Future climate and energy policy - EU Strategy for long-term greenhouse gas emissions reductions

Shell is an international energy company that aims to meet the world's growing need for more and cleaner energy solutions in ways that are economically, environmentally and socially responsible. Shell companies have operations in more than 70 countries and territories with businesses including oil and gas exploration and production; production and marketing of liquefied natural gas (LNG) and gas to liquids; manufacturing, marketing and shipping of oil products and chemicals and renewable energy projects. Europe is a key region for Shell where we continue to explore for, produce and refine oil and gas as well as invest in renewable energies. Shell's New Energies business, set up in 2016, invests in commercial opportunities focused on the energy transition. Shell is investing in the development of alternative transport fuels, including biofuels, LNG, hydrogen, electric mobility, as well as low carbon technologies such as carbon capture use and storage. In power, we are working to develop low-carbon energy sources such as wind and solar, along with natural gas.

In March 2018, Shell presented the Sky scenario - a technically possible but challenging pathway for society to achieve the goal of the Paris Agreement to limit global temperature rise to well below 2°C. Scenarios can reveal useful insights and show us potential pathways the world might take. Some pathways are more plausible than others, but all challenge society to make tough decisions. Sky sets out a technically possible way an energy transition can take place over the next 50 years as the world moves towards a pathway that reaches Net Zero Emissions by 2070 globally, with Europe reaching this earlier.

In this context, Shell announced in November 2017 an ambition to halve the net carbon footprint of the energy products it sells by 2050 in step with society's progress.

Overview of Shell position

We believe the energy transition in Europe can be most effectively incentivised through a supportive policy framework consisting of:

- EU Emissions Trading System (ETS) to achieve Net Zero Emissions

Shell believes a government-led carbon pricing mechanism is the most effective policy instrument to decarbonise at lowest overall cost to society. Shell welcomes the recent reform of the EU ETS which is designed to enable the system to provide a meaningful carbon price whilst supporting industry exposed to international competition. A meaningful cost of carbon in the 2020s will help decarbonise the power and industrial sectors cost-effectively, which is essential to meeting Europe's 2030 targets. We encourage the Commission to consider further reforms to the EU ETS to help deliver the EU's ambition under the Paris Agreement. At the same time, policies need to be consistent with each other. For example, electricity market regulation should be aligned with Europe's climate objectives through the introduction of emission performance standards that determine eligibility to public subsidies.

- Paris Agreement

COP24 is a critical step in making progress on achieving the goal of limiting global temperature rise well below 2°C. The EU plays an instrumental role in mobilising global action to implement the Paris Agreement through agreeing the key elements of the Rulebook. Whilst not all countries can achieve emission reductions at the same pace, all countries will have a contribution to make across a range of activities to

reduce emissions, including natural sinks such as forestry. Cooperation between countries will thus be important to create a balance and maximise the contribution that each country can make. Article 6 of the Agreement is key to unlock this flexibility and to support the flow of finance and knowledge between countries. Article 6 establishes the ability to transfer verified emissions from one country/ region to another, which will be essential to deliver Net Zero Emissions.

Article 6 needs to be established in a way that allows for large scale transfers between participating countries. To maximise the opportunity of such cooperation, the private sector should be able to play a role. This requires that the generation and use of such emissions transfers be made cost-effectively and without excessive bureaucracy. The Rulebook must also ensure that emissions reductions and transfers are robust and that double counting of emissions reductions does not occur. This should be done principally through the use of clear, quantitative, accounting of country emissions and the transfer of emissions between countries. Where a transfer is made, an equivalent adjustment is made to each country's NDC quantified in tonnes of CO_2. The mechanism to be established under Article 6.4 to facilitate the process of quantifying a broad range of mitigation activities, including those from natural and geological sinks, should also encourage the development of a carbon price across developed and developing countries.

Article 6 should introduce the foundations to support the eventual development of a global carbon emissions market.

- Time limited support for emerging technologies and incentives for innovation

Innovation is a key driver to achieve a low carbon economy. Shell supports time limited incentives for pre-commercial, low carbon technologies including the associated infrastructure. Support at these early stages is vital to mitigate the high technology risk and capital costs of low CO_2 technologies and to ensure continued investment.

- Carbon Capture Use and Storage (CCUS)

Large-scale deployment of CCUS projects to reduce the stock as well as flow of CO_2 in the atmosphere would be essential in reaching Net Zero Emissions. Shell's Sky scenario shows that CCUS is needed to decarbonise parts of the economy to deliver an outcome that could safeguard jobs, create value for national economies and enable growth of a hydrogen economy.

Economic feasibility remains a key barrier for large-scale CCUS projects. Shell welcomes the role of the Innovation Fund, the Strategic Energy Technologies Plan, the Connecting Europe Facility and Horizon Europe for the demonstration of innovative low carbon technologies, including much needed infrastructure. In Shell's view, the Innovation Fund should ensure level playing field support to all innovative low carbon technologies in demonstration and pre-commercial deployment phases and retain explicit support for CCUS in pre-commercial deployment phase. We believe it is important that the long-term EU strategy recognises the role of CCUS in Europe's decarbonisation pathway.

- New fuels for transport

Shell believes that a portfolio of emerging low-carbon transport technologies is needed to decarbonise and reduce emissions from transportation – electric vehicles (battery and hydrogen fuel cell), LNG, advanced biofuels, in addition to low carbon liquid fuels and modern ICE vehicles. Increasingly, different vehicles and

powertrains will co-exist to meet the growing demand for mobility with lower emissions. Shell's Sky scenario shows that a technological, industrial and economically possible route forward includes all new passenger vehicles bought in 2050 are electric. Heavy duty road transport will start to use hydrogen and battery electric but will also continue to use low carbon fuels such as advanced biofuels and gas (LNG). Aviation and marine will also use advanced biofuels and for aviation, power-to-liquids as well.

EU transport policies should foster market push and pull to implement the different low carbon options by balancing incentives for supply of low-carbon vehicles and fuels and enabling consumer demand for them. When regulatory frameworks provide clear, coordinated and consistent signals that allow a range of technologies and fuels to compete openly and fairly on the market, the best innovative technologies can develop to deliver emission reductions.

Conclusion

Shell strongly supports Europe's energy transition and is playing an integral part in its emerging new energy system. As shown by Shell's Sky scenario, concerted political and societal willingness will be required to achieve the goals of the Paris Agreement. A supportive policy framework encouraging all emerging low carbon energy technologies can deliver a just transition and a Net Zero Emissions economy.