

In 2020, France Must not Spoil Its Excellent "Climate Assets"

Let us hope that, in 2020, France will take all the possible steps to improve its climate performance and will begin a period of emissions reduction with the conversion to electricity of its mobility and its heat production for housing and offices. Let us hope that the country will not surrender to a very costly (see the Court of Auditors report) politically biased temptation to reduce its nuclear based electricity production, at the root of the country's climate excellence.

If France abides by its commitments, its CO₂ emissions reduction should speed up in the course of 2020. But remember, this is essential, that in order to limit the global mean surface temperature (GMST) increase to 1.5°C, the strategic decisions of Nations must be made with a worldwide perspective. According to the IPCC, the total world CO₂ budget relative to the preindustrial period is limited to 600 GtCO₂ (Figueres C. et al (2017)¹, IPCC COP19 (2013)). In order to achieve this, Figueres C. et al (2017) propose an emissions profile that reaches a maximum in 2025 with about 43 Gt/yr. Currently, world emissions are at 36 Gt/yr.

The world per capita CO₂ emissions are 4.4 t CO₂/capita and the CO₂ emissions per unit GDP are 0.43 t CO₂/k\$².

According to the UN the world population will reach 8.1 billion in 2025 (7.5 billion in 2019). This means that, in order to limit the global mean surface temperature increase to 1.5°C, the per capita emissions should not exceed 5.3 t/capita.

In the IIASA "low demand" "efficiency" scenario, the world GDP is assumed to increase by 30% between 2020 and 2030. This means that the CO₂ emissions per unit GDP have to decrease slightly from 0.43 t CO₂/k\$ to approximately 0.38 t CO₂/k\$.

The relative CO₂ emissions vary according to the options taken by the local entities as illustrated in the table below.

	World	China	USA	Russia	Germany	France
GDP/capita k\$	10.3	6.5	51.7	12.0	44.2	41.3
CO ₂ /capita t	4.4	6.6	15.6	10.2	8.8	4.3
CO ₂ /GDP t/k\$	0.43	1.0	0.3	0.85	0.2	0.1
% fossil electricity	49	77	70		34	10

Table 1. Relative CO₂ emissions for various regions

The last line gives the percentage of electricity produced with fossil-fueled reactors (mostly coal and gas).

Whether measured relative to the population or to the unit GDP, France's good CO₂ emissions performance is undeniable.

Based on these data, it appears that, thanks to its low carbon content electricity, France has already achieved its transition towards climate warming below 1.5 °C (CO₂/capita at 4.3 versus the 5.3 target and CO₂/GDP at 0.1 versus the 0.38 target).

1 Figueres, C. et al. (2017) 'Three years to safeguard our climate', Nature, Vol. 546, p.593.

2 Values are taken from IEA publication *Key World Energy Statistics 2016*, i.e. they are 2014 values.