

Committee

2020-2050 trajectories to a low carbon economy

Executive summary

Science is calling for a rapid change in the global GHG emissions trajectories to avoid average warming of the planet of more than 2°C: according to the scenarios of the Intergovernmental Panel on Climate Change (IPCC), this would entail halving global emissions by 2050, and a reduction from 80 to 95% in developed countries. The Committee's work explored the best ways for France to contribute to attaining this goal.

Future decision-making should consider two aspects of the situation. First, international, UN-led negotiations, despite technical advances, have little chance of delivering an ambitious international agreement any time soon. On the other hand, the real economy has not experienced strong recovery following the violent recession of 2008-2009, even as the financial situation of governments has weakened and cast doubt about the sustainability of sovereign debt within the eurozone.

In this context, the Committee's work pursued one train of thought: Finding ways to conduct a climate policy that combines high ambitions in terms of reducing GHG emissions and positive impacts on economic growth, industrial competitiveness and employment. Ambitious action on climate change will contribute to the recovery of our economy and to the creation of new comparative advantages in international competition, provided two conditions are met:

- Integrating, much more directly than in the past, climate policy to a strategy that combines a policy of developing industrial clusters, research and development, and diffusion of innovation within the economic system;

- Lending increased credibility to public policy by building the kind of governance that makes the targets and economic incentives that will help achieve those targets predictable to economic players on the long term, including through a generalization of carbon pricing in the economy .

These general guidelines subdivide into four areas: analysis of the European context, construction of French sectoral trajectories, diagnosis of possible scenarios and identification of instruments to be implemented.

1. The European context is currently marked by discussions on achieving the EU's objective, i.e. a reduction of at least 80% of GHG emissions between 1990 and 2050. Since this objective has not been broken down by Member State, the Committee first examined the position of our country within the European context. Given the structure of our emissions and, in particular, the low level of our industrial and energy-related emissions (the areas on which the largest reductions are being sought in the Union), it appears that the national target of "Factor 4 " (which would bring our country to an emission level of less than two tons of CO₂ per capita in 2050) is in line with European long-term objectives. This national target must not be affected by the changing state of play in international climate negotiations. It is to be achieved in this country through means that simultaneously enhance economic growth, employment and the various industrial sectors.

There was not, at the time the Committee's work was carried out, a consensus within the European Union as to the best course of action for achieving the long-term objective or, in particular, the need to go beyond the EU's objective of a 20% reduction in greenhouse gas emissions by 2020, relative to 1990. Hearings with three countries that are in favor of such a move beyond 20% showed some interesting innovations in climate policy: in Germany, strong links with the industrial strategies for production and export of new

technologies ; establishment of specialized governance together with several financial innovations in the UK ; use of carbon taxation domestically in Sweden. This suggests that beyond measures already in place as part of France's Grenelle Environment Roundtable, our country must continue to innovate in terms of governmental action to achieve ambitious climate targets.

2. The potential for reducing emissions. Since 1990, French GHG emissions have been partially decoupled from economic growth. This trend seemed to accelerate after 2005, not just due to the mechanical effect of the economic recession. This decoupling creates certainty that France's Kyoto Protocol commitments will be kept and a strong likelihood that our current 2020 Climate and Energy Package target will be achieved, provided the implementation of measures adopted under the Grenelle Environment Roundtable is not thwarted by public finance constraints. However, just pursuing this incremental progress will not be enough to put us on the path to "factor 4" by 2050. For that to happen, we will need transformative technological and/or organizational changes, so as to achieve the reduction potential identified in each sector. To reach "factor 4", five overall conditions will have to be met :

- act on both demand (by encouraging energy efficiency and more generally lowering consumption of goods and services with a high carbon footprint) and supply (by encouraging low-carbon production). This condition is essential in particular to make sure that non-emitting primary sources of energy can cover needs on the medium to long term;

- All sectors, whether or not subject to the European Trading Scheme for CO₂, will have to accelerate their emissions reductions. Particular attention must be paid to the "diffuse" sectors, where multiple emission sources make it more difficult to establish the appropriate incentives: transportation, buildings and agriculture. Agriculture and forestry deserve special attention because of their ability to produce

renewable carbon and store atmospheric carbon. This ability could be greatly reduced with respect to the forest in the coming decades, unless new investment is made. Rapid action should also take place to reduce the pressure to replace natural soil by artificial soil due to suburban expansion;

- Economic actors in each sector will need to have a set of predictable long-term incentives which, through public action, will lead them to initiate rapid investment and innovation efforts required to achieve the proposed carbon emissions reduction targets by 2050. In this regard, a variety of conditions prevail in the various industries, with various challenges and opportunities as regards technological and organizational innovation;

- Funding sources will have to be mobilized to achieve the additional investment and cover the conversion costs needed to move towards a low carbon economy without destabilizing public finances, whose consolidation will remain the priority in the coming years. R&D actions, but also technological innovation and diffusion can both enhance the competitiveness of our businesses, but also the growth of our economy in the long term: financing these developments will be particularly important;

- To create the conditions for social acceptance of these changes, the transition to a low carbon economy will have to quickly demonstrate its beneficial effects on business activity and employment, and efforts will have to be equitably shared.

3. The various possible scenarios. With limited time for its study, our Committee has not multiplied scenarios but rather has focused on three possible paths, which have been broken down by sector and are all conducive to a 75% reduction in GHG emissions in 2050. The difference between these three paths is that they go through three

different points in 2020, corresponding to three possible options at EU level (-20, -25 or -30% reduction targets) and that they lead to national reductions of between 33 and 41% in 2030 (see table attached to this document). Though the issue of going beyond the current EU target has not given rise to consensus within the Committee, the modeling and analysis done as part of this study has served to shed light on the parameters that would have to be considered in making such a decision:

- First of all, raising the target to -25% or -30% would lead to an additional climate benefit with cumulative emissions reduced by 8% in 2050. Simulations under different models all illustrate the benefits of early action: with an enhanced target, reductions are more evenly distributed over time, which avoids sharply increasing constraints towards the end of the period. Such a raise would also be instrumental in raising the price of CO₂ quotas on the EU ETS, which is a widely shared goal today. If supported by adequate measures, it could be conducive to building a competitive advantage in a number of new low-carbon economic sectors;

- Some group participants have argued that the timeframe for investment in industry was such that the 2020 target was too close at hand to change the rules of the European CO₂ trading scheme. Others have expressed concern that achieving further reductions by 2020 in sectors not covered by EU ETS would entail a heavy burden for governments since many incentives in these industries are based on the use of public money. Finally, some have pointed out that EU action would benefit from high leverage if the European system was linked to a global carbon market;

- Given the above reservations, the Committee has sought to highlight the right conditions for raising the current 20% target. One essential condition would be strengthening the system of economic incentives by expanding the pricing of energy-related CO₂ to areas not covered by the EU quota system. Such scope extension should

ideally take place through European channels, but national action might be in order if progress remains slow at EU level;

- The use of funds from national or European carbon pricing can promote growth and employment in the short as well as medium term. The Committee recommends that such use be part of a multi-year vision that incorporates the following five priorities: lower costs for employers to promote employment and enhance competitiveness; compensation targeted at poor households ; and funding of R&D and low-carbon innovative technology diffusion in France and as part of international cooperation; funding for new training schemes and retraining support schemes; support for fighting climate change in least developed countries.

4. Instruments to be implemented. One prerequisite for a successful transition to a low carbon economy is that the signals sent by both European and French authorities should be credible and predictable. Nationally, the Committee favors renewed governance of climate policy with, as is the case in the UK, an independent committee bringing together the required expertise, and open to business as well as civil society. We also advocate establishing intermediate targets at both national and European levels:

- At the national level, the Committee would like a system of intermediate targets for greenhouse gas emissions (every three or five years) to be seriously explored. These targets would not be binding and would be broken down by sector, so as to strengthen national steering capacities for trajectories and assess the adequacy between means of implementation and results;

- At EU level, once decisions on 2020 have been made, it is desirable for a 2030 EU target reduction to be quickly adopted, in line with the 2050 objective. This target figure, which should be in the range of -40 to -45% at EU level as estimated by the European roadmap, should

be specifically broken down between Member States and adhere to the rules that cover changes in the EU quota ceiling, because ETS should remain a powerful and effective instrument for controlling industrial emission reductions. In this regard, the Committee wishes that proposals to strengthen regulation of the carbon market under the aegis of an independent European authority, based on the Prada Report, be implemented at short notice.

- At international level and in order to increase the flexibility of climate policies, the continued use of project mechanisms established under the Kyoto Protocol could be a useful source of external flexibility. It should target least developed countries or those that are making demonstrable efforts to cut their emissions, and its focus should be on programs-based approaches. The extension of these mechanisms, if harmonized within Europe, would also facilitate the achievement of reduction targets in sectors not covered by the European quota system.

Financially, the Committee supports the introduction of innovative mechanisms for using the future value of emission reductions and energy savings with a view to financing emissions-saving investment through loans or equity. Such a scheme, if implemented on large enough a scale, could help remove one of the major obstacles to accelerated upgrades in the housing stock.

Readers are referred to Chapter 5 for details of the Committee's proposals to facilitate a successful transition to a low carbon economy. In addition, the first supplement to the report brings together miscellaneous proposals that individual Committee members wished to make on their own behalf.

The report's 9 proposals

1. Strengthen industrial policy measures to promote the transition towards a low carbon economy
2. Promote strengthened R&D and dissemination of technological innovations that are conducive to the transition to a low carbon economy
3. Extend the predictability of climate policy by defining binding European targets for 2030 and strengthen its credibility by renovating governance
4. Strengthen the carbon price signal by making it economy-wide and improve regulation of the European CO2 trading system
5. Improve and continue the flexibility mechanisms at international level and promote their use within the European Union itself
6. Ensure fully transparent management of auction proceeds and future climate-energy contributions, with a view to promoting economic growth, social equity, the development of low carbon innovation and international solidarity
7. Anticipate changes in the job market and plan for successful job transitions
8. Develop innovative financing schemes that combine public and private equity and use carbon value as leverage
9. Integrate effectively climate policy objectives into urban and rural planning policies