EU industrial policies for the digital and ecological transition from the origins to the 2000's

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Introduction

At the beginning of the 2000's, the European Commission launched the Lisbon Strategy and the Europe 2020 programmes to enable the European Union to become "the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion"[1]. Actions to achieve this objective included the promotion of horizontal industrial policies such as strengthening research and development, vocational training and deepening the internal market[2]. At the same time, the Commission launched a sustainable development strategy which entailed the reduction of greenhouse gases by 2020 and the establishment of establishment of a greenhouse gas emissions trading scheme in the European Union[3].

The development of these policies represented the culmination of a long historical process of strengthening the European Union's actions in favour of the high-tech and environmental protection sectors. In this paper, we attempt to examine the evolution of these policies from the origins of European integration to the early 2000s. To achieve this, we analysed primary archives from the European Commission and interviewed former officials from the institution.

The first initiatives of the Commission to develop an EEC research policy and in favour of high-tech sectors (1960's-first half of the 1970's)

[1] Conclusions of the Lisbon European Council held on 23 and 24 March 2000. Available here : https://www.consilium.europa.eu/fr/european-council/conclusions/1993-2003/

[2] Jean-Christophe Defraigne et al., « Introduction to EU Industrial Policy in the Multipolar Economy: past lessons, current challenges and future scenarios », 3.

[3] COM(2001) 264 final, A Sustainable Europe for a Better World: A European Union Strategy for Sustainable Development, 15 May 2001.

The Commission's first initiatives to strengthen the research policy in favour of EEC industrial sectors were in the 1960s to address the growing gap in R&D investment between Europe and the USA[4]. This had a major impact on the competitiveness of European companies, especially in high-tech sectors. Evidence of this phenomenon could be seen in the increase in American direct investment in Europe and the growth in patent and licensing fees paid across the Atlantic[5].

The initiative came first from the EEC Commission, which on 25 July 1963 proposed the creation of a medium-term economic policy committee made up of senior officials from the Member States, to coordinate the actions of the Community's governments and institutions in the field of economic policy, particularly regarding scientific and technical research[6]. The favourable reception of the proposal by the Member States led to the creation of the Medium-Term Economic Policy Committee on 13 April 1964 and the setting up in March 1965 of the PREST (Research and Scientific Policy) working group, whose mission was to draw up a common research policy[7]. Taking advantage of this momentum, the French government published a memorandum on "scientific and technical research policy" and a note on "European society" in the same year, as part of its presidency of the EEC Council[8]. The former contained proposals for coordinating national research policies, while the latter proposed the introduction of a new European limited company statute to facilitate cooperation between companies, notably with a view to increasing their size[9]. However, these projects came to nothing because of the 1965 "empty chair" crisis provoked by the Gaullist French government[10].

New initiatives were taken by the Italian Commissioners for Industry Guido Colonna di Paliano (1967-1970) and Altiero Spinelli (1970-1976) to strengthen EEC industrial and research policies in favour of high-tech sectors. On the initiative of the former, two memorandums were published in 1967 and 1970 containing measures to strengthen the common market and Community research policy[11]. Altiero Spinelli, for its part, proposed the same guidelines, but with new instruments such as the creation of new Community research programmes and the establishment of a Community programming and financing mechanism for the development of the aeronautical sector at Community level[12]. While these initiatives led to a strengthening of the Commission's research policy in the 1960s and 1970s, with a doubling of spending on research between 1975 and 1980 and a significant development of

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[4] Warlouzet, « Europe de la concurrence et politique industrielle communautaire. La naissance d'une opposition au sein de la CEE dans les années 1960 », 53.
[5] Christopher Layton, *14 points pour faire l'Europe*, 19.
[6] Arthe Van Laer, « Vers une politique industrielle commune. Les actions de la Commission européenne dans les secteurs de l'informatique et des télécommunications (1965-1984) », 34.
[7] Arthe Van Laer, 34-35.
[8] Warlouzet, « Europe de la concurrence et politique industrielle communautaire. La naissance d'une opposition au sein de la CEE dans les années 1960 », 54.
[9] Warlouzet, 54.
[10] Laurent Warlouzet, « Towards an European industrial policy », 222.
[11] AHUE, Agence Europe, 20 March 1970; Éric Bussière, « L'improbable politique industrielle », 480.
[12] Arthe Van Laer, « Vers une politique industrielle commune. Les actions de la Commission européenne dans les secteurs de l'informatique et des télécommunications (1965-1984) », 62.

cooperation at Community level, priority during these years continued to be given to the activities of intergovernmental bodies such as the European Space Agency and the Organisation for Nuclear Research (CERN)[13]. In high-tech industries, the intergovernmental approach was also favoured over the Community framework, as Member States were reluctant to grant the Commission powers to intervene in national strategic sectors[14]. This preference led to the failure of most of the Commission's initiatives in the field of high technology during the 1970s, such as the UNIDATA project in the IT sector, which aimed to get the national governments to support synergies between industrial champions (CII, Siemens and Philips) by means of public procurement measures and by pooling government subsidies for research and development[15].

The beginning of the Community environmental policies in the 1970's

In parallel with measures to strengthen research policy and promote high-tech sectors, the 1970s saw the Commission's first initiatives to develop a Community policy in the field of environmental protection. These were a response to growing global concern about environmental degradation, illustrated in particular by the organization in 1972 of the UN conference on the Human Environment in Stockholm[16]. The Commission's initiatives were made possible thanks to the personal involvement of several commissioners from the Malfatti (1970-1972), Mansholt (1972-1973) and Ortoli (1973-1976) Commissions. First, the Dutch Sicco Mansholt proposed, following the conclusions of the Meadows report "Limits to growth" in February 1972, a reflection inside the European Community on the future of economic policy, the well-being and « quality of life »[17]. Altiero Spinelli, for its part, promoted a Community industrial policy that respected environmental protection requirements[18]. He proposed for example, during his term of office, developing a Community environmental legislation as well as launching research programmes to develop non-polluting technologies and promote recycling[19]. Finally, the Commissioner for Competition Albert Borschette promoted the adoption of a Community approach to national subsidies for environmental protection in 1974. The aim was to establish common principles for this type of aid increasingly granted by national governments[20]. The principles laid down by DG IV Competition were to authorize subsidies that respected the "polluter pays" principle and that

[13] Veera Mitzner, *European Union Research Policy. Contested Origins*, 229-30.
[14] Laurent Warlouzet, *Governing Europe in a Globalizing World. Neoliberalism and its Alternatives following the 1973 Oil Crisis*, 123 ; Stephen Woolcock, « Information Technology: the challenge to Europe », 326.
[15] Arthe Van Laer, « Vers une politique industrielle commune. Les actions de la Commission européenne dans les secteurs de l'informatique et des télécommunications (1965-1984) », 65-69.
[16] Jan-Hendrik Meyer, « Getting Started Agenda-setting in European Environmental Policy in the 1970s ».
[17] Christian Van de Velde, « L'environnement et la protection des consommateurs », 394.
[18] Dimitri Zurstrassen, « Altiero Spinelli : une vision fédéraliste pour la politique industrielle communautaire ».
[19] Dimitri Zurstrassen.
[20] AHCE, SEC(74) 4264, Community guidelines on State aid for environmental protection, November 1974.

did not cause difficulties within particular regions of the Community or within specific industrial sectors[21].

The strengthening of environmental and industrial policies during the Jenkins and Thorn Commissions (1977-1985)

In response to the Copenhagen European Council's request for the development of a new overall socio-economic strategy to deal with the crisis, the Commission submitted in June 1978 to the Member States a report on "certain structural aspects of growth", a policy paper pointing out that the primary responsibility for meeting the challenges posed by structural changes in the world economy was falling on companies[22]. However, according to the Commission, Community intervention in industry was justified in the traditional sectors to save the market economy from the various national protectionist interventions, and in the high-tech sectors to avoid distortions of competition[23]. To defend this interventionist policy, the Commission relied on the fact that several industrial powers such as Japan and the United States were promoting active policies to promote research and development in key high-tech industries[24].

In this report, the Commission proposed a series of horizontal and sectoral Community initiatives to stimulate economic growth. Horizontal actions to improve the business environment included first and foremost the completion of the common market, seen as "a powerful catalyst for economic growth" and "the framework within which public authorities could effectively take their own measures and foster the competitive capacity of European industry"[25]. Other actions were to be formulated in favour of SMEs, which employed two thirds of the active population of the Community and offered, with the development of new technologies, interesting employment prospects. They were seen as offering the most favourable framework for innovation and the exploitation of available technologies[26]. It was therefore proposed to put in place a strategy to improve innovation in companies and enable it to be exploited economically and commercially. Finally, the Commission stressed the importance of promoting education and training and taking account workers' aspirations for the proper development of new technologies[27].

Concerning the sectoral actions, the Commission proposed the formulation of initiatives in favour of the aeronautics, IT, telecommunications and electronic circuit technology industries because of their strong growth potential, the urgency of catching up with the United States

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[21] *Ibid.*
[22] HAEC, COM(78) 255, Report on certain structural aspects of growth, 22 June 1978.
[23] *Ibid.*
[24] *Ibid.*
[25] *Ibid.*
[26] HAEC, Summary of Etienne Davignon's speech to the VEV-Komitee Brussel's lunch. Problèmes de politique industrielle européenne, 22 November 1978.
[27] HAEC, COM(78) 255, Report on certain structural aspects of growth, 22 June 1978.

and Japan in this field[28] and Europe's strong external dependence for electronic products[29]. Among the actions envisaged were the mobilisation of Community financial resources to balance the aid granted to competing aeronautical industries or the creation of specific research programmes for the development of electronic circuit technology similar to those in the United States and Japan[30].

After the presentation of this report, the Commission launched several initiatives in favour of the telematics industry, covering telecommunications (including satellites), computers, electronic components based on microprocessors and information processing such as data banks and databases. The aim was to supplement the national programmes adopted between 1977 and 1980 in this sector with an overall Community strategy[31]. The Commission considered it essential to bring about a change of scale so that firms could exploit fully the advantages of the common market[32]. The objectives of the Community strategy for the telematics industry were as follows : to increase significantly Europe's share of the world market from 22% to 33% by 1990, so that the continent could become "a high-technology workshop for the world"[33]; to enable the development of a Community telecommunications market through the formulation of open public procurement policies and the harmonisation of tariffs; to encourage the creation of common standards for equipment; to promote the development of the information industry in order to create databases and data banks for businesses and, finally, to improve employment prospects in this field[34]. To achieve these objectives, the Japanese model, in which companies worked closely with the government and universities to promote research and development, was cited as an example by the Commission[35].

To strengthen the Community's research policy, the Commission proposed in 1980 to draw up a multiannual "framework programme" bringing together the research activities developed in the three European Communities (ECSC, EEC and Euratom). The aim was to focus Community research activities on the development of sunrise sectors, to plan long-term projects, to strengthen cohesion with other Community policies and to enable the Council to

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[28] At the European Council meeting in Strasbourg on 21 June 1979, President Jenkins warned of the danger of Europe becoming dependent on Japan and the USA in this field. HAEC, BAC 34/1980 849, Commission Special Meeting. 6/7 October 1979. Briefing Note: Telematics policy and proposed inter-institutional network, 5 October 1979.

[29] In 1978, the Community covered 90% of its electronic circuit requirements with imports. HAEU, Agence Europe, 3 and 4 July 1978, p. 10.

[30] HAEC, COM(78) 255, Report on certain structural aspects of growth, 22 June 1978.

[31] Examples include the Plan Composants adopted by the French government in 1978 and the British Microelectronics Industry Support Program (MISP) adopted the same year. EHCA, COM(80) 421 final, Proposal for a Regulation (EEC) on Community action in the field of microelectronics technology, 1 September 1980; Chantal Le Bolloc'h-Puges, *La politique industrielle française dans l'électronique*, 38; Jeffrey A. Hart, *Rival Capitalists. International Competitiveness in the United States, Japan, and Western Europe*, 168.

[32] HAEC, COM(79) 650, European society and the new information technologies. For a Community response, 9 November 1979.

[33] HAEC, Speech by M. Davignon at the symposium on computer-aided design in the field of digital circuits and electronic systems at the Hilton Hotel on 27.11.1978, 27 November 1978.

[34] HAEC, BAC 34/1980 849, Commission Special Meeting. 6/7 October 1979. Briefing Note: Telematics policy and proposed inter-institutional network, 5 October 1979.

[35] HAEC, Presentation by Etienne Davignon at the Industrial Union Conference in Turin. How Europe is confronted with the Japanese development model, 2 December 1980.

increase considerably the financial resources allocated to research[36]. Approved in principle by the Council on 30 June 1982, and in terms of its objectives on 25 July 1983, the first framework programme 1984-1987, with the allocation of a financial envelope of 1225 million ECU for its implementation, was adopted by the representatives of the national governments at the meeting of 19 December 1983[37]. This long delay was due in particular to the reluctance of the Federal Republic of Germany and the United Kingdom to contribute substantially to the framework programme in the context of the Community budget dispute[38].

At the same time, sectoral research programs like ESPRIT (European Strategic Program on Research in Information Technology) were launched. They were a response to the poor state of the European high-tech sectors and their growing gap with their American and Japanese competitors. The latter had undergone significant expansion thanks to government programmes such as the VHSIC (Very Speed High Integrated Circuit) initiated by the US Department of Defense and the Japanese "Fifth Generation Computers" project[39]. With a Community budget of 750 million ecus for five years, it aimed to gain a world market share of 30%[40]. This programme brought together the 12 largest European electronics companies and included projects to develop the production of advanced microelectronics, software technologies, office automation, advanced information processing and computer-integrated production[41]. Of these technologies, the first one was considered by the Commission to be the most strategic, given its critical importance for the functioning of the whole of Community industry, the low share of European semiconductor firms on the world market (13%) and the considerable fall in the cost of electronic components[42].

Research policy was also used to promote environmental protection, to generate, among other things, new direct jobs in the Community[43]. Several projects to promote environmental protection were promoted as part of the framework programme for research and development, while other actions were launched in the field of biotechnology. The development of these activities made it possible to strengthen environmental protection in the agri-food and health sectors. The Commission's actions to strengthen the biotechnology sector focused on several objectives. The first one was to establish a favourable framework for the development of the sector. This was to be achieved by creating common standards at Community level, harmonising national rules on intellectual, commercial and industrial property, and improving the industry's access to raw materials of agricultural origin[44]. The second priority was to

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[36] Arthe Van Laer, « Vers une politique industrielle commune. Les actions de la Commission européenne dans les secteurs de l'informatique et des télécommunications (1965-1984) », 291.
[37] Arthe Van Laer, 293.
[38] *Ibid.*
[39] HAEC, COM(82) 287, Strategic Research Programme in Information Technology (ESPRIT), 15 May 1982.
[40] *Ibid.*
[41] OJ L 81/6, Council Decision of 28 February 1984 adopting the work programme for 1984 for the European information technology research and development programme (ESPRIT).
[42] HAEC, COM(80) 421 final, Proposal for a Council Regulation on Community action in the field of microelectronics technology, 1 September 1980; OJ L 81/6, Council Decision of 28 February 1984 adopting the work programme for 1984 for the European information technology research and development programme (ESPRIT).
[43] HAEC, COM(81) 574 final, Scientific and Technical Research and the European Community. Proposals for the 1980s, 12 October 1981.
[44] HAEC, COM(83) 328 final, Biotechnology: the role of the Community, 3 June 1983.

develop research and training in the sector through horizontal pre-competitive actions. These included the establishment of information and logistical support infrastructures for research, and the launch in 1984 of a multiannual biotechnology research action programme[45].

In addition, the creation of common environmental standards in the automotive sector were promoted by the Thorn Commission (1981-1985). The first objective was to respond to the problem of acid rain in Germany, which was caused by the emission of two gases, sulfur dioxide and nitrogen oxide[46]. Next, tighter vehicle pollution rules should lead to an increase of the innovation and competitiveness of European companies, particularly in the face of American and Swedish firms using higher production standards[47].

Finally, competition policy was used by the Commission to promote the development of R&D and to protect the environment. The institution adopted first draft regulations to regulate agreements between companies on research and development and patent licensing[48]. The aim of these was to allow exemptions from compliance with Article 85(1) of the Treaty of Rome, which prohibited any agreement between companies that might affect trade between Member States[49]. At the same time, the Commission adopted a favourable attitude towards State aid for the promotion of research and development. A framework for State aid for the promotion of research and development was adopted in 1984[50], while a special regulation was adopted by the Commission to accept this type of subsidies and State aid for environmental protection in the steel industry[51].

The Delors Commissions (1985-1994): strengthening Community environmental and research policies to meet the global challenge

In the Delors Commission's view, one of the main reasons for the Community's sluggish economic growth compared with the USA and Japan was its lag in the development of high-tech industries[52]. In this respect, the situation was considered particularly worrying in the information technology sector, where the Community's trade deficit and technological dependence on the outside world were worsening, but also in the field of biotechnology

[45] HAEC, COM(84) 230, Proposal for a Council Decision adopting a multiannual research action programme for the European Economic Community in the field of biotechnology (1985-1989), 26 April 1984.
[46] Laurent Warlouzet, « The implementation of the Single Market Programme (1985-92). The examples of the car emission and of competition policy », 233.
[47] Laurent Warlouzet, 253; Samuel Klebaner et Sigfrido Ramirez Perez, « The European automotive industry: a strategic sector in search of a new industrial policy », 314.
[48] HAEC, C(84) 1137, Draft Block Exemption Regulation on patent licensing agreements, 19 July 1984; HAEC, C(84) 1805, Draft Commission Regulation (EEC) on the application of Article 85(3) of the Treaty to categories of research and development agreements, 30 November 1984.
[49] *Ibid.*
[50] HAEC, SEC(84) 1967, Community framework for state aid for research and development, December 7, 1984.
[51] HAEC, C(81) 744 finai, Draft Commission Decision establishing Community rules for State aid to the steel industry, 25 May 1981.
[52] HAEC, COM(85) 84, Strenghtening the technological base and the competitiveness of Community industry, 19 March 1985.

industrialization, where the gap with the USA and Japan was widening[53]. This growing technological dependence was seen as particularly problematic in the case of the United States, which could limit its technology transfers to the Community at any time[54]. Indeed, since 1979, the Carter and Reagan administrations had passed several pieces of legislation, such as the Export Administration Act (1979) and DOD Directive 2040.20 (1984), enabling them to limit the export of certain technologies if they presented risks to US national security[55].

According to the Commission, the main reason for this unfavourable trend was the low level of public investment in technological development. While public funding for research increased by around 50% in the USA and Japan between 1981 and 1983, it rose by only 16% in the Community over the same period[56]. Secondly, the Commission pointed the compartmentalization of national research policies, duplication of effort and inadequate efficiency thresholds[57]. Another Community handicap was the inadequacy of Community actions in key sectors such as biotechnology and telecommunications. In the former, the weakness of efforts in basic research was highlighted, while in telecommunications, the risk was pointed out that the Community was lagging behind in technological development and in building the infrastructures needed to make this strategic sector grow[58].

At the same time, there was an urgent need to reinforce the actions to protect the environment, given the accentuation of environmental problems from the second half of the 1980s onwards, with the continuing degradation of natural environments by human activity and the gradual destruction of the ozone layer[59]. The latter phenomenon was considered particularly worrying by UN experts, who predicted that a continued rise in halocarbon emissions could lead to a significant reduction in the level of ozone in the atmosphere[60]. The seriousness of global environmental problems led the UN to organize the Toronto World Conference on Atmospheric Change from 27 to 30 June 1988 and to set up the Intergovernmental Panel on Climate Change (IPCC) the same year.

To strengthen the competitiveness of Community industry in high-tech sectors, the Delors Commission proposed to the Brussels European Council in March 1985 the adoption of a strategy based on the achievement of six objectives: the unification of the internal market, the transformation of the Community's external trade policy to enable industry to compete on an equal footing with the rest of the world, the improvement and the reinforcement of the Community's research policy, a better development of human resources, the completion of the

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[53] *Ibid. ;* HAEC, BAC 105/1988 9, Biotechnology. Report of the European Commission to Directors-General of Industry, 1985.
[54] AHCE, INV 15/2019 374, Peter J. Lennon's Note. Summary of main U.S government measures currently either operational or under consideration concerning the export of technology and the dissemination of scientific information, 7 September 1984.
[55] *Ibid.*
[56] HAEC, COM(85) 84, Strenghtening the technological base and the competitiveness of Community industry, 19 March 1985.
[57] *Ibid.*
[58] *Ibid.*
[59] Report number 20 of the World Meteorological Organization. Scientific Assessment of Stratospheric Ozone: 1989, 1989 available here: https://csl.noaa.gov/assessments/ozone/1989/report.html.
[60] *Ibid.*

information market, and finally, the growth of the telecommunications sector[61]. In addition, Community environmental policy had to be strengthened and more integrated to the other policies, given its contribution to economic growth and job creation[62].

The instruments for achieving these objectives were first the strengthening of the Research Framework Program, with a substantial increase in activities to boost the competitiveness of Community industry and services, and a substantial increase in its budget[63]. In addition, the Delors I Commission promoted new specific research programmes. The aim was to "launch major mobilising projects" with precise objectives, such as the development of large-scale computers or high-speed trains, advanced research into generic technologies such as superconducting materials and 64-megabit chips, or the production of major scientific or technological equipment[64]. This strategy of strengthening Community research policy was facilitated by the institutional changes introduced by the Single European Act adopted in 1985. These provided for the adoption of specific programmes by a qualified majority of the Council's representatives, as well as the possibility for the Commission to set up joint undertakings. In addition, the Commission was able to launch complementary research programmes in which Member States could participate[65].

In the field of environmental policy, the promotion of Community anti-pollution standards, the harmonisation of national regulations and the development of clean technologies as part of the various Community research programmes continued during the mandates of the Delors Commission. In 1990, after that a report by the Intergovernmental Panel on Climate Change in 1990 had identified CO2 emissions as the main contributor to the global increase in greenhouse gases[66], the Commission also set out in 1991 a strategy to achieve the goal of stabilizing CO2 emissions at 1990 levels by the year 2000[67]. This was based on the drawing up of national programmes to achieve quantified objectives in this area and their monitoring by the Commission, the continued application of a research policy in this area, the adoption of measures to help the less developed Community countries achieve their environmental protection objectives (burden-sharing) and the adoption of regulatory and fiscal measures[68]. According to President Delors, the aim was "to integrate the internal market and the environment, not to oppose them"[69]. New economic and fiscal instruments were created such

[61] HAEC, COM (85) 84 final, Strengthening the technological base and competitiveness of Community industry, 19 March 1985.
[62] Conclusions of the Brussels European Council of 24 and 25 March 1985.
[63] HAEC, BAC 107/1993 100, Briefing Note from DG III. Financing the Framework Program, 1985 ; HAEC, BAC 107/1993 100, Fiche 3 du dossier de préparation par la Commission du Conseil recherche informel des 22-23 avril 1985. Nouvelles options ou nouveaux objectifs à considérer pour la révision du programme-cadre, 9 April 1985.
[64] HAEC, COM(85) 320 final, Strengthening technological cooperation in Europe, 21 June 1985.
[65] OJ L 169/1, European Single Act, 26 June 1987.
[66] WMO, Climate Change : The 1990 and 1992 IPCC Assessments, June 1992, available at https://www.ipcc.ch/report/climate-change-the-ipcc-1990-and-1992-assessments/ (consulted on 23 May 2023).
[67] HAEC, SI(89) 154, Note for the attention of the members of the Commission. 1301st meeting of the Environment Council of 2 March 1989, 3 March 1989.
[68] HAEC, SEC(91) 1744 final, A Community strategy to limit carbon dioxide emissions and improve energy efficiency, 14 October 1991.
[69] HAEC, Speech by President Delors to the European Parliament meeting in Strasbourg. Declaration on the Commission's guidelines for 1989, 17 and 18 January 1989.

as a tax on CO2 emissions and energy[70]. Its adoption by the European Communities was intended to set an example for other industrialised countries[71].

These policies were to be developed through strong cooperation between Community companies. To this end, the Delors Commissions promoted the establishment of new structures to strengthen dialogue and cooperation between firms. A maritime industries forum was set up in 1991, bringing together companies from the shipbuilding and shipping industries, representatives of the maritime transport sector, as well as steel and raw materials companies[72]. In addition, a forum for the forestry industries was set up during the first half of the 1990s[73]. These structures made it possible to involve all the industries belonging to the same value chain and to discuss their adaptation to increasingly stringent environmental requirements[74].

The Santer and Prodi Commissions (1995-2004): Pursuing the strategy of strengthening European horizontal industrial and environmental policies

With the intensification of global competition and the growing awareness of the need to reduce greenhouse gas emissions[75], the strategy of strengthening horizontal industrial policies, integrating environmental protection criteria and putting in place Community instruments to reduce greenhouse gas emissions continued during the terms of office of the Santer and Prodi Commissions. The European Union's research and technological development policy was strengthened to improve the competitiveness of companies in the face of intensifying global competition. In particular, the new Commission wanted to increase public investment in this area so that the budget devoted to research would be on a par with that of the United States and Japan, which in 1995 devoted 2.45% and 2.95% respectively of their GNP to research, whereas Europe invested 1.9% of its GNP in these activities[76]. The Lisbon Strategy launched in 2000, for its part, aimed to make the European Union "the most competitive and dynamic knowledge-based economy in the world" by increasing R&D spending and providing lifelong training[77]. However, the targets of these programmes were

[70] HAEC, COM(92) 226 final, Proposal for a Council Directive introducing a tax on carbon dioxide emissions and on energy, 27 May 1992.
[71] HAEC, Agence Europe, 28 February 1992, p. 8.
[72] AHUE, Interview with Pedro Ortún by Dimitri Zurstrassen, 10 January 2017. Available here: https://archives.eui.eu/en/oral_history/INT1096 (accessed on 26 August 2023).
[73] *Ibid.*
[74] *Ibid.*
[75] The Clinton administration's 1993 proposal for an energy tax and the decision to organise the first "COP" (Conference of the Parties dedicated to climate change) in Berlin in 1995 are two examples of the growing recognition of environmental issues during these years. Jean-Charles Hourcade, « Le climat au risque de la négociation internationale », 2; Commission européenne, « Rapport général sur l'activité de l'Union européenne 1995 », 186.
[76] COM(96) 332, "Inventing tomorrow": European research at the service of the citizen, 10 July 1996.
[77] Conclusions of the Lisbon Special European Council of 23 and 24 March 2000, available at https://www.consilium.europa.eu/fr/european-council/conclusions/1993-2003/ (consulted on 29 September 2023).

indicative (not legally binding) and the EU had no authority vis-à-vis Member States to implement the various elements of the programmes[78]. At the same time, the Commission was calling for research policy to take greater account of the concerns of European industry, and for synergies between the various players to be strengthened[79]. In terms of the themes promoted in the research programmes, greater account was taken of environmental protection, the development of the information society and the strengthening of human capital in the European Union[80]. The sectors targeted continued to be high-tech industries such as information and communications technologies, for which the Commission's support was considered essential to prevent the European Union from becoming over-dependent on key technologies and to ensure that European companies were at the forefront of innovation[81]. However, the Commission also wanted to strengthen research and development activities in traditional industries such as textiles. According to the Commission, improving product quality, know-how and innovation within the sector would considerably increase its productivity and global competitiveness[82]. The adoption of this strategy led the Commission to emphasise in 1997 that "there were no longer 'traditional' industries versus 'high-tech' industries, but competitive and non-competitive firms"[83].

On the other hand, the trend towards integrating environmental protection criteria and introducing Community instruments to reduce greenhouse gas emissions continued, against a backdrop of growing awareness of this issue at global level. In its first year in office, the Santer Commission decided to propose speeding up the implementation of the measures in the Fifth Community Action Programme on the Environment and Sustainable Development, adopted in 1992, and to define priorities for implementing the programme in the agriculture, transport, energy and tourism sectors, as well as stepping up the transposition of Community directives on the environment into national law[84]. In 2001, European regulations on environmental protection were strengthened with the Commission's proposal to set up a greenhouse gas emissions trading scheme to enable the European Union to meet its commitments under the 1997 Kyoto Protocol[85]. This mechanism had a major impact on CO2-intensive industries such as the steel industry, which from 2005 had to limit their CO2

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[78] Jean-Christophe Defraigne et al., « Introduction to EU Industrial Policy in the Multipolar Economy: past lessons, current challenges and future scenarios », 3.
[79] COM(95) 87, Action programme and timetable for the implementation of the initiatives announced in the Communication on "An industrial competitiveness policy for the European Union", 22 March 1995.
[80] COM(96) 332, "Inventing tomorrow": European research at the service of the citizen, 10 July 1996.
[81] COM(97) 152 final, The Competitiveness of the European Information and Communication Technology (ICT) Industries, 16 April 1997.
[82] COM(97) 454 final, Action plan for the competitiveness of the European textile and clothing industry, 29 October 1997.
[83] *Ibid.*
[84] COM(96) 500 final, Implementing Community environmental law, 22 October 1996; OJEC, C 140/6, Proposal for a Decision of the European Parliament and of the Council on the review of the European Community programme of policy and action in relation to the environment and sustainable development "Towards sustainability", 11 May 1996.
[85] COM(2001) 264 final, A Sustainable Europe for a Better World: A European Union Strategy for Sustainable Development, 15 May 2001; COM(2001) 581, Proposal for a Directive of the European Parliament and of the Council establishing a framework for greenhouse gas emission allowance trading within the European Community and amending Council Directive 96/61/EC, 23 October 2001.

emissions to levels defined by quotas purchased from governments or on the international trading market[86].

At the same time, the Commission pursued its strategy of promoting cooperation between all the industrial players in the same value chain, as well as between industry and research policy experts, in order to create technologically advanced and environmentally friendly products. In 1995, for example, a forum was set up to create "the car of the future", which would look at the use of new propulsion technologies to manufacture, for example, electric and hybrid vehicles that would comply with EU anti-pollution standards[87]. Other forums were also set up to strengthen research and development in the aeronautical sector or to develop recycling activities for various types of industrial waste[88].

In terms of competition policy, the years 1995-2004 saw a continuation of the strategy of relaxing the European discipline on monitoring horizontal subsidies (aimed at promoting R&D and protecting the environment). New block exemption regulations authorising certain categories of horizontal aid were for example adopted in 1998 and 1999[89].

Conclusion

This analysis showed that although the Community's environmental and industrial policies in favour of high-tech sectors were the subject of Commission proposals in the 1960s and 1970s, with some progress made, notably with the definition of the "polluter pays" principle, it was not until the first decade of the 1980s that they were really developed to face up to competition from the United States and Japan and to respond to growing worldwide concern about environmental degradation. The policies promoted in the first area included the harmonisation of national legislation, the formulation of anti-pollution standards and the launch of research programmes to develop clean technologies. For the development of high-tech sectors, horizontal industrial policies were favoured. The framework programme for research and technological development was the most important tool, since it enabled actions to be launched in many areas during several years. Sectoral programmes were then launched, such as ESPRIT in information technology, which enabled specific initiatives to be formulated to address the problems of several key industrial sectors. At the same time, the issue of creating standards was central in certain high-tech sectors such as telecommunications, in order to unify the internal market and give European firms preferential access to it. These two policies in favour of environmental and digital transition were supported by the strengthening of Community competition law, which made it possible

[86] A. Denny Ellerman, Frank J. Convery, et Christian de Perthuis, *Pricing Carbon : The European Union Emissions Trading Scheme*.
[87] SPEECH/95/141, Opening speech by Martin Bangemann at the "Car of the Future" conference at the European Parliament, Brussels, 6 July 1995.
[88] COM(1998) 463 final, The Competitiveness of the Recycling Sector, 22 July 1998 ; SPEECH/96/287, Speech by Jacques Santer to the European Aerospace Industry - Brussels, 5 November 1996, 5 November 1996.
[89] OJ L 142, Council Regulation (EC) No 994/98 of 7 May 1998 on the application of Articles 92 and 93 of the Treaty establishing the European Community to certain categories of horizontal State aid, 14 May 1998.

to put in place a favourable framework for national interventions and companies in the fields of environmental protection and the strengthening of research and development.

With the arrival of the Delors Commissions, we can see a reinforcement of this dynamic given the worsening environmental problems and the increased competition from the United States and Japan, which were promoting major research programmes to develop their high-tech sectors. Faced with these challenges, the Commission decided to pursue the guidelines defined by the previous College of Commissioners, but also to adopt new tools to deal with the digital and environmental transition. In the environmental field, the adoption of a fiscal tool was favoured with the choice of introducing a tax on Co2 emissions. or the development of high-tech sectors, a reformulation of the framework programme for research and technological development, but also the promotion of the introduction of new research programmes. These actions were to be developed by companies themselves, thanks to the establishment by the Commission of numerous forums for cooperation between firms.

With the intensification of global competition and the growing awareness of the need to reduce greenhouse gas emissions, the Commissions Santer and Prodi continued to implement the strategy put in place by the Delors Commissions between 1985 and 1994. The development of high-tech sectors was still to be achieved through horizontal industrial policies, while a market-based mechanism based on the "polluter pays" principle, the European Trade Emission System, was introduced in the field of environmental policy. At the same time, non-binding R&D and environmental targets continued to be defined. Finally, as in the past, European competition policy accompanied the application of horizontal industrial policies, and a framework for cooperation between the various actors in the industrial value chains was put in place by the Commission.

As can be seen, the strategy promoted by the Commission in the early 2000s to achieve the dual transitions was the result of reflections and initiatives taken by the Commission since the 1960s. The completion of the common market and the strengthening of research policies were already an integral part of the guidelines of the first EEC Commissions in those years. The same was true for the definition of the "polluter pays" principle, and the definition of an environmental policy complementary to the Community industrial policy strategy.

References

-A. Denny Ellerman, Frank J. Convery, et Christian de Perthuis. *Pricing Carbon: The European Union Emissions Trading Scheme*. Cambridge: Cambridge University Press, 2010.

-Arthe Van Laer. « Vers une politique industrielle commune. Les actions de la Commission européenne dans les secteurs de l'informatique et des télécommunications (1965-1984) ». Université Catholique de Louvain, 2010.

-Chantal Le Bolloc'h-Puges. *La politique industrielle française dans l'électronique*. Paris: L'Harmattan, 1991.

-Christian Van de Velde. « L'environnement et la protection des consommateurs ». In *La Commission européenne 1973-1986. Histoire et mémoires d'une institution*, edited by

Eric Bussière, Vincent Dujardin, Jan Willem Brouwer, Pierre Tilly, Michel Dumoulin, and Piers Ludlow, 393-99. Luxembourg: Office des Publications de l'Union européenne, 2014.
-Christopher Layton. *14 points pour faire l'Europe*. Denoël, 1969.
-Commission européenne. « Rapport général sur l'activité de l'Union européenne 1995 ». Office des Publications de l'Union européenne, 1996.
-Dimitri Zurstrassen. « Altiero Spinelli: une vision fédéraliste pour la politique industrielle communautaire ». by Éric Bussiere, edited by Stanislas Jeanesson, Frédéric Turpin, and Laurent Warlouzet, s. d.
-Éric Bussière. « L'improbable politique industrielle ». In *Histoire de la Commission européenne 1958-1972*, par Michel Dumoulin, 474-76, Office de Publications de l'Union Européenne. Luxembourg, 2014.
-Jan-Hendrik Meyer. « Getting Started Agenda-setting in European Environmental Policy in the 1970s ». In *The Institutions and Dynamics of the European Community, 1973–83*, edited by Johnny Laursen, 221-43. Baden-Baden: Nomos Verlag, 2012.
-Jean-Charles Hourcade. « Le climat au risque de la négociation internationale ». *Le Débat*, 2000, 1-7.
-Jean-Christophe Defraigne, Edoardo Traversa, Jan Wouters, et Dimitri Zurstrassen. « Introduction to EU Industrial Policy in the Multipolar Economy: past lessons, current challenges and future scenarios ». In *EU Industrial Policy in the Multipolar Economy*, 1-44. Cheltenham: Edward Elgar Publishing, 2022.
-Jeffrey A. Hart. *Rival Capitalists. International Competitiveness in the United States, Japan, and Western Europe*. Ithaca: Cornell University Press, 1992.
-Laurent Warlouzet. « Europe de la concurrence et politique industrielle communautaire. La naissance d'une opposition au sein de la CEE dans les années 1960 ». Histoire, économie & société, no 1 (2008): 47-61.
——— Gover*ning Europe in a Globalizing World. Neoliberalism and its Alternatives following the 1973 Oil Crisis*. Abingdon-on-Thames: Routledge, 2018.
———. « The implementation of the Single Market Programme (1985-92). The examples of the car emission and of competition policy ». In *Reshaping Europe: Towards a Political, Economic and Monetary Union, 1984-1989*, edited by Michael Gehler et Wilfried Loth, 247-62. Baden-Baden: Nomos Verlag, 2020.
———. « Towards an European industrial policy », 213-35. London: Palgrave Macmillan, 2014.
-Samuel Klebaner et Sigfrido Ramirez Perez. « The European automotive industry: a strategic sector in search of a new industrial policy ». In *EU Industrial Policy in the Multipolar Economy*, edited by Jean-Christophe Defraigne, Edoardo Traversa, Jan Wouters, and Dimitri Zurstrassen, 304-31. Cheltenham: Edward Elgar Publishing, 2022.
-Stephen Woolcock. « Information Technology: the challenge to Europe ». *Journal of Common Market Studies* 22, nº 4 (1984): 315-31.
-Veera Mitzner. *European Union Research Policy. Contested Origins*. Palgrave Macmillan Cham, 2020.