarbonised by replacing fossil fuels with clean and renewable energy sources.** The transport and industrial sectors, responsible for 24% of global emissions, would also reduce their environmental impact thanks to decarbonisation through solutions such as electrification, among others.

...the IPCC provide the scientific basis for governments to formulate their policies?

The Intergovernmental Panel on Climate Change (IPCC) is the international body charged with assessing scientific knowledge relating to climate change. It was created in 1988 by the United Nations Environment Program (UN-Environment) and the World Meteorological Organization (WMO), and has 195 member countries. **The preparation of the IPCC assessment reports involves hundreds of scientists and experts from different fields and peer review by thousands of specialists.** In 2018 it presented the historic report warning of the drastic consequences of a 1.5°C increase in global temperature over pre-industrial levels.

...the best way to measure emissions in transport is per kilometer and passenger?

From these variables, we can affirm that **the airplane is the means of transport that emits the most carbon dioxide.** For example, an aircraft with 88 passengers on board emits 285 g of CO₂ per person per kilometer. To illustrate this, a flight from Madrid to Barcelona emits 115 kg of CO₂ per passenger. Quite ways behind that is the truck which, with an estimated average of 1.5 passengers, would release 158 g of CO₂. A car with the same number of people inside would emit 104 g. A motorcycle with one passenger would emit 72 g, while a bus, with an average of 12.7 passengers, would emit 68 g. **The train is the winner: if it carries an average of 156 people, it would emit only 14 grams of CO₂.**

...an electric vehicle (EV) emits less than half as much as an internal combustion vehicle?

In order to be able to compare both types of vehicle correctly, it is necessary to perform an analysis of the life cycle of both types of vehicles. During the manufacturing and dismantling processes of an electric vehicle (EV), 20% more CO₂ is emitted than in the case of internal combustion vehicles. However, if we look at the whole life cycle, it turns out that emissions from electric cars are lower than those with internal combustion. This advantage increases depending on the percentage of renewable energy used in the generation of electricity for

vehicle recharging. If the source is 100% renewable, the total emissions of an EV represent 40% of those of a diesel vehicle and 30% of those of a petrol vehicle.

...there are reasons to have hope in the fight against climate change?

Without wishing to downplay the situation at all, institutions such as the Earth Institute, Columbia University, and NGOs such as WWF, have seen some hopeful signs. For one thing, we have the current position of the international community on climate change. The United Nations Framework Convention on Climate Change (UNFCCC), ratified by 195 countries, is the main international agreement on climate action. It is a framework which is joined by the Kyoto Protocol and the Paris Agreement.

For another, action is being taken at all levels and around the world. For example, a growing number of cities (responsible for more than 70% of global greenhouse and household gas emissions and home to more than half of the world's population) are mobilising against climate change through targeted policies.

In addition, the solutions we need for a carbon-free future already exist, are increasingly competitive, and have the capacity to be implemented on a large scale. These are technologies related to renewable and clean energies, electric vehicles, heat pumps and other end-use technologies.

Businesses are also striving to contribute to the development of a sustainable economy. To achieve our strategic targets, at Iberdrola we have an investment plan and policies focused on decarbonising the energy mix and consolidating our leadership in renewable energies, smart grids and clean technologies. We also participate in national and international institutions, bodies and events to support climate policy-making and promote meaningful private sector participation. We are part of the group of leading European energy companies that have joined together to support the European Union's call for a commitment to achieving carbon neutrality by 2050.

Finally, there is a growing public mobilisation that demands a responsible attitude from governments, companies and institutions towards the future of the planet, and a greater awareness, especially among young people, of how important it is to change our habits.