



By Robert N. Stavins

## The Problem with EU Renewables

The European Union may be pulling back from the use of binding renewable energy targets as part of its global climate change policy mix that will extend action from 2020 to 2030. This would be good news both for the economy and for the environment, because in the presence of the EU's Emissions Trading Scheme — its pioneering regional cap-and-trade system that covers electricity generators and large-scale manufacturing — the “complementary” renewables mandate conflicts with, rather than complements, other policies. Without the renewables mandate, the cap planned for the EU ETS would be achieved at lower cost and would foster greater incentives for climate-friendly technological change.

In 2007, the European Union established three sets of targets and related policies: First, a 20 percent reduction in greenhouse gas emissions below 1990 by 2020, to be achieved by the cap-and-trade system; second, a 20 percent target for 2020 for the share of Europe's electricity consumption coming from renewable resources; and third, a 20 percent improvement in energy efficiency by 2020. These are the so-called 20-20-20 targets for the year 2020. A nice slogan, but a flawed policy, because of perverse interactions among the three elements.

While the proposed new emissions targets for 2030 would increase strin-

gency from the currently mandated 20 percent cut by 2020 to a 40 percent cut by 2030, the European Commission may drop binding constraints on the share of electricity generated from renewables. This may be good news both economically and environmentally? Why?

Under the umbrella of a cap-and-trade scheme, unless a complementary policy addresses some other market failure that is not addressed by the price signals of the cap-and-trade mechanism (such as the principal-agent problem thought to retard energy-efficiency adoption decisions in renter-occupied properties), these complementary policies that are under the cap will either be irrelevant or counter-productive. Here is the basic logic.

Under the umbrella of the EU ETS, the cap will be achieved cost-effectively (at minimum aggregate cost) if the cap is binding, which it will be with the new 2030 targets. (Cost effectiveness is achieved because the CO<sub>2</sub> cap-and-trade mechanism provides incentives for all sources to control at the same marginal abatement cost, as would a carbon tax.)

A “complementary policy” under the cap, such as a renewables target, will either be irrelevant (if it is not binding) or, if it is binding, any additional emissions reductions achieved in the electricity sector under the complementary measure (the renewables program in this case) will cause electricity generators to have additional allowances they do not need. And they will not tear up those allowances, but will sell them to other sources, such as those in other sectors. Hence, emissions in those other sectors will be greater than they otherwise would have been, completely neutralizing the emissions-reduction impact of the renewables policy.

So, in the presence of the over-arching EU ETS, the renewables target has no incremental impact on CO<sub>2</sub> emis-

sions. On net, the emissions reduction due to the renewables policy is zero; there is 100 percent leakage within Europe. But the bad news does not stop there.

With more emissions reductions in the electricity sector and less in other sectors than under the cost-effective allocation of control achieved by the cap-and-trade system on its own, aggregate abatement costs are actually increased. Marginal abatement costs are no longer equated, and the allocation of control responsibility is not cost-effective. There is too much abatement in the electricity sector, and not enough in some other sector or sectors. Costs are driven up.

Hence, nothing is being accomplished in terms of CO<sub>2</sub> emissions with the renewables policy, and costs have been increased! Wait, there is more.

If some emissions reductions are being achieved by the binding renewables policy, then there is less demand overall for tradable allowances. Since the supply of allowances has not changed, this means that allowance prices are inevitably suppressed; and low allowance prices mean less induced climate-friendly technological

change over time.

That is the perverse trifecta of a complementary renewables policy under the umbrella of a cap-and-trade scheme, such as the EU ETS: no additional emissions reductions are achieved but costs are driven up and technological change is retarded.

If the European Commission eliminates its renewables targets as it proceeds with more stringent emissions targets for 2030 under the EU ETS, it will be good news both for the economy and the environment.

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