

France “ON Track” to Meet its CO₂ Target. Really?

French CO₂e emissions (so-called CO₂ equivalent, which includes all greenhouse gases (GHGs), of which CO₂ itself accounts for 3/4) have decreased by 19 Mt, or 4.8% between 2022 (404 Mt) and 2023 (385 Mt). This result prompted a statement from the French Minister for Ecological Transition and Territories, who declared on last March 20 that this corresponds to ***“almost the entire reduction between 2012 and 2017”*** and added that it was ***“proof that ecological planning is beginning to deliver results”***.

Unfortunately, these high-sounding declarations fail to differentiate between context-related and structural causes; harsh reality is very significantly different, for at least two reasons:

- The sharp context-related reduction in CO₂ emissions from electricity generation between 2022 and 2023 [1]. Due to the exceptional unavailability of nuclear reactors in 2022, French electricity was more carbon-intensive than usual, with 55 g CO₂ per kWh produced, leading to the emission of 24.2 Mt CO₂ in 2022. In 2023, with a return to better nuclear availability (accounting for more than 2/3 of the reduction in emissions), combined with good production from renewable sources, notably hydroelectric, electricity returned to a carbon content of less than 35 g CO₂ per kWh, in line with the average of previous years, leading to emissions of only 16.7 Mt CO₂ in 2023.

In short, between 2022 and 2023, electricity generation alone reduced its CO₂ emissions by $24.2 - 16.7 = 7.5$ Mt, or just over 1.8% of the country's total 2022 emissions.

- The second major source of CO₂ emissions reduction comes from industry. Overall, it is of the order of 6 Mt CO₂ between 2022 and 2023, or just under 1.5% of the country's total 2022 emissions. This stems mainly from industries with significant heat demand, supplied by fossil fuels, mainly natural gas, in particular: metallurgy; chemical industry; construction materials; food processing industry; etc.

Yet this emissions reduction is due essentially [2] to production cutbacks and, very secondarily, to improvements in the efficiency of industrial processes. We are thus here again in the realm of context-related rather than structural reductions.

All in all, the largely context-related emissions reductions of these two sectors alone account for around $1.8 + 1.5 = 3.3\%$ of the country's total reductions relative to 2022. Even if they include a small share attributable to structural improvement, the balance of $4.8 - 3.3 = 1.5\%$ is too small to represent a significant structural reduction. The country's real track record is thus far from the - 4.8% announced, and this is bad news.

In conclusion, before touting a reputedly historic result, in this instance a matter of communication rather than a reflection of reality, it would be highly advisable to carry out an in-depth analysis to differentiate structural and context-related contributions as precisely and indisputably as possible.

This is the prerequisite to understanding and acting efficiently; self-delusion can only lead to defeat.

[1] Source: RTE data (RTE is France's Transmission System Operator)

[2] Source: Article published in the daily newspaper Le Figaro dated 22 March 2024, *France "on track" to meet its CO2 emissions target* by Anne-Laure Frémont. Note: the article relies on the CITEPA data (CITEPA is France's Technical Reference Center for Air Pollution and Climate Change).

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