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Value Chains and Environmental Impact Assessments: Lessons from Two French Legal Cases on Bioenergy Facilities

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Abstract

The scope of environmental impact assessments (EIAs) has traditionally been limited to on-site effects. This approach faces limitations when dealing with intricate value chains. Particularly for projects involving biomass-to-energy facilities, the primary environmental impacts often originate from off-site biomass production. This article considers the resulting limitations of EIAs by using two legal disputes in France as illustrative examples. In the *Gardanne* and the *La Mède* cases, French Administrative Courts sought to establish the necessity for project proponents to incorporate supply-related impacts into the EIA process. Strategies aimed at broadening the scope of EIAs, either by expanding the assessed project boundaries or by invoking the concept of cumulative impacts, were not deemed the most relevant approaches. Instead, the concept of 'indirect impact' emerged as a valuable tool for incorporating supply-related impacts. However, to prevent the indirect impact concept from being disregarded as too ambiguous or ineffective, it should be complemented by precise criteria to determine whether an impact may be considered indirect. We study these avenues within the broader evolving landscape of EIA laws, and by exploring ways to harmonize EIAs with other regulatory instruments governing value chains.

Keywords: Bioenergy; Biomass; Environmental impact assessment; Impact study; Value chains; Indirect impacts

1. Introduction

The global biosphere has been profoundly disrupted by human activities. The climate is warming,¹ biodiversity and ecosystems are collapsing,² and human populations are

¹ Intergovernmental Panel on Climate Change (IPCC) (V.P. Masson-Delmotte et al. (eds)), *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press, 2021).

² Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) (E.S. Brondizio et al. (eds)), 'Global Assessment Report on Biodiversity and Ecosystem Services of the Intergovernmental

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suffering from these changes. These disruptions are caused mainly by the ever-increasing production and consumption of fossil-based products,³ leading to global warming and air pollution.⁴ In an effort to reduce this trend, the production of renewable energy is widely favoured. Among them, bioenergy is the energy produced from biomass – that is, the biodegradable fraction of products, waste, and residues from biological origin. Bioenergy production may improve energy security, revitalize rural areas, and create jobs, all while using an available resource and emitting low levels of greenhouse gasses (GHGs). Consequently, the demand for bioenergy has been growing over the last few years.⁵ For instance, in the Inflation Reduction Act of 2022, the United States (US) extended its political support to the production of bioproducts.⁶ In the European Union (EU), numerous legal enactments have been published over the past 20 years to promote bioenergy production.⁷ Globally, between 2000 and 2019, the supply of bioenergy increased from 41.6 exajoule (EJ) to 56.9 EJ.⁸ A significant part of this growth arose from the demand for liquid biofuels, with production increasing by 12% during this period, rising from 19.2 billion litres to 159 billion litres.⁹

However, the production of bioenergy entails a complex set of activities, including biomass production and harvesting, biomass conversion to energy, and energy distribution. Significant environmental and social impacts may occur along these value chains.¹⁰ For

Science-Policy Platform on Biodiversity and Ecosystem Services' (IPBES Secretariat, 2019), available at: <https://www.ipbes.net/global-assessment>.

³ On the increase in production of fossil energy see Our World in Data, 'Fossil Fuels', Oct. 2022, available at: <https://ourworldindata.org/fossil-fuels>.

⁴ On the impacts of fossil energy consumption see International Energy Agency (IEA), 'Greenhouse Gas Emissions from Energy Highlights', Aug. 2023, available at: <https://www.iea.org/data-and-statistics/data-product/greenhouse-gas-emissions-from-energy-highlights>.

⁵ See A. Mohr & S. Rahman, 'Lessons from First Generation Biofuels and Implications for the Sustainability Appraisal of Second Generation Biofuels' (2013) 63 *Energy Policy*, pp. 114–22.

⁶ Inflation Reduction Act of 2022, Public Law No. 117-169, paras 13101, 13201, 22003, 60108, available at: <https://www.congress.gov/bill/117th-congress/house-bill/5376>. See also J. Morales & F. López, 'The Political Economy of Bioenergy in the United States: A Historical Perspective Based on Scenarios of Conflict and Convergence' (2017) 27(5) *Energy Research & Social Science*, pp. 141–50.

⁷ Directive 2003/30/EC on the Promotion of the Use of Biofuels or Other Renewable Fuels for Transport [2003] OJ L 123/42, Art. 3; Directive 2009/28/EC on the Promotion of the Use of Energy from Renewable Sources [2009] OJ L 140/16; Directive 2009/30/EC as regards the Specification of Petrol, Diesel and Gas-Oil and Introducing a Mechanism to Monitor and Reduce Greenhouse Gas Emissions and Amending Directive 1999/32/EC as regards the Specification of Fuel Used by Inland Waterway Vessels and Repealing Directive 93/12/EEC [2009] OJ L 140/88; Directive (EU) 2015/1513 relating to the Quality of Petrol and Diesel Fuels and Amending Directive 2009/28/EC on the Promotion of the Use of Energy from Renewable Sources [2015] OJ L 239/1; Directive (EU) 2018/2001 on the Promotion of the Use of Energy from Renewable Sources [2018] OJ L 328/82. On the evolution of the bioenergy regulatory framework in the EU see J. Palmer, 'Biofuels and the Politics of Land-Use Change: Tracing the Interactions of Discourse and Place in European Policy Making' (2014) 46(2) *Environment and Planning A*, pp. 337–52; N. Scarlat et al., 'Renewable Energy Policy Framework and Bioenergy Contribution in the European Union: An Overview from National Renewable Energy Action Plans and Progress Reports' (2015) 51 *Renewable and Sustainable Energy Reviews*, pp. 969–85.

⁸ World Bioenergy Association, 'Global Bioenergy Statistics 2021', 14 Dec. 2021, available at: <https://www.worldbioenergy.org/news/640/47/Global-Bioenergy-Statistics-2021>.

⁹ Ibid.

¹⁰ On the total GHG emissions of liquid biofuel production see T. Searchinger et al., 'Use of US Croplands for Biofuels Increases Greenhouse Gases through Emissions from Land-Use Change' (2008) 319(5867)

example, the production of biomass may involve land-use changes, consumption of non-renewable resources, soil degradation, and intensive application of fertilizers and pesticides. The establishment and operation of energy production units and the transportation of products may be achieved through energy-intensive processes that are reliant on fossil fuels. All these activities are intertwined with a complex web of social, economic, and cultural interrelations, potentially affecting personnel, local communities, and other stakeholders. As a result, the environmental and social impacts of bioenergy production should be rigorously assessed before support is given.

Countries have increasingly set sustainability restrictions for bioenergy production. Tools such as environmental impact assessments (EIAs) – a ‘process by which the consequences and effects of natural processes and human activities upon the environment are estimated, evaluated or predicted’¹¹ – play an important role in regulating production activities. The economic actors who wish to carry out potentially harmful activities must assess their potential impacts by submitting their assessments to different stakeholders and be authorized to carry out these activities by the competent administrative authorities.¹² Large-scale bioenergy production projects – such as methanization units, power plants, biorefineries, incinerators, and recovery units – may be submitted to EIA procedures. Thus, EIA procedures provide an opportunity to study and regulate the impacts of bioenergy production projects.

One obstacle to examining bioenergy value chains in such procedures is that EIAs may have been implemented initially to regulate local impacts of site-specific activities.¹³

Science, pp. 1238–40; P. Crutzen et al., ‘N₂O Release from Agro-Biofuel Production Negates Global Warming Reduction by Replacing Fossil Fuels’ (2008) 8(2) *Atmospheric Chemistry and Physics*, pp. 389–95. On its ecological impacts see J. Fargione, R. Plevin & J. Hill, ‘The Ecological Impact for Biofuels’ (2010) 41 *Annual Review of Ecology, Evolution and Systematics*, pp. 351–77. On its impacts on the food production systems see F. Rosillo-Calle & F. Johnson (eds), *Food versus Fuel: An Informed Introduction to Biofuels* (Zed Books, 2013). For general critical reviews see J. Hill et al., ‘Environmental Economic, and Energetic Costs and Benefits of Biodiesel and Ethanol Biofuels’ (2006) 103(30) *PNAS*, pp. 11206–10; D. Pimentel & T. Patzek, ‘Ethanol Production Using Corn, Switchgrass, and Wood: Biodiesel Production Using Soybean and Sunflower’ (2005) 14(1) *Natural Resources Research*, pp. 65–76; D. Tilman et al., ‘Beneficial Biofuels: The Food, Energy, and Environment Trilemma’ (2009) 325(5938) *Science*, pp. 270–1.

¹¹ United Nation Environment Programme World Conservation Monitoring Center (UNEP-WCMC), ‘An Introduction to Environmental Assessment’, 25 Mar. 2015, p. 4, available at: <https://www.unep.org/resources/report/introduction-environmental-assessment>.

¹² See R. Morgan, ‘Environmental Impact Assessment: The State of the Art’ (2012) 30(1) *Impact Assessment and Project Appraisal*, pp. 5–14; M. Cashmore et al., ‘Evaluating the Effectiveness of Impact Assessment Instruments: Theorising the Nature and Implications of Their Political Constitution’ (2010) 30(6) *Environmental Impact Assessment Review*, pp. 371–9; J. Toro, I. Requena & M. Zamorano, ‘Environmental Impact Assessment in Colombia: Critical Analysis and Proposals for Improvement’ (2010) 30(4) *Environmental Impact Assessment Review*, pp. 247–61; R. Bartlett & P. Kurian, ‘The Theory of Environmental Impact Assessment: Implicit Models of Policy Making’ (1999) 27(4) *Policy & Politics*, pp. 415–33; U. Jha-Thakur & T. Fischer, ‘25 Years of the UK EIA System: Strengths, Weaknesses, Opportunities and Threats’ (2016) 61 *Environmental Impact Assessment Review*, pp. 19–26.

¹³ This approach is often assumed but not described as such. It may be evoked in articles about EIA screening, such as T. Poder & T. Lukki, ‘A Critical Review of Checklist-Based Evaluation of Environmental Impact Statements’ (2011) 29(1) *Impact Assessment and Project Appraisal*, pp. 27–36; P. Pinho, S. McCallum & S. Cruz, ‘A Critical Appraisal of EIA Screening Practice in EU Member States’ (2010)

Therefore, using EIAs to regulate value chain impacts requires changes to standard EIA practices. Lawsuits challenging the administrative authorizations granted to projects provide a valuable starting point for considering the shape of such reforms.¹⁴ Such reforms could assist administrative judges, who are increasingly faced with challenges to bioenergy projects brought by civil society representatives.¹⁵

The aim of this article is to analyze Administrative Court judgments in France in order to suggest improvements to global EIA procedures. We chose to study these cases because, to our knowledge, they are among the few litigation cases in France and worldwide that address in detail such site-specific and bioenergy issues. We also chose these cases because the results to be drawn from them are important for the way in which EIAs can be understood globally, based on the similarities of several EIA laws that are described below. The first judgment concerns an administrative authorization granted to E.ON – Société Nationale d'Électricité et de Thermique by the Administrative Court of Marseilles (the *Gardanne* case). The authorization allowed the conversion of a unit of the Gardanne-Meyreuil mega-power plant from being supplied by fossil fuels to being supplied by biomass. The second set of judgments (the *La Mède* case) concerns the administrative authorization granted to TotalEnergies to convert the La Mède refinery from a fossil refinery to a biorefinery. These judgments were issued by the Administrative Court of Marseilles, the Marseilles Court of Appeal, and the French Council of State (Conseil d'État).¹⁶ In both series of judgments a bioenergy production facility project underwent an EIA procedure and received authorization by the

28(2) *Impact Assessment and Project Appraisal*, pp. 91–107; J. Weston, 'EIA, Decision-Making Theory and Screening and Scoping in UK Practice' (2000) 43(2) *Journal of Environmental Planning and Management*, pp. 185–203.

¹⁴ See J. Herbst & D. Grant-Smith, 'Failure to Act or Impossible Task? The Pursuit of Climate Justice and Energy Security through Litigation', in E. Shabliy, D. Kurochkin & M. Crawford (eds), *Discourse on Sustainability: Climate Change Clean Energy, and Justice* (Palgrave Macmillan, 2020), pp. 55–78; J. Barandiaran & S. Rubiano-Galvis, 'An Empirical Study of EIA Litigation Involving Energy Facilities in Chile and Colombia' (2019) 79 *Environmental Impact Assessment Review*, article 106311; A. Dilay, A. Diduck & K. Patel, 'Environmental Justice in India: A Case Study of Environmental Impact Assessment, Community Engagement and Public Interest Litigation' (2019) 30(1) *Impact Assessment and Project Appraisal*, pp. 16–27; X. He, 'Mitigation and Adaptation through Environmental Impact Assessment Litigation: Rethinking the Prospect of Climate Change Litigation in China' (2021) 10(3) *Transnational Environmental Law*, pp. 413–39.

¹⁵ On the role of associations in climate litigation see J. Bétaille, 'Les Stratégies Contentieuses des Associations en Matière de Protection du Climat: De l'Application du Droit à l'Activisme Judiciaire', in N. Kada (ed.), *Changements Climatiques Globaux et Outils Juridiques Locaux: Le Citoyen en Première Ligne* (Dalloz, 2022), pp. 109–23; and S. Bourges, 'Les Stratégies des ONG: Retour d'Expérience de France Nature Environnement Provence-Alpes-Côte d'Azur', in M. Hautereau-Boutonnet & È. Truilhé (eds), *Procès et Environnement: Quelles Actions en Justice pour l'Environnement?* (Droits International, Comparé et Européen, 2020), pp. 57–64. On the importance of administrative lawsuits in France see C. Ribot, 'Les Potentialités de l'Action Collective en Matière de Contentieux Environnementale' (2022) 4(47) *Revue Juridique de l'Environnement*, pp. 703–15; O. Le Bot, 'Le Contentieux Administratif au Service de l'Environnement?', in M. Hautereau-Boutonnet & È. Truilhé, *Le Procès Environnemental* (Dalloz, 2021), pp. 45–56; O. Le Bot, 'Un Procès Administratif Adapté à la Protection de l'Environnement?', in Hautereau-Boutonnet & Truilhé, *ibid.*, pp. 41–55.

¹⁶ In France, the Council of State (Conseil d'État) is the highest Administrative Court.

competent administrative authority, the so-called ‘Prefect’.¹⁷ In both instances, plaintiffs brought an appeal on grounds of *ultra vires* before an Administrative Court,¹⁸ arguing that the impact studies were incomplete on account of the lack of information regarding the impacts of biomass production. Section 2 introduces EIAs and explains why value chain impacts are typically not included in their scope, and why the two cases mentioned above were challenging. Section 3 describes the two French judgments under study. Section 4 shows how the insights gained from these judgments can be applied to a transnational context to improve EIA laws. Similar legal disputes are identified by showing how the experiences of *La Mède* and *Gardanne* can serve as inspiration for other judicial decisions and legislative measures. Section 5 concludes.

2. EIA and the Challenges of Value Chain Impacts

This section describes the legal framework within which EIAs are generally conducted, and the reasons why activities and impacts related to value chains are not typically covered in EIAs.

2.1. EIA Laws

In 1969, the National Environmental Policy Act was adopted in the US.¹⁹ Since then, EIA procedures have been implemented in many countries, and their importance has been emphasized in several international legal instruments,²⁰ such as the United Nations (UN) Economic Commission for Europe (ECE) Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention)²¹ and its Protocol on Strategic Environmental Assessment,²² the UN Framework Convention on Climate Change (UNFCCC),²³ and the Convention on Biological Diversity (CBD).²⁴

¹⁷ In France, the Prefect is a local representative of the state responsible for the central administrative control of a region or a department.

¹⁸ Administrative decisions in France may be challenged through various appeals. The appeal on grounds of *ultra vires* asks the Administrative Court to appreciate the legality of an administrative decision and to annul it. In this type of appeal the Administrative Court may only decide whether or not to annul the decision.

¹⁹ National Environmental Policy Act of 1969, as amended, 42 US Code 4321 (2023) (NEPA), available at: <https://www.energy.gov/sites/default/files/2023-08/NEPA%20reg%20amend%2006-2023.pdf>.

²⁰ For a summary see E. Ruozi, ‘The Obligation to Undertake an Environmental Assessment in the Jurisprudence of the ICJ’ (2018) 8(1) *European Journal of Risk Regulation*, pp. 158–69; T. Koivurova, ‘The Transnational EIA Procedure of the Espoo Convention’, in M. Koskeniemi & K. Takamaa (eds), *The Finnish Yearbook of International Law* (Brill, 1999), pp. 161–99.

²¹ Espoo (Finland), 25 Feb. 1991, in force 10 Sept. 1997, available at: https://unece.org/fileadmin/DAM/env/eia/documents/legaltexts/Espoo_Convention_authentic_ENG.pdf.

²² Kiev (Ukraine), 21 May 2003, 11 July 2010, available at: <https://unece.org/DAM/env/eia/documents/legaltexts/protocolenglish.pdf>.

²³ New York, NY (US), 9 May 1992, in force 21 Mar. 1994, available at: <https://unfccc.int>. Art. 4(1)(f) states that ‘[the Parties must] take climate change considerations into account, to the extent feasible, in their relevant social, economic and environmental policies and actions, and employ appropriate methods, for example impact assessments, formulated and determined nationally’.

²⁴ Rio de Janeiro (Brazil), 5 June 1992, in force 29 Dec. 1993, available at: <http://www.cbd.int/convention>. Art. 14(1) states that ‘[the Parties must] introduce appropriate procedures requiring environmental impact assessment of its proposed projects that are likely to have significant adverse effects on biological

In France, the EIA procedure was first implemented in 1976.²⁵ In the EU, the first legal enactment on EIAs was announced in 1977 and promulgated in 1985.²⁶ Following this trend, many countries have introduced EIA procedures in their national legislation.²⁷

In jurisdictions where EIA procedures have been implemented, the consequences for proponents of economic projects that may have significant impacts on environmental and social systems are generally as follows. The project proponents must publish an impact study before the construction of the site begins.²⁸ This study must include information on the impacts to be expected from the construction and operation of the project. It must also demonstrate that the project proponents have sought strategies to avoid, mitigate, and compensate for these impacts. The project proponents must transmit this study to public authorities and other stakeholders. The authorities may then approve or reject the project.²⁹ The impact study is usually conducted by a consultancy company and reviewed by an independent environmental authority, which provides recommendations to the administrative body. In that sense, EIA procedures are necessary to prevent harmful impacts to the environmental and social systems. Several analyses have been published suggesting improvements, such as integrating additional ecological or social impact categories into the impact studies or enhancing public participation.³⁰

diversity with a view to avoiding or minimizing such effects and, where appropriate, allow for public participation in such procedures’.

²⁵ Law No. 76-629 of the French Parliament on the Protection of Nature of 10 July 1976, available at: <https://www.legifrance.gouv.fr/loda/id/LEGITEXT000006068553#:~:text=ChronoLégi>. In France, EIA procedures are framed by the French Environmental Code, Art. R122-1–R122-27, available at: https://www.legifrance.gouv.fr/codes/texte_lc/LEGITEXT000006074220.

²⁶ Directive 85/337/EEC on the Assessment of the Effects of Certain Public and Private Projects on the Environment [1985] OJ L 175/40. This was superseded by Directive (EU) 2011/92 on the Assessment of the Effects of Certain Public and Private Projects on the Environment [2012] OJ L 26/1 (EU EIA Directive), as amended by Directive (EU) 2014/52 [2014] OJ L 124/1.

²⁷ E.g., see the United Kingdom’s (UK) Town and Country Planning (Environmental Impact Assessment) Regulations 2017 No. 571, 16 May 2017, available at: <https://www.legislation.gov.uk/ukxi/2017/571/made/data.pdf> (UK EIA Regulations). See also Australia’s Environment Protection and Biodiversity Conservation Act 1999, No. 91, 1999, 17 July 2000, relating to the Protection of the Environment and the Conservation of Biodiversity, and for Related Purposes, as amended, available at: <https://www.legislation.gov.au/C2004A00485/latest/text> (Australian Environmental Act). For other examples see T. Yang, ‘The Emergence of the Environmental Impact Assessment Duty as a Global Legal Norm and General Principle of Law’ (2019) 70(2) *Hastings Law Journal*, pp. 525–72, at 532.

²⁸ The set of activities that economic actors intend to carry out may be known by different names. In this article we use the term ‘project’ in a broad sense.

²⁹ On the importance of EIAs within the decision-making process see H. Wilkins, ‘The Need for Subjectivity in EIA: Discourse as a Tool for Sustainable Development’ (2003) 23(4) *Environmental Impact Assessment Review*, pp. 401–14; E. Leknes, ‘The Roles of EIA in the Decision-Making Process’ (2001) 21(4) *Environmental Impact Assessment Review*, pp. 309–34.

³⁰ O. Sankoh, ‘An Evaluation of the Analysis of Ecological Risks Method in Environmental Impact Assessment’ (1996) 16(3) *Environmental Impact Assessment Review*, pp. 183–8; J. Baker et al, ‘Ecosystem Services in Environmental Assessment: Help or Hindrance?’ (2013) 40(1) *Environmental Impact Assessment Review*, pp. 3–13; J. Holder, ‘The Prospects for Ecological Impact Assessment’, in J. Holder & D. McGillivray (eds), *Taking Stock of Environmental Assessment: Law, Policy and Practice* (Routledge-Cavendish, 2007), pp. 259–83; R. Sloomweg & A. Kolhoff, ‘A Generic Approach to Integrate Biodiversity Considerations in Screening and Scoping for EIA’ (2003) 23(6) *Environmental Impact Assessment Review*, pp. 657–81; S. Larsen, A. Hansen & H. Nielsen, ‘The Role of EIA and Weak Assessments of Social Impacts in Conflicts over Implementation of Renewable Energy Policies’ (2018) 115 *Energy Policy*, pp. 43–53; C. O’Faircheallaigh, ‘Public Participation and Environmental Impact Assessment: Purposes, Implications,

The impact study should assist stakeholders in understanding the impacts of projects and potentially making informed decisions. Therefore, the study must contain adequate project information, while being transparent and comprehensible enough for consultants and stakeholders.³¹ In other words, the impact study must follow a ‘principle of effectiveness’ and a ‘principle of simplicity’.³² In that sense, two analytical phases of the impact study must be carried out successfully: the so-called ‘screening phase’ and ‘scoping phase’. In the screening phase, the activities to be assessed are selected; in the scoping phase, the impacts to be measured are selected.³³ The approaches adopted in these phases strongly influence the content of the study. Notably, it is widely admitted that the scoping phase must be cautiously framed, and project proponents should assess a sufficient range of project impacts without having to propose overly complex studies.³⁴ Snell and Cowell noted that a ‘failure to scope an EIA effectively creates the risk that unnecessary work will be undertaken, or that the significant consequences are missed’, distinguishing between an ‘efficiency approach’ and a ‘precautionary approach’ to EIAs.³⁵ Kennedy and Ross also distinguish between ‘unnecessary information’ collected for the sake of completeness and ‘necessary information’ on significant impacts.³⁶ The scoping phase is determined by the practices of the consultants and, most importantly, by the legal standards in effect.

and Lessons for Public Policy Making’ (2010) 30(1) *Environmental Impact Assessment Review*, pp. 19–27; A. Glucker et al., ‘Public Participation in Environmental Impact Assessment: Why, Who and How?’ (2013) 43 *Environmental Impact Assessment Review*, pp. 104–11.

- ³¹ G. Wood, J. Glasson & J. Becker, ‘EIA Scoping in England and Wales: Practitioner Approaches, Perspectives and Constraints’ (2006) 26(3) *Environmental Impact Assessment Review*, pp. 221–41, at 222; D. Annandale & R. Taplin, ‘Is Environmental Impact Assessment Regulation a “Burden” to Private Firms?’ (2003) 23(3) *Environmental Impact Assessment Review*, pp. 383–97; G. Middle & I. Middle, ‘The Inefficiency of Environmental Impact Assessment: Reality or Myth?’ (2010) 28(2) *Impact Assessment Project Appraisal*, pp. 159–68.
- ³² See A. Fonseca & R. Gibson, ‘Testing an Ex-Ante Framework for the Evaluation of Impact Assessment Laws: Lessons from Canada and Brazil’ (2020) 81 *Environmental Impact Assessment Review*, article 106355; J. Rozema & A. Bond, ‘Framing Effectiveness in Impact Assessment: Discourse Accommodation in Controversial Infrastructure Development’ (2015) 50 *Environmental Impact Assessment Review*, pp. 66–73; Á. Enríquez de Salamanca, ‘Simplified Environmental Impact Assessment Processes: Review and Implementation Proposals’ (2021) 90 *Environmental Impact Assessment Review*, article 106640.
- ³³ M. Cashmore, A. Bond & D. Cobb, ‘The Role and Functioning of Environmental Assessment: Theoretical Reflections upon an Empirical Investigation of Causation’ (2008) 88(4) *Journal of Environmental Management*, pp. 1233–48.
- ³⁴ On the scoping phase and its importance see J. Glasson, R. Therivel & A. Chadwick, *Introduction to Environmental Impact Assessment* (Routledge, 2012), p. 88. See also R. Morgan, *Environmental Impact Assessment: A Methodological Perspective* (Kluwer Academic, 1998), p. 103; P. Mulvihill & D. Baker, ‘Ambitious and Restrictive Scoping: Case Studies from Northern Canada’ (2001) 21(4) *Environmental Impact Assessment Review*, pp. 351–69; R. Borioni, A. Gallardo & L. Sanchez, ‘Advancing Scoping Practice in Environmental Impact Assessment: An Examination of the Brazilian Federal System’ (2017) 35(3) *Impact Assessment and Project Appraisal*, pp. 200–13; A.J. Kennedy & W.A. Ross, ‘An Approach to Integrate Impact Scoping with Environmental Impact Assessment’ (1992) 16(4) *Environmental Management*, pp. 475–84, at 478.
- ³⁵ T. Snell & R. Cowell, ‘Scoping in Environmental Impact Assessment: Balancing Precaution and Efficiency?’ (2006) 26(4) *Environmental Impact Assessment Review*, pp. 359–76; Enríquez de Salamanca, n. 32 above.
- ³⁶ Kennedy & Ross, n. 34 above, pp. 476–7.

2.2. Value Chains and EIA Approaches

The balance between the principle of effectiveness and the principle of simplicity may be challenged when EIA procedures concern projects that are linked to value chains. Indeed, according to a site-specific approach to EIAs, the projects to be assessed consist of the local activities that economic actors conduct at a given geographical site.³⁷ The project proponents have a project inside such a site and, consequently, must evaluate the impacts of their project inside this local area only. All other impacts resulting from off-site activities are either not to be assessed or should be examined in separate impact studies. With regard to the value chains in which the projects may be involved, as long as the value chain activities are carried out on another site, their impacts are not to be studied in the same impact studies as the project. For instance, when assessing the impacts of a bioenergy production facility, the impacts of biomass production should not be assessed in the same EIA.

This approach is not legally mentioned and mandated, but may be used by economic actors and consultants, and accepted by political and legal authorities, in order to distinguish activities to be assessed from others in a way that is consistent with the principle of simplicity. However, this approach may impede the production of relevant information about the project. The site-specific approach to EIAs has been criticized for many years in many legal contexts. For instance, Shepherd and Ortolano wrote that an ‘EIA at the project level ... starts too late, ends too early and is too site-specific’.³⁸

Bruhn-Tysk and Eklund also explained that EIAs are not appropriate mechanisms for promoting sustainable development because they are not used to assess the global and regional impacts of projects or their effects on natural resource management, resulting in only partial assessments.³⁹ In evaluating carbon capture and storage technologies, Koornneef, Faaij and Turkenburg have advised combining separate EIAs that assess different aspects of the same value chain into a single procedure.⁴⁰ On land-use change, Stookes wrote that ‘all forms of land development will have some form of impact on either visual amenity, the land itself, the atmosphere, water or elsewhere. This may arise through direct, indirect, cumulative, secondary, or tertiary impacts’.⁴¹ For instance, to produce bioenergy in bioenergy production facilities, biomass must first be produced, stocked, and transported. In itself, biomass production entails higher impacts compared with the establishment and operation of a bioenergy

³⁷ See L. Canter & B. Ross, ‘A Basic Need for Integration: Bringing Focus to the Scoping Process’ (2014) 32(1) *Impact Assessment Project Appraisal*, pp. 21–2; E. Hansen & G. Wood, ‘Understanding EIA Scoping in Practice: A Pragmatist Interpretation’ (2016) 58 *Environmental Impact Assessment Review*, pp. 1–11.

³⁸ A. Shepherd & L. Ortolano, ‘Strategic Environmental Assessment for Sustainable Urban Development’ (1996) 16(4–6) *Environmental Impact Assessment Review*, pp. 321–35.

³⁹ S. Bruhn-Tysk & M. Eklund, ‘Environmental Impact Assessment: A Tool for Sustainable Development? A Case Study of Biofuelled Energy Plants in Sweden’ (2002) 22(2) *Environmental Impact Assessment Review*, pp. 129–44.

⁴⁰ J.M. Koornneef, A.P.C. Faaij & W.C. Turkenburg, ‘The Screening and Scoping of Environmental Impact Assessment and Strategic Environmental Assessment of Carbon Capture and Storage in the Netherlands’ (2008) 28(6) *Environmental Impact Assessment Review*, pp. 392–414.

⁴¹ P. Stookes, ‘Getting to the Real EIA’ (2003) 15(2) *Journal of Environmental Law*, pp. 141–51.

production facility.⁴² At the same time, bioenergy production facilities serve as the interface of biomass producers and energy distributors.⁴³ They create business opportunities for biomass producers, who partly produce biomass knowing that they may sell it to bioenergy producers. Thus, studying the impacts associated with biomass production is essential for assessing projects of bioenergy production facilities. Hence, in contrast to the ‘site-specific approach’ to EIA, a ‘chain-based approach’ may be proposed. According to the latter, the scope of EIAs should be broader and should include value chain impacts in one way or another.⁴⁴

EIA legislation may be vague on how to conduct the scoping phase of impact studies and fails to provide clear details on the value chain impacts to be assessed. In this context of legal ambiguity and conflicting expectations, the possible approaches to the scope of EIAs need to be carefully reconsidered. Striking a balance is essential in seeking legitimate, reasonable, and appropriate means to improve the sustainability of bioenergy value chains.

3. Legal EIA Disputes in France

Below, we analyze two legal disputes brought before the French Administrative Courts that underlined many of the aforementioned tensions regarding the scope of EIAs.

3.1. The La Mède Case

Context

The La Mède platform is a facility owned by the TotalEnergies group located in the department of Bouches-du-Rhône. Built in 1935, it was used initially for oil refining and had a production capacity of 8 million tons of crude oil. According to TotalEnergies, French domestic demand has been in continuous decline since 2008.⁴⁵ Thus, TotalEnergies aimed to transform the facility to produce refined products based on the industrial processing of biomass, and had to request administrative authorization for this change. Before starting the transformation, TotalEnergies was required to submit an impact assessment to the competent environmental authority in July 2016. The environmental authority in charge was

⁴² See n. 10 above.

⁴³ See, e.g., S.S. Hassan, G.A. Williams & A.K. Jaiswal, ‘Moving Towards the Second Generation of Lignocellulosic Biorefineries in the EU: Drivers, Challenges, and Opportunities’ (2019) 101(C) *Renewable and Sustainable Energy Reviews*, pp. 590–9.

⁴⁴ Such an approach has been explored, in particular, by researchers seeking to integrate life cycle assessment methodologies into EIAs; see P. Larrey-Lassalle et al., ‘An Innovative Implementation of LCA within the EIA Procedure: Lessons Learned from Two Wastewater Treatment Plant Case Studies’ (2017) 63 *Environmental Impact Assessment Review*, pp. 95–106; S. Židonienė & J. Kruopienė, ‘Life Cycle Assessment in Environmental Impact Assessments of Industrial Projects: Towards the Improvement’ (2015) 106 *Journal of Cleaner Production*, pp. 533–40; A. Manuilova, J. Suebsiri & M. Wilson, ‘Should Life Cycle Assessment be Part of the Environmental Impact Assessment? Case Study: EIA of CO₂ Capture and Storage in Canada’ (2009) 1(1) *Energy Procedia*, pp. 4511–8.

⁴⁵ TotalEnergies, Impact Study for La Mède Platform, July 2021, p. 41, available at: <https://www.bouches-du-rhone.gouv.fr/content/download/44889/255083/file/Résumé%20non%20technique%20étude%20impact.pdf>.

the Regional Directorate for Environment, Planning and Housing of Provence-Alpes-Côte d'Azur (Direction Régionale de l'Environnement, de l'Aménagement et du Logement).⁴⁶ On 7 February 2017, the Directorate provided a positive opinion to the Prefect. On 16 May 2018, the Prefect published a Prefectural Decree to authorize TotalEnergies to transform the facility.⁴⁷ A maximum of 450,000 tons of vegetable oils, 100,000 tons of fatty acid distillates, and 100,000 tons of used oils or animal fats were authorized to be imported by the group. The majority of the biomass was planned to be palm oil coming from Indonesia.

In July 2018, a group of associations and non-governmental organizations (NGOs) initiated legal proceedings against the administrative authorization. The plaintiffs included Greenpeace France, the departmental and regional sub-branches of Les Amis de la Terre France, France Nature Environnement, and the Ligue de Protection des Oiseaux PACA. On 11 March 2021, the Administrative Court of Marseille examined their arguments. The plaintiffs challenged the lack of autonomy of the environmental authority which examined the impact study and the incompleteness of the impact study that was transmitted by the project proponent.⁴⁸ On the latter point, the plaintiffs considered that the scope of impact of the EIA should have included the impacts of biomass production and insisted on the importance of bioenergy value chain impacts that were not mentioned by the project proponent.⁴⁹ In order to prove that the impact study was incomplete, they provided information on the environmental and social impacts of the production of first-generation biofuels and palm oil-based biofuels, and presented an impact study commissioned from Mr Patentreger, an expert in palm oil, deforestation, and sustainability certifications.⁵⁰ Greenpeace also published a fact-finding mission report that was made public at the time.⁵¹ The report traced the palm oil that was imported by TotalEnergies by investigating the activities of its main supplier

⁴⁶ The Regional Directorates for the Environment, Planning and Housing are services of the French state aimed at implementing public policies on environmental and territorial matters.

⁴⁷ Prefectural Decree N° 2016-142-A, 16 May 2018, available at: <https://www.actu-environnement.com/media/pdf/news-31637-arrete-prefectoral-autorisation-la-mede-tribunal-marseille.pdf>.

⁴⁸ *Association Les Amis de la Terre France and Others v. Prefect of Bouches-du-Rhône*, Administrative Court of Marseille, Judgment No. 1805238, 1 Apr. 2021, pp. 1–2 (*La Mède* Decision).

⁴⁹ *Ibid.*

⁵⁰ *Ibid.*, p. 7. They may have used parts of the existing academic literature on the impacts of palm oil cultivation. It is now widely known that land-use change for palm oil cultivation has developed at the expense of primary forests for 55 to 59% of the primary forests in Malaysia, and for at least 56% in Indonesia, leading to the destruction of entire ecosystems and carbon stocks; see J. Koh & D. Wilcove, 'Is Oil Palm Agriculture Really Destroying Tropical Biodiversity?' (2008) 1(2) *Conservation Letters*, pp. 60–4; F. Danielsen et al., 'Biofuel Plantations on Forested Lands: Double Jeopardy for Biodiversity and Climate' (2009) 23(2) *Conservation Biology*, pp. 348–58; K. Obidzinski, 'Environmental and Social Impacts of Oil Palm Plantations and their Implications for Biofuel Production in Indonesia' (2012) 17(1) *Ecology and Society*, pp. 952–65; V. Tauli-Corpuz & P. Tamang, 'Oil Palm and Other Commercial Tree Plantations, Monocropping: Impacts on Indigenous Peoples' Land Tenure and Resource Management Systems and Livelihoods', UN Permanent Forum on Indigenous Issues Working Paper, UN Doc. E/C.19/2007/CRP.6, available at: https://www.un.org/esa/socdev/unpfii/documents/6session_crp6.doc.

⁵¹ Greenpeace France, 'Agrocarburants: Comment Total occulte son impact sur les forêts et le climat. Contre expertise de Greenpeace France sur l'étude d'impact de Total La Mède publiée en janvier 2022', available at: <https://www.greenpeace.fr/agrocarburants-comment-total-occulte-son-impact-sur-les-forets-et-le-climat>.

of TotalEnergies in Indonesia, Asian Agri. Greenpeace pointed out in this report that Asian Agri's palm oil production is based on deforestation, the use of unregistered trucks, illegal plantations, suspected judicial diversions, and land grabs from Indigenous Sotol communities.

The Administrative Court decision of April 2021

On 1 April 2021, the Administrative Court of Marseille suspended the administrative authorization granted to TotalEnergies.⁵² According to the Court, the impact study submitted by TotalEnergies lacked information about the impacts of the facility.⁵³ In justifying its decision, the Court referenced the provisions of French law on EIA.⁵⁴ It mentioned that, according to the law, it is 'required that the analysis of the negative and positive, direct and indirect, temporary and permanent, short-, medium- and long-term effects of the project on the environment should specify, where necessary, the effects of the planned facility on climate'.⁵⁵ The Court also took into account the *Gardanne* decisions that were published at the time, and took into account EU and French laws addressing the sustainability of biofuels and other biomass-based products.⁵⁶ It considered that there was sufficient available information about the impacts of bioenergy and did not follow the plaintiffs' request to use the precautionary principle of the French Charter for the Environment (*Charte de l'Environnement*).⁵⁷

Based on these references, the Court acknowledged that scientific knowledge shows that palm oil production has both climatic impacts through the production of GHGs and non-climatic impacts linked to biodiversity loss, biophysical perturbations, cultural damages, or illicit land uses.⁵⁸ However, the Court did not consider that the impact study should necessarily have included all of these impacts. The Court insisted on the need to study the impact of palm oil production on climate. It referred to the French law relating to 'the effects of the planned facility' by adding that the effects to assess are those 'on climate'.⁵⁹ It considered that 'the provisions ... required that climatic factors be taken into account in the initial assessment of the site and required an analysis of the effects of the project on the environment, in particular on climatic factors and air'.⁶⁰ Moreover, it indicated that the impact study 'should thus include an analysis of its direct and indirect effects on climate'.⁶¹ The impacts of palm oil production are indirect impacts,

⁵² *La Mède* Decision, n. 48 above.

⁵³ *Ibid.*, para. 53.

⁵⁴ *Ibid.*, para. 41.

⁵⁵ *Ibid.*

⁵⁶ *Ibid.*, paras 47–48.

⁵⁷ *Ibid.*, para. 94. The French Charter for the Environment 2004, incorporated into the French Constitution by Constitutional Law No. 2005-205 of 1 Mar. 2005, constitutionally established a right of citizens to a balanced environment, the prevention principle, the precautionary principle, and the polluter pays principle.

⁵⁸ *La Mède* Decision, n. 48 above, paras 46, 49, 53.

⁵⁹ *Ibid.*

⁶⁰ *Ibid.*, para. 41.

⁶¹ *Ibid.* Similarly, within the report of the newly established environmental authority, the 'impacts' under examination pertain exclusively to local effects. Non-local impacts are explicitly referenced solely in connection with GHG emissions.

which had to be assessed in so far as they are impacts on climate. These are the only impacts that are mentioned to be assessed beyond the ‘immediate perimeter of the project’,⁶² and beyond ‘strictly local’⁶³ or ‘very local’,⁶⁴ because the climate impacts of biomass production are ‘indirect impacts’ of the project.⁶⁵

In the end, recognizing that the impact study was incomplete, the Court did not revoke the administrative authorization and the biorefinery was allowed to operate. It required the Prefect to publish a new Decree within nine months.⁶⁶ Following the decision, the project proponent was required to rectify the situation by publishing a new impact study and by submitting this impact study to a new environmental authority.

The Administrative Court decision of July 2022

In 2021, TotalEnergies submitted a new impact study which mentioned the impacts of its project on climate.⁶⁷ These impacts were measured by using the calculation methodology outlined in Directive (EU) 2018/2001.⁶⁸ In this revised impact study, TotalEnergies argued that the supply of 450,000 tons of palm oil per year could be achieved with certified sustainable palm oil.⁶⁹ Nevertheless, it has publicly stated that palm oil imports would cease in 2023, to be replaced by other oil imports.⁷⁰ The new impact study was examined by another environmental authority, the Regional Mission of the Environmental Authority of Provence-Alpes-Côte d’Azur (Mission Régionale d’Autorité Environnementale Provence-Alpes-Côte d’Azur).⁷¹ In its report the authority pointed out that ‘[t]he impact study updated in July 2021 ... does not specify the nature, the geographical origin, or the quantity of the oils retained as replacements’.⁷² Additionally, the authority highlighted that ‘the methodologies related to the certifications of vegetable oils, their conditions of implementation in the field and their methods of control are not exposed for the supply scenarios on which TotalEnergies is committed’.⁷³ A new public inquiry was conducted and concluded in February 2022. On 13 July 2022,

⁶² Ibid., para. 50.

⁶³ Ibid.

⁶⁴ Ibid., para. 52.

⁶⁵ Ibid., para. 50.

⁶⁶ Ibid., Arts 1–4.

⁶⁷ See TotalEnergies, n. 45 above.

⁶⁸ N. 7 above, Annexes V and VI.

⁶⁹ TotalEnergies, n. 45 above, p. 272.

⁷⁰ For a related interview with David Pouyanné, CEO of TotalEnergies, see M.-C. Bérenger, ‘“Il n’y aura plus d’huile de palme à La Mède ni nulle part dans la compagnie à partir de 2023,” Assure le PDG de TotalEnergies’, *La Provence*, 4 July 2021, available at: <https://www.laprovence.com/article/economie/6412853/info-exclusive-la-provence-il-ny-aura-plus-dhuile-de-palme-a-la-mede-ni-nulle-part-dans-la-compagnie-a->.

⁷¹ The Regional Missions of the Environmental Authority are services of the French Environmental Authority (Autorité Environnementale). The French Environmental Authority is an independent entity which issues opinions on projects, plans and programmes that are subject to impact assessments.

⁷² See Mission d’Autorité Environnementale de Provence-Alpes-Côte d’Azur, ‘Legal Notice relating to the Conversion Project of the La Mède Platform on the Cities of Châteauneuf-les-Martigues and Martigues’, 23 Sept. 2021, p. 4, available at: <https://www.bouches-du-rhone.gouv.fr/content/download/44159/250475/file/Avis%20MRAE%20TOTAL%20La%20Mède%20.pdf>.

⁷³ Ibid.

in its second judicial decision, the Administrative Court of Marseilles stated that the requirements set forth in the first decision had been fulfilled and confirmed the validity of the administrative authorization granted to TotalEnergies.⁷⁴

3.2. The Gardanne Case

Context

The thermal power plant of Provence, also known as the Gardanne-Meyreuil power plant, is situated in the department of Bouches-du-Rhône. It was built in the 1950s and has since been generating electricity through coal injection. In 2011, the facility operator at the time, E.ON – Société Nationale d'Électricité et de Thermique, wanted to transform the fourth unit of the facility so that it could be supplied with forest biomass rather than coal. The project proponent applied for administrative authorization and submitted an impact study to the Regional Directorate for Environment, Planning and Housing of Provence-Alpes-Côte d'Azur. The project involved the import of 850,000 tons of wood per year to generate 150 megawatts of electricity. The unit was designed to operate by importing wood from nearby forests and, if necessary, from abroad. The study did not include information regarding the impacts of wood production. The environmental authority that examined the study provided a favourable opinion for the project. The Bouches-du-Rhône Prefecture granted authorization to operate on 29 November 2012.

On 29 November 2013, several associations – France Nature Environnement Bouches-du-Rhône, Convergence Ecologique du Pays de Gardanne, and Les Amis de la Terre des Bouches-du-Rhône – initiated legal action against the administrative authorization before the Administrative Court of Marseille. They pointed out the absence of an assessment of the indirect environmental effects inherent in the forestry operations. Meanwhile, the company sold its shares in the facility to the group Uniper France Power, which took over the ongoing litigation and became a defendant in the case.

The Administrative Court decision

On 8 June 2017, the Administrative Court of Marseille cancelled the administrative authorization that was granted to the project proponent.⁷⁵ The Court admitted that, legally, there is no 'programme of works' nor 'functional link' between biomass production and the project, and thus that wood harvesting and energy production are different projects from different proponents.⁷⁶ However, the Court ruled that this 'should not result in their total exemption from the assessment requirement even though, taken together, they are likely to have significant effects on the environment'.⁷⁷

⁷⁴ *La Mède* Decision, n. 48 above.

⁷⁵ *Association France Nature Environnement Bouches-du-Rhône and Others v. Prefect of Bouches-du-Rhône*, Administrative Court of Marseille, Judgments No. 1307619, 1404665, 1502266, 8 June 2017 (First *Gardanne* Decision).

⁷⁶ *Ibid.*, para. 30. Since then, references to the concept of 'programme of works' were removed from the French Environmental Code, n. 25 above.

⁷⁷ First *Gardanne* Decision, n. 75 above, para. 29.

Indeed, ‘given the nature of a biomass power plant, the conditions of supply, particularly of forest wood, are an essential element of the operation’.⁷⁸ The Court detailed that ‘it was up to the company to analyze the indirect effects of the facility on the sites and landscapes, and on the natural environment and biological balance’.⁷⁹ Because of the size of the project and the nature of the resources to be imported, which are associated with significant risks and impacts, wood production could be considered an ‘essential element of the operation’.⁸⁰

The Court also mentioned that the study was incomplete ‘with regard to its foreseeable impacts on the environment ... even though, at the date of the contested decree, several forest wood supply sites were known’.⁸¹ By this wording, the Court emphasized that the project proponent had an important role in the value chain, given the economic partnerships it had formed. The Court inferred from this role that the project proponent was in a position to know and foresee the impacts associated with the value chain activities, and that the impacts of wood production were ‘foreseeable impacts’.⁸² Therefore, for the Court, if the project proponent could identify the identity, activities, and impacts of the suppliers, it was required to mention them in the impact study.

The Court of Appeal decision

The decision of the Administrative Court was appealed against by the French Ministry of Ecological Transition and by the new project proponent, Uniper France Power. In invalidating the Administrative Court decision on 24 December 2020,⁸³ the Court of Appeal considered that:

[i]f the supply of forest wood for the power plant is a condition of its operation, the forestry operation and the production of electricity have their own purpose and meet different objectives. They constitute operations which can be implemented in an independent way.⁸⁴

The Court added that the legal provisions on indirect impacts ‘did not require an overall assessment of the effect on the environment of projects of a different nature that had their own purpose’.⁸⁵ The various production activities of the value chain, such as wood production and energy production, have different purposes. Consequently, the Court of Appeal considered them as different projects to be assessed through separate EIA procedures, without mentioning the impacts of each other.

⁷⁸ Ibid., para. 26.

⁷⁹ Ibid., para. 30.

⁸⁰ Ibid., para. 26.

⁸¹ Ibid.

⁸² Ibid., paras 26, 30.

⁸³ *Association France Nature Environnement Bouches-du-Rhône and Others v. Prefect of Bouches-du-Rhône*, Administrative Court of Appeal of Marseille, Judgments No. 17MA03489, 17MA03528, 24 Dec. 2020 (*Gardanne Appeal Decision*).

⁸⁴ Ibid., para. 19.

⁸⁵ Ibid., para. 20.

The Council of State decision

The plaintiffs appealed to the Council of State, which, on 27 March 2023, overturned the decision of the Marseille Administrative Court of Appeal.⁸⁶ An important part of the decision may be quoted in its entirety:

The appreciation of these effects supposes that what must be analyzed in the impact study are not only the direct effects on the environment of the authorized facility, but also *those likely to be caused by its use and operation*. Under the terms of Article R. 512-8 of the Environmental Code cited in point 2 and applicable at the time, this analysis must be *proportionate to the size of the planned facility*. However, it is clear from the documents in the file submitted to the Court that, as stated in point 3, the operation of the Provence power plant relies on the consumption of *very large quantities of wood from local forest resources, natural resources that are subject to special protection*. It follows that *the main environmental impacts of the power plant through its wood supply and, in particular, the effects on local forests* must be analyzed in the impact study. Consequently, in ruling that the impact study did not have to analyze the environmental effects of the plant's wood supply plan, the Marseille Administrative Court of Appeal erred in law.⁸⁷

The Council of State considered that the greater risk of significant environmental impacts calls for meticulous assessment. It admitted that the 'direct impacts' are impacts associated with the implementation of the facility. Yet, it mentioned that there are other impacts to study, namely, the 'impacts ... caused by its use and operation'.⁸⁸ Hence, it considered the impacts of the operation and use of the facility to be different from direct impacts, namely, indirect impacts. It followed the Administrative Court by highlighting 'the importance', the 'very large quantities of wood', and 'the main impacts on the environment' linked to the production of biomass.⁸⁹ At the same time, the Council of State insisted on including the local impacts of the facility on 'local forest resources'.⁹⁰

4. Lessons from the Case Studies

We have looked at the difficulties of considering value chain impacts in EIA and at two important decisions of French Administrative Courts in this context. We now consider how these judgments provide interesting insights for the development of EIA law, in the French context and beyond.

4.1. Beyond the French Cases

Legal challenges similar to those in the *Gardanne* and *La Mède* cases are expected to become more common at the global level. Value chains are seen increasingly as

⁸⁶ *Association France Nature Environnement Bouches-du-Rhône' and Others v. Prefect of Bouches-du-Rhône*, French Council of State, Judgment No. 450135, 27 Mar. 2023 (*Gardanne* Council of State Decision).

⁸⁷ *Ibid.*, para. 5 (emphasis added).

⁸⁸ *Ibid.*

⁸⁹ *Ibid.*

⁹⁰ *Ibid.*

prominent targets for legal challenges worldwide. Recently, in the case of *Greenpeace Nordic and Nature & Youth Norway v. Ministry of Petroleum and Energy*,⁹¹ a group of environmental organizations filed a lawsuit with the Oslo District Court, claiming that the Norwegian Ministry of Petroleum and Energy had violated the Norwegian Constitution by granting oil and gas licences for deep-sea extraction in the Barents Sea. They argued that these licences would facilitate the exploitation of untouched fossil fuel reserves and would contradict efforts to mitigate climate change. In the prominent case of *Milieudefensie v. Royal Dutch Shell*, the District Court of The Hague (The Netherlands) found that Shell had a duty, under Dutch civil law, to address the significant risks posed by its GHG emissions.⁹² Notably, debates are also lively regarding bioenergy production. In the case of *Sabo and Others v. Parliament and Council*, initiated in March 2019, plaintiffs from six countries challenged the decision of the European Parliament to classify forest biomass as a renewable fuel in Directive (EU) 2018/2001.⁹³ In 2020, the case was dismissed by the General Court of the European Union, and an appeal by the plaintiffs was rejected in 2021. These cases, as well as those of *Gardanne* and *La Mède*, raise the issue of the recognition of non-local impacts by the law.

As a result, EIAs are changing specifically and the site-specific approach taken by them is being discussed in multiple legal contexts.⁹⁴ In France, again, TotalEnergies recently inaugurated BioBéarn, the largest methanization unit in France, and the Administrative Court of Pau rejected an appeal brought here again against the administrative authorization granted to the company by the Prefect.⁹⁵ Beyond the French context, in the case of *Finch on behalf of the Weald Action Group v. Surrey County Council and Others*, the claimants argued that the impact study of an oil extraction project was incomplete because it overlooked significant indirect impacts of the project on climate. The High Court and the Court of Appeal rejected their challenge by holding that EIAs are not required to cover off-site impacts; yet the

⁹¹ *Nature and Youth Norway and Others v. The State represented by the Ministry of Petroleum and Energy*, Supreme Court of Norway, Case No. 20-051052SIV-HRET, 23 Jan. 2020.

⁹² *Milieudefensie v. Royal Dutch Shell*, District Court of The Hague (The Netherlands), Case No. C/09/57932, 26 May 2021. For analysis of the judgment see B. Mayer, 'The Duty of Care of Fossil-Fuel Producers for Climate Change Mitigation: *Milieudefensie v. Royal Dutch Shell*, District Court of The Hague (The Netherlands)' (2022) 11(2) *Transnational Environmental Law*, pp. 407–18; L. Burgers, 'Response: An Apology Leading to Dystopia: Or, Why Fuelling Climate Change Is Tortious' (2022) 11(2) *Transnational Environmental Law*, pp. 419–31; B. Mayer, 'Judicial Interpretation of Tort Law in *Milieudefensie v. Shell*: A Rejoinder' (2022) 11(2) *Transnational Environmental Law*, pp. 433–6. On indirect impacts arising from coal mine exploitation see *Gloucester Resources Ltd v. Minister for Planning, Land and Environment*, Court of New South Wales (Australia), 8 Feb. 2019, [2019] NSWLEC 7.

⁹³ See *Sabo and Others v. Parliament and Council* (or *EU Biomass Plaintiffs v. European Union*), Court of Justice of the European Union (CJEU), Case No. T-141/19, 6 May 2020, ECLI:EU:T:2020:179.

⁹⁴ A. Wawryk, 'Adoption of International Environmental Standards by Transnational Oil Companies: Reducing the Impact of Oil Operations in Emerging Economies' (2002) 20(4) *Journal of Energy & Natural Resources Law*, pp. 402–34.

⁹⁵ *Association 'SEPANSO Pyrénées-Atlantiques' v. Pyrénées-Atlantiques Prefect*, Administrative Court of Pau, Judgment No. 2100481, 5 July 2023.

Supreme Court, on 20 June 2024, by a 3:2 majority, allowed the appeal on the ground that the emissions concerned did fall within the scope of the EIA.⁹⁶ Similar arguments were raised by the claimants in *Greenpeace v. United Kingdom*, which led the Court of Session to reaffirm that EIAs are not required to include emissions associated with the final consumption of the goods that are produced in a facility project.⁹⁷ In a legal dispute regarding a coal mine project challenged in Australia, the Federal Court held that impacts on ecosystems from coal consumption cannot be attributed to a coal facility project, and that no EIA was required before carrying out such projects.⁹⁸ These debates may concern other bioenergy production projects around the world, such as in the US, when the Superior Court of the State of California rejected a challenge from associations and NGOs against the authorization granted to the proponents of a biorefinery project, stating that the impact study was complete and that the project was not required to include feedstock-related impacts such as those arising from land use.⁹⁹

These examples confirm that the role of EIAs in assessing value chain impacts is being questioned, yet is slowly evolving. It is only in a few cases that courts have considered that EIAs should indeed involve value chain impacts. In *Nathan Dam*, for instance, the Federal Court of Australia and its Full Court held that the EIA of the dam project should include such indirect impacts.¹⁰⁰ In this context, the legal cases studied above can provide interesting lessons for improving future legal decisions, EIA laws, and official guidelines. Indeed, in the judgments discussed, the courts frequently emphasized that the impacts of bioenergy value chains should be assessed beyond site-specific approaches to EIA. Project proponents were forced to mention these impacts. The courts justified their decisions by using various arguments, each with its advantages and limitations. These arguments could serve as a legal foundation for change in France and similar jurisdictions.

4.2. Admitting the Role of EIAs in Value Chain Regulation

Project proponents may argue that a chain-based approach to EIA would lead to overly complex procedures. Regulating value chains should rather be the role of the policymakers in establishing general production incentives and counter-incentives (for example, tax and subsidies on bioenergy products) through policy strategies, plans, or programmes. These more general policy decisions and the ways in which they are assessed through strategic environmental assessments (SEAs) should be the

⁹⁶ *R (on the application of Finch on behalf of the Weald Action Group) v. Surrey County Council and Others* [2022] EWCA Civ 187 (Court of Appeal), [2024] UKSC 20 (Supreme Court).

⁹⁷ *Greenpeace Ltd v. Secretary of State for Business, Energy and Others*, UK Court of Session, Case No. XA34/20, 7 Oct. 2021 (*Greenpeace v. United Kingdom*).

⁹⁸ *Wildlife Preservation Society of Queensland Proserpine and Others v. Minister for Environment and Heritage and Others*, Federal Court of Australia, Case No. [2006] FCA 736, 15 June 2006.

⁹⁹ *Communities for a Better Environment and Center for Biological Diversity v. County of Contra Costa and Others*, Superior Court of the State of California (US), Case No. N22-1091, 24 May 2023.

¹⁰⁰ *Queensland Conservation Council Inc. v. Minister for Environment and Heritage*, Federal Court of Australia, Case No. [2003] FCA 1463, 19 Dec. 2003, and Full Court of the Federal Court, 30 July 2004, [2004] FCAFC 190 (*Nathan Dam*).

prior targets for legal challenge.¹⁰¹ This was held by the Court of Session in *Greenpeace v. United Kingdom*, for instance, which stated that decisions regarding the cessation of new oil and gas project developments were within the realm of policymaking.¹⁰²

However, these general policy decisions do not entirely determine the business operations of economic actors. Such policy decisions may fail to make the economic actors take into account the significant environmental impacts of the value chains in which they are involved, and to make them change their activities accordingly. In these cases, challenging EIAs may even help them to overcome some of these difficulties.¹⁰³ In the *Gardanne* judgment, the Administrative Court admitted that ‘at the stage when clearing permits are issued, there will be no legislative or regulatory provisions to ensure that the cumulative effects of land clearing operations made necessary by the operation of the planned power plant will be taken into account’.¹⁰⁴ It seems that, for the Court, regulating value chains should not be a priority of the EIA procedure, but it assigned this role to the EIA in the absence of other standards that could effectively compel project proponents. The EIA appears to be a globally established procedure providing crucial opportunities for comprehensive and public discussions on the actual environmental and social benefits of specific projects, and which may serve as a final barrier against harmful projects. For these reasons, EIA-related lawsuits should not be dismissed as insignificant compared with legal challenges on more general policy changes. Rather, EIA-related lawsuits should be studied to highlight shortcomings and areas of improvement in such policies.

4.3. Justifying the Assessment of Value Chain Impacts

Broadening the screening?

Economic actors are required by law to conduct EIAs if they intend to engage in risky activities, which may be variously described and defined.¹⁰⁵ Courts may consider that the set of activities that economic actors seek to carry out may include value chain activities. They might recognize that economic actors wish to carry out on-site work because they want to participate in, and sometimes organize, value chains.

However, the project proponent is not necessarily in charge of all value chain activities. Including the activities of value chain economic partners as part of a project would require overly complex impact studies. Such demand could easily be challenged by defendants in

¹⁰¹ SEAs are assessments of plans and programmes made to assess the possible impacts of such policy decisions; see B.F. Noble & K. Nwanekezie, ‘Conceptualizing Strategic Environmental Assessment: Principles, Approaches and Research Directions’ (2016) 62 *Environmental Impact Assessment Review*, pp. 165–73. For recent discussions about the extension of the scope of SEAs see *A and Others v. Gewestelijke Stedenbouwkundige Ambtenaar van het Departement Ruimte Vlaanderen, Afdeling Oost-Vlaanderen*, CJEU, Case No. C-24/19, 25 June 2020, ECLI:EU:C:2020:503.

¹⁰² N. 97 above.

¹⁰³ A. Morrison-Saunders, A. Nykiel & N. Atkins, ‘Understanding the Impact of Environmental Impact Assessment Research on Policy and Practice’ (2024) 104 *Environmental Impact Assessment Review*, article 107334.

¹⁰⁴ First *Gardanne* Decision, n. 75 above, para. 29.

¹⁰⁵ See US NEPA, n. 19 above, s. 103, 2(K) and s. 110; EU EIA Directive, n. 26 above, para. 8; French Environmental Code, n. 25 above, Art. R.122-2; UK EIA Regulations, n. 27 above, Part I, para. 2(1)(c); Australian Environmental Act, n. 27 above, Vol. 2, Ch. 8, Pt 23; Div. 1(A), s. 523.

the absence of a clear definition of the project. Moreover, leaving doubt about project boundaries may lead other courts and defendants to insist on the benefits of a site-specific approach to EIA. For instance, in the *Gardanne* judgment, the Court of Appeal invalidated the decision of the Administrative Court by arguing that there was no value chain impact to study because two distinct projects were at stake.¹⁰⁶ The need to restrict the screening of the EIA was used as a prominent argument to show that the impact study should mention only site-specific impacts. Consequently, it is important to ensure that projects are site-specific.

Considering value chain impacts as cumulative impacts?

In several EIA laws, the category of cumulative impact is mentioned.¹⁰⁷ It refers to impacts that are not those of the project but of other activities that could be related to the project. They are mentioned in the EIA laws of the EU, France, and the United Kingdom (UK), for instance.¹⁰⁸ In its Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions, the European Commission defined cumulative impacts as the ‘impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the project’.¹⁰⁹ Thus, value chain impacts linked to biomass production could be considered as the cumulative impacts of other human activities that intersect with the impacts of the project under assessment.

However, in order to determine that a project has cumulative impacts, it must be demonstrated that its impacts accumulate with the impacts of other activities, and that these cumulative impacts are significant enough to justify special consideration. A causal link must be established to justify considering that the impacts of value chain activities are more closely associated with the project than the impacts of any other activity. Otherwise, courts and defendants could argue that the project does not need to be assessed alongside other activities that may have an impact on factors such as climate or biodiversity. In the *Gardanne* judgment, while the Administrative Court remained unclear about the existence of cumulative impacts to be assessed,¹¹⁰ the Court of Appeal argued that there were no cumulative impacts to be taken into account at all, and insisted on this point to justify that value chain impacts should not be mentioned in the impact study.¹¹¹

¹⁰⁶ *Gardanne* Appeal Decision, n. 83 above, para. 19.

¹⁰⁷ R. Nelson & L.M. Shirley, ‘The Latent Potential of Cumulative Effects Concepts in National and International Environmental Impact Assessment Regimes’ (2022) 12(1) *Transnational Environmental Law*, pp. 150–74; C. Caine, ‘The Race to the Water for Offshore Renewable Energy: Assessing Cumulative and In-combination Impacts for Offshore Renewable Energy Developments’ (2020) 32(1) *Journal of Environmental Law*, pp. 83–109; L.M. Cooper & W. Sheate, ‘Cumulative Effects Assessment: A Review of UK Environmental Impact Statements’ (2002) 22(4) *Environmental Impact Assessment Review*, pp. 415–39.

¹⁰⁸ See the EU EIA Directive, n. 26 above, Annexes III and IV; French Environmental Code, n. 25 above, Art. R.512-8; UK EIA Regulations, n. 27 above, reg. 2(1), Sch. 2, para. 3(g).

¹⁰⁹ European Commission, ‘Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions’, May 1999, p. iii, available at: <https://edz.bib.uni-mannheim.de/www-edz/pdf/1999/guideassess.pdf> (EU Guidelines).

¹¹⁰ First *Gardanne* Decision, n. 75 above, para. 29.

¹¹¹ *Gardanne* Appeal Decision, n. 83 above, para. 19.

Considering value chain impacts as indirect impacts?

In several EIA laws it is stated that the impact study must take into account the indirect impacts of projects, without further describing what the indirect impacts encompass.¹¹² More details may be found in non-legal texts. For instance, the European Commission Guidelines for the Assessment of Indirect and Cumulative Impacts, referred to above, described the indirect impacts as the ‘[i]mpacts on the environment, which are not a direct result of the project, often produced away from or as a result of a complex pathway’.¹¹³

In other words, a project has indirect impacts when its direct impacts may intertwine with other effects. Thus, acknowledging the existence of indirect impacts of projects opens the possibility of acknowledging the existence of more complex causal pathways. In this regard, several scholars have already advocated a more thorough examination of indirect impacts through EIA. For instance, Rose, Edmunds and Lofting promoted the analysis of indirect impacts to obtain a better understanding of the employment opportunities that were created by an energy facility.¹¹⁴ Similarly, Lenzen and co-authors proposed a study of the indirect impacts of an airport and highlighted that ‘off-site effects are not addressed in traditional EIA’.¹¹⁵

In its Guidelines, the European Commission stated that indirect impacts may include ‘the development of a project, which in turn attracts ancillary developments’,¹¹⁶ and that these ‘ancillary developments’ may include supply-linked impacts.¹¹⁷ Value chain impacts may be considered indirect impacts.¹¹⁸ In the *La Mède* and the *Gardanne* disputes, the courts may have regarded the impacts of biomass production as indirect impacts of the bioenergy production facility project. In the previously mentioned UK and Australian cases, similar considerations arose regarding the assessment of value chain impacts as indirect impacts.¹¹⁹ Therefore, in other legal contexts where EIA laws mandate the assessment of indirect impacts, project proponents may be required to study value chain impacts as indirect impacts.

¹¹² See, e.g., EU EIA Directive, n. 26 above, Art. 3 and Annex IV; French Environmental Code, n. 25 above, Art. R.522-5, 2, 5(g); UK EIA Regulations, n. 27 above, reg. 4(2) and Sch. 4, para. 5; Australian Environmental Act, n. 27 above, s. 484.

¹¹³ EU Guidelines, n. 109 above, p. iii.

¹¹⁴ A. Rose, S. Edmunds & E. Lofting, ‘The Economics of Geothermal Energy Development at the Regional Level’ (1978) 4(1) *Journal of Energy and Development*, pp. 126–52.

¹¹⁵ M. Lenzen et al., ‘Environmental Impact Assessment Including Indirect Effects: A Case Study Using Input–Output Analysis’ (2003) 23(3) *Environmental Impact Assessment Review*, pp. 263–82, at 265. They followed with more general remarks about methodological problems in EIAs (‘In this respect, the statement of Johnson and Bennett (1981) that “no consensus has been reached on a standard analytical approach which provides a comprehensive, quantitative assessment of economic and environmental impacts” still holds true. ... Whitney (1985) concludes that the reason for the lack of more comprehensive and sophisticated approaches within EIA is the “EIA process itself, which gives no incentive for more rigorous forms of analysis to be employed”’: *ibid.*, p. 265).

¹¹⁶ EU Guidelines, n. 109 above, p. 6.

¹¹⁷ *Ibid.*, p. 76.

¹¹⁸ J.P.M. Ros et al., ‘Identifying the Indirect Effects of Bio-Energy Production’, Report for the Netherlands Environmental Assessment Agency (PBL), Feb. 2010, available at: <https://www.pbl.nl/sites/default/files/downloads/500143003.pdf>. They state that ‘[i]ndirect effects are the effects that are caused by the introduction of a bio-energy product, but cannot be directly linked to the value chain’: *ibid.*, p. 5.

¹¹⁹ Nn. 96 and 100 above.

However, indirect impacts may refer to a wide variety of impacts, requiring the study of complex causal pathways potentially leading to overly complicated impact studies. It is necessary to find criteria for determining which value chain impacts should be considered as indirect impacts. In the *La Mède* and *Gardanne* cases, the courts may have used different criteria to select the value chain impacts to be studied. In the *Gardanne* judgments, both the Administrative Court and the Council of State highlighted the significant impacts of the facility projects on forests.¹²⁰ In the *La Mède* judgment, the Administrative Court considered that value chain impacts on climate were to be assessed as a priority.¹²¹ The courts emphasized the need to consider the most significant value chain impacts as indirect impacts.

In addition, the courts could have insisted on the need to maintain a minimal site-specific approach. In the *Gardanne* case, the Council of State specified that the facility would have indirect impacts on local forest resources.¹²² In the *La Mède* case, the Administrative Court seems to have emphasized the value chain impacts on climate because climate change is global. Indeed, as the philosopher Jamieson wrote, '[c]limate change is a global phenomenon that is insensitive to the locations of the emissions that contribute to it',¹²³ and '[t]he influence of my emission must travel upward through various global systems that affect climate, and then downwards, damaging something that we value'.¹²⁴ Because climate change has ultimate impacts on multiple levels, the Administrative Court may have considered that the local emissions from palm oil production in Indonesia affected the local site in France. Thus, the Court may have emphasized climate change in order to establish a more evident causal link between the impacts of biomass production and the local project site in France.

Furthermore, in the *Gardanne* case, the Administrative Court mentioned the assessment of the 'foreseeable impacts on the environment' and insisted on the role of the project proponent in the value chain.¹²⁵ The Court specifically considered the value chain impacts that were foreseeable by the project proponents as indirect impacts. Large-scale facilities import significant amounts of supply and export significant amounts of products, making it imperative for the proponents behind such energy facility projects to know their supply chain partners and product distributors. By familiarizing themselves with their partners, the project proponents gain insights into the operations carried out by these partners and related impacts. Thus, given the role of project proponents of large-scale facilities in value chains, courts may consider them to be indirect contributors of value chain impacts, and that they should include in their impact studies any information they possess or acquire regarding these value chains.

¹²⁰ First *Gardanne* Decision, n. 75 above, para. 26, and *Gardanne* Council of State Decision, n. 86 above, para. 5.

¹²¹ *La Mède* Decision, n. 48 above, para. 41.

¹²² *Gardanne* Council of State Decision, n. 86 above, para. 5.

¹²³ D. Jamieson, 'Responsibility and Climate Change' (2015) 8(2) *Global Justice: Theory Practice Rhetoric*, pp. 23–42, at 30.

¹²⁴ *Ibid.*, p. 31.

¹²⁵ First *Gardanne* Decision, n. 75 above, para. 26.

Clarifying indirect causal links

Courts may apply the above-mentioned criteria to identify indirect impacts for inclusion in impact studies under any relevant EIA law. However, these criteria may not be sufficient. Firstly, it is not clear what qualifies as a significant impact. Focusing on specific impacts that are deemed significant may result in many value chain impacts being ignored. For instance, in the *La Mède* case, the Administrative Court emphasized the significance of climate impacts while ignoring other value chain impacts. This trend could set concerning legal precedents and lead to the assumption that many value chain impacts should not to be assessed. Secondly, the criterion of foreseeability is also not clear. It may be difficult for consultants, administrative authorities, and courts to determine whether value chain activities and impacts are foreseeable by the project proponents at the time of the impact study. Moreover, the significance or the foreseeability of impacts are not essential indicators of the existence of an indirect causal link. The project is not the cause of every value chain activity and impact that is significant or foreseeable by the project proponent.

Therefore, the criteria that were used in the above-mentioned decisions to show that value chain impacts are project impacts need to be complemented by finding clearer ways to demonstrate the existence of indirect causal links, in ways that should remain simple enough to be incorporated into EIA laws. We propose that courts establish whether the indirect causal links should be taken into account depending on how far the project creates essential outlets and supplies for the other economic actors in the value chain. Consequently, courts should make use of all available resources they may gather to prove the influence of project proponents in organizing supplies and outlets. Official documents published by project proponents could provide valuable insights; for instance, economic actors often seek certification for their products through auditing agencies.¹²⁶ In the EU, a certification scheme was implemented to establish official sustainability criteria for several bioenergy products.¹²⁷ Companies also use business plans to outline their organizational structure, suppliers, and distributors.¹²⁸ Several countries have introduced new corporate responsibility requirements, mandating companies to publish due diligence plans detailing the impacts of the value chains in which they are involved.¹²⁹ Courts could leverage these reports and plans in order to better understand the role of these companies within value chains.

¹²⁶ Directive (EU) 2018/2001, n. 7 above, Art. 29.

¹²⁷ G. Kutas, C. Lindberg & R. Steenblik, 'Biofuels: At What Cost? Government Support for Ethanol and Biodiesel in the European Union', Report of the International Institute for Sustainable Development (IISD), 5 Oct. 2007.

¹²⁸ M. Sokolowski & M. Taylor, 'Just Energy Business Needed! How to Achieve a Just Energy Transition by Engaging Energy Companies in Reaching Climate Neutrality: (Re)conceptualising Energy Law for Energy Corporations' (2023) 41(2) *Journal of Energy & Natural Resources Law*, pp. 157–74.

¹²⁹ French Law on the Corporate Duty of Diligence (Loi sur le devoir de vigilance), No. 2017-399, Mar. 2017, available at: <https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000034290626>. See also Directive (EU) 2022/2464 amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU, as regards Corporate Sustainability Reporting [2022] OJ L 322/1. For more details see M. Rajavuori, A. Savaresi & H. Van Asselt, 'Mandatory Due Diligence Laws and Climate Change Litigation: Bridging the Corporate Climate Accountability Gap?' (2023) 17(4) *Regulation & Governance*, pp. 944–53.

In following this trend, courts need to remain cautious about the different information published by companies, which may vary in accuracy and relevance. In the *La Mède* case, for instance, TotalEnergies claimed that its products were certified by recognized agencies – namely, the RoundTable on Sustainable Palm Oil (RSPO) for most of its plantations, and the International Sustainability and Carbon Certification (ISCC) for all of its plantations and those of its partners.¹³⁰ However, Greenpeace tried to prove that these so-called certified products imported by TotalEnergies originated from suspect plantations. While the Administrative Court did not explicitly address the shortcomings of the certifications,¹³¹ it also did not deem these certifications as valid justification for the relevance of TotalEnergies' impact study.¹³² Therefore, it is crucial that consultants, public authorities, and courts, in investigating the impacts of projects and their connections with other activities and impacts, have access to accurate information on these issues. They should obtain such access through the use of the above-mentioned documents and, most importantly, through reliable and independent expert appraisals.¹³³

5. Conclusion

EIA procedures have been introduced in many countries to map the environmental impacts of projects and consider how they can be managed. Traditionally, EIAs focus on local site impacts. However, the project may be involved in value chains where the main impacts are related to other production activities, such as projects for bioenergy production facilities. In these contexts, maintaining a site-specific approach to EIA may lead public authorities to approve projects that are associated with significant environmental impacts. For this reason, several administrative authorizations that followed EIA procedures have been challenged in recent lawsuits.

The *Gardanne* and the *La Mède* legal disputes have shown that, in France and in other jurisdictions, it is necessary and legally sound for EIAs to integrate value chain impacts into impact studies. We argued that value chain impacts should not be studied by broadening the activities to be assessed, nor by considering them as cumulative impacts. Rather, we argued that value chain impacts should be considered indirect impacts. We emphasized that value chain impacts cannot be uniformly categorized as indirect impacts, thus necessitating the specification of criteria for selecting which value chain impacts to include in impact studies. In the judgments analyzed, the French

¹³⁰ See TotalEnergies, n. 45 above, p. 269. The study focuses specifically on the 'breakdown of GHG emissions related to the production and use of biofuel made from certified palm oil', specifying that the imported palm oil has received certification 'according to the standards defined by the ISCC (International Sustainability and Carbon Certification)'.

¹³¹ *La Mède* Decision, n. 48 above, para. 89.

¹³² *Ibid.*, para. 100.

¹³³ M. Cashmore, 'The Role of Science in Environmental Impact Assessment: Process and Procedure versus Purpose in the Development of Theory' (2004) 24(4) *Environmental Impact Assessment Review*, pp. 403–26. On biofuels and bioenergy see K.L. Kline et al., 'Scientific Analysis is Essential to Assess Biofuel Policy Effects: In Response to the Paper by Kim and Dale on "Indirect Land-Use Change for Biofuels: Testing Predictions and Improving Analytical Methodologies"' (2011) 35(10) *Biomass & Bioenergy*, pp. 4488–91.

Administrative Courts found that the impacts associated with biomass production were indirect impacts of a bioenergy production facility, insisting on the significance and the foreseeability of these value chain impacts. These are interesting avenues for improvement, which should be further substantiated by seeking to clarify what indirect causal links encompass and how their existence may be demonstrated.

While our discussion focused on bioenergy value chains, our reflections may be useful for all stakeholders seeking to improve the specification, implementation, and application of EIA laws across various sectors such as food, battery, and textile value chains. Value chains tend to cross administrative boundaries, causing environmental impacts to cascade over large geographical areas and long periods of time. Therefore, this article may contribute to the dissemination of a chain-based approach to EIA across the different types of project that may be submitted for environmental authorization.

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