# ENERGY TRANSITION

SURFRIDER EUROPE POSITION PAPER

This position paper applies to Surfrider Foundation Europe's action Europe-wide and to those of its local branches. Energy transition is referred to hereafter both in terms of changing energy generation and consumption patterns (1). Surfrider's position relates to limiting global warming to 1.5°C compared to the pre-industrial era, in line with the most challenging goals set by the Paris (2) agreements and especially to restrict as far as possible climate change-related risks. The Intergovernmental Panel on Climate Change (IPCC) special report on the effects of global warming of 1.5°C states that CO2 emissions must fall by 45% from their 2010 levels by 2030 to reach net-zero by 2050 (3).

*The position set out here may change subject to advances in scientific knowledge.*

# BACKGROUND

## CLIMATE CHANGE AND THE OCEAN

Greenhouse gas emissions from human activity are escalating the natural greenhouse effect, resulting in rising air, ocean and land temperatures as well as melting glaciers. The ocean plays a key role as it absorbs 93% of surplus energy generated by human activities (4) . The knock-on effects on marine environments are numerous. Rising temperatures and ocean acidification affect ecosystems, causing in particular some species to migrate, expand or become extinct (5). These changes affect the entire food chain (6) . The water cycle is disrupted and extreme weather events are statistically more powerful (7). Sea levels rise, endangering coastal social ecosystems. Erosion and coastal flooding events are exacerbated. Ocean current patterns are altered, which once again affects climate (8). Given these alarming assessments, Surfrider considers that there is a pressing for action. Although climate change is with us, it is vital to keep global warming to below 1.5°C. Mitigating emissions as well as adapting to the effects of climate change are two inextricable levers for action. Reviewing our relationship with energy is one mitigation measure that Surfrider seeks to promote.

## ENERGY AND GREENHOUSE GAS EMISSIONS

When fossil fuels (oil, coal, natural gas) are burnt, they account for more than 65% of global greenhouse gas emissions (GHG) (9). The energy industry is highly dependent on these fossil fuels as they produce energy on an industrial scale (particularly electricity generated by coal and gas-fired power stations). They also power manufacturing industries, heat buildings (residential, secondary and tertiary sector premises). They are also used for transport. Accordingly, the energy industry accounts for 78% of GHG emissions Europe-wide (10,11) while 70% of energy requirements are covered by fossil energy sources (oil 33%, coal 11% and natural gas 26%) (10,12).

## THE ROLE OF ELECTRICITY

Electricity is one of a number of energy carriers that has a wide range of end uses, such as heating, transport and powering specific industrial facilities. Electricity is generated from fossil, fissile (nuclear) or renewable energy sources. It accounted for 23% of final energy consumption in the EU in 2018 (12) and generates 18% of European GHG emissions (12–14). GHG emissions generated by nuclear power and renewable energy (RE) are 10 to 180 times smaller than those produced by fossil energy sources* . RE and nuclear power are subsequently referred to as decarbonised sources of electricity.

## ENERGY TRANSITION

Energy transition is about shifting away from fossil energy sources to produce our energy. The aim is to increase the share of decarbonised electricity in the energy mix by converting specific uses to electricity and by cutting the use of fossil energy sources. Energy transition also involves energy efficiency measures, particularly better building insulation and more energy efficient equipment. The European Union has pledged to cut its primary and final energy consumption by 32.5% by 2030 (compared to energy consumptions forecasts for 2030) (17). The European Union has also engaged itsel to increase the share of renewable energy in its overall energy mix to 40% by 2030 (18). The amount of coal used to generate electricity has already begun to drop. For example, from 2019 to 2020 coal use fell by 22% in Germany, 8% in Poland, 28% in Italy and 20% in the European union as whole (19). The share of gas stayed virtually unchanged. While the share of renewable energy in the electricity mix rose by 28% in 2020, the rise is still too slow. To reach the renewable energy target of 65% by 2030 (the target set by the European Union) (20), annual growth in the EU achieved from 2010 to 2020 must triple between 2020 and 2030 (19).

**Over the entire life cycle, the global median emission for wind is about 12 geqCO2/kWh, for solar about 45 geqCO2/kWh, and for nuclear about 12 geqCO2/kWh, while for coal, oil and gas, these figures rise to 900 geqCO2/kWh, 700 geqCO2/kWh and 500 geqCO2/kWh, respectively (15,16).*

# SURFRIDER EUROPE'S POSITION

## A LOW ENERGY TRANSITION

First and foremost, Surfrider stresses that all energy production has an environmental impact. The best energy is the energy we do not produce. As such, in pursuing its usual causes, Surfrider is tackling the root of the problem and advocates for a reduction in our energy consumption and production. Surfrider supports **the vision of a low-energy society**. The energy transition process cannot be achieved without significant measures to use less energy. It is essentially our relationship with energy that must be reviewed.

## DECARBONISATION

Surfrider advocates for the decarbonisation of our society and our uses, the aim being to drastically cut our GHG emissions and not to find solutions for surplus emissions by geoengineering. Carbon storage using natural ecosystems must clearly be encouraged, by restoring and protecting habitats (wetlands, such as peat bogs, marshes and seagrass meadows, etc.). By contrast, Surfrider is extremely wary of ecological engineering projects as these could significantly alter ecosystems (21). Surfrider does not support carbon offsetting schemes. Whatever way you look at them, these schemes fail to tackle the root cause (cutting our emissions) and serve as a pretext to continue emitting GHG and to pollute.

## A DEMOCRATIC AND FAIR TRANSITION

Surfrider believes that energy transition can only be achieved by reorganising the economic model and European lifestyle. This means limiting flows, transforming modes of transport, the consumption of goods and energy renovation works, etc (22, 23). For this transformation to be democratic and fair, Surfrider Europe endorses consultation and dialogue between local socio-economic and institutional stakeholders to collectively bring about a change to activities and uses, thereby making them compatible with the reduction in greenhouse gas emissions and energy sufficiency in all areas (energy, consumption of goods, farming, tourism, fisheries and travel, etc.).

## THE NEED TO ACT NOW

Surfrider stresses the urgency of the situation, as new MRE projects take 10 years before they become operational. Hesitations and changes in policy further extend these timescales. France, for example, is the only EU country to have failed to reach its targets in 2020, concerning the share of RE in its energy mix (24, 25). To achieve a 50% share of renewable energy (26) in the European energy mix by 2030, we have to act fast and right away while maintaining a constant dialogue with stakeholders. The acceleration of the development of new renewable energy projects cannot be done at the expense of the consideration of the environment in the procedures. An open and transparent discussion with civil society must be maintained.

## CONVERTING USES TO ELECTRICITY

Surfrider considers as essential to convert some uses currently based on fossil fuels toward low-carbon electricity. A shift in use to electricity increases, de facto, electricity consumption. In order to satisfy this new demand, low-carbon electricity production must be developed. It is of highly importance for Surfrider that new low-carbon electricity production plants replace carbon energy production and don’t add to the existing ones. The International Renewable Energy Agency recommends, for instance, increasing the share of electricity in the European Union's final energy consumption to 50% by 2050, compared to 20% currently (27). This increase in low-carbon electricity production will go hand in hand with an increase in the flexibility of the electricity grid. For example, interconnections between European countries will be essential to ensure the European Union's energy independence and optimal use of the various sources of electricity production.

# OUR PRIORITIES

In addition to these overall aspects, Surfrider places more specific emphasis on the following points:

## FOSSIL ENERGY SOURCES

Surfrider advocates for a rapid exit from the use of fossil energy sources. Through its "Drilling is killing" campaign in particular, Surfrider calls for an immediate moratorium on offshore oil and gas exploration and exploitation. Surfrider considers that all grants or subsidies for fossil energy sources must cease.

## NUCLEAR ENERGY

Nuclear power and all forms of renewable energy are decarbonised sources of electricity. Nuclear energy has the advantage of using low quantities of raw materials as uranium has a high energy density, while a nuclear power station occupies a smaller footprint than that of renewable energy sources. Yet, nuclear power is not a renewable energy source. It has an environmental impact when minerals are mined as do the various radioactive and chemical emissions generated when it operates. This raises the issue of waste management. As such, Surfrider does not view it as a source of energy for the future, but that it can serve as a transition to a 100% renewable energy mix. In this sense, Surfrider accepts limited – and just necessary - investments in this sector to allow this transition, without taking on subsidies in renewable energy.

## RENEWABLE ENERGY

Surfrider supports the expansion of renewable energy at land and sea. Surfrider wants to see it rise to a 50% share in the overall European energy mix by 2030, in line with the Climate Action Network (26). Surfrider believes that funding for the energy industry must focus first on the renewable energy sector. Surfrider emphasises the following checkpoints:

o Each RE project should be embedded in the local area, defined in consultation with the stakeholders and those who use the local area. It must comply with spatial plans and/or town planning documents, while matching the energy potential of the area and in replacement of already existing carbonated energy plants. Consideration should be given to the project's entire life cycle. According to Surfrider, consultation and citizen participation must be ongoing throughout the whole project in order to properly identify the issues at stake (see Surfrider recommendations on this matter).

o All RE projects must be environmentally-friendly. Surfrider emphasizes the need for an ecosystem approach to environmental assessments. These must take into account species, habitats, and more particularly ecological functions as well as other human activities already present. Particular attention should be paid to projects adjacent to or overlying protected areas to ensure that conservation objectives are met. In particular, Surfrider will oppose any project located in an area under high or integral protection (IUCN categories I to III, or future strong protections) (28) .

o Any RE project must meet european regulations. Measures to prevent and reduce impacts must be applied to the full, while the necessity for ecological compensation must be kept at the minimum. Particular attention must be paid to exemptions for protected species and key functionalities.

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