



WHAT IS SUSTAINABLE ENERGY?

Energy is the key component enabling us to develop life on Earth. In accordance with the current social model, the search for greater economic growth is constant and the trend for meeting as many new “needs” as possible is insatiable. This means that finding a pathway towards sustainable energy is becoming increasingly urgent, by integrating energy efficiency and using renewable energy sources all around the world.

Current energy consumption rates are unsustainable. Each year the International

Energy Agency (IAE) – an autonomous body – publishes the World Energy Outlook (WEO), with an assessment of the situation and future evolution of energy systems on a global level. The WEO 2017 introduces a key new scenario - the **Sustainable Development Scenario** – that promotes an integrated focus to achieve the SDG. According to this Scenario, for electrical energy to be practically free from CO2 emissions by 2040, it will have to depend on renewable energies for more than 60% of its supply¹. It defines renewable energies as “energy sources

¹ World Energy Outlook 2017, executive summary



that are obtained from theoretically inexhaustible natural resources, whether due to the immense amount of energy they contain, or because they are capable of regenerating through natural means. They are environmentally-friendly supply sources”².

These include wind, thermal solar, photovoltaic solar, hydroelectric, biomass, biogas, tidal power, and nuclear fusion.

Advancing towards a sustainable energy model means not only using renewable sources to produce energy, but also using it more efficiently. Energy efficiency is defined as the collection of programmes and strategies that seek to optimise production processes and the use of energy, using the same amount or less to produce more goods and services, i.e. **producing more with less energy**³.

ENERGY: ESSENTIAL FOR FUNDAMENTAL RIGHTS

Food, housing, education and health are fundamental rights recognised in countless international and national instruments. Without them, human dignity cannot exist. To truly exercise these rights, it is firstly necessary for legal systems in each country to acknowledge a

² CASAS, José Manuel, GEA Francisca, JAVALOYES Esmeralda and others; *Educación medioambiental*, Editorial Club Universitario (2007), p. 165

³ *Eficiencia energética e intensidad de emisiones de gases invernadero en España 2015*, REPSOL Foundation

series of guarantees that ensure their effectiveness and link to public powers.

However, looking beyond the legal framework, **in order to have a healthy diet, a decent home, education and quality healthcare (for example) the truly essential element is energy.**

The use and access of energy are directly related to the wellbeing of people and to global sustainable development. A dignified life involves being able to keep warm, have light, cook, preserve foods, and have access to hot water, which is why energy constitutes a basic need for everyone. On a collective level, **access to accessible and sustainable energy services is essential for the autonomy of a community, and is a key element in reducing poverty**, improving education, healthcare and the economy, and enjoying a healthy environment. Therefore, for example, if a water supply is acknowledged as a human right, but this supply requires energy... should energy be recognised as a human right?⁴

Sustainable Development Goal (SDG) 7 gives us a roadmap, with five summarised targets, to ensure that **human rights through universal access to a sustainable and accessible energy source are guaranteed.**



⁴ DÍAZ, Tomás, *Pobreza energética y derechos humanos*, Blog Renewables, the journalism of clean energies (2014).



ENERGY: ANOTHER SOURCE OF URBAN/RURAL INEQUALITY

SDG 7 drives the global commitment to ensure **accessible, reliable, sustainable and modern energy for all**. There are underlying problems in achieving this goal that affect countries in both the North and South.

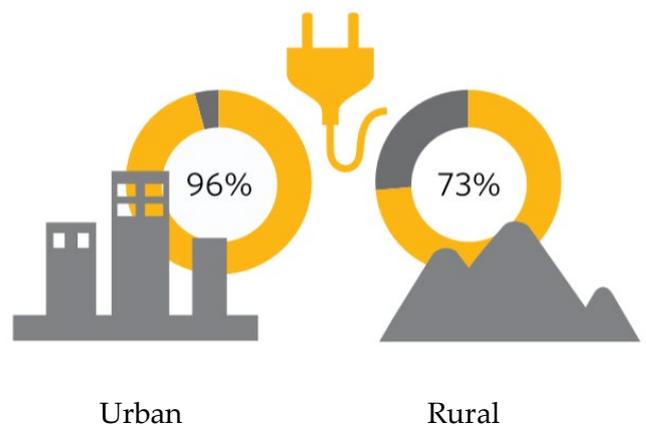
The main concern for countries that do ensure this access to energy (despite not being always accessible) is, as indicated in goal 7.2, to **substantially increase the share of renewable energy in the global energy mix**. To do this, the actions needed for us to achieve target 7.a are fundamental: **to promote more research and investment in clean energy, energy efficiency and non-polluting technologies**.

However, Agenda 2030 strives to “leave no-one behind”. This means that **one of the SDG 7’s priorities is to ensure reliable and accessible access to electrical energy to over 1,000 million people (more than half in Sub Saharan Africa), who continue to live without the benefits of this basic and essential service**: not knowing what a computer is, or a telephone, or worse still, not being able to keep food fresh, light their homes or walk down lit streets at night.

The populations affected the most by the lack of electricity are concentrated in rural areas. **Whilst**

more than 96% of urban area residents had access to electricity in 2014, this percentage was just 73% of people from rural areas.

Target 7.b⁵ aims to reach the countries that suffer the most from a lack of modern energy services.



The fact is that **lacking technologies and clean fuel poses many health problems, and air pollution leads to millions of deaths each year**. Deeply worrying is that **3,000 million people, the majority in Asia and Sub Saharan Africa, still cook without the benefits of technologies and clean fuels**. Once again, the most affected areas are rural, with a much greater divide seen in electricity: **whilst 78% of residents in urban areas cooked safely in 2014, just 22% of people living in rural areas were able to do the same**⁶.

⁵ Consult the SDG 7 targets [here](#).

⁶ The Sustainable Development Goals Report 2017



WHO CAN DO WHAT?

ON AN INTERNATIONAL LEVEL



For target 7.3, countries commit to double the global rate of improved energy efficiency. The [International Energy Agency \(IEA\)](#) is the benchmark in developing clean technologies and energy efficiency with its “Technology Cooperation Projects” (TPCs), which incorporate a network of over 6,000 experts and researchers.

ON A NATIONAL LEVEL



Along with China, the United States, Japan, Canada and Mexico, the most energy-consuming are European. **All EU countries should comply with the Energy Efficiency Directive 2012/27/EU**, approved with the aim of ensuring that EU countries achieve 20% of energy saving⁷ aligned with the [measures agreed in the COP 21](#).

ON A LOCAL LEVEL



Beter Energy is an engineering company specialising in consultancy and implementing renewable and efficient energy. Discover its work on [FABRE Testimony – SDG7](#).

AND WHAT CAN YOU DO?



“For ICTs to develop their full potential of transformation, they must be integrated into the classroom and become an instrument that enhances the adventure of learning.” Beltrán Llera

Infant and Primary Pupils

To participate in SDG 7 and change energy consumption habits from a very early age, first identify different renewable and non-renewable energy sources. Use [this children’s story](#) with younger pupils, explaining why we need sunlight. For 5 years upwards, [this video](#) describes the sun in more detail. To work with older pupils on the **difference between clean and dirty energies**, [this teaching video](#) will show them how they can help combat dirty energy.

Secondary and Baccalaureate Students

Which countries are the lowest energy consumers? Why? Analyse the [World Bank maps](#). In Spain you can see [this map](#), and watch [this video](#) to find out about the work of the Spanish Electric Networks (REE). Help your students reflect upon the importance of using alternative, clean energy sources. As a starting point, use [this news story](#) about **how London buses run on biodiesel made from coffee grinds**.



Project by



With the collaboration of



Funded by



⁷ EU Directive 2012/27/EU