
REVISITING THE POLLUTER PAYS PRINCIPLE: A LEGAL ANALYSIS OF THE PRACTICES ADOPTED AROUND THE WORLD

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ABSTRACT

In this article, the researcher tries to revisit the polluter pays principle in the International and Indian context, measures its growth in the changing world scenario and tries to emphasise its importance of continuation of its implementation. As we see, the Polluter Pays Principle is a universally accepted measure in preventing or correcting environmental damage caused by pollution emitting industries or companies. Since its inception through its adoption in the 1992 Rio Declaration, many countries have tried to implement it at a domestic level, each having their own system and procedural requirements to follow. India too has enforced this principle through a judicial precedent known as the Vellore Citizens Welfare Forum v Union of India, where this principle was applied to direct the Tanneries near the Palar river that contaminated the nearby local lands and drinking water wells that deprived the locals of potable water. As a measure and right to a healthy environment that ensures environmental integrity, the Supreme Court enforced the Precautionary Principle and the Polluter Pays Principle, making the polluters responsible for safety and any clean-up costs that incurs during the process of industrial activity.¹ This also ensures that they not only be responsible for the Environmental Damage but also compensate any human victims who are affected through this pollution. Over a span of time, new environmental terms have emerged under this principle such as Carbon Pricing², compiling them all around the world would lead to 78 different types of Carbon Pricing and Taxation Mechanisms.

¹ Section 3(3) of the Environmental Protection Act 1986 mentions powers for closure, compensation assessment and enforcing treatment facilities

² Roula Khalaf, "The Path to Global Carbon Pricing", Financial Times, https://www.ft.com/content/0a4ac951-5b95-4527-82fc-0ec587483ac5?utm_source=chatgpt.com, last accessed 30 June 2025, 22:53pm

Introduction

The Polluter Pays Principle (PPP) is a cornerstone of environmental law and policy, asserting that those who cause environmental harm should bear the costs of remedying it. This principle has profound implications for forest conservation, a sector increasingly threatened by deforestation, illegal logging, and land-use changes. Integrating this principle into forest governance, land governance, water body conservation governance can enhance accountability, promote sustainable practices, and ensure that the true costs of environmental degradation are internalized. The Polluter Pays Principle is enshrined in international frameworks like the 1992 *Rio Declaration* and has been adopted in various national legislations, including *India's Environment Protection Act, 1986*, and the *Forest (Conservation) Act, 1980*. In India, the Supreme Court has reinforced this principle through landmark judgments, such as *Vellore Citizens Welfare Forum v. Union of India (1996)*³, where it held that polluters must compensate for environmental damage and bear the cost of ecological restoration. The system of pricing carbon through carbon tax or through quota based system (cap-and-trade). Though there has been several discussions whether a uniform approach should be followed for imposing carbon pricing,⁴ a proper conclusion was never reached. The Polluter Pays Principle (PPP) is a fundamental concept in environmental law, asserting that those who cause environmental harm should bear the costs associated with managing and rectifying that damage. This principle aims to internalize the environmental costs of economic activities, thereby promoting sustainable development and environmental justice.

Evolution of the Principle

As the Industrial revolution grew, the pollution from the Industries also grew side by side. Concerned by the growing environmental pollution by such industries, the OECD formulated a policy instrument to curb unregulated and irresponsible pollution by Industries. The idea to shift the blame and responsibility to the polluter rather than the taxpayer was seen as a fairplay and transparent economic activity.

Hence it was adopted as a measure to bring in environmental accountability where environmental damage is recovered through monetary penalties.⁵ As the OECD mentioned,

³ 1996 5 SCR 241

⁴ <https://www.iisd.org/articles/polluter-pays-principle>

⁵ <https://opil.ouplaw.com/display/10.1093/law:epil/9780199231690/law-9780199231690-e1602>

“The cost of pollution must reflect in the price of the Product”, meaning the damage should be equivalent to the value of the product whose manufacture caused the damage. The polluter pays principle was officially recognised by the United Nations in 1972. Several International Agreements such as the Rio Declaration, and United Nations Framework Convention on Climate Change have included clauses of Polluter Pays Principle. We do see that there is no set definition of what the Polluter Pays Principle is. The Stockholm convention became the frontrunner of giving birth to the Principle, therefore seeded the idea of the Polluter Pays principle in one of its provision Principle 22 *“States shall co-operate to develop further the international law regarding liability and compensation for the victims of pollution and other environmental damage caused by activities within the jurisdiction or control of such States to areas beyond their jurisdiction”*.

The European Environmental Law *defines* -

While the British Law *defines* - Part IIA of the Environmental Protection Act 1990

While Canadian law, Chinese law, Indian law. How do we use this principle during this generation?

The Rio Declaration defines : - Principle 16

States shall develop national law regarding liability and compensation for the victims of pollution and other environmental damage. States shall also cooperate in an expeditious and more determined manner to develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control to areas beyond their jurisdiction.

OSPAR Convention (1992)

Article 2(b): Contracting parties shall apply the polluter pays principle, by virtue of which the costs of pollution prevention, control, and reduction measures are to be borne by the polluter. The OSPAR Convention, which aims to protect the marine environment of the North-East Atlantic, explicitly incorporates the PPP, requiring that the costs of pollution prevention and control be borne by the polluter.

Helsinki Convention (1992)

Article 2(b): Parties shall apply the polluter pays principle, by virtue of which the costs of pollution prevention, control, and reduction measures shall be borne by the polluter. The Convention on the Protection and Use of Transboundary Watercourses and International Lakes includes the PPP as a guiding principle, stating that the costs of pollution prevention and control measures should be borne by the polluter.

London Convention and Protocol (1972 & 1996)

The 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter codifies the PPP, obligating parties to prohibit the dumping of any waste or other matter that is not listed in Annex 1, reflecting the principle's emphasis on the polluter bearing the cost of pollution.

Barcelona Convention (Convention for the Protection of the Mediterranean Sea Against Pollution)

Article 27: Mandates the application of the polluter pays principle, requiring that the costs of pollution prevention, control, and reduction measures be borne by the polluter. Bamako Convention (Convention on the Ban of the Import into Africa and Control of Transboundary Movement and Management of Hazardous Waste Within Africa). **Article 12:** Imposes the polluter pays principle, holding parties responsible for the costs associated with hazardous waste management.

Kyiv Protocol (2003)

The Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters incorporates the PPP, requiring that the costs of damage be borne by the polluter.

International Maritime Organization (IMO) Conventions

Several IMO conventions, including the International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC) and the International Convention on Civil

Liability for Oil Pollution Damage, reflect the PPP by establishing liability and compensation mechanisms for pollution incidents.

United Nations Framework Convention on Climate Change (UNFCCC)

- **Article 3(1):** Recognizes that developed countries have contributed more to environmental degradation and should have greater responsibility for climate change mitigation than developing countries. While not explicitly termed as PPP, this reflects the principle's application in climate justice.

Convention on Biological Diversity (CBD)

- **Article 3:** Establishes that States have sovereign rights over their natural resources and are responsible for ensuring that activities within their jurisdiction do not cause damage to the environment of other States or areas beyond the limits of national jurisdiction. This implies an obligation to internalize environmental costs, aligning with the PPP.

European Union Legal Framework

Article 191(2) of the Treaty on the Functioning of the *European Union (TFEU)* states that EU environmental policy shall be based on the principle that the polluter should pay, guiding the EU's environmental legislation. *Part IIA* of this Act introduced a framework for the identification and remediation of contaminated land. It established the legal basis for holding landowners and operators financially responsible for land contamination, embodying the PPP by requiring them to bear the costs of decontamination. **Environmental Damage (Prevention and Remediation) Regulations 2009:** These regulations, applicable in England and Wales, implement the EU Environmental Liability Directive. They stipulate that operators must bear the costs of preventing and remediating environmental damage to protected species, habitats, and water bodies, thereby reinforcing the PPP.

Environment Act 2021: This Act further entrenches the PPP by introducing unlimited financial penalties for environmental offences, broadening the scope of penalizable offences, and embedding environmental principles, including the Polluter pays, into policymaking processes. **Environmental Principles Policy Statement:** Issued by the UK government, this policy outlines the application of the PPP, emphasizing that the costs of pollution should be

borne by those causing it. It provides guidance on identifying polluters, determining the extent of their financial responsibility, and the methods of enforcement.

Environmental Agencies' Role: Agencies such as the Environment Agency in England and the Scottish Environment Protection Agency in Scotland are empowered to enforce environmental laws, including imposing fines and penalties on polluters. They play a crucial role in ensuring that the PPP is effectively implemented. In the case of *Environment Agency v Clark*, the court upheld the principle that polluters should bear the costs of environmental remediation, even in complex insolvency situations. In January 2025, charities and environmental groups condemned the UK government's decision to divert an £11 million river restoration fund, sourced from water company pollution fines, to the Treasury. This move was perceived as a breach of the PPP, undermining efforts to hold polluting companies accountable

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980: Commonly known as the Superfund law, CERCLA empowers the Environmental Protection Agency (EPA) to identify and clean up hazardous waste sites. Under CERCLA, polluters are held financially responsible for cleanup costs, embodying the PPP by requiring them to pay for the environmental damage they cause. **Clean Air Act (CAA) and Clean Water Act (CWA):** These cornerstone environmental statutes impose strict liability on polluters, mandating compliance with pollution control standards. While the PPP is not explicitly stated, the Acts' provisions align with its tenets by holding polluters accountable for their emissions and discharges. **Oil Pollution Act (OPA) of 1990:** Following the Exxon Valdez oil spill, the OPA was enacted to enhance the nation's ability to prevent and respond to oil spills. It holds responsible parties liable for cleanup costs and damages, reflecting the PPP by ensuring that polluters bear the financial burden of their actions. **Exxon Valdez Oil Spill (1989):** In the aftermath of the *Exxon Valdez oil spill*⁶, Exxon was required to pay over \$2 billion in cleanup costs and additional penalties. This case exemplifies the application of the PPP, where the polluter was held accountable for the extensive environmental damage caused. **Friends of the Earth, Inc. v. Laidlaw Environmental Services, Inc. (2000):** The U.S. Supreme Court ruled that citizens could sue for civil penalties under the Clean Water Act even if the polluting activity had ceased, emphasizing the deterrent effect of penalties and the principle that polluters should bear the costs of their actions. **Vermont's Climate Accountability Law (2024)**⁷:

⁶ 296 F. Supp. 2d 1071 (D. Alaska 2004)

⁷ S. 259, VT. STAT. ANN. tit. 10, §§ 596-599c, 8003(33) (2024)

Vermont became the first U.S. state to mandate that fossil fuel companies pay for climate damages. The law requires an assessment of the costs associated with greenhouse gas emissions over the past two decades, aligning with the PPP by holding polluters financially responsible for climate-related impacts. **Florida's Everglades Pollution Case**⁸: Despite a constitutional amendment requiring polluters to pay for environmental cleanup, a study found that agricultural industries were responsible for 76% of phosphorus contamination in the Everglades but paid only 24% of the cleanup costs. This highlights challenges in fully implementing the PPP at the state level. In this landmark case, the High Court found Corby Borough Council liable for birth defects in children allegedly caused by atmospheric toxic waste released during the reclamation of a steelworks site between 1984 and 1999. The judgment established a direct link between the council's actions and the harm caused, underscoring the principle that the polluter should bear the cost of remediation. The case has been described as "the British Erin Brockovich" due to its significance in environmental litigation. **Cambridge Water Co Ltd v Eastern Counties Leather plc (1994)**⁹- this case involved a tannery's discharge of *perchloroethene (PCE)* into the ground, which later contaminated a borehole supplying drinking water. The House of Lords held that the tannery was liable for the contamination, affirming that businesses must bear the costs of pollution they cause, even if the effects are not immediate. **Manchester Ship Canal Co Ltd v United Utilities Water plc (2014)**¹⁰ - In this case, the Supreme Court ruled that United Utilities Water plc was entitled to discharge water into the Manchester Ship Canal without the canal owner's consent, as the discharge was authorized under the *Water Industry Act 1991*. While the case primarily dealt with statutory interpretation, it reinforced the notion that entities authorized to discharge pollutants are responsible for ensuring their actions comply with environmental standards and do not cause harm to others. **Lungowe v Vedanta Resources plc (2019)**¹¹ this case, heard by the *UK Supreme Court*, involved *Zambian* citizens suing a UK parent company for environmental damage caused by its subsidiary in Zambia. The Court allowed the case to proceed in the UK, emphasizing that parent companies could be held liable for environmental harm caused by their subsidiaries abroad, thereby extending the application of the PPP beyond national borders. **R (HS2 Action Alliance Ltd) v Secretary of State for Transport (2014)**¹² this constitutional law case addressed the government's failure to conduct a strategic

⁸ 570 F.3d 1210 (11th Cir. 2009)

⁹ [1994] 2 AC 264

¹⁰ 1 WLR 2576 and 4 All ER 40

¹¹ [2019] UKSC 20

¹² [2014] UKSC 3

environmental assessment before advancing the *High-Speed 2 (HS2) rail project*. The Supreme Court ruled that the government had not complied with EU directives requiring such assessments, highlighting the importance of considering environmental impacts and holding decision-makers accountable for pollution prevention. **Corby Borough Council v Environment Agency (2007)**¹³ In this case, the House of Lords considered whether a successor company could be held liable for environmental damage caused by a predecessor. The Court concluded that liability could extend to successor companies, reinforcing the PPP by ensuring that entities benefiting from a polluting company's assets could also bear the costs of pollution remediation. **R (Sarah Finch) v Surrey County Council (2024)**¹⁴ In a recent development, the UK Supreme Court ruled that environmental impact assessments for fossil fuel projects must include the greenhouse gas emissions resulting from the combustion of the extracted fuels. This decision underscores the application of the PPP by ensuring that the full environmental costs of fossil fuel projects are considered and accounted for in planning decisions.

Canadian Environmental Protection Act (CEPA): Enacted in 1999, CEPA provides the federal government with the authority to regulate pollutants and enforce environmental standards. While CEPA does not explicitly state the PPP, its provisions align with the principle by holding polluters accountable for environmental damage. The Supreme Court of Canada has upheld CEPA as valid federal legislation for environmental protection. **Environmental Protection and Enhancement Act (EPEA) in Alberta:**¹⁵ The EPEA, enacted in 2000, is the only statute in Alberta that directly references the PPP. It integrates the principle into various provisions, emphasizing that operators are responsible for the cleanup and reclamation of contaminated sites. **Imperial Oil v. Quebec (2003)**¹⁶: The Supreme Court of Canada described the PPP, stating that it assigns polluters the responsibility for remedying contamination and imposes on them the direct and immediate costs of pollution. **R v Hydro-Québec (1997)**:¹⁷ The Supreme Court upheld the Canadian Environmental Protection Act as valid federal legislation for environmental protection, reinforcing the application of the PPP in federal environmental law. **Midwest Properties Ltd. v. Thordarson (2015)**:¹⁸ The Ontario Court of

¹³ EWHC 3174 (TCC)

¹⁴ [2024] UKSC 20

¹⁵ RSA 2000, c E-12

¹⁶ 2003 SCC 58

¹⁷ 1997 CanLII 318 (SCC)

¹⁸ 2015 ONCA 819.

Appeal emphasized the PPP by affirming that property owners have the right to seek compensation for contamination under the Environmental Protection Act, even if the Ministry of the Environment has already issued a remediation order. **Manitoba's Contaminated Sites Remediation Act (CSRA)**¹⁹: Manitoba has adopted the PPP through the CSRA, which establishes an allocation mechanism among potentially responsible parties and assigns several liability to those parties. The Act recognizes that "orphan shares" and "orphan sites" become the responsibility of the province, reflecting the application of the PPP. **Ontario's Environmental Protection Act (EPA)**: Ontario's EPA includes provisions that allow for cost recovery actions related to environmental contamination. The Ontario Court of Appeal's decision in *Midwest Properties Ltd. v. Thordarson* reinforced the PPP by affirming the right of property owners to seek compensation for contamination under the EPA, even if the Ministry of the Environment has already issued a remediation order. The Supreme Court of Canada's decision in *Newfoundland and Labrador v. AbitibiBowater Inc.* (2012)²⁰ highlighted challenges in applying the PPP when corporations go bankrupt. The Court ruled that the province did not have a special status to move ahead of other creditors in seeking compensation for environmental cleanup costs, potentially leaving taxpayers to bear the financial burden. The issue of orphan wells in Alberta underscores the complexities of enforcing the PPP. While oil and gas companies are legally responsible for the cleanup of their wells, bankruptcy or insolvency can leave the government to bear the costs. The Supreme Court's 2019 decision in *Orphan Well Association v. Grant Thornton Limited*²¹ emphasized that bankruptcy laws do not override provincial environmental responsibilities, reinforcing the PPP. **Environmental Liability Act (Umwelthaftungsgesetz, 1990)**: This Act establishes the liability of operators for environmental damage caused by their activities, particularly in sectors like energy, chemicals, and waste management. It aligns with the EU's Environmental Liability Directive, ensuring that operators are responsible for preventive and remedial actions. **Waste Avoidance, Recycling, and Disposal Act**:²² Often referred to as the "closed-loop economy law," this legislation emphasizes waste prevention and recycling. It incorporates the PPP by holding producers responsible for the entire lifecycle of their products, including waste management. **Lliuya v. RWE AG (2015–2025)**:²³ This landmark case involved a Peruvian farmer suing German energy company RWE for its contribution to global greenhouse gas emissions, which

¹⁹ 2022 MBCA 72

²⁰ 2012 SCC 67, 3 S.C.R. 443

²¹ 2019 SCC 5

²² (KrW-/AbfG, 1996)

²³ 1 BvR 2656/18

allegedly increased the risk of glacial flooding near his home. The *Higher Regional Court in Hamm*²⁴ dismissed the case in May 2025, ruling that the specific flood risk to the plaintiff's property was not significant enough. However, the court affirmed the legal principle that polluters could be held accountable for climate harms abroad, marking a significant precedent in climate litigation. *Neubauer v. Germany (2021)*²⁵- In this constitutional case, activists challenged the federal government's climate protection laws, arguing they insufficiently protected fundamental rights against future climate impacts. The German Constitutional Court ruled that the existing laws were partly unconstitutional, mandating the government to strengthen its climate protection measures to safeguard rights to life and property. Germany's environmental liability laws are harmonized with EU directives, particularly the **Environmental Liability Directive**²⁶. This directive establishes a framework for the prevention and remediation of environmental damage, holding operators liable for harm to water, land, and biodiversity. Germany has implemented these provisions, ensuring that the PPP is applied consistently across member states. **Attribution of Climate Damages:** One of the primary challenges in applying the PPP to climate change is establishing a direct link between specific emissions and resultant damages. In the *Lliuya v. RWE AG* case²⁷:- The court acknowledged the principle but found the evidence insufficient to attribute specific harm to the defendant.

Financial Capacity of Polluters: In cases where polluters lack the financial means to remediate environmental damage, the burden may shift to public funds. The EU Environmental Liability Directive encourages member states to develop financial security instruments to address such situations, but their implementation varies.

JAPAN

1969 Act on Special Measures Concerning Pollution-related Health Damage Relief: Established a framework for compensating victims of pollution-related health issues. **1970 Act on Entrepreneurs' Bearing of the Cost of Public Pollution Control Works:** Required businesses to finance pollution control measures. **Basic Environment Law (1993):** Incorporated the PPP into national policy, emphasizing that environmental remediation and

²⁴ (BGH NJW. 1991, 1671 f

²⁵ 1 BvR 2656/18

²⁶ (2004/35/EC)

²⁷ (2015) Case No. 2 O 285/15 (Essen Oberlandesgericht)

damage relief costs should be borne by the polluters. **Minamata Disease (1950s–1970s):** Mercury poisoning caused by Chisso Corporation's industrial discharge led to landmark litigation. In 1973, the Kumamoto District Court ruled that Chisso was liable for damages, invalidating prior "sympathy money" agreements and ordering substantial compensation. **Yokkaichi Asthma (1960s–1970s)²⁸:** Chronic respiratory diseases attributed to sulfur dioxide emissions from petrochemical plants resulted in Japan's first pollution-related court case, establishing legal precedents for environmental liability.

Groundwater Contamination: In cases like Hadano, pinpointing the responsible party for groundwater pollution can be difficult due to the diffuse nature of contaminants. This has led to situations where public funds are utilized for remediation, invoking the "beneficiary pays" principle.

Economic Instruments: The OECD has noted that Japan's use of economic instruments like pollution charges and environmental taxes is limited. There's a need for broader application to internalize environmental costs effectively.

Corporate Resistance: Industry groups have occasionally contested the expanding scope of environmental liabilities, arguing that certain health conditions attributed to pollution may have natural causes, thereby challenging the extent of corporate responsibility. Japan has incorporated the PPP into its domestic laws through adherence to conventions like the Basel Convention, which supports the principle even if not explicitly codified. The OECD has recognized Japan's efforts in applying the PPP but recommends further utilization of economic instruments to enhance policy effectiveness.

BRAZIL

Constitution of 1988: Article 225 establishes the right to an ecologically balanced environment and imposes the duty to preserve it for present and future generations. It explicitly states that those responsible for environmental degradation must bear the costs of its restoration. **National Environmental Policy Law (Law No. 6,938/1981):** Article 4, item VII, incorporates the PPP, emphasizing the obligation of polluters to repair or compensate for environmental damage. Article 14, §1, adopts strict liability, holding polluters accountable

²⁸ *Social History of Medicine*, Volume 34, Issue 1, February 2021, Pages 118–140, <https://doi.org/10.1093/shm/hkz058>

regardless of fault. **Environmental Crimes Law (Law No. 9,605/1998):** This law criminalizes various environmental offenses and establishes penalties for individuals and legal entities involved in environmental harm. **Mariana and Brumadinho Dam Failures:** These catastrophic events, involving the rupture of mining dams operated by Samarco (a joint venture between Vale and BHP), led to extensive environmental damage and loss of life. In response, Brazilian authorities negotiated a \$23 billion settlement with the companies for reparations, marking one of the largest environmental compensation agreements in the country's history. **Indirect Polluter Concept:** Brazilian law extends liability beyond direct polluters to include "indirect polluters," such as shareholders, creditors, and service providers who contribute to or benefit from environmentally harmful activities. This broadens accountability and facilitates transnational litigation.

SOUTH KOREA

1. **Constitution of the Republic of Korea:** Article 35 guarantees the right to a healthy and pleasant environment, obligating the state to protect and improve the environment for the benefit of present and future generations.
2. **Framework Act on Environmental Policy:** This foundational law establishes the PPP, stipulating that individuals or businesses causing environmental pollution or damage are responsible for preventing the pollution or damage and restoring the affected environment.
3. **Act on Liability for Environmental Damage and Relief Thereof (EDRT):** Enacted in 2014, this act provides victims of environmental damage with prompt and unbiased relief by reducing the burden of proof. It imposes strict liability on business owners for environmental damage occurring in relation to their facilities.
4. **Soil Environment Conservation Act:** This act holds current landowners responsible for historical environmental damage, allowing them to claim costs from previous owners who caused the contamination.
5. **2009 Da 66549 Decision:** The Supreme Court ruled that current landowners could hold former landowners liable for soil contamination, even without a direct contractual relationship. This decision emphasized the principle that the polluter pays, extending

liability beyond direct polluters to include previous owners.

6. **2007 Oil Spill Incident:** Following the 2007 oil spill, the government and responsible parties were held accountable for environmental restoration and compensation, reinforcing the application of the PPP in large-scale environmental disasters. South Korea employs various economic instruments to internalize environmental costs:

- **Emissions Trading Scheme (ETS):** Launched in 2015, the ETS is the second-largest in scale after the European Union's. It covers over 525 companies responsible for approximately 68% of the nation's greenhouse gas emissions. The scheme operates on a cap-and-trade basis, with penalties for exceeding emission caps.
- **Environmental Improvement Levy:** Under the Environmental Improvement Cost Liability Act, the Ministry of Environment imposes charges on building owners or occupants discharging pollutants, as well as on diesel vehicle owners, to fund environmental improvements.
- **Pollution Levies:** The Clean Air Conservation Act and the Clean Water Conservation Act impose levies on businesses emitting air and water pollutants, respectively. These levies are categorized into basic and excess charges, incentivizing compliance with emission standards.

The Carbon Neutrality Act, enacted in 2010, this act aims for carbon neutrality by 2050. However, in 2024, the Constitutional Court ruled that the act violated the rights of future generations due to the absence of legally binding greenhouse gas reduction targets for 2031-2049. The court mandated the National Assembly to amend the law by February 2026 to include long-term targets. *The Producer Responsibility System*, implemented in 2003, this system holds consumer electronics manufacturers fully responsible for recycling end-of-life goods. Manufacturers must meet specific recycling quotas or face charges, promoting accountability and sustainability. *Section 24 of the Constitution of the Republic of South Africa (1996)* guarantees the right to an environment that is not harmful to health or well-being and requires the state to protect the environment for the benefit of present and future generations. *Section 2(4)(p) of the National Environmental Management Act (NEMA) (1998)* explicitly incorporates the PPP, stating that the costs of remedying pollution, environmental degradation,

and consequent adverse health effects must be paid for by those responsible for harming the environment. *Section 19(3) of the National Water Act (NWA) (1998)* empowers authorities to issue directives requiring the prevention and remediation of water pollution, holding polluters accountable for their actions. Section 36 of the *National Environmental Management Waste Act (NEMWA) (2008)* mandates that landowners or persons responsible for contamination notify authorities and may be required to conduct site assessments and remediation. **Ezulwini Mining Company v Minister of Mineral Resources and Energy (2023)**²⁹: The Supreme Court of Appeal reaffirmed that mining companies must continue environmental obligations, such as pumping and treating contaminated water, until a closure certificate is issued, even after ceasing operations. **Harmony Gold Mining Company Ltd v Regional Director: Free State Department of Water Affairs (2013)**³⁰ : The Supreme Court of Appeal held that obligations imposed by a directive to prevent and remedy pollution remained in place until fulfilled, regardless of land ownership changes.

INDIA

In *M.C. Mehta v. Union of India (1986)*³¹, the Supreme Court established the doctrine of absolute liability for enterprises engaged in inherently hazardous activities. The Court held that such enterprises are absolutely liable to compensate for any harm resulting from their activities, irrespective of the precautions taken. In *Vellore Citizens' Welfare Forum v. Union of India (1996)*³²: The Supreme Court emphasized that the PPP is an integral part of sustainable development and directed industries causing environmental degradation to pay for the restoration of the environment.

In *Indian Council for Enviro-Legal Action v. Union of India (1996)*³³, the Court directed industries in Bichhri village, Rajasthan, to pay ₹37.385 crores for environmental restoration due to the discharge of untreated toxic effluents. This case is a landmark in applying the PPP in India. **M.C. Mehta v. Kamal Nath & Ors. (1997)**: The Court held that pollution is a civil wrong and a tort committed against the community. It directed polluters to pay damages for the restoration of the environment, reinforcing the PPP.

²⁹ (289/2021) ZASCA 80 (30 May 2023)

³⁰ (971/12) ZASCA 206

³¹ 1987 AIR 1086

³² 1996(1997) 2 SCC 87 (5) SCC 647

³³ 1996 AIR 1446

National Green Tribunal Act, 2010: The Act explicitly incorporates the PPP, empowering the National Green Tribunal (NGT) to apply this principle while passing any order or decision. Section 20 of the Act mandates the Tribunal to apply the principles of sustainable development, the precautionary principle, and the PPP. **S. Jagannath v. Union of India (1997)**³⁴. Environmental degradation due to shrimp farming in coastal areas. The Supreme Court applied the PPP, directing the shrimp farming industry to compensate affected communities for environmental damage. The Court emphasized that the polluter is responsible for the costs of environmental restoration.

Vijay Singh Puniya v. State of Rajasthan (1997)³⁵ - Pollution caused by industrial units in Rajasthan. The High Court directed each polluting industrial unit to pay 15% of its turnover as damages to the State Industrial Corporation, applying the PPP to hold industries financially accountable for environmental harm. **Manoj Misra v. Union of India (2019)**³⁶ - Pollution and encroachment along the Yamuna River. The National Green Tribunal emphasized the application of the PPP, holding authorities accountable for failing to prevent pollution and encroachment, and directing them to take remedial actions.

Methods of Calculating Compensation

1. Percentage of Gross Turnover

Courts have occasionally used a percentage of the polluter's gross turnover to determine compensation. This method aims to ensure that penalties are significant enough to deter future violations. However, its effectiveness can be compromised if the percentage is too low or if the turnover figures are not accurately reported.

2. Expert Committee Assessments

In more complex cases, courts or tribunals may appoint expert committees to assess the environmental damage. These committees evaluate factors such as:

- The extent of environmental degradation

³⁴ AIR 1997 SC 811

³⁵ AIR 2003 RAJ 286

³⁶ (2019) 10 SCC 1041

- The cost of restoration
- Health impacts on affected communities

Based on these assessments, they recommend appropriate compensation amounts. For instance, in the case of the Art of Living Foundation's event on the Yamuna floodplains, the National Green Tribunal directed the Delhi Development Authority to use the ₹5 crore deposited by the foundation for restoration work.

3. Fixed Penalties

In certain situations, courts impose fixed monetary penalties on polluters. While this approach provides clarity, it may not always reflect the true extent of the environmental harm. For example, in the case of Simbhaoli Spirits Ltd.,³⁷ the National Green Tribunal fined the company ₹5 crore for environmental violations. However, concerns were raised about whether this amount was sufficient, given the company's annual turnover.

4. Net Present Value (NPV) of Forest Land

When forest land is diverted for non-forest purposes, the Supreme Court has directed the calculation of the Net Present Value (NPV) of the land. This valuation considers factors like the land's ecological value and the cost of compensatory afforestation. The NPV is then deposited with the Compensatory Afforestation Fund Management and Planning Authority (CAMPA) for restoration activities.

Challenges in Calculation

- **Data Availability:** Accurate data on environmental damage and polluter turnover is often lacking, complicating the calculation of appropriate compensation.
- **Uniformity:** The absence of a standardized formula leads to inconsistencies in compensation amounts across different cases.
- **Enforcement:** Even when compensation amounts are determined, collecting these funds from polluters can be challenging, especially if they are financially insolvent or

³⁷ AIR1993DELHI219

uncooperative.

1. **Determination of Compensation:** There is often a lack of standardized formulas for calculating compensation, leading to arbitrary assessments. For instance, in the case of *Krishan Kant Singh v. Triveni Engineering Industries*, the National Green Tribunal criticized the use of "guesswork" in determining compensation amounts.
2. **Enforcement Issues:** Despite imposing penalties, enforcement remains a challenge. For example, between April 2019 and March 2025, the Haryana State Pollution Control Board imposed environmental compensation penalties totaling ₹499 crore but recovered only ₹132 crore, with the remaining ₹367 crore pending.
3. **Identification of Polluters:** In cases involving widespread pollution, such as the discharge of industrial and household waste into the Yamuna River, identifying individual polluters has proven difficult, hindering effective implementation of the PPP.
4. **Electronic Waste Management:** In 2025, LG and Samsung challenged India's policy mandating higher minimum payouts to electronic waste recyclers, arguing that the policy imposes excessive costs on manufacturers and benefits recyclers unfairly. The companies cited significant financial burdens and questioned the policy's effectiveness in improving environmental outcomes.

Legal Foundations of the Polluter Pays Principle

1. International Recognition

- **OECD Guidelines:** The Organisation for Economic Co-operation and Development (OECD) formally articulated the PPP in 1972, emphasizing that the costs of pollution should be borne by the polluters.
- **European Union:** The EU's Environmental Liability Directive (2004/35/EC) mandates that operators bear the costs of preventing and remedying environmental damage they cause, aligning with the PPP.

National Implementation

- **India:** The Indian judiciary has integrated the PPP into its environmental jurisprudence

through landmark cases such as *Indian Council for Enviro-Legal Action v. Union of India* (1996)³⁸, where the Supreme Court held that industries causing environmental harm are liable to compensate for the damage caused.

- **United States:** The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as the Superfund law, embodies the PPP by holding parties responsible for hazardous waste sites liable for cleanup costs.

Challenges in Implementation

1. Identification of Polluters

Determining the responsible party can be complex, especially in cases of diffuse pollution or when multiple entities contribute to environmental harm.

2. Assessment of Environmental Damage

Quantifying the extent of environmental damage and the corresponding compensation required poses significant challenges, often leading to disputes and inconsistencies.

3. Enforcement Mechanisms

Ensuring that polluters pay the assessed penalties and compensation remains a persistent issue, with some jurisdictions facing difficulties in collecting fines and implementing restorative measures.

The principle of Polluters Pays in the International Context

1. **RWE Climate Liability Case (Germany)**³⁹ In a landmark case, a Peruvian farmer sued German energy giant RWE for its contribution to global warming, which has caused significant changes and threats to his local environment. The case seeks €17,000 from RWE for its 0.47% contribution to the global issue, symbolically holding the company responsible. This lawsuit could establish a precedent for holding corporations accountable for climate change worldwide.

³⁸ 1996 AIR 1446

³⁹ Saul Luciano Lliuya v RWE AG, 5 U 15/17 OLG Hamm / Case No. 2 O 285/15 Essen Regional Court

2. **EU Cosmetics and Pharmaceutical Pollution Regulations**⁴⁰ The European Union has agreed on a new deal to enforce the treatment of sewage, requiring beauty and pharmaceutical companies to pay for at least 80% of the costs to eliminate micropollutants from urban wastewater. This initiative follows the PPP and aims to ensure that necessary products remain affordable while protecting citizens from harmful discharges and improving water quality.
3. **Oil Spill in Singapore (2024)**⁴¹ In June 2024, a significant oil spill occurred in Singapore's waters when the Dutch dredger Vox Maxima collided with a Singapore-flagged fuel tanker. Under Singaporean law, the tanker involved was held strictly liable for the pollution damage, even in the absence of fault. This case exemplifies how the PPP operates in practice, ensuring faster compensation for affected parties while fault is determined.

TN Godavarman and the current judicial order

The **Godavarman case** decisively expanded forest protections by treating all former forest land as protected, backed by compensatory afforestation processes. Meanwhile, the **polluter-pays doctrine**—crystallized in *Vellore tanneries*⁴²—has advanced into a potent tool, imposing **ongoing liability** and restoration duties on polluters. By enforcing continuing financial and ecological responsibility, Indian courts are progressively embedding environmental protection into actionable legal frameworks. The modern state is the linchpin in enforcing the polluter-pays principle—it legislates, monitors, adjudicates, and aligns economic incentives with environmental protection. However, its effectiveness depends heavily on institutional capacity, political will, and transparency. Whether the principle is aspirational or actionable is ultimately determined by how robustly the state deploys its authority and resources. To enhance accountability, modern states can: Upgrade *governance capacity*⁴³ — more regulators, better training, and improved monitoring tools. Incorporate *transparency*, such as public tracking of pollution levies and fund usage. Promote *public participation*,

⁴⁰ (EC) No 1223/2009

⁴¹ *Singapore Intensifies Oil Spills*, Reuters, Asia-Pacific, <https://www.reuters.com/world/asia-pacific/singapore-intensifies-oil-spill-clean-up-after-it-spreads-along-coast-2024-06-16/>, last seen 30 June 2025

⁴² 2025 SCC OnLine SC 207

⁴³ S.A. Atapattu, “*The Polluter Pays Principle*”, *Emerging Principles of International Law*, 437-483, *International Law and Development* Vol. 7

allowing communities to report violations or challenge inaction. Establish *judicial and quasi-judicial bodies* to fast-track environmental compensation and enforcement.

Way forward

The Polluter Pays Principle serves as a critical tool in ensuring environmental accountability, promoting sustainable practices, and safeguarding public health. While challenges in its implementation persist, recent legal developments indicate a growing commitment to enforcing this principle across various jurisdictions. Continued efforts are essential to strengthen the legal frameworks and enforcement mechanisms that uphold the Polluter Pays Principle, ensuring a cleaner and more sustainable environment for future generations. The modern state is the linchpin in enforcing the polluter-pays principle—it legislates, monitors, adjudicates, and aligns economic incentives with environmental protection. However, its effectiveness depends heavily on institutional capacity, political will, and transparency. Whether the principle is aspirational or actionable is ultimately determined by how robustly the state deploys its authority and resources.