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The Commission has adopted on 8 July a Strategy on “Energy system integration”.

Energy is responsible for 75% of greenhouse gas emissions. If we want to achieve climate-neutrality, we need to fully rethink our energy system.

Today’s energy system is still built on several parallel, vertical energy value chains. For instance, oil is mainly used to drive our cars, or gas is used to heat our homes. This model of separate silos cannot deliver a climate-neutral economy. It is technically and economically inefficient, and leads to substantial losses in the form of waste heat and low energy efficiency.

Energy system integration, in contrast, is the coordinated planning and operation of the energy system ‘as a whole’, across multiple energy carriers, infrastructures, and consumption sectors. Only this approach can deliver an effective, affordable and deep decarbonisation of the European economy. System integration will also contribute to job and growth creation, security of supply, and global industrial leadership. System integration also provides numerous opportunities for short term investments in the post-Covid recovery context.

The Strategy adopted by the Commission sets out a vision on how to accelerate the transition towards a more integrated energy system in Europe. It will guide the reforms of the European energy system in the next few years.

The strategy relies on three pillars.

First, create a more circular energy system, with “energy-efficiency-first” at its core: Too much energy or potential energy is wasted in our current system, from heat and gases that are released into the atmosphere, to by-products of industrial processes and energy production, which could be captured and used for other purposes.

Second, to accelerate electrification, based on a largely renewables-based power system: To meet our emissions reduction goals in the power sector we need more electricity to be generated from renewables and to power areas such as buildings, industry, and transport.

Third, the promotion of renewable and low-carbon fuels, including hydrogen, for hard-to-decarbonise sectors: Some sectors, like heavy transport and industry, are harder to electrify, so we need to invest in cleaner fuels to power them.

An integrated energy system will also rely on well-functioning markets, on better-planned infrastructure, and on progress of digitalisation in the energy sector.