



Power Plant CO₂ Standards

Summary

- As part of a comprehensive global response to the climate crisis, Europe needs to deliver greenhouse gas emissions cuts of at least 40% by 2020 and become a zero net emitter by 2050;
- The electricity sector has the technical potential to be the first to become emissions free. However current policies do not provide a framework that ensures this will happen soon enough. Additional measures are needed;
- Despite an EU carbon price signal since 2005, many new high-emitting coal- and gas-fired power plants are still being built or planned, steadily locking-in a high emissions trajectory and so pushing our overall climate goals out of reach;
- **To avoid this situation and to develop and deploy new technologies more rapidly, new CO₂ emission performance standards must be included in the new Industrial Emissions Directive (IED).**

Facing up to the climate crisis

In recent years, the scale and urgency of the global climate crisis has intensified. This requires, as part of a comprehensive global response, EU emissions cuts from the 1990 baseline of at least 40% by 2020 and zero net emissions by 2050. Such reductions are necessary to prevent atmospheric conditions increasing beyond danger thresholds and thus catastrophic impacts on human and natural systems. Compared to other energy-using sectors, e.g. buildings and transport, electricity has the greatest technical potential to eliminate almost all its emissions first. A zero emissions power system will also contribute to progress in other sectors, for example through the electrification of vehicles. However, existing EU frameworks on pollution control, emissions trading, renewable energy, building and product standards are so far insufficient to ensure that necessary decarbonisation is delivered on time.

Carbon pricing alone does not deliver new technologies or system changes

Despite the introduction of emissions pricing in 2005, today more than 60 large new unabated coal-fired power stations are being built or planned across Europe. All would be capable of operating for 40 years or more yet there are no guarantees that the resulting billions of tonnes of CO₂ emissions from these plants will not be released into the atmosphere. By becoming locked-in to high-emitting long-lived investments, Europe will inevitably push its overall climate goals out of reach.

The cap and trade scheme (EU ETS) will only reach a zero cap at around 2070 without international offsetting and later still with such offsetting. The resulting carbon prices are both today too low and in the future too uncertain to drive forward innovation and investments in low-carbon energy technologies with sufficient speed. The development and deployment of such technologies is most effective when public law and aid are used in targeted ways, for example by using special production tariffs to support the growth of renewable energy use and the recent ban on the most energy-inefficient lighting.

CO₂ emission performance standards in the new Industrial Emissions Directive (IED)

Whereas the 2008 climate and energy package dealt with CO₂ geological *storage* and did little to address CO₂ *capture*, an emission performance standard (EPS) has the opposite emphasis. While an emission standard is in practice a capture standard, it does not specify the technology used to comply. Operators may use carbon capture and geological storage (CCS) or any other means to manage electricity demands.

Enacting a CO₂ EPS as part of the IED proposal would ensure no new coal-fired power is built in Europe without using CCS, thus supporting overall climate goals and providing much more certainty for investors and technology developers.

For *new installations* greater than 500 megawatts thermal capacity, WWF recommends that a CO₂ EPS of a yearly-averaged 350 grams per unit of electricity (350g/kwh) is applied from entry into force of the new directive. This standard should be tightened to no more than e.g. 100g/kwh as soon as possible and in any case no later than 2020, either in this legislative act or by a subsequent revising act.

For *existing installations* within the scope stated above and all other large combustion plants outside this scope, the impacts of carbon pricing should be kept under review. If carbon pricing appears likely not to retire definitively all remaining unabated (i.e. non-CCS fitted) large combustion plants in time to support overall goals, then a CO₂ EPS should be extended to some or all of those installations by way of an act (or acts) amending the IED.

Specific flexibilities e.g. to enable efficient co-generation, district heating and some other power plant types and fuels need also to be included.

‘Better regulation’ does not necessarily mean fewer rules

Climate change is a systemic concern that risks becoming an existential threat to all societies and ecosystems. Under no circumstances can we risk an inadequate response, as crossing danger thresholds means most likely that it will be impossible to return below them. In this context, a firm and forward-looking approach to controlling relatively few very large emitters is an essential and obvious element of our overall strategy to manage climate change risks.

In the emerging US climate package, an economy-wide ETS will be supplemented by an EPS focused on new very large emitters, thus ensuring adequate control of such installations. In general here in Europe, an EPS would compliment the ETS by making it politically easier for the next ETS cap revision to be set in line with necessary 40% and net zero (100%) emission reduction pathways.

EPS are already a success story

Emission performance standards have been used by European legislators before and are a proven regulatory tool that delivers both environmental improvements and investor certainty. To tackle acid rain, for example, the 1988 first Large Combustion Plant Directive (the successor of which forms part of the current proposal) set standards for sulphur dioxide emissions. In the years since, releases of this major pollutant have fallen by more than 70%. The EU now applies CO₂ emissions performance standards to cars and will soon extend this to vans.

IED institutional timing and procedure

While IED first reading stages near completion, the Council presidency and the EP environment committee may decide jointly when the second reading will start. So far no dates have been fixed. WWF recommends that second reading does not begin until after the December UNFCCC Copenhagen Conference. This will enable Copenhagen outcomes to be accounted for in the new law and a closer examination of specific options.

A new Parliament may introduce novel amendments at second reading. Moreover, Parliament’s in-house rule on the use of the non-binding ‘re-cast technique’ has been eased significantly since the first reading was concluded. Thus the Environment Committee may consider CO₂ EPS at this stage of the procedure.

Consequently, WWF strongly recommends to Members of Parliament and Member States to support CO₂ emission performance standards for new power plants in the new legislation.

Further information

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