Green electricity russia

Green electricity russia

Renewables are an increasingly important source of energy as countries seek to reduce their CO2 emissions and dependence on imported fossil fuels. Renewables are mainly used to generate electricity, though renewable technologies can also be used for heating in homes and buildings. Renewable biofuels are also an emerging technology solution to decarbonise parts of the transport sector.

Note thatmodern renewablesexcludes traditional uses of biomass, such as burning collected wood, agricultural byproducts or dung for cooking or heating. This has serious negative consequences on health and the environment, including contributing to millions of deaths annually from air pollution, and is targeted for phase-out in international development and climate goals and in the IEA"s Net Zero scenario.

Biofuels, mostly made from plants, and waste products, such as household trash and industrial wastes, can be burned to generate electricity or heat. This can have environmental and climate advantages compared to burning fossil fuels, though the impact varies widely depending on the fuel source and how it is used. Traditional uses of biomass for heating and cooking, which remain a major source of energy in many developing countries, are targeted for phase-out in international climate goals and IEA scenarios.

Biofuels are used in all parts of the energy system: as replacement for oil-based fuels in transportation, to generate electricity, for heating buildings, or to provide heat for industrial processes.

Renewables such as solar panels, wind turbines and hydroelectric dams generate electricity without burning fuels that emit greenhouse gases and other pollutants. As the costs of solar panels and wind turbines have fallen dramatically in recent years, renewables now represent the cheapest source of new electricity generation in many parts of the world.

Renewables also have an important role in providing heat for buildings and industrial processes. To achieve decarbonisation and energy saving objectives, many countries are encouraging individual homes and buildings to shift from fossil fuel heating systems such as gas- or oil-fired boilers to systems like heat pumps which are much more efficient and can be powered with electricity from low-carbon sources. However, in areas that rely on heating from centralised heat plants or combined heat and power (CHP) plants, burning biofuels and waste products can provide a lower-carbon alternative to fossil fuels. Geothermal heating can also provide renewable, low-carbon heat but is only feasible in specific locations with the right kind of volcanic or tectonic activity.

Renewable heat sources have made fewer inroads in industry, as many important industrial processes such as steelmaking require higher heat than renewable fuels can achieve. New techniques and technologies will be needed to decarbonise these areas.

Green electricity russia

Thank you for subscribing. You can unsubscribe at any time by clicking the link at the bottom of any IEA newsletter.

In the rocky hills of southern Siberia, five hydropower plants operated by Russia"s EN+ Group churn out green electricity at one-sixth of the cost of conventional fuel, tapping the Angara river that flows out of Lake Baikal to power half a dozen aluminium smelters along its banks.

Already the world"s largest private hydropower company by capacity, EN+ is itching to ramp up output further. "We expect an increase in energy appetite of the region and we are prepared to satisfy it," says Maxim Sokov, EN+ chief executive, citing new industrial projects in the area, including gold and copper mines and power-hungry processing plants, that should increase power demand.

But stories like En+, which Mr Sokov says is finalising a modernisation programme to increase output and efficiency, are few and far between in Russia"s renewable energy industry, where the potential is great but the headwinds greater.

Russia"s tiny use of renewables, at 3.6 per cent of total energy consumption, is a black spot in a global surge in the use of green technology, which accounted for more than 18.3 per cent of the world"s energy supply in 2014, according to the International Energy Agency. Fellow Bric nations China and Brazil boast usage of more than 25 and 45 per cent respectively.