THE FONDERIE PISANO CASE AND ITALY'S CONDEMNATION BY THE ECTHR: BETWEEN POSITIVE OBLIGATIONS AND ENVIRONMENTAL JUSTICE

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Abstract (En): This case note analyzes the European Court of Human Rights' judgment in L.F. and Others v. Italy, concerning Italy's failure to protect residents from prolonged pollution emanating from the Fonderie Pisano, in Salerno, in which a violation of Article 8 of the Convention was found. The case note dissects the Court's reasoning, beginning with the issue of victim status in environmental cases, explaining how the applicants' vulnerability and affected quality of life due to pollution exposure within a defined proximity were deemed sufficient. It then examines the State's breach of its positive obligations, focusing on the failure to implement effective measures despite known risks and conflicting urban planning history. The analysis further explores the Court's application of the «fair balance» test, highlighting how the historical context of residential encroachment and the failure to consider the cumulative impact of past pollution narrowed the State's margin of appreciation. Finally, the Case Note discusses the judgment's implications under Article 46, noting the Court's indication of potential remedies, including making the plant compatible with its location or relocation. The Case Note concludes by highlighting the judgment's contribution to ECtHR environmental jurisprudence, particularly in cases involving complex, long-standing industrial pollution.

Abstract (It): La presente nota analizza la sentenza della Corte Europea dei Diritti dell'Uomo nel caso L.F. e altri c. Italia, relativa alla mancata tutela da parte dell'Italia dei residenti esposti al prolungato inquinamento originato dalle Fonderie Pisano, in cui è stata accertata la violazione dell'art. 8 della Convenzione. La nota approfondisce il percorso argomentativo della Corte, partendo dalla questione dello status di vittima nelle controversie ambientali e illustrando come la vulnerabilità dei ricorrenti e la compromissione della loro qualità della vita, derivanti dall'esposizione all'inquinamento in un'area circoscritta, siano state ritenute dirimenti. Si esamina quindi la violazione degli obblighi positivi statali, con particolare attenzione all'omessa adozione di misure efficaci a fronte di rischi noti e di un contraddittorio sviluppo urbanistico pregresso. L'analisi si estende all'applicazione del test del «giusto equilibrio», evidenziando come il contesto storico della progressiva urbanizzazione e la mancata ponderazione dell'impatto cumulativo dell'inquinamento storico abbiano ridotto il margine di apprezzamento dello Stato. Infine, si discutono le implicazioni della sentenza ex art. 46 CEDU, incluse le indicazioni della Corte circa i possibili rimedi, quali l'adeguamento dell'impianto al contesto territoriale o la sua delocalizzazione. La nota si conclude evidenziando il contributo della pronuncia all'evoluzione della giurisprudenza ambientale della Corte EDU, specialmente in fattispecie complesse di inquinamento industriale persistente.

Keywords: Article 8 of the ECHR, Positive Obligations, Industrial Pollution, Fair Balance Test, Victim Status, Fonderie Pisano, Salerno, Italy

Parole chiave: Articolo 8 CEDU, obblighi positivi, inquinamento industriale, principio del giusto equilibrio, status di vittima, Fonderie Pisano, Salerno, Italia

1. Introduction

The European Convention on Human Rights («ECHR» or «the Convention») does not explicitly guarantee the right to a clean and healthy environment. Nonetheless, the European Court of Human Rights («ECtHR» or «the Court») has emerged as an important forum for addressing environmental grievances. Through a dynamic interpretation of key provisions, particularly Article 8 (right to respect for private and family life), as well as Article 2 (right to life) and Article 6 (right to a fair trial), the Strasbourg Court has developed a substantial body of environmental case law, which explores the intricate relationship between fundamental rights, state sovereignty in environmental policy-making, and the pressing need to mitigate ecological degradation that impacts human well-being.

This case note analyzes the recent ECtHR judgment in L.F. and Others v. Italy,[1] concerning long-standing pollution from the Fonderie Pisano in Salerno. The judgment offers a contemporary lens through which to examine enduring issues in environmental protection under the Convention. More specifically, it carves out a distinct niche in ECHR environmental jurisprudence by clarifying state responsibility under Article 8 for localized, long-term industrial pollution where the state's own historical planning decisions directly exacerbated the conflict and human exposure, and where the cumulative impact of such exposure is significant. This focus distinguishes the L.F. case from judgments addressing broader, diffuse pollution phenomena (such as in Cannavacciuolo and Others v. Italy concerning the «Terra dei Fuochi» crisis) or overarching state obligations in the context of climate change mitigation (as in Verein KlimaSeniorinnen Schweiz and Others v. Switzerland).

This analysis will first present the facts of the case. Subsequently, it will dissect the Court's reasoning, starting with its assessment of the applicants' victim status, a critical gateway in environmental litigation before the Court. The focus will then shift to the merits, examining the Court's findings on the State's positive obligations under Article 8 and its application of the «fair balance» principle in the specific context of the Fonderie Pisano case. Finally, the case note will explore the judgment's implications for the executing Court judgments under Article 46 and the potential indication of general measures towards greater effectiveness of environmental protection. Throughout this analysis, the paper will highlight how the L.F. judgment's emphasis on the interplay between historical state actions and the

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ECtHR, *L.F. and Others v. Italy*, App. No. 52854/18, 6 May 2025.

subsequent assessment of environmental harm provides a refined framework for understanding the scope of positive obligations in complex, site-specific pollution cases.

2. The Facts of L.F. and Others v. Italy of 6 May 2025

The judgment in L.F. and Others v. Italy focuses on prolonged environmental pollution originating from the Fonderie Pisano, a secondary smelting foundry for ferrous metals. The plant, operational since 1960 with a production capacity of up to 300 tonnes per day, is located in the northern area of Salerno, in Campania.[2] Initially, the 1963 general land-use plan classified the area as industrial, explicitly prohibiting residential development.[3] A significant change occurred with the adoption of the 2006 Urban Plan (Piano Urbanistico Comunale - PUC), which deemed the foundry «absolutely incompatible» with the surrounding urbanized context and reclassified the area for residential use. This reclassification was contingent on the plant's relocation and the preservation of jobs - a condition that was never fulfilled while residential development proceeded.[4] As of the applicants' latest observations, the plant remained operational.[5]

The applicants were 153 Italian nationals residing in the municipalities of Salerno, Pellezzano, and Baronissi in the Irno Valley, all living within a six-kilometer radius of the plant (with only two exceptions).[6] In 2016, a group of these residents formed the «Salute e Vita» association to represent their collective interests in environmental and health protection, undertaking various administrative and judicial initiatives.[7]

A key piece of evidence was the epidemiological study (Studio di Esposizione nella Popolazione Suscettibile - SPES study) conducted by local and national health authorities.[8] The SPES study identified specific «Irno Valley clusters» within three kilometers of the plant as being under medium-impact environmental pressure, noting the significant contribution of industrial plants to the spread of heavy metals and polycyclic aromatic hydrocarbons.[9] The analysis of serum samples from volunteers in these clusters revealed average mercury levels approximately five times higher than those of the entire assessed population, along with elevated levels of other heavy metals and organic compounds.[10] Effect biomarker analyses confirmed these findings, showing significant increases in estrogen and thyroid hormone pathways, as well as endocrine resistance, consistent with the elevated organic compounds and linked to an «enrichment of gene sets involved in metabolic and cancer pathways».[11] The experts in national criminal proceedings further analyzed the impact of the plant's emissions on the environment and local health.[12]

[2] Ibid., §§ 5-7.
[3] Ibid., § 7.
[4] Ibid., §§ 8-9.
[5] Ibid., § 10.
[6] Ibid., § 11.
[7] Ibid., § 12.
[8] Ibid., § 14.
[9] Ibid., § 17.
[10] Ibid., § 18.
[11] Ibid., § 19.
[12] Ibid., § 20.

The case history before national authorities was extensive and complex. It involved numerous environmental authorizations, inspections by the Regional Agency for Environmental Protection in Campania (Agenzia Regionale per la Protezione Ambientale in Campania - ARPAC), which repeatedly found serious operational violations,[13] suspensions and resumptions of the plant's operation,[14] challenges to administrative decisions before Regional Administrative Courts and the Supreme Administrative Court (Consiglio di Stato),[15] and multiple criminal proceedings against the plant's directors for pollution-related offenses.[16]

3. The Admissibility and The Victim Status

Determining «victim» status under Article 34 of the Convention is an important gateway to the European Court of Human Rights, particularly in environmental cases where alleged harm can be diffuse, affect large populations, or materialize over extended periods.[17] The

[13] Ibid., § 24.

[14] Ibid., §§ 25, 28, 32-34.

[15] Ibid., §§ 29-49. Following the Campania Region's March 2016 decision to review the 2012 Integrated Environmental Authorisation (*Autorizzazione Integrata Ambientale* - AIA) for the foundry, citing the need for major modernization due to its location in a densely populated residential area, the company challenged this before the Regional Administrative Court (TAR). The company then submitted modernization projects; a negative opinion on a second project in February 2018 led to the AIA's revocation and cessation of operations, which the company also challenged. After a third project was submitted in March 2018, the TAR suspended the Region's decisions. Further ARPAC inspections highlighting BAT violations led the Region to suspend operations again in October 2018, a decision also challenged, with operations resuming in January 2019 after transitional measures. Although 2019 ARPAC inspections found general compliance with scaled-down production, they noted continued nuisances. The Region then decided the company's third project required an Impact Assessment (*Valutazione di incidenza* - IA), a decision challenged by both the company and the residents' association, Salute e Vita. In December 2019, the TAR (judgment no. 2254/2019) deemed the AIA review legitimate but found the Region had unlawfully decided any project needed an EIA and IA without prior screening. The TAR stressed balancing commercial activity and environmental protection, stating relocation couldn't be imposed, though it found the area's residential development «surprising.» It annulled the negative opinion on the second project and the Region's unclear suspension orders, while upholding the IA requirement for the third project. Subsequently, the Campania Region approved the modified third project by Decree no. 85 of April 2020, authorizing operations for twelve years with a modernization and monitoring plan. Salute e Vita challenged this decree, but the TAR dismissed their complaints in judgment no. 157/2022 as generic. The *Consiglio di Stato*, in judgment no. 9166 of October 2022, dismissed Salute e Vita's appeal, reasoning that the SPES study didn't directly link contamination to the plant for EIA purposes, an EIA applied to new plants not minor adjustments, and there was no clear evidence of legislative limits being exceeded, while noting the plant directors' acquittals and the ongoing consideration of relocation.

[16] Ibid., §§ 57-92. The first criminal proceeding (no. 7997/2004) for waste, wastewater, and air pollution concluded in 2007 with a plea-bargained fine. A second criminal proceeding (no. 5449/2007) concerning unauthorized air emissions also ended in 2015 with a plea-bargained fine. A more extensive criminal case (no. 2191/2014) charged directors with operating without authorizations, pollution, and waste mismanagement from 1999. Most charges were dismissed in 2020 (upheld in 2022), as the court found existing authorizations valid and ARPAC's evidence unreliable for criminal conviction; some charges became time-barred. The latest proceedings (no. 9906/2016), initiated in 2016, investigated links between plant pollution and residents' diseases, including potential negligent death/injury. Expert reports confirmed severe, hazardous pollution (especially 2008-2016) and increased health risks/mortality in the area. However, citing the high standard of proof for criminal causality and previous acquittals, the prosecutor twice requested discontinuation. As of May 2024, the judge's decision on the second request was pending

[17] A. MARICONDA, *Victim Status of Individuals in Climate Change Litigation before the ECtHR*, in *The Italian Review of International and Comparative Law*, vol. 3, 2023, 263-264, who observes that the ECtHR has

Court's jurisprudence has sought to steer the tension between ensuring effective protection of Convention rights and upholding the prohibition against actio popularis, leading to a subtle and evolving criteria for establishing victim status in this context.[18] For individual applicants, the ECtHR has consistently required them to show they were «directly affected» by the alleged environmental nuisance or risk.[19] This typically involves establishing a personal link to the harm and demonstrating that the interference reached a certain «minimum level of severity».[20] Landmark cases like López Ostra v. Spain,[21] Fadeyeva v. Russia,[22] and Tătar v. Romania[23] exemplify these criteria's application to industrial pollution and environmental hazards, focusing on the direct impact on an applicant's private life, health, or property, even without scientifically established causal links to specific illnesses.[24]

Cases such as Dubetska and Others v. Ukraine[25], Cordella and Others v. Italy[26] and Pavlov and Others v. Russia,[27] further elaborated on how prolonged exposure to severe industrial pollution can directly affect individuals, satisfying the victim status requirement.

In L.F. and Others v. Italy, the Government contested the applicants' victim status, arguing their complaints were general, constituting an actio popularis, and that they had failed to prove serious adverse consequences or a causal link between the pollution and specific health detriments.[28] The applicants countered they were direct victims, having

identified «three categories of victims under Article 34: direct, indirect, and potential victims. A direct victim is an applicant who has been directly affected by a State's action or omission and demonstrates that there is a sufficiently direct link between them and the loss which they consider they have suffered as a result of the alleged violation. An indirect victim is an applicant who has not been directly affected by the violation, but to whom the violation would cause harm or who has a valid and personal interest in seeing it brought to an end. Finally, the Court exceptionally recognized potential victim status to applicants who produced reasonable and convincing evidence of the likelihood that a violation affecting them personally would occur, mere suspicion or conjecture being insufficient».

[18] V. SEKFOW-WERNER, *Consistent Inconsistencies in the ECtHR's Approach to Victim Status and Locus Standi*, in *European Journal of Risk Regulation*, 22 January 2025, 1-10, esp. 6-7 (discussing the evolution of *locus standi* of associations to lodge climate applications, particularly highlighting the *KlimaSeniorinnen* judgment and its implications for associations).

[19] ECtHR, *López Ostra v. Spain*, App. No. 16798/90, 9 December 1994, § 51; ECtHR, *Fadeyeva v. Russia*, App. No. 55723/00, 9 June 2005, § 68. See also O.W. PEDERSEN, *Disruption, Special Climate Considerations, and Striking the Balance*, in *American Journal of International Law*, vol. 119, no. 1, 2025, 129-141, esp. 135, who discusses the general requirements for victim status in environmental cases, particularly noting that «historically, in the context of environmental claims, where a material risk of harm persists but the harm itself might not yet have occurred, victim status has been conferred on applicants who can demonstrate a «real and imminent risk» of harm (to trigger Article 2) or an exposure to a serious risk (to trigger Article 8) by reference to the source of harm».

[20] ECtHR, *Fadeyeva*, cit., § 69; ECtHR, *L.F.*, cit., § 115.

[21] ECtHR, *López Ostra*, cit., §§ 42, 51.

[22] ECtHR, *Fadeyeva*, cit., §§ 83-88.

[23] ECtHR, *Tătar v. Romania*, App. No. 67021/01, 27 January 2009, §§ 95-97.

[24] S. THEIL, *Towards the Environmental Minimum: Environmental Protection through Human Rights*, Cambridge, 2021, 156, who observes that «the ECtHR does not require applicants to demonstrate a direct scientific link between environmental harm and an impact on their rights in their specific circumstances: in many recent decisions the ECtHR is content with evidence of a general population level risk».

[25] ECtHR, *Dubetska and Others v. Ukraine*, App. No. 30499/03, 10 February 2011, § 105.

[26] ECtHR, *Cordella and Others v. Italy*, App. Nos. 54414/13 and 54264/15, 24 January 2019, § 104.

[27] ECtHR, *Pavlov and Others v. Russia*, App. No. 31612/09, 11 October 2022, §§ 65-71.

[28] ECtHR, *L.F.*, cit., § 110.

suffered for decades from hazardous emissions, increased disease risk, and a general deterioration in their quality of life, supporting their claims with findings from ARPAC investigations, criminal proceedings, administrative decisions, the SPES study, and expert reports. Furthermore, they asserted that the health risks had manifested as particular diseases in several applicants and their close relatives.[29]

The Court first addressed the Government's objection, finding it was directed against Article 8's applicability rather than victim status under Article 34.[30] It reiterated the requirement under Article 8 for an actual interference with the applicant's private sphere reaching a «minimum level of severity», noting that this assessment is relative, depending on the intensity, duration, and physical or mental effects of the nuisance.[31] Acknowledging evidentiary difficulties in environmental cases, the Court stated it would primarily regard findings from domestic courts and competent authorities, as well as environmental studies, though it would not rely «blindly» on the domestic decisions if they appeared inconsistent.[32] Applying these principles, the Court pointed out that official documents, ARPAC reports, and the expert report of 31 December 2021 confirmed that the foundry had produced unlawful emissions affecting the local population since 2004 and operated with inadequate monitoring, breaching the Best Available Techniques (BAT).[33] While recognizing that one criminal court judgment acquitted directors of some environmental charges for 2013-2020 due to a criminal standard of proof and methodological shortcomings in ARPAC reports, the Court found that this did not preclude establishing an Article 8 interference based on other evidence.[34]

In particular, the Court relied on the SPES study, which found significantly higher levels of heavy metals and organic compounds in residents of the Irno Valley clusters compared to the general population.[35] Notably, the SPES study specifically targeted these clusters to assess the foundry's impact. In the absence of alternative explanations, the Court inferred that the pollution effects identified in the study were at least partly due to the foundry's operation. This inference was supported by the expert report of 31 December 2021, which distinguished the foundry's typical emissions from those of other sources in the area.[36]

The Court concluded that the combination of indirect evidence and presumptions made it possible to determine that pollution exposure rendered applicants living within six kilometres of the plant more vulnerable to illness and adversely affected their quality of life, thereby reaching a level of severity sufficient to bring them within the scope of Article 8.[37] However, the Court found that applicants living significantly more than six kilometers away had not provided sufficient evidence that the interference with their private life reached this

[29] Ibid., §§ 111-112
[30] Ibid., § 114.
[31] Ibid., § 115.
[32] Ibid., §§ 116-117, citing ECtHR, *Kotov and Others v. Russia*, App. Nos. 6142/18 and 12 others, § 107 and *Dubetska*, cit., § 107.
[33] Ibid., § 119.
[34] Ibid., § 120
[35] Ibid., § 121 (referencing the SPES study findings in §§ 18 and 19).
[36] Ibid. (referencing the expert report of 31 December 2021 and its findings in § 79, 81, 86).
[37] Ibid., § 124

threshold.[38] Consequently, the Court accepted the Government's objection regarding these specific applicants (nos 23 and 67) and rejected their application as incompatible ratione materiae.[39] For the remaining applicants, the Court rejected the Government's objection and found their complaints admissible under Article 8.

While the broader jurisprudence on victim status in environmental cases also includes the complex issue of standing for environmental associations-and recent Court case law has drawn distinctions (e.g. between KlimaSeniorinnen, granting it in a climate change case, and Cannavacciuolo, rejecting standing in a non-climate environmental case[40])-the Court's admissibility analysis in the L.F. judgment primarily centered on the successful assertion of individual victim status, based on the demonstrated impact of pollution on the applicants' private life and health vulnerability within a defined proximity to the plant. It is noteworthy to mention, however, that regarding a separate admissibility requirement-the exhaustion of domestic remedies under Article 35 § 1-the Court found that the applicants had exhausted available administrative remedies through the legal actions undertaken by their association, «Salute e Vita», on their behalf.[41] Thus, while the association's actions were essential for meeting the exhaustion requirement, the determination of victim status itself rested on the individual circumstances of the applicants.

4. The Alleged Violation of Article 8 of the Convention

Having established the applicability of Article 8 of the Convention to most applicants' situations and declared their complaints admissible, the Court proceeded to examine the alleged violation of this provision on the merits.[42] The applicants contended that the Italian State had failed in its positive obligations under Article 8 by allowing residential development around the foundry, not adopting an adequate regulatory framework, and

[38] Ibid., § 125.
[39] Ibid., § 127.
[40] ECtHR, *Cannavacciuolo and Others v. Italy*, App. Nos 51567/14 and 3 others 30 January 2025, §§ 216-222 (on associations' standing in non-climate cases) contrasted with ECtHR, *Verein KlimaSeniorinnen Schweiz and Others v. Switzerland*, App. No. 53600/20, 9 April 2024, §§ 502-503 (on associations' standing in climate cases). In this regard, see E. KRAJNYÁK, *Up in Smoke? Victim Status in Environmental Litigation before the ECtHR*, in *EJIL Talk!*, 14 March 2025, who argued that that while *KlimaSeniorinnen* introduced a novel approach to standing for associations in climate cases, this lenient approach may not extend to other environmental, non-climate related claims, even those involving large-scale pollution.
[41] ECtHR, *L.F.*, cit., §§ 142-143: «Salute e Vita, the association of which applicants were members and which they had set up for the specific purpose of defending their interests, challenged the administrative acts allowing the plant to continue operating before the administrative courts […] the Court therefore accepts the applicant's argument that they exhausted one of the administrative remedies suggested by the Government through the intermediary of the association which they had set up to defend their interests […] in today's civil society, associations play an important role, particularly in the field of environmental protection, and that recourse to collective structures such as associations is sometimes the only means available to individuals to defend their causes effectively. This is particularly the case in the environmental field, where individuals may find themselves confronted with complex issues which they are powerless to resolve on their own».
[42] Ibid., § 109, where the Court decided to examine the complaint under Article 8. The admissibility finding for the remaining applicants is at § 147.

failing to take sufficient measures to minimize or eliminate pollution, thereby endangering their lives, health, and personal well-being.[43]

The Court's assessment of State compliance with Article 8 obligations in environmental cases involves examining the protective measures put in place by authorities. This analysis typically requires the Court to consider the State's positive obligations to protect individuals from environmental harm that affects their private and family life, home, and health. It also necessitates applying the «fair balance» principle, weighing the competing interests-the applicants' rights versus the broader public interest (e.g., economic well-being or industrial development).[44]

4.1. The State's Positive Obligations

While the European Convention on Human Rights (ECHR) does not explicitly guarantee a right to a healthy environment, the Court has established that States have positive obligations under Article 8, and sometimes Article 2, to protect individuals from environmental harm that adversely affects their Convention rights.[45] This means that States are not only required to refrain from arbitrary interference but also to take active steps to safeguard these rights. Consequently, a failure by public authorities to act against known environmental risks can constitute a violation of the Convention.[46] The Court's jurisprudence has evolved to outline both the substantive and procedural aspects of these positive obligations.[47]

4.1.1. Substantive Positive Obligations

The State has a foundational duty to establish an adequate legislative and administrative framework designed to prevent and redress environmental harm.[48] This involves enacting

[43] Ibid., §§ 106, 111-112.
[44] Ibid., § 153, which sets out the general principles applicable to an assessment under Article 8 in environmental cases, including duties.
[45] J.F. AKANDJI-KOMBE, *Positive obligations under the European Convention on Human Rights. A guide to the implementation of the European Convention on Human Rights*, Council of Europe Publishing, 2007, 47, who discusses the right to a healthy environment and details various positive obligations of states in situations of environmental harm, including taking «necessary steps to end it or ensure that it conforms to the rules in force». See also D. XENOS, *The Positive Obligations of the State under the European Convention of Human Rights*, Routledge, 2012, 1 ss.; C. VOIGT, *The Climate Change Dimension of Human Rights Obligations*, 3 May 2021, electronic copy available at SSRN, 5-6, who discusses the duty on national authorities to adopt «reasonable and adequate measures to effectively protect rights and to provide deterrence against threats, including proportionate measures against risks that may materialize in the longer term, such as some climate change impacts», and the «living instrument doctrine» allowing interpretation in light of present-day conditions and international law.
[46] ECtHR, *López Ostra*, cit., § 51; ECtHR, *Fadeyeva*, cit., §§ 68-69. On the critical element of knowledge as a trigger for positive obligations and the proactive state approach, see D. XENOS, op. cit., 73, 82-83.
[47] J.F. AKANDJI-KOMBE, op. cit., 16; K.F. BRAIG - S. PANOV, *The Doctrine of Positive Obligations as a Starting Point for Climate Litigation in Strasbourg: The European Court of Human Rights as a Hilfssheriff in Combating Climate Change?*, in *Journal of Environmental Law and Litigation*, vol. 35, 2020, 273 ss.
[48] D. XENOS, op. cit., 108-109; K.F. BRAIG - S. PANOV, op. cit., 277-278. See in particular O.W. PEDERSEN, op. cit., 137-138, who discusses the «Positive Climate Obligations» derived by the ECtHR in *KlimaSeniorinnen*, detailing what States must do in these specific cases (adopt general measures, specify target timelines for carbon neutrality, set intermediate GHG reduction targets, provide evidence of compliance, keep targets updated, and act in good time).

laws and regulations capable of effectively managing environmental risks[49] As affirmed in López Ostra v. Spain, even if private entities cause pollution, the State may be responsible if it fails to take reasonable and appropriate measures.[50] The case of Fadeyeva underscored that the mere existence of a framework is insufficient; it must be effectively implemented with due diligence.[51] Moreover, in Tătar v. Romania, the Court found a breach for failing to establish a coherent framework for a gold mining operation.[52] Similarly, in L.F. case, the Court criticized the initial criminal law framework (until the 2015 reforms) as inadequate to deter environmental harm, noting that environmental crimes were often treated as minor offenses with short limitation periods[53], thus echoing the findings in Öneryıldız v. Turkey concerning the importance of a strong regulatory framework.[54]

Beyond establishing frameworks, States must implement concrete, effective measures for environmental protection and citizens' health once risks are known, by carrying out proactive steps like controls, authorizations, monitoring, and risk management.[55] Failures in implementing these measures have led to violations, as seen in cases like Öneryıldız (where there was a failure to prevent known methane risk),[56] Budayeva and Others v. Russia (where landslide protection was not implemented),[57] Kolyadenko and Others v. Russia (where a dam was not properly maintained),[58] Dubetska (where there was a failure to resettle people from a polluted area),[59] Hardy and Maile v. The United Kingdom (where noise was not regulated),[60] and Kotov and Others v. Russia (where air pollution was not addressed).[61] The case of Jugheli and Others v. Georgia underlined the State's duty to act even when the source is private.[62] The cases of Di Sarno and Others v. Italy and Locascia and Others v. Italy further illustrated the expectation for concrete steps to manage complex environmental issues.[63]

In L.F., the Court observed that despite repeated inspections by ARPAC's revealing serious operational violations and deficiencies in the 2012 AIA, and subsequent measures

[49] V. STOYANOVA, *Positive Obligations under the European Convention on Human Rights. Within and Beyond Boundaries*, Oxford, 2023, 171-197. See also C. VOIGT, op. cit., 8-9, who discusses the Paris Agreement and the due diligence standard it implies for States to take «all appropriate and adequate climate change mitigation measures» and to have «domestic measures in place that are necessary, meaningful and, indeed, effective means to achieve that target».
[50] ECtHR, *López Ostra*, cit., § 51.
[51] ECtHR, *Fadeyeva*, cit., § 91.
[52] ECtHR, *Tătar*, cit., §§ 107-112.
[53] ECtHR, *L.F.*, cit., § 159: «[…] the Court finds that, against the background of the modest monetary penalties imposed on the directors of the plant, doubts emerge as to the effectiveness of that legal framework in preventing environmental crimes, at least until the enactment of Law no. 60 in May 2015.»
[54] ECtHR, *Öneryıldız v. Turkey* App. No. 48939/99, 30 November 2004, §§ 89-101.
[55] V STOYANOVA, op. cit., 21-43; K.F. BRAIG - S. PANOV, op. cit., 289-290.
[56] ECtHR, *Öneryıldız,* cit., § 101, 107.
[57] ECtHR, *Budayeva and Others v. Russia* App. Nos. 15339/02 and 4 others, 20 March 2008, §§ 137, 145-158.
[58] ECtHR, *Kolyadenko and Others v. Russia* App. Nos. 17423/05 and 5 others, 28 February 2012, §§ 158-160 (Article 8), §§ 212-217 (Article 1 of Protocol No. 1).
[59] ECtHR, *Dubetska*, cit., §§ 110-116.
[60] ECtHR, *Hardy and Maile v. The United Kingdom* App. No. 31965/07, 14 February 2012, §§ 187-192.
[61] ECtHR, *Kotov and Others v. Russia* App. Nos. 6142/18 and 12 others, 11 October 2022, §§ 132-135.
[62] ECtHR, *Jugheli and Others v. Georgia* App. No. 38342/05, 13 July 2017, §§ 64-71.
[63] ECtHR, *Di Sarno and Others v. Italy* App. No. 30765/08, 10 January 2012, §§ 108-112; *Locascia and Others v. Italy*, App. No. 35648/10, 19 October 2023, §§ 139-142.

taken after 2016, including AIA review, modernization plans, and monitoring, authorities failed to give sufficient weight to the significant harm already suffered by the local population due to prolonged exposure when authorizing continued operation. Despite post-2016 measures like AIA review, modernization plans, and monitoring, the Court found a critical omission: in authorizing continued operation, authorities failed to attach sufficient weight to the significant harmful effects already suffered by the local population due to prolonged past exposure.[64]

4.1.2. Procedural Positive Obligations

Procedural positive obligations are essential for ensuring that individual interests are adequately considered in environmental decision-making.[65]

A cornerstone of these obligations is the right to information.[66] The Court has highlighted the importance of this right in cases such Guerra and Others v. Italy (which concerned the failure to inform the public about the risks associated with a chemical factory),[67] Tătar (which emphasized the importance of public access to information)[68], Öneryıldız (which established a duty to inform the public about risks from a rubbish tip),[69] and Di Sarno (which concerned the duty to inform about risks associated with a waste crisis).[70] In L.F., the Court also considered the adequacy of information provided to residents about the pollution, observing that «the national authorities started biomonitoring of the population living in the vicinity of the plant in 2017 […] but did not make the relevant results available to the public until 2021, that is, ten and fourteen years respectively after the area had been opened for residential development and at a time when it was already densely populated».[71]

Access to such information is a prerequisite for guaranteeing the effective right of public participation, which is another fundamental right under Article 8 of the Convention. As stated in KlimaSeniorinnen, «the information held by public authorities of importance for setting out and implementing the relevant regulations and measures to tackle climate change must be made available to the public, and in particular to those persons who may be affected by the regulations and measures in question or the absence thereof».[72] In L.F. judgment, the

[64] ECtHR, *L.F.*, cit., § 160, referencing ARPAC report in § 24; § 163, 165.
[65] I. KRSTIĆ - B. ČUČKOVIĆ, *Procedural Aspects of Article 8 of the ECHR in Environmental Cases: The Greening of Human Rights Law*, in *Annals FLB - Belgrade Law Review*, vol. LXIII, 2015, 173-183, who thoroughly analyze the «proceduralization» of Article 8 in environmental cases. See also D. XENOS, op. cit., 173.
[66] J.F. AKANDJI-KOMBE, op. cit., 47, who states that «in all cases, the persons concerned are entitled, subject to any overriding public interest, to have access to information which will enable them to assess the risk incurred, and the state establish «an effective and accessible procedure which enables such persons to seek all relevant and appropriate information»» (referencing ECtHR, *McGinley v. The United Kingdom*, App. Nos. 21825/93 and 23414/94, 9 June 1998).
[67] ECtHR, *Guerra and Others v. Italy* App. No. 14967/89, 19 February 1998, §§ 57-60.
[68] ECtHR, *Tătar*, cit., §§ 88, 107, 113-118.
[69] ECtHR, *Öneryıldız*, cit., § 90.
[70] ECtHR, *Di Sarno*, cit., § 107.
[71] ECtHR, *L.F.*, cit., § 161.
[72] ECtHR, *KlimaSeniorinnen*, cit., § 554, which also stated that «in this connection, procedural safeguards must be available to ensure that the public can have access to the conclusions of the relevant studies, allowing them to assess the risk to which they are exposed». In this regard, ECtHR, *Tătar*, §§ 113-119 also stressed public debate and consultation before authorizing hazardous activities.

applicants complained that the authorities had neglected to involve them in the decision-making process for authorizing the plant's operation.[73] In this regard, the Court noted that during the period when the 2012 AIA was under review (from 24 March 2016 onwards), the applicants «had a chance to participate in the decision-making process for the review of the 2012 AIA by taking part in the administrative procedure and by challenging the relevant decisions before the administrative courts».[74] For instance, the Court observed that the Campania Region announced the reopening of a review procedure for a new modernization project and made a copy of this project available to the public for thirty days at the competent local office.[75] Moreover, the «Salute e Vita» association, to which the applicants belonged, actively engaged in the process by challenging various administrative decisions, such as the 2012 AIA review decision, subsequent decrees, and the 2020 AIA, before both the Regional Administrative Court (TAR) and the Consiglio di Stato.[76]

Finally, Article 8 encompasses the right of access to justice and effective remedies, meaning individuals must have access to bodies capable of reviewing decisions and ordering remedies.[77] Failures in effective judicial review were central in López Ostra[78] and Öneryıldız.[79] KlimaSeniorinnen profoundly emphasized the importance of access to justice in climate change by finding a violation of Article 6 § 1 due to domestic courts' failure to consider the merits of the applicant association's complaints, resonating with the procedural dimension of Article 8.[80] While L.F. found the Article 13 compliant inadmissible, having deemed it manifestly ill-founded after examining the effectiveness of domestic remedies, it still considered their practical aspects.[81] As noted, the applicants, through their association, did participate in the administrative review process by challenging decisions before the administrative courts.[82]

In essence, L.F. reaffirms that the State's positive obligations require a proactive approach, encompassing regulation, implementation, and procedural guarantees. The judgment highlights how the cumulative impact of past prolonged exposure and the historical context of planning decisions bear on the State's duty to implement effective substantive and procedural measures.

5. The Concept of «Fair Balance» in the Environmental Context

In environmental cases, the ECtHR consistently applies the principle of «fair balance» to determine State compliance with its obligations, particularly under Article 8 of the Convention[83]. This principle requires weighing competing interests at stake: on the one hand, the individual's right to respect for their private and family life, home, health, and

[73] ECtHR, *L.F.*, cit., § 106.
[74] Ibid., § 164.
[75] Ibid., § 35.
[76] See, e.g., ibid., §§ 29, 30, 36, 46, 48.
[77] K.F. BRAIG and S. PANOV, op. cit., 276-277.
[78] ECtHR, *López Ostra*, cit., §§ 55-56.
[79] ECtHR, *Öneryıldız*, cit., §§ 116-118, 132-137.
[80] ECtHR, *KlimaSeniorinnen*, cit., §§ 615-640.
[81] ECtHR, *L.F.,* cit., §§ 173-176.
[82] Ibid., §§ 29, 30, 36, 46, 48, 142-143.

potentially life (Article 2) or property (Article 1 of Protocol No. 1); on the other hand, the general interest of the community, which may include economic well-being, industrial development, or the provision of public services.[84] The Court acknowledges that national authorities generally have a certain margin of appreciation in striking this balance, especially with complex social, economic, and environmental policy choices.[85] However, this margin is not unlimited and is subject to ECtHR supervision.[86]

The balancing exercise is fact-specific, varying with the nature and severity of the environmental interference and the rights affected.[87] Cases like Hatton and Others v. The United Kingdom (where no violation was found regarding night flight noise due to the wide margin of appreciation and extensive mitigation measures) illustrate a broader margin.[88] In contrast, cases like López Ostra v. Spain, where a violation was found due to severe pollution from a waste plant and the State's failure to strike a fair balance despite economic interests, demonstrate a narrower one.[89] When environmental pollution poses serious and direct risks to health and well-being, the State's margin of appreciation narrows considerably, as seen in Öneryıldız (where the State failed to prevent known fatal risk)[90] and Fadeyeva (where residents were allowed to remain in a severely polluted area despite the economic importance of the plant).[91]

In L.F. judgment, the Court found that the authorities had failed to strike a fair balance under Article 8.[92] A crucial element in this finding was the specific historical context: the situation arose the 2006 PUC designated the area around the foundry for residential use,

[83] N. KOBYLARZ, *Balancing its Way Out of Strong Anthropocentrism: Integration of 'Ecological Minimum Standards' in the European Court of Human Rights 'Fair Balance' Review'*, in *Journal of Human Rights and the Environment*, 1 March 2022, electronic copy available at SSRN, 6, who notes that in the environmental context, the «proportionality review usually takes the shape of the substantive and/or procedural evaluation of whether a State, considering the circumstances of a case, has struck a 'fair balance' between environmental and economic (or other) interests».

[84] S. THEIL, op. cit., 184-199. Generally, in ECHR perspective, «balancing» is defined as «a central judge-made doctrine [...] grounded in the central premise that adjudication of fundamental rights claims must take into account other competing rights or public interests» (B. ÇALI, *Balancing Test: European Court of Human Rights (ECtHR)*, in *Max Planck Encyclopedia of International Procedural Law*, September 2018), and the search for a «fair balance» involves weighing the «demands of the general interest of the community and the requirements of the protection of the individual's fundamental rights» (A. MOWBRAY, *A Study of the Principle of Fair Balance in the Jurisprudence of the European Court of Human Rights*, in *Human Rights Law Review*, vol. 10, no. 10, 2010, 289).

[85] N. KOBYLARZ, op. cit., 12, who observes that «the ECtHR has so far considered that environmental matters belong to these wide-discretion areas» (referencing ECtHR, *Powell and Rayner v. The United Kingdom* App. No. 9310/81, 21 February 1990, § 44; ECtHR, *Hatton and Others v. The United Kingdom* App. No. 36022/97, 8 July 2003, § 97; ECtHR, *Giacomelli v. Italy* App. No. 59909/00, 2 November 2006, § 80; and ECtHR, *Mileva and Others v. Bulgaria* App. Nos. 43449/02 and 21475/04, 25 November 2010, § 98.

[86] C. HERI, *Climate Change before the European Court of Human Rights: Capturing Risk, Ill-Treatment and Vulnerability*, in *The European Journal of International Law*, vol. 33, no. 3, 2022, 941.

[87] ECtHR, *L.F.*, cit., § 153.

[88] ECtHR, *Hatton*, cit., §§ 98-101, 127-129. On the problematic application of the margin of appreciation and the acceptance of vague economic justifications in ECtHR environmental cases, see S. THEIL, op. cit., 192-195.

[89] ECtHR, *López Ostra*, cit., §§ 51, 58.

[90] ECtHR, *Öneryıldız*, op. cit., §§ 101, 107 (Article 2), §§ 135-137 (Article 1 of Protocol No. 1).

[91] ECtHR, *Fadeyeva*, cit., §§ 128-134; *Kolyadenko*, cit., §§ 160, 215-217.

[92] ECtHR, *L.F.*, cit., §§ 170-171.

explicitly deeming the plant «absolutely incompatible» with the new urban context and envisaging its relocation as a condition.[93] The Court was struck by the fact that despite this plan, no relocation occurred, and residential development was permitted: it took note of the domestic courts' view that the urbanization of an industrial area was «quite surprising».[94] While acknowledging that the company could legitimately expect to continue operating and that applicants had settled knowing the plant existed, the Court noted that applicants may not have been fully informed or could have relied on the relocation plan.[95]

The Court significantly found that in authorizing the plant's continued operation, even under new AIAs like Decree no. 85/2020, the national authorities did not attach sufficient weight to the fact that the local population had already been exposed to significant harmful effects resulting from prolonged pollution.[96] The Court highlighted the SPES study and cohort study results showing higher levels of heavy metals and organic compounds and increased morbidity rates in residents within the plant's vicinity, indicating increased vulnerability to illness.[97] It noted with particular concern that the Consiglio di Stato had deemed the SPES study findings irrelevant to the 2020 AIA renewal proceedings, based on the study not specifically attributing all contamination to the foundry-a view the ECtHR disagreed with, given the study's specific targeting of the Irno Valley 'and the absence of alternative explanations for the findings.[98]

Furthermore, the Court observed that, even after the 2020 AIA, foul-smelling emissions and smoke persisted, confirmed by ARPAC reports, and that these issues were sometimes treated as potentially ordinary occurrences given the plant's location in a densely urbanized area.[99] The Court was also struck by the Consiglio di Stato's characterization of the approved 2020 as only involving «interventions of minor importance» despite the initial requirement for «major modernization».[100] The Court also noted the applicants' uncontested argument that monitoring activities following the 2020 AIA referred to legislative limits for industrial zones, not the lower levels for residential areas.[101]

Considering all these factors cumulatively-the historical planning decisions, the failure to relocate despite residential development, the prolonged past exposure, the cumulative impact on health vulnerability, and the inadequacy of the authorities' consideration of these factors in recent authorizations and their approach to persistent nuisances-the Court was not convinced that a fair balance was struck between the applicants' interest in not suffering serious environmental harm and society's overall interest.[102] The judgment stressed that a State's margin of appreciation narrows significantly when its own prior actions (like

[93] Ibid., § 156 (referencing the 2006 PUC and environmental report),
[94] Ibid. (referencing the domestic courts' view in § 39).
[95] Ibid.
[96] Ibid., § 165.
[97] Ibid., § 165 (referencing SPES study and cohort study findings in §§ 18-19 and 81).
[98] Ibid., § 166 (referencing Consiglio di Stato judgment no. 9166/2022 and disagreeing with its reasoning based on § 121).
[99] Ibid., § 167, referencing ARPAC report of 18 July 2022 (§ 54) and Government observations (§ 151).
[100] Ibid., § 168 (referencing Consiglio di Stato judgment no. 9166/2022 and decision of 24 March 2016).
[101] Ibid., § 169.
[102] Ibid., § 170.

rezoning) have exacerbated the conflict between industrial activity and the right to a healthy private and family life, and where it subsequently fails to adequately address the long-term consequences of that conflict, particularly the cumulative impact of historical pollution.

6. The Execution of Judgements of the Strasbourg Court and «General Measures»: Towards Greater Effectiveness of Environmental Protection?

Article 46 of the Convention establishes the binding force of the Court's judgments and entrusts the Committee of Ministers with supervising their execution. This provision imposes a legal obligation on respondent States not only to pay any awarded just satisfaction but also to adopt general measures designed to put an end to the violation found, redress its effects as far as possible, and prevent similar violations in the future.[103] In the environmental context, where violations often stem from systemic failures in regulation, enforcement, or public participation, the indication and implementation of effective general measures are essential for achieving tangible and lasting improvements in environmental protection.[104]

The Court's role in this sphere is primarily declaratory, but it can extend to indicating the type of general measures that might be taken to remedy a structural problem.[105] This is particularly relevant in environmental litigation where the source of the violation may be complex, and its remediation may require comprehensive State action. In Öneryıldız v. Turkey, while not explicitly detailing general measures under Article 46 in the operative part, the finding of violations under Articles 2 and 1 of Protocol No. 1 due to systemic failures in managing a hazardous waste site implicitly called for far-reaching reforms in urban planning, risk assessment, and emergency preparedness.[106] The systemic nature of the problem in Di Sarno, concerning the waste management crisis in Campania, also highlighted the need for structural reforms, leading to subsequent Committee of Ministers supervision focused on broad implementation measures.[107] Similarly, in Cordella, concerning pollution from the ILVA steel plant, the Court explicitly noted that the State had to take «toutes les mesures nécessaires» to ensure the protection of the applicants' environmental rights, implying action beyond individual redress.[108]

[103] ECtHR, *Broniowski v. Poland* App. No. 31443/96, 22 June 2004, § 192.

[104] N. KOBYLARZ, op. cit., 18, who stated that «in environment-related cases, general measures have included orders to: enforce outstanding judicial decisions; assess environmental risks and develop practices aimed at the rapid provision of adequate information regarding environmental hazards; reduce and control traffic; set up a general framework for protection against industrial pollution, rehabilitation of polluted sites, creation of sanitary zones around them; reform the legal system in order to ensure effective judicial review; remove aerials causing radiation; shut down polluting mines; lower levels of toxic emissions by making technical improvements to thermal plants or operating them at minimum capacity; or improve the waste management». For a comprehensive overview of remedies before the ECtHR (including general measures under Article 46) specifically in environmental cases, see M.A. TIGRE - N. ZIMMERMANN, *Something Ventured, Nothing Gained?- Remedies before the ECtHR and Their Potential for Climate Change Cases*, in *Human Rights Law Review*, vol. 22, 2022, 1-26.

[105] ECtHR, *Broniowski*, cit., § 194.

[106] ECtHR, *Öneryıldız*, cit., § 101, 107, 116-118, 135-137.

[107] ECtHR, *Di Sarno*, op. cit., § 112; Committee of Ministers, Decision CM/Del/Dec(2022)1436/H46-12 concerning the execution of *Di Sarno*.

[108] ECtHR, *Cordella*, cit., §§ 166-171, 173, 180.

In L.F., the applicants requested the Court to indicate general measures, including a pilot judgment, ongoing monitoring, a decontamination plan, and potentially the plant's relocation.[109] The Court, while reaffirming that the choice of means rests primarily with the respondent State, found it unnecessary to indicate detailed measures or apply a full pilot-judgment procedure in this instance.[110] However, it significantly indicated that the applicants' Article 8 complaints could be remedied either by «duly addressing the environmental hazards so that the environmental impact of the foundry becomes fully compatible with its location in a residential area», or by «relocating the plant, as originally planned in the 2006 PUC».[111] The Court further stated that national authorities remained free to use any coercive powers under domestic law or to negotiate a mutually agreed solution with the company to achieve these objectives.[112]

The Court's specific reference to the potential relocation of the plant in L.F., echoing the State's own earlier urban planning objectives, indicates a willingness to provide more concrete, albeit alternative, guidance on general measures where a profound and persistent violation of Article 8 rights is established, particularly in complex cases involving historical planning issues leading to current conflicts. Although not a pilot judgment like the one adopted in Cannavacciuolo, which addressed the widespread «Terra dei Fuochi» pollution phenomenon and urged the Italian State to develop a comprehensive strategy for systemic issues,[113] the L.F. judgment's explicitly points out possible remedies, going beyond simply finding a violation. Similarly, the landmark climate change case KlimaSeniorinnen, while not a formal pilot judgment, had significant implications for general measures under Article 46. The finding of Article 8 violations due to critical lacunae in the domestic regulatory framework inherently calls for systemic reforms in climate policy and its implementation.[114] The effectiveness of execution, however, ultimately depends on the respondent State's political will, administrative capacity, and the complexity of the underlying environmental problem, with the Committee of Ministers playing a crucial supervisory role supported by civil society engagement.

7. Conclusions

The judgment of the European Court of Human Rights in L.F. marks a significant contribution to its developing environmental jurisprudence, particularly concerning the scope and application of Article 8 of the Convention in cases of protracted industrial pollution. The Court unanimously found a violation of Article 8,[115] concluding that the Italian State had failed in its positive obligation to take the necessary measures to ensure the

[109] ECtHR, *L.F.*, cit., §§ 178-179.
[110] Ibid., § 181 (referencing *Cordella*, § 180).
[111] Ibid., § 183 (referencing the 2006 PUC).
[112] Ibid.
[113] ECtHR, *Cannavacciuolo*, cit., §§ 490-492, 494-500, 501, 503.
[114] ECtHR, *KlimaSeniorinnen*, cit., §§ 573-574. See esp. §§ 548-554, where the Court's detailed articulation of positive obligations provides a clear roadmap for the general measures expected.
[115] ECtHR, *L.F.*, cit., point 3 of the operative provisions.

effective protection of the applicants' right to respect for their private life in the face of environmental pollution from the Fonderie Pisano.[116]

The decision is notable for several key aspects.

Firstly, concerning admissibility, the Court reaffirmed the applicability of Article 8 to environmental nuisances reaching a «minimum level of severity».[117] It accepted that the prolonged exposure to pollution rendered applicants living within a six-kilometer radius more vulnerable to illness and adversely affected their quality of life, establishing their victim status based on a strong combination of indirect evidence and presumptions, particularly drawing inferences from the SPES study regarding contamination levels in residents, despite the lack of definitive causal links to specific diagnosed illnesses for all applicants.[118] This approach highlights the Court's willingness to tackle evidentiary challenges inherent in environmental cases, particularly regarding diffuse or long-term harm.[119]

Secondly, in its assessment on the merits, the Court focused on the State's positive obligations, finding fault not primarily with the regulatory framework in abstracto, but with the authorities' failure to implement effective measures and, critically, to strike a fair balance.[120] The judgment underscores the decisive role of the historical context, specifically the 2006 urban planning decision that deemed the plant incompatible with residential use and foresaw its relocation, yet permitted residential development without the relocation occurring.[121] The Court found that the authorities, when later authorizing the plant's continued operation, failed to attach sufficient weight to the significant harmful effects already suffered by the local population due to prolonged past exposure.[122] This explicit consideration of the cumulative impact of historical pollution within the fair balance test represents a key refinement of the Court's approach, significantly narrowing the State's margin of appreciation when its own actions have contributed to the environmental conflict.

Thirdly, while declining to issue a pilot judgment, the Court's indications under Article 46 are noteworthy. By suggesting that the violation could be remedied either by making the plant's environmental impact fully compatible with its residential location or by relocating the plant, as previously planned domestically, the Court provided more concrete alternative pathways for the respondent State to fulfil its obligation to execute the judgment than often seen in environmental cases.[123] This directly links the execution obligation to the historical planning failure and the persistent incompatibility, potentially providing a stronger impetus for structural solutions monitored by the Committee of Ministers.

In conclusion, L.F. judgment reinforces the ECtHR's vital role in holding States accountable for environmental harm under the Convention. The judgment's emphasis on the

[116] Ibid., § 171.
[117] Ibid., § 115.
[118] Ibid., §§ 121, 124.
[119] See Court's methodology in §§ 116-117 and its application in §§ 121-124 of ECtHR, *L.F.*, cit..
[120] Ibid., § 157, 170-171.
[121] Ibid., § 156.
[122] Ibid., § 165.
[123] Ibid., § 183.

cumulative impact of past exposure in the fair balance assessment and its specific indications under Article 46 provides valuable clarity for the Court's environmental jurisprudence. While the effectiveness of the judgment ultimately depends on its diligent implementation by the Italian authorities, the decision provides a clearer framework for assessing State responsibility in such challenging contexts and highlights the ongoing need for proactive measures to protect individuals from environmental threats that impinge upon their fundamental rights.