

TRANSCRIPTION OF THE PODCAST “ELECTRIC ENERGY AND CLIMATE CHANGE”

Female: “Have you thought about that daily and automatic act of pushing the switch and the light coming on as if by magic?”.

Male: “Since the end of the 19th century, thanks to electricity, technologies such as transport, air conditioning, lighting and telecommunications have been developed. Developed countries cannot conceive of their existence without electricity. Can you imagine your life without light or internet, without traffic lights, without transports like the subway or the train? No cinemas, restaurants or operating theaters?”.

Female: “But electric power must solve a problem, its generation by burning fossil fuels, such as coal, oil or gas, which has contributed to greenhouse emissions, mainly carbon dioxide (CO₂)”.

Male: “Although a fundamental part of the problem, it is undoubtedly part of the solution, since the generation of electricity also comes from clean, renewable energy sources. In addition, even if it seems a contradiction, climate change poses a risk to the electricity sector. Thermal and hydroelectric plants need water to operate and one of the indirect impacts of global warming is a growing scarcity of the liquid element due to droughts and lack of rainfall”.

Female: “The journal Nature Climate Change has predicted in the coming decades a significant decrease in electricity production through hydroelectric and thermal plants, which need water for their operation”.

Male: “Do you want to know the direct influence that electricity has on our lives and what can we do so that its use does not have harmful effects?”.

Female: “Let us now examine why electricity consumption contributes enormously to the planet's climate change”.

Male: “Combating it requires an urgent transition towards a sustainable development model, based on energy efficiency and a firm commitment to renewable energies, as some power companies have already done, and have decided to focus their business on them”.

Female: “The fifth report by the UN Intergovernmental Panel on Climate Change warns that if greenhouse gas emissions continue to increase at the current rate, the global average temperature could be between 2.6 and 4.8 degrees, and in turn, sea levels would rise between 45 and 82 centimeters by the end of this century”.

Male: “Therefore, is essential to stop climate change by attacking its causes. These include the production and consumption of electricity in power plants using fossil fuels such as coal or natural gas. The burning of these fuels, in addition to emitting a series of atmospheric pollutants such as sulfur and nitrogen oxides, generates greenhouse gases, mainly carbon dioxide, whose concentration has increased in the atmosphere by more than 40% since industrialization and is primarily responsible for global warming”.

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Female: “These gases help to retain part of the infrared solar radiation reflected by the Earth, allowing an optimal temperature for life to be possible. But if its concentration does not stop increasing, the amount of accumulated radiation and consequently the temperature of the planet will also increase”.

Male: “Renewable energies, wind and photovoltaic or solar, two of the solutions to produce electricity without generating emissions, can also be harmed by climate changes. As more frequent wind and storms can damage your equipment. Also, the availability of biomass, due to a foreseeable lower agricultural yield, could be affected. However, we must provide solutions”.

Female: “The Paris Climate Agreement, in force since November 2016, marks a before and after in the fight against climate change. Its main objective is to limit the rise of the average temperature of the planet to less than 2°C and, if possible, that it does not change more than 1,5°C”.

Male: “It is intended that for the second half of this century have achieved carbon neutral planet, or what is the same, we issue the same amount of gases which can be absorbed. According to the International Energy Agency, of all economic sectors, the electricity sector will have to contribute 40% to the total reduction of emissions if the Paris objectives are to be met”.

Female: “To this will contribute the own electricity, replacing the fossil energies with clean electrical energy in the transport, industries and homes. Experts describe this situation as “electrification of the economy”, that is, the more sustainable the energy sector, the more clean electricity will use”.

Male: “Another way to consume energy in a responsible way is to purchase electrical appliances by looking at their energy label, look for the letter A and follow the instructions to make their use as environmentally friendly as possible. We can also use LED bulbs to light our homes, offices and schools”.

Female: “If the energy transition is difficult and important in developed countries, it is even more so in those that are not. Although it seems unbelievable, today there are 1.1 billion people in the world who lack access to electricity”.

Male: “The challenge is to get electricity to reach everyone through clean energies. Many developing countries are in the process of industrialization and need a major electricity supply. If this process is not done with clean sources of energy, their pollutant emissions will rise significantly. As this expert points out”.

Expert: “Only renewable energy sources, mainly photovoltaic that will give access to electricity to those 1.1 billion people who lack it today”.

Female: “According to reports from the World Energy Council, renewable energy provides about one-fifth of the world's electricity supply, but could eventually produce at least two-and-a-half times the world's energy demand. It depends on governments, large multinationals and, of course, on us”.

