Clean Air in Italy: A History of Pollution, Topographical and Economic Challenges, and Recommendations on How the European Union Should Proceed

Emily Jones†

| I. | Introduction |
|------|---|
| II. | European Air Quality Standards and the |
| | Importance of Clean Air |
| III. | The EU Infringement Procedure and A Brief |
| | History of Italian Clean Air Standards 575 |
| | A. The EU Infringement Procedure575 |
| | B. A Brief History of Italian Clean Air |
| | Standards |
| IV. | Italy's Argument Before the CJEU, Italy's |
| | Topographical-Related Pollution, and |
| | the CJEU's Decision577 |
| | A. Italy's Argument Before the CJEU: |
| | Topography and Economy577 |
| | B. Italy's Topographical-Related Pollution: |
| | The Po Valley and Mountain Ranges579 |
| | C. CJEU's Decision: Italy Has Failed to |
| | Fulfill its Obligations Under the Directive 580 |
| V. | The Future of Clean Air for Italy: Current Plans |
| | and Recommendations |
| | A. Italy's Current Plans and Recommendations |
| | for Italian Government-Funded Changes 581 |
| | B. Recommendations for the Current EU |
| | Framework: Incentivizing Rather than |
| | Punishing |
| | Punishment Doesn't Deter: Italy's History of Violating EU |
| | Environmental Directives585 |
| | 2. Recommendation on Revising Current |
| | S |

 \dagger University of North Carolina School of Law, Class of 2022. Notes & Comments Editor, North Carolina Journal of International Law.

| | EU Framework: Incentivize and Support 3. Environmental Incentive Programs in | 587 |
|-----|--|-----|
| | Individual Member States | 589 |
| VI. | Conclusion | 590 |

I. Introduction

Clean air is considered one of the basic requirements of human health and wellbeing but ensuring clean air for everyone is far from simple. The Ambient Air Quality Directive¹ ("Directive" or "European Directive") aims to regulate clean air in the European Union ("EU"), but nations often fall short of meeting the Directive's standards. In November 2020, the Court of Justice of the European Union (the "CJEU") found that Italy has failed for years to meet European Directive standards for air quality in several of its largest cities and in its industrial northern plains.² Italy argued that its unique topographical features made the nation's high levels of particulate matter beyond its control.³ Italy also pointed to its mountain ranges, arguing that the adaptation of air quality plans constitutes a complex process that must not hinder economic development.⁴ However, the CJEU found that whether the failure was intentional or the result of negligence was irrelevant.⁵

Despite the importance of clean air to human health and the environment, Italy has continuously failed to meet EU air quality standards under the Directive. Now that the CJEU rejected its argument pertaining to topographical and economic considerations, Italy faces a significant dilemma—implement severe environmental policies to address the air pollution and restrict the nation's economy or continue to allow poor air quality but avoid economic harm. While Italy may pay monetary fines for its noncompliance with EU environmental directives, Italian citizens pay with their health and their lives. Therefore, the EU must restructure its current framework to ensure that Italy will comply with EU environmental law.

¹ Council Directive 2008/50/EC, 2008 O.J. (L 152).

 $^{^2}$ Case C-644/18, Comm'n v. Italy, ECLI:EU:C:2020:825, \P 1 (Nov. 10, 2020) [hereinafter Comm'n v. Italy 2020].

³ See id. ¶ 42.

⁴ See id. ¶¶ 39, 42.

⁵ See id. ¶¶ 75, 87, 89.

Part II of this note introduces European Union air quality standards and the importance of clean air. Part III discusses Italy's history with clean air. Part IV explores Italy's argument before the CJEU, its topographical and economic challenges, and the CJEU's ruling on Italy's clean air violations. Part V explores Italy's current environmental changes and recommends alterations to the EU regulatory framework to ensure that Italy complies with EU air quality standards. Part VI provides a conclusion and final thoughts.

II. European Air Quality Standards and the Importance of Clean Air

Clean air is considered by the World Health Organization ("WHO") "to be a basic requirement of human health and wellbeing." According to the WHO, "more than [two] million premature deaths each year can be attributed to the effects of urban outdoor air pollution and indoor air pollution." Specifically, "[a]ir pollution increases the risk of respiratory and heart disease," with both "short and long term exposure to air pollutants hav[ing] been associated [with] health impacts."

One of the most concerning forms of air pollution involves particulate matter, which is composed of "tiny particles of chemicals, soil, smoke, dust, or allergens—in the form of gas or solids—that are carried in the air." Particulate matter is especially dangerous because it can "penetrate the lungs and bloodstream and worsen bronchitis, lead to heart attacks, and even hasten death." Particulate matter can also cause reproductive and central nervous system dysfunction and cancer. Air pollution in the form of smog can irritate the eyes and throat, damage lungs, and is particularly

⁶ Air Quality Guidelines-Global Update 2005, WORLD HEALTH ORG. [WHO] (2005), https://www.who.int/phe/health_topics/outdoorair/outdoorair_aqg/en/ [https://perma.cc/YQ3U-XGAW].

⁷ *Id*

⁸ Air Quality & Health Questions and Answer, WHO, https://www.who.int/phe/air_quality_q&a.pdf?ua=1 (last visited Apr. 21, 2021) [https://perma.cc/8A9F-Z3EB].

⁹ Jillian MacKenzie & Jeff Turrentine, Air Pollution: Everything You Need to Know, NRDC (Nov. 1, 2016) https://www.nrdc.org/stories/air-pollution-everything-you-need-know#sec3 [https://perma.cc/6BC4-MXV2].

¹⁰ *Id*

¹¹ Ioannis Manisalidis et al., *Environment and Health Impacts of Air Pollution: A Review*, 8 Frontiers Pub. Health 1, 1 (2020).

harmful to individuals who work or exercise outside, children, and elderly individuals.¹² In addition, air pollution adversely impacts the environment.¹³ Air pollutants such as "black carbon, methane, tropospheric ozone, and aerosols affect the amount of incoming sunlight," consequently increasing the Earth's temperature and "melting ice, icebergs and glaciers."¹⁴ Additionally, air pollution causes acid rain, a form of "precipitation containing toxic amounts of nitric and sulfuric acids" that "acidify water and soil environments," damaging trees, crops, and infrastructure.¹⁵ Moreover, air pollution creates adverse effects on wildlife and agricultural production, negatively impacting food and crop yield.¹⁶

To regulate air quality and limit the harmful effects of air pollution, the EU established a series of directives that set ambient air quality standards.¹⁷ The Air Quality Framework Directive 96/62/EC ("Framework Directive") and its daughter directives, "which established standards for a range of pollutants including ozone, particulate matter ("PM10") and nitrogen dioxide in the period up to 2004," were the first major directives of the EU's clean

¹² MacKenzie & Turrentine, supra note 9.

¹³ Manisalidis et al., *supra* note 11, at 4.

¹⁴ Id. "Because black carbon absorbs solar energy, it warms the atmosphere." Renee Cho, The Damaging Effects of Black Carbon, COLUM. CLIMATE SCH. (March 22, 2016) https://news.climate.columbia.edu/2016/03/22/the-damaging-effects-of-black-carbon/ [https://perma.cc/C6ZB-42U9]. "Methane is also a powerful greenhouse gas . . . [o]ver a 20-year period, it is 80 times more potent at warming than carbon dioxide." Methane Emissions are Driving Climate Change. Here's How to Reduce Them, UN Env't PROGRAMME (Aug. 20, 2021) https://www.unep.org/news-and-stories/story/methaneemissions-are-driving-climate-change-heres-how-reduce-them [https://perma.cc/2PLX-8QR4]. "[I]n the troposphere ... ozone molecules are both air pollutants ... and greenhouse gases, trapping heat and contributing to climate change." Ozone in the Troposphere, U. Corp. Atmospheric Res., https://scied.ucar.edu/learning-zone/airquality/ozone-troposphere (last visited Mar. 15, 2022) [https://perma.cc/GL5M-TUBR]. "Aerosols can control how much energy from the sun reaches the planet's surface by changing the amount that is absorbed in the atmosphere and the amount that is scattered back out to space." Just 5 Questions: Aerosols, NASA (Dec. 7, 2009) https://climate.nasa.gov/news/215/just-5-questions-

 $aerosols/\#:\sim: text=It\%20 turns\%20 out\%20 that\%20 most, greenhouse \%20 gases\%20 in\%20 the\%20 atmosphere. [https://perma.cc/E856-B3MK]$

¹⁵ See id. at 9.

¹⁶ See id. at 10 (finding that exposure to air pollution can cause animals can develop health and reproductive issues, impairments in photosynthetic rhythm and metabolism in plants, and eutrophication leading to disequilibration and deaths in fish populations).

¹⁷ Air Quality - Introduction, Eur. Comm'n, https://ec.europa.eu/environment/air/quality/ [https://perma.cc/QX69-EDR5].

air policies.¹⁸ The European Commission ("Commission") later consolidated the "Framework Directive and the first three daughter directives into a single Ambient Air Quality Directive, adopted as 2008/50/EC."¹⁹ Combined with the "fourth daughter Directive 2004/107/EC,²⁰ the Ambient Air Quality Directive provides the current framework for the control of ambient concentrations of air pollution in the EU."²¹

EU air quality legislation is built on "certain principles."²² One of these principles requires EU "Member States to divide their territory into a number of zones and agglomerations."²³ Within these zones and agglomerations, "Member States should undertake assessments of air pollution levels using measurements, modelling, and other empirical techniques."²⁴ Member States are then required to "report air quality data to the European Commission."²⁵ Where levels are "above limit or target values . . . Member States [are required to] prepare an air quality plan . . . to address the sources responsible and . . . ensure compliance" prior to "the date when the limit value formally enters into force."²⁶ In addition, Member States must disseminate information on their air quality to the public.²⁷

Clean air has been a significant concern for the EU for decades, but clean air is especially vital given the COVID-19 virus. In Italy, the northern Lombardy region has been one of the deadliest locations in the world during the COVID-19 pandemic.²⁸ There is

¹⁸ *Id*.

¹⁹ Id. The Commission also "set objectives for fine particulate matter (PM2.5)." Id.

²⁰ Council Directive 2004/107/EC, 2004 O.J. (L 023) [hereinafter 2004/107/EC]. This directive addresses arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air; Eur. Comm'n, *supra* note 17.

²¹ Eur. Comm'n, supra note 17; MacKenzie & Turrentine, supra note 9.

²² Id.

²³ Eur. Comm'n, supra note 17.

²⁴ *Id*.

²⁵ *Id*.

²⁶ *Id*.

²⁷ Id.

²⁸ Devra Davis, *In Italy and Further Afield, Pollution and Poverty Have Played a Part in Worsening COVID-19*, EURONEWS (May 26, 2020), https://www.euronews.com/2020/05/26/in-italy-and-further-pollution-and-poverty-have-played-a-part-in-worsening-covid-19-view [https://perma.cc/ULQ4-3VZ5]. Within Italy, the Lombardy region's death rate was three times higher than the rest of the country at about 12%, compared with

thought to be a connection between the high levels of air pollution in the Lombardy region and health complications for patients with COVID-19.²⁹ Specifically, atmospheric pollution may influence the spread of COVID-19.³⁰ Correlations between chronic exposure to atmospheric contamination and confirmed COVID-19 cases in seventy-one Italian provinces suggest that atmospheric pollution facilitates not only the spread but also virulence of COVID-19.³¹

Exposure atmospheric contaminants also impacts to inflammatory responses and can result in impairment of the respiratory system and chronic disease.32 Chronic disease via air pollution may facilitate viral infection in lower respiratory tracts, creating a dangerous environment for those exposed to COVID-19.33 "[A]ir quality should . . . be considered as part of an integrated sustainable development, human approach toward protection[,] and [the] prevention of epidemic spreads."³⁴ "[T]he role of atmospheric pollution should be considered in a long-term, chronic perspective, and adoption of mitigation actions only during a viral outbreak could be of limited utility."³⁵

- 30 See id.
- 31 See id. at 3.
- 32 See id. at 3-4.
- 33 See id. at 4.

^{4.5%} in the rest of Italy. *See id.* Also, in November 2020, Italy was deemed one of the top ten worst-affected countries globally by COVID-19 cases. *See* Shaina Ahluwalia, *Italy Surpasses the 1 Million COVID Mark, Joins Top 10 Worst-Hit Countries: Reuters Tally*, THOMSON REUTERS (Nov. 11, 2020), https://www.reuters.com/article/us-health-coronavirus-italy-tally/italy-surpasses-the-1-million-covid-mark-joins-top-10-worst-hit-countries-reuters-tally-idUSKBN27R2C1 [https://perma.cc/Q6Q8-THYE].

²⁹ Daniele Fattorini & Francesco Regoli, *Role of the Chronic Air Pollution Levels in the Covid-19 Outbreak Risk in Italy*, 264 ENV'T POLLUTION 1, 2 (2020) (finding that although initially the high concentration of cases in the Lombardy region was thought to be caused by governmental restrictions that had contained the COVID-19 virus to the area, data reveals that the virus had been circulating in Italy for several weeks before the containment measures were adopted, suggesting a different cause for the high level of COVID-19 cases in the Lombardy region).

³⁴ See id. (noting that the authors' findings, "if confirmed by future studies, suggest that air quality should also be considered as part of an integrated approach . . .").

³⁵ See Fattorini & Regoli, supra note 29, at 4.

III. The EU Infringement Procedure and A Brief History of Italian Clean Air Standards

A. The EU Infringement Procedure

EU infringement procedures may be launched by the Commission when an EU Member State fails to communicate measures that comply with the EU directives.³⁶ The steps of the infringement procedure are as follows:

(1) The Commission sends a letter of formal notice requesting further information to the country concerned, which must send a detailed reply within a specified period, usually 2 months. (2) If the Commission concludes that the country is failing to fulfil its obligations under EU law, it may send a reasoned opinion: a formal request to comply with EU law. It explains why the Commission considers that the country is breaching EU law. It also requests that the country inform the Commission of the measures taken, within a specified period, usually 2 months. (3) If the country still doesn't comply, the Commission may decide to refer the matter to the Court of Justice. Most cases are settled before being referred to the court. (4) If an EU country fails to communicate measures that implement the provisions of a directive in time, the Commission may ask the court to impose penalties. (5) If the court finds that a country has breached EU law, the national authorities must take action to comply with the Court judgment.³⁷

"If, despite the [CJEU's] judgment, the country still does [not] rectify the situation, the Commission may refer the country back to the [CJEU]," and "[w]hen referring an EU country to the court for the second time, the Commission proposes that the court impose financial penalties."³⁸

B. A Brief History of Italian Clean Air Standards

In 2014, the Commission accused Italy of violating EU standards on particulate matter.³⁹ The Commission "launched an

³⁶ Infringement Procedure, Eur. COMM'N, https://ec.europa.eu/info/law/law-making-process/applying-eu-law/infringement-procedure_en [https://perma.cc/H9K9-EYV7] [hereinafter Infringement Procedure].

³⁷ See id.

³⁸ See id.

³⁹ Cain Burdeau, EU Court Finds Italy Violating Air Pollution Limits, COURTHOUSE

infringement procedure against the Italian Republic for having systematically and persistently exceeded" the EU Air Quality Directive's "limit values for PM10 particulate matter" in "a certain number of zones in Italy." The infringement procedure was to force Italy to comply with the Air Quality Directive. 41

Specifically, the Commission accused Italy of violating particulate matter limits and not taking enough action to reduce dangerous air pollution. The Commission maintained that, since 2008, the Italian Republic had systematically exceeded . . . the daily and annual limit values applicable to concentrations of PM10 particulate matter under Article 13(1)⁴³ in conjunction with Annex XI, to the Air Quality Directive. The Commission also concluded that Italy had failed to fulfill its obligations under Article 23 of Directive 2008/50. In June 2017, Italy responded to the Commission's allegations and, in September 2017, "provided additional information on the various air quality plans that the regions had modified . . . [and] the measures [that Italy was] preparing to take to reduce the concentration levels of PM10 in ambient air."

At the 2018 Air Quality Ministerial Summit, the Commission addressed nine member states, including Italy, in an attempt to find

NEWS SERV. (Nov. 10, 2020), https://www.courthousenews.com/eu-court-finds-italy-violating-air-pollution-limits/ [https://perma.cc/J55N-QCKP].

⁴⁰ CJEU Press Release 136/2020, *Italy has Infringed EU Law on Ambient Air Quality*, (Nov. 10, 2020) [hereinafter Press Release 136/2020].

⁴¹ *Id*

⁴² Press Release 136/2020, *supra* note 40, at 1.

⁴³ See Council Directive 2008/50/EC, art. 13, 2008 O.J. (L 152). Article 13 addresses the ozone, a pollutant, and states that "[p]rogress towards the air quality targets and long term objectives for ozone set in [the Air Quality] Directive should be determined by the targets and emission ceilings provided for in Directive 2001/81/EC and, if appropriate, by implementing air quality plans as provided for in this Directive.

⁴⁴ Press Release 136/2020, *supra* note 40, at 1.

⁴⁵ Comm'n v. Italy 2020, *supra* note 2,¶ 23. *See also* Council Directive 2008/50/EC, art. 23, 2008 O.J. (L 152) (finding that article 23 requires that "[i]n the event of exceedances of those limit values for which the attainment deadline is already expired, the air quality plans shall set out appropriate measures, so that the exceedance period can be kept as short as possible," and that "plans shall be communicated to the Commission without delay, but no later than two years after the end of the year the first exceedance was observed").

⁴⁶ Comm'n v. Italy 2020, *supra* note 2, ¶ 23.

solutions to the serious issue of air pollution.⁴⁷ Italy, along with five fellow members states, "did not present credible, effective, and timely measures to reduce pollution."⁴⁸ The six members states were required to present these measures to reduce pollution within the agreed limits set by EU law, and they were required to do so as soon as possible.⁴⁹ The Commission referred Italy to the CJEU for persistently high levels of particulate matter and the case proceeded to the CJEU for judgement.⁵⁰

IV. Italy's Argument Before the CJEU, Italy's Topographical-Related Pollution, and the CJEU's Decision

A. Italy's Argument Before the CJEU: Topography and Economy

Before the CJEU, Italy denied that "there ha[d] been any failure on its part to fulfill its Treaty obligations." Italy maintained "that the exceedance of the limit values referred to in Article 13 of Directive 2008/50 cannot be attributed solely to" Italy. It argued that "[t]he variety of sources of air pollution mean[t] that the ability of a single Member State to affect those sources and lower the concentration of . . . PM10 . . . beneath the values is relative," and that "competence to regulate pollutant emissions lies with the European Union, not with the Member States."

Furthermore, Italy maintained that "the Commission should have been required to find, first, that there was no influence of natural, external causal factors that the national authorities could not control since they are unpredictable and inevitable."⁵⁴ Italy also maintained that the Commission should have been required to find "that there was no conduct on the part of third parties likely to affect the pursuit of the protection objectives underlying the legislative

⁴⁷ European Comm'n Press Release IP/18/3450, *Air Quality: Commission Takes Action to Protect Citizens From Air Pollution*, 1-2 (May 17, 2018) [hereinafter Press Release IP/18/3450].

⁴⁸ Id.

⁴⁹ Id

⁵⁰ See Comm'n v. Italy 2020, supra note 2.

⁵¹ *Id*. ¶ 35.

⁵² *Id*. ¶ 40.

⁵³ Id.

⁵⁴ *Id*. ¶ 42

provisions alleged to have" been violated.55

Italy referred specifically "to causal factors of natural origin that are completely beyond the control of the national authorities."⁵⁶ It pointed to its mountain ranges and their configuration in certain geographical zones and highlighted the meteorological conditions in those areas.⁵⁷ Italy also emphasized "factors of human origin and the interference of European policies that function independently of national policies."⁵⁸ Of these policies that are "independent of national policies," Italy referred to "EU policies on biomass and pollutant emissions, in particular the advantages granted to diesel vehicles and the setting of PM10 emissions by 'Eurodiesel' vehicles on the basis of theoretical models far removed from actual PM10 emissions."⁵⁹

Italy also referred to EU policies on agriculture, "some of which, in the interest of reducing other emission sources, led to an increase in the PM10 emissions taken into consideration by Directive 2008/50." [I]n the view of the Italian Republic, . . . the Commission had not adduced proof that the exceedance of the limit values determined by Directive 2008/50 may be attributed to the inadequacy of [Italy's] air quality plans." [1]

In particular, Italy argued that the high levels of smog are mostly limited to the Lombardy region, in particular the Po River Valley, which is "a heavily industrialized and populated plain that includes cities such as Vicenza, Verona, Parma, Milan, and Bologna, and lies at the heart of Italy's economy." Italy further contended that meeting the required air quality standards "constitutes a complex process," and that "Member States' measures cannot be sporadic and must necessarily involve long-term plans" that do "not hinder

⁵⁵ See Comm'n v. Italy 2020, supra note 2, ¶ 42.

⁵⁶ Id.

⁵⁷ *Id.* It is thought that in the Po Valley, the air is frequently colder in the plains than in the mountains, due to the infrequency of wind and prolonged periods of climatic inversion, and that this leads to air pollution remaining still above the Po Valley as it is unable to dissipate. *See Nitrogen Dioxide and Fine Particles Are Threatening Po Valley Air Quality*, VITESY (Dec 6, 2019), https://vitesy.com/blog/air-pollution/nitrogen-dioxide-fine-particles-po-valley-air-quality [https://perma.cc/Z6Q6-3Q64] [hereinafter VITESY].

⁵⁸ See Comm'n v. Italy 2020, supra note 2, ¶ 42.

⁵⁹ *Id*.

⁶⁰ Id.

⁶¹ *Id*. ¶ 43.

⁶² Burdeau, supra note 39.

economic development."63

B. Italy's Topographical-Related Pollution: The Po Valley and Mountain Ranges

The Po River Valley is known as the worst area in Europe for air quality.⁶⁴ In March 2019, the European Space Agency ("ESA") published images from their satellites.⁶⁵ The satellite images showed a "big stain, made of nitrogen dioxide and fine particles, situated above the Po Valley area."⁶⁶ According to the Air Quality Life Index ("AQLI"), the air pollution of the Po Valley affects inhabitants of the region so intensely that the pollution decreases inhabitants' life expectancies by about half a year.⁶⁷

The Po Valley is also the most industrialized area of Italy and is home to the "industry triangle,⁶⁸ between the cities of Turin, Milan, and Genova."⁶⁹ In addition, "the majority of fields in the Po Valley are cultivated, both for human consumption and to feed animals under intensive breeding."⁷⁰ Two of the main reasons the Po Valley is so polluted are the region's livestock and factories.⁷¹ The many fertilizers comprised of nitrogen, phosphorus, and potassium, combined with manure emissions from livestock and nitrogen dioxide released by diesel and petrol engines, all contribute to the severe air pollution in the Po Valley.⁷²

Unfortunately, the Po Valley's geophysical characteristics hinder the dissipation of the pollution.⁷³ The Po Valley is surrounded by the Alps mountain region, and the air in the Po Valley is often colder in the plains than in the mountains, due to the infrequency of wind and prolonged periods of climatic inversion.⁷⁴

```
63 See Comm'n v. Italy 2020, supra note 2, ¶¶ 39, 42.
```

⁶⁴ VITESY, supra note 57.

⁶⁵ *Id*.

⁶⁶ Id.

⁶⁷ Id.

⁶⁸ The "industry triangle" includes several main factories. Id.

⁶⁹ VITESY, supra note 57.

⁷⁰ *Id*.

⁷¹ *Id*.

⁷² *Id*.

⁷³ *Id*.

⁷⁴ VITESY, supra note 57. "Under normal atmospheric conditions, air is warmer near

This leads to air pollution standing still above the Po Valley.⁷⁵ This lingering pollution is alarming for two reasons: (1) the Po Valley remains at the center of Italy's economy, causing a trade-off to occur between enacting environmental policies addressing air pollution and ensuring the success of the economy; and (2) in many areas of the Po Valley, pollution-heavy activities such as coal-fired power stations and the use of heavy fuel oil have already been banned for twenty years, but the pollution remains.⁷⁶

If Italy has been taking steps to mitigate air pollution in the Po Valley, then why does the pollution remain? One of the biggest causes of poor air quality in the Po Valley is vehicle emissions.⁷⁷ In the plain that stretches from the Apennines to the Alps, 25% of the pollution is caused by road traffic, 45% is caused by domestic heating, and the remaining 30% is caused by industrial and agricultural emissions.⁷⁸ The Po Valley region also produces large quantities of animal waste, as it produces more than 40% of Italy's milk production, and is home to over 50% of Italy's pork production.⁷⁹ The geographical and topographical features of the Po Valley coupled with its importance to Italy's economy leaves Italy with a difficult trade-off: enact strict environmental policies to address the air pollution and restrict the nation's economy, or allow poor air quality to continue but avoid immediate economic harm.

C. CJEU's Decision: Italy Has Failed to Fulfill its Obligations Under the Directive

The CJEU ultimately rejected Italy's contentions and decided that Italy failed "systematically and persistently" to fulfill its

the ground and colder at higher altitudes . . . [but in] a temperature inversion, the situation 'inverts,' and cold air at the surface gets trapped under a layer of warmer air." *Inversions*, UTAH DEP'T. ENVTL. QUALITY, https://deq.utah.gov/air-quality/inversions (last updated May 21, 2021) [https://perma.cc/Z3GW-CXZB].

⁷⁵ *Id*

⁷⁶ The pollution-heavy activities include coal-fired power stations and the use of heavy fuel oil. Céline Cornu, 'We Breathe in Poison': Why the Po Valley is One of the Most Polluted Places in Italy, The Local it (Feb. 28, 2019), https://www.thelocal.it/20190228/po-valley-air-pollution-italy/ [https://perma.cc/84EN-GWFY].

⁷⁷ *Id*.

⁷⁸ *Id*.

⁷⁹ *Id*.

obligations under the EU 2008/50 Directive.⁸⁰ The Court further ruled that Italy also "failed to adopt in good time appropriate measures to ensure that the period of exceedance of the daily and annual limit values for PM10 is kept as short as possible in the zones and agglomerations concerned."⁸¹ In regard to Italy's argument that most of the pollution was limited to the Po Valley, the Court stated that those areas exceeding air pollution limits "include the largest agglomerations in Italy, which have several tens of millions of inhabitants."⁸² The Court further claimed that "[i]gnoring this fact would be tantamount to disregarding the objectives pursued by the directive, in particular the protection of human health and of the environment as a whole."⁸³

V. The Future of Clean Air for Italy: Current Plans and Recommendations

A. Italy's Current Plans and Recommendations for Italian Government-Funded Changes

In addition to the Po River Valley, much of Italy's air pollution and adverse health impacts stem from Milan, a member of the Lombardy region and one of the cornerstones of Italy's economy.⁸⁴ Like in the Po Valley, Milan deals with intense levels of smog that can be attributed to vehicles and road transportation.⁸⁵ However,

⁸⁰ Comm'n v. Italy 2020, *supra* note 2,¶ 1. *See also* Alice Tidey, *Air Pollution: Italy 'Persistently' Broke EU Clean Air Laws, Rules the European Court of Justice*, EURONEWS, https://www.euronews.com/2020/11/10/air-pollution-italy-persistently-broke-eu-clean-air-laws-rules-the-european-court-of-justi [https://perma.cc/3G2L-2BXB] (last updated Nov. 10, 2020).

⁸¹ Comm'n v. Italy 2020, *supra* note 2, ¶ 146.

⁸² Id. ¶ 97.

⁸³ Id.

⁸⁴ Health Impact Assessment of Air Pollution in Italian Cities, WHO, https://www.euro.who.int/en/health-topics/environment-and-health/health-impact-assessment/activities/integrating-health-in-environmental-assessments/health-impact-assessment-of-air-pollution-in-italian-cities (last visited Apr. 19, 2021) [https://perma.cc/GKU4-6K5Z] (claiming that in the eight largest Italian cities, including Milan, "estimates suggest that there are thousands of excess deaths, hospital admissions, cases of bronchitis, and other respiratory conditions compared to the rates that can be predicted at lower PM10 concentrations").

⁸⁵ See The Cities Where the Chances of Dying from Transport Pollution Are Highest Are All in . . . Europe, Transp. & Env't (Apr. 16, 2019), https://www.transportenvironment.org

during the COVID-19 pandemic, air pollution in Milan declined significantly, possibly caused by decreased vehicular emissions.⁸⁶ The reduction of traffic initiated by Italy's pandemic procedures is likely responsible for the reduction of harmful nitrogen dioxide levels by 29% in March and by 43% in April, suggesting that decreasing vehicular emissions could improve Italy's air quality.⁸⁷

Despite the promising correlation between decreasing vehicular emissions and air pollution, Italy has had limited success with vehicle and transportation restrictions. In January 2020, Milan and other areas of the Lombardy region attempted to curb vehicular emissions by temporarily banning the use of cars within the city for one day.⁸⁸ However, by 12:30 P.M., police had already handed out fines to 621 drivers who ignored the ban.⁸⁹

Milan also has several low emission zones ("LEZ"). These LEZ ban some vehicles from entering certain parts of the city. However, as the Italian government began to rescind COVID-19 restrictions, the mayor of Milan allowed all vehicles to temporarily enter Milan's central low-emissions zone. Milan's mayor also declared that the larger LEZ would be suspended indefinitely. The suspension resulted in a surge of vehicular traffic with little room

/news/cities-where-chances-dying-transport-pollution-are-highest-are-all-%E2%80%A6-europe [https://perma.cc/5G8G-DDFJ]; Faced with High Smog Levels, Milan to Ban Cars on Sunday, SCI. X DAILY (Jan. 29, 2020), https://phys.org/news/2020-01-high-smog-milan-cars-

sunday.html#:~:text=A%20European%20Court%20of%20Auditors,be%20to%20limit% 20their%20use [https://perma.cc/3XCP-HQ2N]; Prisco Piscitelli et al., *Air Pollution and Estimated Heath Costs Related to Road Transportations of Goods in Italy: A First Healthcare Burden Assessment*, 16 Int'l J. Env't RSCH. & Pub. Health 1, 1 (2019).

- 86 Veronica Aneris, *After Devastation, Italians Demand Protection Against Air Pollution*, TRANSP. & ENV'T (June 11, 2020), https://www.transportenvironment.org/news/after-devastation-italians-demand-protection-against-air-pollution [https://perma.cc/GV6Q-5Z3V].
 - 87 These levels are compared to the average levels from 2016–2019. See id.
- 88 *Milan Car Ban: Drivers Ignore Anti-Pollution Measure*, BBC (Feb. 2, 2020), https://www.bbc.com/news/world-europe-51350604 [https://perma.cc/NJ2Q-WZME].
 - 89 *Id*

90 In particular, Euro 0 petrol vehicles and Euro 0, 1, 2, and 3 diesel vehicles. Hannah Fig, *Italy's Largest Low Emission Zone "Area B" is Launched in Milan*, ELTIS (Apr. 15, 2019), https://www.eltis.org/discover/news/italys-largest-low-emission-zone-area-b-launched-milan#:~:text=In%20an%20attempt%20to%20combat,Italy's

%20largest%20low%20emission%20zone [https://perma.cc/V2VM-F7ZT].

- 91 Aneris, supra note 86.
- 92 Id.

for pedestrians and cyclists, and raised concerns regarding the lack of clean air in the city.⁹³ In April 2020, however, Milan announced that it would transform thirty-five kilometers of road space into cycle lanes and wider pavements.⁹⁴ This plan should support less vehicular emissions, and Milan has already begun development and established six kilometers of cycle lanes from the city center to nearby suburbs.⁹⁵

While the development of wider pavements and cycle lanes provide some hope for Italy's air, the Italian government must implement further changes to its clean air policies, including restoring the vehicular restrictions in LEZ in the Lombardy region. Furthermore, incremental changes may not be enough to mitigate the severe air pollution in the Lombardy region or to allow Italy to comply with the CJEU's order. While Italy has begun implementing more environmentally friendly strategies, it still faces a difficult tradeoff: adopt severe environmental policies to address the air pollution and restrict the nation's economy or allow the continuance of poor air quality but avoid immediate economic harm.

B. Recommendations for the Current EU Framework: Incentivizing Rather than Punishing

In the face of this environmental and economic tradeoff, Italy may choose to face financial fines from the CJEU rather than compromise its economy. Therefore, the EU should consider adopting a different regulatory framework to ensure that Italy can provide clean air to its citizens efficiently and comply with the Air Quality Directives. Currently, the EU's framework for regulating air standards involves monetary fines and peer pressure; and there is no incentives-based program that would provide cost sharing

⁹³ See id.

⁹⁴ *Id*.

⁹⁵ See id.

⁹⁶ Italy has already chosen to endure fines issued from the CJEU for violating a different economic EU directive in 2014 and 2018, suggesting a pattern of offenses and lack of deterrence. See Case C-196/13, Comm'n v. Italy, ECLI:EU:C:2014:2407, ¶ 1 (Dec. 2, 2014) [hereinafter Comm'n v. Italy 2014]; Case C-251/17 Comm'n v. Italy (May 31, 2018) [hereinafter Comm'n v. Italy 2018]. See also EU Court Fines Italy Record 40 Million Euros for Illegal Waste, Reuters (Dec. 2, 2014), https://www.reuters.com/article/us-italy-environment/eu-court-fines-italy-record-40-million-euros-for-illegal-waste-idUSKCN0JG1AJ20141202 [https://perma.cc/GL5Z-Z628].

financial and technical assistance to member states that fail to meet EU environmental directives. The current EU system is structured on reporting applications—it focuses on implementation and assessing whether additional measures are needed to meet environmental goals. If an EU member state fails to meet air quality standards and does not request an extension of the deadline for achieving compliance . . . the Commission has the right to send warning letters and finally initiate legal action against the member. If a member state fails to comply with a CJEU decision, the CJEU may impose fines in the form of a lump sum and/or regular payments.

Under the current EU framework, member states repeatedly violate environmental standards with little deterrence.¹⁰¹ By the end of 2020, there were 451 open infringement cases for violation of EU environmental directives.¹⁰² Every one of the EU member states faced an open environmental infringement case.¹⁰³

Italy is also not alone in its clean air violations; France, Germany, Hungary, Romania, and the United Kingdom were referred to the CJEU in 2018 for failing to take adequate measures to tackle air pollution.¹⁰⁴ Infringement procedures escalated for

⁹⁷ See Karolina Kuklinska et al., Air Quality Policy in the U.S. and the EU – A Review, 6 Atmospheric Pollution Rsch. 129, 135 (2015).

⁹⁸ See id.

⁹⁹ See id.

¹⁰⁰ Infringement Procedure, supra note 36.

¹⁰¹ Final Report of the European Commission on Study: The Costs of Not Implementing EU Environmental Law, at 7 (Mar. 2019), https://ec.europa.eu/environment/eir/pdf/study_costs_not_implementing_env_law.pdf [https://perma.cc/VLJ9-SZDQ] (stating that complaints concerning non-compliance with EU environmental law and a high number of infringement cases indicate that there is room for improvement with respect to implementation of EU environmental law).

¹⁰² Legal Enforcement: Infringements Per MS in 2020, Eur. Comm'n, https://ec.europa.eu/environment/legal/law/statistics.htm [https://perma.cc/54GN-YPTW].

¹⁰³ See id. Estonia possessed the lowest number of open cases, with only seven environmental infringement cases against it open at the end of 2020, while the U.K. possessed the highest amount at 36. Id. Additionally, by the end of 2020 there were fifty-two cases open against fifteen member states. See Legal Enforcement: Article 260 Cases (end 2020), Eur. Comm'n, https://ec.europa.eu/environment/legal/law/statistics.htm [https://perma.cc/MR83-KRRS].

¹⁰⁴ Press Release IP/18/3450, supra note 47, at 1.

Germany, Italy, Luxembourg, and the United Kingdom,¹⁰⁵ as they received letters of formal notice of the Commission's intent to take further steps in the infringement procedures.¹⁰⁶ These member states comprise nearly 60% of the EU's total population, meaning that more than half of EU inhabitants have experienced air quality below EU directive standards, in violation of EU environmental law.¹⁰⁷

1. Punishment Doesn't Deter: Italy's History of Violating EU Environmental Directives

Despite heavy fines, Italy has a long history of violating EU environmental directives. In addition to the CJEU finding that Italy "systematically and persistently" violated EU clean air laws in 2020, the CJEU found that Italy had violated the EU Directives on waste, hazardous waste, and landfills in 2014. The CJEU rendered its highest fine on an EU member state in history, ordering Italy to pay forty million euros for its failure to address the dumping of illegal waste. The CJEU's ruling emphasized Italy's repeated failure to address environmental harm that has plagued Italy for decades and caused adverse health effects for many individuals. In addition to the lump sum payment of forty million euros, the CJEU ordered decreasing penalty payments to be paid on a sixmonth basis until all of the illegal waste sites were removed.

The United Kingdom, in a similar manner to Italy, has persistently exceeded legal limits for nitrogen dioxide since 2010, despite threats of being taken to the CJEU and facing fines. Roger Harrabin, *UK Found Guilty of Dirty Air Breach by EU Court*, BBC (Mar. 4, 2021), https://www.bbc.com/news/science-environment-56282064#:~:text=The%20UK%20has%20been%20found,in%20the%20shortest%20pos sible%20time [https://perma.cc/9GVG-MRCE]; Comm'n v. United Kingdom of Great Britain and Northern Ireland, Case C-644/18, ECLI:EU:C:2021:171, ¶ 1 (Mar. 4, 2021).

¹⁰⁶ See id. at 2

Eurostat News Release 124/2015, *EU Population Up to 508.2 Million at 1 January 2015*, 3 (July 10, 2015) (noting specifically that, in 2015, Italy comprised 12% of the EU's population, and the United Kingdom, Germany, France, Hungary, and Romania comprised 12.7%, 16%, 13.1%, 1.9%, and 3.9%, respectively).

¹⁰⁸ Comm'n v. Italy 2014, *supra* note 96, at 1; *see also* Thomson Reuters, *supra* note 96.

¹⁰⁹ Comm'n v. Italy 2014, *supra* note 96, ¶ 120.

¹¹⁰ EU Court Hits Italy With Giant Illegal Waste Fine, EU BUSINESS (Dec. 8, 2014), https://www.eubusiness.com/news-eu/italy-waste-court.yzv [https://perma.cc/GHH2-TFNM].

¹¹¹ Comm'n v. Italy 2014, *supra* note 96, ¶ 122.

The CJEU's 2014 decision came after Italy failed to comply with a CJEU judgement rendered in 2007. The 2007 judgement condemned Italy for a persistent failure to comply with its obligations under EU waste laws, due to thousands of illegal waste sites. Despite the CJEU's initial order in 2007 and the threat of fines, Italy continued to violate EU law by allowing the continuation of illegal waste disposal. In and around Naples, waste is often illegally dumped by "black market businesses wanting to avoid landfill fees and detection by tax authorities." Moreover, the local government frequently designates spots as "temporary" disposal locations; however, the waste remains rotting in the locations years later.

In addition to its violations of the waste disposal directives, Italy was referred to the CJEU in 2016 for violating the EU's environmental directives on water pollution and wastewater management. The referral accused Italy of failing to comply with a CJEU judgment entered in 2012 and claimed "Italian authorities... [neglected] to ensure that urban waste water is adequately collected and treated. Four years after the CJEU's first decision, the Commission argued that the wastewater violations remained unaddressed and continued to impact more than six million people in eighty agglomerations, "pos[ing] significant risks to human health, inland waters[,] and the marine environment."

The Commission further called for the CJEU to impose a lump sum payment of over 62 million euros, and a daily penalty payment of almost 350,000 euros "if full compliance [was] not achieved by the date the [CJEU] issued its ruling." However, despite the call

¹¹² Comm'n v. Italy, Case C-135/05, ECLI:EU:C:2007:250 (Apr. 26, 2007).

¹¹³ See id. ¶ 1.

¹¹⁴ See Comm'n v. Italy 2014, supra note 96, ¶ 1.

¹¹⁵ Cain Burdeau, *Italy's Trash Problem a Burning Issue in the 'Land of Fires*,' COURTHOUSE NEWS SERV. (Jan. 16, 2020), https://www.courthousenews.com/italys-trash-problem-a-burning-issue-in-the-land-of-fires/ [https://perma.cc/32SH-3EQC].

¹¹⁶ *Id*.

¹¹⁷ See European Comm'n Press Release IP/16/4212, Commission Takes Italy Back to the Court and Proposes Fines, 1 (Dec. 8, 2016) [hereinafter Press Release IP/16/4212].

¹¹⁸ Comm'n v. Italy, Case C-565/10, ECLI:EU:2012:476 (July 19, 2012).

¹¹⁹ Press Release IP/16/4212, *supra* note 117, at 1.

¹²⁰ Id.

¹²¹ See id.

for serious financial fines and a prior CJEU judgement ordering Italy to remedy its wastewater problem, the CJEU found in 2018 that Italy had failed to adopt all measures necessary to comply with its initial 2012 judgement.¹²² The CJEU ordered Italy to pay a fine of over thirty million euros for every six months that Italy had failed to adopt the necessary measures to comply with the original 2012 judgement.¹²³

2. Recommendation on Revising Current EU Framework: Incentivize and Support

Italy's continuous violations of EU environmental directives, despite multiple judgements ordering compliance, serious financial fines, and harm to human health and the environment, demonstrate how little impact the current EU regulatory framework carries in enforcing environmental standards. Currently, the EU does not offer an incentives program to encourage member states to adopt strategies that would allow them to comply with EU environmental directives after their first referral from the Commission. Rather than strictly focusing on punishment, the EU should alter its framework to incorporate an incentives program that promotes cost-sharing and technical assistance for member states struggling to comply with EU environmental directives, similar to the U.S.'s Environmental Quality Incentives Program ("EQIP").

The EQIP focuses on improving agricultural practices to provide environmental benefits such as "improved air and water quality, conserved ground and surface water, increased soil health and reduced soil erosion and sedimentation, improved or created wildlife habitat, and mitigation against drought and increasing weather volatility." The purpose of EQIP is to promote agriculture production, forestry management, and environmental quality as compatible goals, and to optimize environmental benefits." Through the EQIP, the Natural Resources Conservation Service ("NRCS") provides participants with

¹²² Comm'n v. Italy 2018, supra note 96.

¹²³ Id.

¹²⁴ Environmental Quality Incentives Program, NAT. RESOURCES CONSERVATION SERV., https://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/financial/eqip/(last visited Mar. 2022) [https://perma.cc/ER3T-J7D9].

 $^{^{125}\,}$ Megan Stubbs, Cong. Rsch. Serv., R40197, Environmental Quality Incentives Program (EQIP): Status and Issues, 1 (2010).

financial and technical assistance to implement practices that promote environmental quality.¹²⁶

The EQIP allows participants to work with the NRCS to develop a conservation plan, and participants can receive financial assistance to aid in implementing the conservation practices.¹²⁷ Participants in the EQIP can enter into EQIP incentive contracts and receive financial and technical assistance in exchange for adopting environmentally friendly practices.¹²⁸ The EQIP contracts offer two payment forms to assist participants in adopting environmentally friendly practices.¹²⁹ Participants may receive "annual payments for certain incentive practices to reach increased levels of conservation, or assistance through a practice payment to implement an incentive practice," which can be used to address operation costs and foregone income.¹³⁰

The EQIP contracts allow participants to contract for costsharing for up to ten years.¹³¹ If a participant is found to be in violation of its contract, the NRCS may terminate the contract early.¹³² "If NRCS terminates a contract due to breach of contract, the participant forfeits all rights to future payments under the contract, pay liquidated damages, and refund all or part of the payments received, plus interest."¹³³ Therefore, while participants receive economic and technical assistance, they are still held liable for compliance with the agreed upon measures.¹³⁴

The EQIP has proven highly successful in the United States. Between 2009 and 2018, NRCS "obligated over \$13.8 billion in financial and technical assistance through EQIP cost-share

¹²⁶ See id.

¹²⁷ See Environmental Quality Incentives Program, NAT'L SUSTAINABLE AGRIC. COAL. (May 2019), https://sustainableagriculture.net/publications/grassrootsguide/conservation-environment/environmental-quality-incentives-

program/#:~:text=EQIP%20Incentive%20Contracts&text=Incentive%20Contracts%20of fer%20conservation%20assistance,must%20address%20a%20resource%20concern [https://perma.cc/6JKT-8QDH].

¹²⁸ See 7 C.F.R. § 1466.21 (2020).

¹²⁹ NAT'L SUSTAINABLE AGRIC. COAL., supra note 127.

¹³⁰ *Id*

^{131 7} C.F.R. § 1466.21(b) (2020).

¹³² Id. at § 1466.26(e).

¹³³ *Id*.

¹³⁴ See id.

contracts."¹³⁵ In addition, over 384,000 participants received contracts to support conservation efforts on more than 115 million acres of land.¹³⁶ In 2018 alone, over \$1.87 billion in financial and technical assistance was dedicated to support over 42,800 EQIP contracts covering more than 13.6 million acres.¹³⁷ The same year, the budget for EQIP was increased by more than \$1 billion, and, from 2019 to 2023, EQIP will continue to increase its budget, emphasizing the program's success.¹³⁸

3. Environmental Incentive Programs in Individual Member States

While there is no EU-wide environmental incentives program, some individual member states have shown success in implementing small scale environmental incentive programs.¹³⁹ For example, Norway lowered its average carbon dioxide emissions from new passenger vehicles with its use of taxes and incentives to promote the use of lower-emitting vehicles.¹⁴⁰ In addition, France will be implementing an incentive plan to promote cycling after the end of its COVID-19 restrictions.¹⁴¹ Moreover, the EU currently provides grants to professional organizations, nonprofits, universities, and local councils to adopt environmentally-friendly projects to further environmental quality and has completed

¹³⁵ *Id.*; see Environmental Quality Incentives Program, NAT'L SUSTAINABLE AGRIC. COALITION [https://perma.cc/Q87X-6ZV8] (last updated May 2019).

¹³⁶ *Id*.

¹³⁷ *Id*.

FED'N (Apr. 12, 2019), https://www.fb.org/market-intel/eqip-and-csp-conservation-programs-in-the-2018-farm-bill [https://perma.cc/6KPN-67R5]. From 2019 to 2023, EQIP is authorized at \$9.175 billion, with \$1.75 billion in fiscal years 2019 and 2020, \$1.8 billion in fiscal year 2021, \$1.85 billion in fiscal year 2022 and \$2.025 billion in fiscal year 2023. *See id*.

¹³⁹ Tax Breaks and Incentives Make Europeans Buy Cleaner Cars, Eur. Env't AGENCY (Dec. 10, 2019), https://www.eea.europa.eu/highlights/tax-breaks-and-incentives-make [https://perma.cc/L2ZJ-7DSN] (discussing how almost all EU countries have adopted incentives of some form, which has resulted in a steady fall of average CO2 emissions).

¹⁴⁰ See id.

¹⁴¹ Holger Haubold, *Money for Bikes: Financial Incentives Give Cycling in Europe a Boost During COVID Recovery*, Eur. Cyclists' Fed'n (May 11, 2020), https://ecf.com/news-and-events/news/money-bikes-financial-incentives-give-cycling-europe-boost-during-covid [https://perma.cc/EUU6-NHD6].

thousands of projects throughout its member states.¹⁴² Given the success of the EQIP program and member states' interest in incentive-based programs, the EU should restructure its current environmental regulatory framework and shift its focus from punishment to incentives and technical assistance.

VI. Conclusion

Clean air is vital to human and environmental health. Italy, however, has repeatedly failed to meet the air quality standards determined by EU law and provide its inhabitants with safe air. This is not Italy's first time failing to comply with EU environmental directives. In addition, faced with an economic tradeoff, Italy may resign itself to its current pattern of failure and leave its inhabitants without adequate environmental safety. Its continuous failure, along with other member states' infringements, signals that the current EU environmental regulatory framework is not enough to deter countries from violating EU law.

Consequently, rather than focusing solely on punishment of member states that fail to comply with EU environmental directives, the EU should adopt an incentives-based program that provides cost-sharing and technical assistance in exchange for implementing practices that allow member states to meet the standards laid out in the EU environmental directives. Adopting a program such as the EQIP incentives contracts would lessen the economic burden on Italy and mitigate the economic tradeoff it faces, while still holding Italy accountable for compliance with EU environmental law. Ultimately, while Italy may pay in monetary fines for its noncompliance with EU environmental directives, its inhabitants pay with their health and lives – it is vital that the EU restructure its current framework.

¹⁴² See LIFE Programme, EUR. CLIMATE INFRASTRUCTURE & ENV'T EXEC. AGENCY, https://cinea.ec.europa.eu/life_en [https://perma.cc/49P9-5VYK] (showing a central hub of incentive projects). For examples of successful projects completed in recent years, see Annex* LIFE Programme: 2017 Projects, EUR. COMM'N (Oct. 25, 2018), https://ec.europa.eu/commission/presscorner/detail/en/MEMO_18_6163 [https://perma.cc/TZ55-J3NX].