Earmarking for Environmental Damage: From Oil Spills to Climate Change

by Janet E. Milne

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Editors' Summary

For a number of years, the U.S. federal tax code has imposed a tax on petroleum that finances the Oil Spill Liability Trust Fund, an earmarked fund to help cover the costs of oil spills. BP's massive 2010 oil spill in the Gulf of Mexico provided an unprecedented test for the Trust Fund and underscored the question of who pays for the costs of oil spills. The BP spill taught important lessons about the role of the tax and the Trust Fund, and the federal regulatory regime governing the responsible parties' liability.

On April 20, 2010, the Deepwater Horizon oil drill rig in the Gulf of Mexico suffered an explosion that triggered a national environmental catastrophe of unprecedented proportion. The Deepwater Horizon had been drilling a deepwater well for BP about 50 miles off the U.S. coastline.[1] By April 20, it had drilled the well to its final depth of 18,360 feet[2] and was finishing its work when, as a result of a series of failures,[3] pressure built in the well until an explosion occurred at 9:49 p.m.[4] The well's blowout destroyed the Deepwater Horizon, killed 11 people, and started an oil spill that poured approximately 4.9 million barrels of oil into the Gulf of Mexico[5] from breaks in the well a mile underwater.[6] After the oil had been flowing for almost two months, President Barack Obama said: "Already, this oil spill is the worst environmental disaster America has ever faced."[7] Oil and natural gas continued to flow until July 15 when the well was capped, 87 days after the explosion.[8]

A small environmental tax played a significant role amid the response to the oil spill. A federal eight-cent-per-barrel tax on petroleum[9] is dedicated to financing the Oil Spill Liability Trust Fund (the Trust Fund),[10] which can cover the cost of government's emergency response and damages from oil spills. The Trust Fund and the federal liability regime that surrounds it highlight the question of who pays for costs of environmental damage.

Author's Note: The author thanks Emily Steinhilber and Jonathan Voegele for their research and assistance and Richard Brooks, Jonathan Ramseur, and Robert Meltz for their review of a draft of this Article. Their review does not imply any endorsement of its content or conclusions, which remain the author's sole responsibility.

1. BP, Deepwater Horizon Accident Investigation Report 15 (Sept. 8, 2010), *available at* http://www.bp.com/liveassets/bp_internet/globalbp/globalbp_uk_english/incident_response/STAGING/local_assets/downloads_pdfs/Deepwater_Horizon_Accident_Investigation_Report.pdf [hereinafter Accident Investigation Report].
2. *Id.* at 17.
3. *Id.* at 10-11.
4. *Id.* at 29.
5. Joint Analysis Group, Review of Preliminary Data to Examine Oxygen Levels in the Vicinity of MC252#1, May 8 to August 9, 2010, 1 (Aug. 16, 2010), http://w2.noaa.gov/sciencemissions/PDFs/JAG_Oxygen_Report%20(FINAL%20090410).pdf. BP disputes the government's 4.9-million-barrel estimate. National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, Deepwater: The Gulf Oil Disaster and the Future of Offshore Drilling 346 n.76 (2011) (discussing the oil spill's economic consequences for the Gulf Coast) [hereinafter National Commission Final Report].
6. Press Release, The White House, Remarks by the President to the Nation on the BP Oil Spill (June 15, 2010), http://www.whitehouse.gov/the-press-office/remarks-president-nation-bp-oil-spill.
7. *Id.*
8. Joint Analysis Group, *supra* note 5, at 1. The well was finally "killed" on Sept. 19, 2010. Press Release, BP, BP Confirms Successful Completion of Well Kill Operations in the Gulf of Mexico (Sept. 19, 2010), http://www.bp.com/genericarticle.do?categoryId=2012968&contentId=7065079.
9. Internal Revenue Code (I.R.C.) §4611 (2006).
10. *Id.* §9509.

This Article analyzes the role of this tax-financed Trust Fund during the emergency response to the BP oil spill[11] and its role in compensating for environmental and economic damages over the longer term in this particular situation. After briefly introducing the Trust Fund and the related federal liability regime, it explores the factual circumstances that defined the Trust Fund's role in this oil spill and that are pivotal for determining who will pay for the consequences of the BP oil spill. It highlights lessons about the Trust Fund that emerge from this experience, but it also places the issue of the use of trust funds in a broader context. While the BP incident underscores the need to be prepared to address oil spills that come with reliance on fossil fuels, U.S. and global use of fossil fuels also raises the question of how to prepare for the consequences of climate change and the role that earmarked trust funds might play in that context. Consequently, the Article concludes with thoughts about what light the role of the Trust Fund in the BP spill might shed on the question of who should pay for adaptation to climate change.

I. An Overview of the Tax, the Trust Fund, and the Surrounding Regulatory Regime

When the BP oil spill occurred, the U.S. federal government had in place a regulatory regime governing liability for oil spills in U.S. waters, created in response to the *Exxon Valdez* oil spill. In 1989, the *Exxon Valdez*, an oil tanker passing through Alaskan waters, hit a reef and released 238,000 barrels of crude oil that created a 3,000-square-mile oil slick.[12] Although only 5% of the size of the BP oil spill, the *Exxon Valdez* spill was then the largest oil spill in American history.[13] The U.S. Congress responded swiftly, enacting the Oil Pollution Act (OPA) of 1990 (the Act).[14]

Through its liability regime, the Act sets the legal framework for who should pay for the costs of oil spills. The Act governs discharges of oil into or on federal navigable waters, shorelines, and, as in the case of the BP spill, the exclusive economic zone.[15] "Responsible parties" are liable for the cost of removing the oil and for damages for natural resources harm, real or personal property losses, economic losses, lost government revenues, and the cost of increased public services—subject to certain limits.[16] In the case of a spill from an offshore facility, such as BP's well in the Gulf of Mexico,[17] the owners of the facility are liable for all removal costs, but only for $75 million in damages.[18] BP is the high-visibility responsible party in this instance, but its minority co-lessees of the well site are also named as responsible parties,[19] as is Transocean, the owner of Deepwater Horizon.[20] The limits on liability, however, do not apply in the event of gross negligence, willful misconduct, or violation of federal law,[21] an issue under investigation in the BP spill and raised in a

11. For the sake of simplicity, this Article refers to the oil spill as the BP oil spill because BP has been the most visible party, but it recognizes the fact that other parties were involved and could bear legal responsibility, as discussed in more detail below.
12. Samuel K. Skinner & William K. Reilly, The Exxon Valdez Oil Spill: A Report to the President 1 (1989), *available at* http://www.akrrt.org/Archives/Response_Reports/ExxonValdez_NRT_1989.pdf. Later estimates gauged a larger spill of approximately 262,000 barrels (11 million gallons). Jonathan L. Ramseur, Cong. Research Serv., RL33705, Oil Spills in the U.S. Coastal Waters: Background, Governance, and Issues for Congress 1 (2010).
13. Skinner & Reilly, *supra* note 12, at ES-1. The *Exxon Valdez* spill involved an estimated $2.2 billion in cleanup costs. Susan A. Fleming, U.S. Gov't Accountability Office (GAO), GAO-10-795T, Oil Spills: Cost of Major Spills May Impact Viability of Oil Spill Liability Trust Fund 21 (2010), Testimony Before the Subcommittee on Federal Financial Management, Government Information, Federal Services, and International Security, Committee on Homeland Security and Governmental Affairs, U.S. Senate.
14. 33 U.S.C. §§2701-2761, ELR Stat. OPA §§1101-7001.
15. 33 U.S.C. §2702(a) (2006). Note that the analysis herein focuses on aspects of the Act that affect offshore facilities at issue in the BP oil spill; it does not address aspects of the Act that would apply to other circumstances.
16. *Id.* §2702(b).
17. The U.S. Coast Guard classifies the leaking well as an offshore facility. Fleming, U.S. GAO, *supra* note 13, at 7.
18. 33 U.S.C. §2704(a)(3) (2006).
19. For purposes of the Act, a responsible party is the lessee of the offshore facility. BP and two other entities (Anadarko Petroleum and MOEX Offshore) had leased the right to drill in Mississippi Canyon Block 252, where the well was located, from the federal government in 2008. BP held a 65% interest in the well and was the lease operator. Accident Investigation Report, *supra* note 1, at 15. The federal government's civil suit seeking damages under the Act names, in part, BP Exploration and Production Inc, Anadarko Exploration & Production LP, Anadarko Petroleum Corporation, and MOEX Offshore 2007 LLC, as responsible parties as co-lessees. Complaint at ¶ 26, United States v. BP Exploration & Production Inc. et al., No. 10-cv-04536 (E.D. La. Dec. 15, 2010).
20. Deepwater Horizon drilled the well under contract with BP. Accident Investigation Report, *supra* note 1, at 17. Under the Act, Deepwater Horizon is treated as an offshore facility if removal and damage costs exceed approximately $65 million, which occurred in the case of this oil spill. Curry L. Hagerty & Jonathan L. Ramseur, Cong. Research Serv., R41262, Deepwater Horizon Oil Spill: Selected Issues for Congress 11 (2010) (quoting National Pollution Funds Center views on application of §2704 of the Act to Transocean). Transocean has initiated a suit seeking a judgment that it is not liable for costs under the Act. In re the Complaint and Petition of Triton Asset Leasing GMBH et al., in a Cause for Exoneration From or Limitation of Liability, Civil Action No. 4:10-cv-1721 (S.D. Tex. May 13, 2010). The federal government has identified Transocean corporations and Triton as responsible parties for purposes of the OPA. Natural Resource Trustees, Notice of Intent to Conduct Restoration Planning (Pursuant to 15 C.F.R. §990.44)—Discharge of Oil From the Deepwater Horizon Mobil Offshore Drilling Unit and the Subsea Macondo Well Into the Gulf of Mexico 3 (Apr. 20, 2010), *available at* www.darp.noaa.gov/southeast/deepwater_horizon/pdf/Deepwater_Horizon_Final_NOI.pdf. Triton Asset Leasing GmbH is also a named responsible party. *Id.* The federal government's civil suit under the Act alleges that BP contracted with one or more of Transocean Holdings LLC, Transocean Offshore Deepwater Drilling, Inc, Transocean Deepwater Inc, and Triton Asset Leasing GMBH to conduct the drilling, Complaint at ¶ 40, United States v. BP Exploration & Production Inc. et al., No. 10-cv-04536, and names them as parties.
21. 33 U.S.C. §2704(c)(1) (2006).

federal civil suit filed in December 2010 against BP, its co-lessees, and various Transocean entities.[22]

This liability regime is complemented by the Trust Fund, which can pay government's emergency response costs and serve as a backup source for paying damage claims not covered by the responsible parties. The Trust Fund had been established in 1986,[23] but the post-*Exxon Valdez* legislation activated the fund and financed it with a five-cent-per-barrel tax on domestic and imported petroleum.[24] The tax was suspended at the end of 1994, but reinstated in 2006[25] and increased to 8 cents in 2008.[26] If the federal government receives fines for violations of the Clean Water Act (CWA)[27] involving an oil spill, the fines are also paid into the Trust Fund.[28]

The Trust Fund is administered by the National Pollution Funds Center within the U.S. Coast Guard.[29] The Trust Fund serves several purposes in the event of an oil spill. First, it can provide funding for government's emergency response. The president can authorize the use of the Trust Fund to pay for federal and state actions to remove the oil consistent with the national contingency plan for oil spills.[30] Second, in recognition of the fact that oil spills may damage public natural resources, the Trust Fund can pay for costs incurred by trustees (acting on behalf of federal and state governments and Indian tribes) to assess natural resource damages, prepare plans to restore natural resources, and implement those plans.[31] Finally, the Trust Fund can pay claims for nongovernmental removal costs and for various types of damages that the responsible parties refuse to pay or that exceed the responsible parties' liability limits.[32] The Trust Fund has the right to recover its payments from the responsible parties up to their liability limits, if any.[33]

The amount that the Trust Fund can spend on any oil spill, however, is limited to $1 billion, of which no more than $500 million can be paid for natural resource damage assessments and claims.[34] In addition, appropriation limits apply to funds used for emergency response. The Trust Fund can allocate up to $50 million a year, without appropriation, for the cost of the government's immediate removal and mitigation response and for initiating the trustees' natural resource assessment for all oil spills that year.[35] This annual allocation is held in an Emergency Fund within the Trust Fund.[36] If the Trust Fund needs additional funding for these purposes, the Coast Guard can take an advance from the Trust Fund of an additional $100 million, also without appropriation, if it provides notice and justification to Congress.[37] Any additional amounts require appropriation. The Trust Fund does not need to seek appropriations for the use of funds to pay uncompensated claims for nongovernmental removal costs or damages, or for the trustees' natural resource damage claims.[38] Quite apart from payments for any specific oil spill, the Trust Fund also provides funding for certain federal agencies' expenses in administering and enforcing the Act, subject to annual appropriations.[39] Table 1 summarizes the relationship between the Act's liabil-

22. Complaint, United States v. BP Exploration & Production Inc. et al., No. 10-cv-04536 (E.D. La. Dec. 15, 2010).
23. Omnibus Budget Reconciliation Act of 1986, Pub. L. No. 99-509 §8033(a), 100 Stat. 1874 (codified as amended at I.R.C. §9507 (2006)).
24. OPA of 1990, Pub. L. No. 101-380, §9001(b), 104 Stat. 573 (codified as amended at I.R.C. §9509 (2006)).
25. Energy Policy Act of 2005, Pub. L. No. 109-58, §1361, 119 Stat. 1058 (codified as amended at I.R.C. §4611(f)(1) (2006)).
26. Energy Improvement and Extension Act of 2008, Pub. L. No. 110-343, Div. B, §405(a)(1), 122 Stat. 3860 (to be codified at I.R.C. §4611(c)(2)(B)). The tax will increase to 9 cents after December 31, 2016, I.R.C. §4611(c)(2)(B)(ii) as amended, and will expire at the end of 2017, *id.* §4611(f)(2) as amended. The 2008 amendment also repealed a provision in §4611 (previously §4611(f)(2)) that suspended the tax when the Trust Fund's unobligated balance exceeded $2.7 billion. Energy Improvement and Extension Act of 2008, Pub. L. No. 110-343, Div. B, §405(b)(1), 122 Stat. 3861. The statement currently in §4611(f)(1) that the tax applies after April 1, 2006, or, if later, when the unobligated balance is less than $2 billion, apparently serves as an effective date for the increased tax rate, rather than a trigger for a subsequent suspension of the tax.
27. 33 U.S.C. §§1251-1387, ELR Stat. FWPCA §§101-607.
28. 33 U.S.C. §1321(s) (2006); I.R.C. §9509(b)(8) (2006). The Trust Fund can also receive penalties paid pursuant to other statutes. *See* I.R.C. §9509(b)(8) (authorizing appropriations to the Trust Fund for penalties paid under the Deepwater Port Act of 1974 or the Trans-Alaskan Pipeline Authorization Act, §207).
29. *See* Exec. Order No. 12777 §7, 56 Fed. Reg. 54757 (Oct. 22, 1991) (delegating responsibility for the Trust Fund to the Secretary of the Department housing the Coast Guard).
30. 33 U.S.C. §2712(a)(1) (2006).
31. *Id.* §2712(a)(2).
32. *Id.* §2712(a)(4). A responsible party may seek payment for removal costs or damages above the amount of that party's liability for costs under the Act. *Id.* §2708. For a discussion of claims submitted to the Trust Fund, see Lawrence I. Kiern, OPA 90 Complexities and Recent Legislative Developments (Nov. 10, 2010), http://www.utcle.org/eLibrary/preview.php?asset_file_id=27299 (paper presented at the 19th Annual Admiralty and Maritime Law Institute, Univ. of Texas School of Law). A responsible party seeking reimbursement of costs from the Trust Fund bears the burden of proving that it is eligible for the Act's liability limits. Water Quality Ins. Syndicate v. United States, 632 F. Supp. 2d 108, 113-14 (D. Mass. 2009). A court reviewing the National Pollution Fund Center's decision to deny reimbursement of costs will apply the Administrative Procedure Act's standard of review. Bean Dredging, LLC v. United States, 699 F. Supp. 2d 118, 126 (D.D.C. 2010); Water Quality Insurance Syndicate, 632 F. Supp. 2d at 109.
33. 33 U.S.C. §§2712(f), 2715(c) (2006). Responsible parties for offshore facilities other than deepwater ports are liable for all removal costs, so limits on liability apply only to other claims. *Id.* §2704(a)(3). When the Trust Fund recovers removal costs from a responsible party, a court will apply the Administrative Procedure Act's standards of review and will determine whether the government's removal actions were arbitrary or capricious, not whether they were "necessary." United States v. Hyundai Merchant Marine Co., 172 F.3d 1187, 1191 (9th Cir. 1999), *cert. denied*, 528 U.S. 963 (1999). The responsible party bears the burden of proving that the removal costs were arbitrary or capricious. In re Settoon Towing LLC, 722 F. Supp. 2d 706, 709 (E.D. La. 2009).
34. I.R.C. §9509(c)(2) (2006).
35. 33 U.S.C. §2752(b) (2006).
36. *See* National Pollution Funds Center, U.S. Coast Guard, Oil Spill Liability Trust Fund Annual Report FY 2004-FY 2008, at 5, *available at* http://www.uscg.mil/npfc/docs/PDFs/Reports/OSLTF_Report_FY04-FY08.pdf. Any unused amounts are carried over to subsequent years. *Id.*
37. 33 U.S.C. §2752(b) (2006). The notice and justification must be provided within 30 days, and funding not used by the Coast Guard in one year may be carried forward. *Id.*
38. *See id.* (exempting §2712(a)(4) payments of claims for uncompensated removal costs and uncompensated damages from appropriations requirement); Memorandum from Randolph D. Moss, Deputy Assistant Attorney General, Office of Legal Counsel, U.S. Department of Justice, to Frank W. Hunger, Assistant Attorney General, Civil Division, U.S. Department of Justice (Sept. 25, 1997), http://www.justice.gov/olc/opaop_rm1.htm (concluding that the Trust Fund can pay trustees' natural resource damages claims without appropriation).
39. 33 U.S.C. §2712(a)(5) (2006); *id.* §2752.

Table 1: Summary of Payment Obligations for Oil Spills Involving Offshore Facilities

Type of Cost	**Claimant**	**Responsible Parties' Legal Liability Under Oil Pollution Act**	**Trust Fund (up to $1 billion per incident and recoverable from responsible parties)**
Removal Costs	Federal and state governments, Indian tribes	For offshore facilities, responsible parties must pay all removal costs (unless complete defense, such as act of God)	Can pay federal and state removal costs consistent with national contingency plan (NCP) (without appropriation up to $50 million plus $100 million advance per incident)
	3rd parties	Same	Can pay removal costs consistent with NCP not compensated by responsible party
Natural Resource Damages			
Natural resource damages, including assessment costs	U.S. and state governments, Indian tribes, foreign trustee	$75 million per incident cap for responsible parties for all non-removal damages from offshore facilities; but no cap if incident caused by responsible party's gross negligence, willful misconduct, or violation of federal regulation	Can pay cost of federal, state, Indian tribe trustees' assessment of resource damage, plan development, and implementation consistent with NCP (up to $500 million per incident; cost of initiating assessment eligible for $50 million exemption from appropriation above)
Economic Damages			
Damages for injury or economic loss from destruction of real or personal property	Owner or lessor	$75 million per incident cap for responsible parties for all non-removal damages from offshore facilities; but no cap if incident caused by responsible party's gross negligence, willful misconduct, or violation of federal regulation	Can pay damages not compensated by responsible party
Damages for loss of subsistence use of natural resources	Any claimant who uses without regard to ownership	Same	Same
Damages for loss of taxes, royalties, rent, fees, profit share due to loss or injury of property or resources	United States, state, or political subdivision	Same	Same
Damages for loss of profits and earning capacity due to loss of property or resources	Any claimant	Same	Same
Damages for net cost of providing increased public services during and after removal	State or political subdivision	Same	Same
Administrative Costs			
General administrative costs for administering Oil Pollution Act	EPA, U.S. Coast Guard		Can pay federal administrative, operational costs to administer and enforce Oil Pollution Act (subject to specific statutory caps and appropriation)
Other Costs		**Clean Water Act**	
Fines	Federal government	Responsible parties pay for discharges in violation of the Clean Water Act	Fines paid into Trust Fund (no cap)

ity regime and the Trust Fund, highlighting who pays for which types of costs.

Thus, funded by the tax on petroleum, the Trust Fund essentially is an industry-financed risk pool that can finance government's emergency response and underwrite costs that the responsible parties cannot pay or are not legally obligated to pay.[40] The combination of the Trust Fund's $1 billion per-incident cap and the Act's limits on responsible parties' liability, however, means that some costs of major oil spills may go uncompensated, depending on the circumstances. The BP oil spill illustrates that risk, although BP chose voluntarily to step forward and assume costs, as described below.

II. The Role of the Trust Fund in the BP Oil Spill

Analysis of the role of the Trust Fund in covering costs associated with the BP oil spill involves the interactions of legal liability limits under the Act, BP's willingness to pay for costs, and the legal limitations on the Trust Fund. These interactions affect three types of costs—the immediate costs of stopping the flow of oil and responding to the spill; the economic damages to a variety of people or entities affected by the spill; and damages for the injury to natural resources in the Gulf.

A. *Immediate Response Costs*

The Trust Fund played a pivotal role in helping the federal and state governments respond immediately as oil started flowing from the well into the Gulf. With some aid from Congress, it allowed the government to respond without worrying about a source of funding.

The human response to the oil spill was massive. At the peak of the response to the oil spill, 47,848 people, 8,044 vessels, and 123 aircraft participated in the effort to track and remove the oil.[41] Over 1.8 million gallons of dispersants were released on the Gulf's surface and into its subsurface waters.[42] Responders used almost 3.8 million feet of containment boom, as well as an additional 9.7 million feet to capture the oil and guard the shoreline.[43]

The cost of the short-term response was enormous. As of June 4, 2010, BP had spent more than $1 billion in its efforts to clean up oil and drill a relief well designed to shut down the leaking well.[44] The federal and state governments by June 1 had paid approximately $122 million in response measures.[45] That was only the beginning. Response efforts would continue for another month and a half until the well was capped, with more cleanup efforts thereafter.

Under the Act, BP and other responsible parties are liable for the costs of removing the oil. From the start, BP committed itself to stopping the flow of oil into the Gulf and working with the federal government, despite potential legal questions about who ultimately was responsible.[46] In early June, BP's Chairman Carl-Henric Svanberg stated:

> In conjunction with the U.S. authorities, a massive response has been mobilized which is focussed immediately on containing and supporting the flow of oil. We will also continue to apply all necessary resources to the aftermath, both in the clean-up operation and in remediation and payment of legitimate claims. . . . We will meet our obligations both as a responsible company and also as a necessary step to rebuilding trust in BP as a long term member of the business communities in the U.S. and around the world. This is in the interest of all our stakeholders.[47]

Even with BP's willingness to pay (and presumed legal obligation to do so, at least in part), the Trust Fund played a central role in the emergency response to the oil spill. It provided the resources that the Coast Guard and other federal and state agencies needed to respond to the disaster during the early weeks, without having to wait for the delays of appropriations or payments from the responsible parties. Nevertheless, the $50 million Emergency Fund and the traditional $100 million advance were insufficient.[48] In mid-June the head of the National Pollution Funds Center told Congress that the Trust Fund would not have adequate funds available by the end of the month.[49] Congress passed legislation authorizing additional $100 million advances from the Fund up to $1 billion,[50] and the Fund received six additional $100 million advances

40. The Trust Fund is conceptually quite similar to the Superfund established pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act, which drew upon industry-based taxes to help finance a fund that government could draw upon to clean up hazardous waste sites in the absence of a responsible party. *See* I.R.C. §9507 (2006) (establishing the Superfund and authorizing its expenditures).
41. Decision Memorandum for the Secretary, from Michael R. Bromwich, Director, Bureau of Ocean Energy, Management, Regulation, and Enforcement, to Kenneth Salazar, Secretary, Department of Interior 21 (Oct. 1, 2010) [hereinafter Bromwich Decision].
42. *Id.* at 25.
43. *Id.* at 26.
44. Press Release, BP, Chairman and CEO Give Assurance That BP Will Meet Its Obligations in Gulf of Mexico (June 4, 2010), http://www.bp.com/genericarticle.do?categoryId=2012968&contentId=7062651.
45. Fleming, U.S. GAO, *supra* note 13, at 16.
46. *See, e.g.*, Press Release, BP, BP Emphasizes That Disagreement With Other Parties Will Not Diminish Its Promise to Clean Up the Spill and Pay Legitimate Claims (June 18, 2010), http://www.bp.com/genericarticle.do?categoryId=2012968&contentId=7062995 (reiterating commitment to response in the face of disputes with potentially responsible parties); Press Release, BP, BP Forges Ahead With Gulf of Mexico Response (Apr. 25, 2010), http://www.bp.com/genericarticle.do?categoryId=2012968&contentId=7061518 (assuming responsibility for stopping well and "assisting" Transocean); Press Release, BP, BP Initiates Response to Gulf of Mexico Oil Spill (Apr. 22, 2010), http://www.bp.com/genericarticle.do?categoryId=2012968&contentId=7061490.
47. Press Release, BP, Chairman and CEO Give Assurance That BP Will Meet Its Obligations in Gulf of Mexico (June 4, 2010), http://www.bp.com/genericarticle.do?categoryId=2012968&contentId=7062651.
48. By June 16, the Emergency Fund had received an initial advance of $100 million plus $50 million in unappropriated funds attributable to fiscal year 2006. Fleming, U.S. GAO, *supra* note 13, at 11.
49. *Hearing on and Responsibility for Oil Spills Under the Oil Spill Pollution Act of 1990 and Related Statutes Before the S. Comm. on Homeland Sec. & Gov't Affairs, Subcomm. on Fin. Mgmt., Gov't Info., Fed. Serv. and Int'l Sec.*, 111th Cong. (2010) (statement of Craig Bennett, Dir., Nat'l Pollution Funds Ctr.).
50. Act of June 15, 2010, Pub. L. No. 111-191, 124 Stat. 1278 (to be codified at 33 U.S.C. §2752). *See also* Supplemental Appropriations Act of

through early September.[51] As of mid-January 2011, the National Pollution Funds Center, which administers the Trust Fund, had billed the responsible parties for $632.6 million in expenses,[52] of which BP had paid $606.4 million, with the January bill of $26.2 million still pending.[53]

Thus, the Trust Fund played a critical role in the emergency response, but the statutory limits on funds available for emergency response could have crippled its function if Congress had not acted to allow additional advances. The ability to eventually recoup the funds from responsible parties would not have relieved the cash-flow problem. For a spill of this magnitude, the Trust Fund needed more flexibility than its original parameters allowed.

B. *Economic Claims and Natural Resource Damages*

The economic consequences of the oil spill were widespread. Before the oil stopped flowing, one-third of the Gulf was closed to fishing, and tourism, retail businesses, and industry suffered.[54] At just the beginning of the process of assessing the spill's effect on natural resources, the federal government identified over 950 miles of impaired shoreline habitats and, while the oil was still flowing in late June, collected 1,850 dead birds, 1,900 oiled birds, and over 400 oiled sea turtles.[55] Thirty-five National Wildlife Refuges in the Gulf area were deemed at risk.[56] A full understanding of natural resource damages is still far from known.[57]

Under the Act, responsible parties' liability for economic and natural resource damages is capped at $75 million, barring gross negligence, willful misconduct, or violation of federal law. To the extent that damages are not paid by the responsible party, the Trust Fund can pay only up to $1 billion in damages per incident (including emergency response costs), no more than $500 million of which can compensate for natural resource damages. Thus, if BP and other responsible parties are eligible for the cap on damages, an issue now in litigation,[58] they would have to pay only $75 million in damages. With its $1 billion limit and the amount already spent on emergency responses, the Trust Fund would have had less than $400 million left for other claimants. It could not have offered significant additional relief.

BP, however, chose to assume financial responsibility. At a June 16, 2010, meeting with President Obama at the White House, BP executives agreed to set aside $20 billion to finance "legitimate claims, including natural resource damages and state and local response costs."[59] BP will pay $20 billion into the fund over four years and hold it in an independently managed trust for the designated purposes.[60] This commitment did not represent a cap on

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2010, Pub. L. No. 111-212, 124 Stat. 2337 (slightly amending the advance language).

51. Telephone Conversation between Emily Steinhilber, Vermont Law School student, and Scott Nance, staff member for the U.S. Senate Comm. on Appropriations (Sept. 29, 2010).

52. Letter from Jonathan Abramson, Case Officer, U.S. Coast Guard, to BP Exploration & Production et al. (May 27, 2010) (on file with author), *available at* http://www.restorethegulf.gov/sites/default/files/documents/pdf/bp-bill-1.pdf (sending bill for $1,820,725.36); Letter from Jonathan Abramson, Case Officer, U.S. Coast Guard, to BP Exploration & Production et al. (June 2, 2010) (on file with author), *available at* http://www.restorethegulf.gov/sites/default/files/documents/pdf/bp-bill-2.pdf (sending bill for $69,090,958.57); Letter from Jonathan Abramson, Case Officer, to BP Exploration & Production et al., (June 21, 2010), *available at* http://www.restorethegulf.gov/sites/default/files/documents/pdf/bp-bill-3.pdf (sending bill for $51,435,548.27); Letter from Jonathan Abramson, Case Officer, U.S. Coast Guard, to BP Exploration & Production et al. (July 13, 2010) (on file with author), *available at* http://www.restorethegulf.gov/sites/default/files/documents/pdf/bp-bill-4.pdf (sending bill for $99,661,359.34); Letter from Jonathan Abramson, Case Officer, U.S. Coast Guard, to BP Exploration & Production et al. (Aug. 10, 2010) (on file with author), *available at* http://www.restorethegulf.gov/sites/default/files/documents/pdf/bp-bill-5.pdf (sending bill for $167,896,494.27); Letter from Jonathan Abramson, Case Officer, U.S. Coast Guard, to BP Exploration & Production et al. (Sept. 7, 2010) (on file with author), *available at* http://www.restorethegulf.gov/sites/default/files/documents/pdf/bp-bill-6.pdf (sending bill for $128,450,327.60); Letter from Jonathan Abramson, Case Officer, U.S. coast Guard, to BP Exploration and Production et al. (Oct. 12, 2010) (on file with author), *available at* http://www.restorethegulf.gov/sites/default/files/documents/pdf/bp-bill-7.pdf (sending bill for $62,622,046.71); Letter from Jonathan Abramson, Case Officer, U.S. Coast Guard, to BP Exploration and Production et al. (Nov. 18, 2010) (on file with author), *available at* http://www.restorethegulf.gov/sites/default/files/documents/pdf/bp-bill-8.pdf (sending bill for $25,376,838.50); Letter from Jonathan Abramson, Case Officer, U.S. Coast Guard, to BP Exploration and Production et al. (Jan. 11, 2011), *available at* http://www.restorethegulf.gov/sites/default/files/documents/pdf/bp-bill-9.pdf (sending bill for $26,249,015.69) These bills may include some costs of initial assessments of natural resource damages.

53. *Oil Spill Cost and Reimbursement Fact Sheet,* Restore the Gulf (Nov. 19, 2010), http://www.restorethegulf.gov/release/2010/11/19/oil-spill-cost-and-reimbursement-fact-sheet.

54. Bromwich Decision, *supra* note 41, at 28. *See also* National Commission Final Report, *supra* note 5, at 185-91.

55. Natural Resource Trustees, Notice of Intent to Conduct Restoration Planning (Pursuant to 15 C.F.R. §990.44)—Discharge of Oil From the Deepwater Horizon Mobil Offshore Drilling Unit and the Subsea Macondo Well Into the Gulf of Mexico 3 (Apr. 20, 2010), *available at* www.darp.noaa.gov/southeast/deepwater_horizon/pdf/Deepwater_Horizon_Final_NOI.pdf. The National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling reported that over 650 miles of coastal habitat were oiled. National Commission Final Report, *supra* note 5, at 176-77. The National Commission also reported that, as of Nov. 1, 2010, "wildlife responders had collected 8,193 birds, 1,144 sea turtles, and 109 marine mammals affected by the spill—alive or dead, visibly oiled or not." *Id.* at 181 (citation omitted).

56. Bromwich Decision, *supra* note 41, at 28.

57. *See* National Commission Final Report, *supra* note 5, at 174-85 (discussing the challenges of assessing the damage to natural resources and stating that "much remains unknown that will only become clearer after long-term monitoring of the marine ecosystem." *Id.* at 174). *See also* BP P.L.C. Group Results, Third Quarter and Nine Months 2010, 5 (Nov. 2, 2010) (discussing the high degree of uncertainty in determining the magnitude and timing of BP's obligations, including natural resource damages).

58. *See* Complaint, United States v. BP Exploration & Production, Inc., No. 10-cv-04536 (E.D. La. Dec. 15, 2010).

59. Press Release, BP, BP Establishes $20 Billion Claims Fund for Deepwater Horizon Spill and Outlines Dividend Decisions (June 16, 2010) (on file with author), http://www.bp.com/genericarticle.do?categoryId=2012968&contentId=7062966). The $20 billion will not cover any fines and penalties owed by BP. *Id*; Deepwater Horizon Oil Spill Trust, Trust Agreement dated Aug. 6, 2010, among BP Exploration & Production, Inc., John S. Martin Jr., and Kent D. Syverud, Individual Trustees, and Citigroup Trust-Delaware, N.A., Corporate Trustee, Recitals ¶ 3. BP has pledged some of its assets in the Gulf of Mexico as collateral for its commitment. Press Release, BP, BP Pledges Collateral for Gulf of Mexico Spill Trust (Oct. 1, 2010), www.bp.com/genericarticle.do?categoryId=2012968&contentId=7065280.

60. Deepwater Horizon Oil Spill Trust, Trust Agreement, dated Aug. 6, 2010, among BP Exploration & Production, Inc., John S. Martin Jr., and Kent D. Syverud, Individual Trustees, and Citigroup Trust-Delaware, N.A., Corporate Trustee, Article II, §A.

BP's liability,[61] but it significantly increased the funding immediately available for economic claims and claims for natural resource damages.[62] During the same meeting, BP committed to a separate $100 million fund for unemployed rig workers.[63]

Under the $20 billion agreement, BP established the Gulf Coast Claims Facility (GCCF), an independently run program established to process claims for individuals and businesses' claims for economic damage from loss of property, lost earnings and profit, loss of natural resource use, and death or physical injury. As of January 11, 2011, the Claims Facility had received claims from 467,000 individuals and businesses, paid over 168,000 claimants $3 billion, and placed $60 million in a separate fund for real estate brokers and agents.[64] Prior to establishing the Claims Facility, BP had paid out $399 million in claims to individuals and businesses.[65]

The $20 billion fund also can compensate for the oil spill's damage to natural resources and the cost of assessing that damage. Under the Act, the trustees for natural resources (representatives of the federal and state governments and Indian tribes) can seek damages equal to the cost of restoring or replacing the natural resources damaged by an oil spill[66] from the responsible parties,[67] including the cost of assessing the damage and preparing a restoration plan. Regulations issued under the Act require the trustees to assess the damages to natural resources, prepare a restoration plan, and then implement the plan using funding from the responsible parties or, in default, the Trust Fund.[68] The trustees started the assessment process in October 2010[69]; the development of implementation plans and estimates of their costs are in their early stages, and the total cost is not yet known. Consequently, it is difficult to assess the extent to which the $20 billion fund can fully cover the assessment costs and natural resource damages.[70] In addition, the terms of the trust agreement governing the $20 billion fund place natural resource assessment costs and damages at a lower priority than the claims from businesses and individuals for economic damage, leaving them potentially vulnerable.[71] Table 2 provides an overview of the types of claims that the $20 billion fund can cover and their relationship to the liability regime and the Trust Fund's authority to make payments.

Thus, in the case of both economic claims and natural resource damage claims, the $20 billion fund presumably will relieve pressure from the Trust Fund—a circumstance one cannot assume would occur with most spills. In the absence of BP's financial commitments, the analysis of who would bear the risk of loss could be quite different, depending on whether the responsible parties could claim the $75 million cap on liability for economic claims and natural resource damages. If the liability cap applies, the economy and ecosystem of the Gulf of Mexico would have assumed the burden of the loss beyond the oil removal costs, $75 million from responsible parties, and less than $400 million from the Trust Fund. If the cap does not apply, claimants would have to pursue legal action against the responsible parties and hope that they have the ability to pay far beyond the levels required by the Act's mandated certificates of insurance.[72] For a spill of this size, the Trust Fund would provide relatively little residual relief.

III. Lessons From the BP Experience About the Trust Fund

Although a full analysis of the policy strengths and weaknesses of the Act's allocation of costs among the industry, the responsible parties, and the public lies beyond the scope of this Article, several lessons emerge from the BP spill about the role that the Trust Fund plays in a major incident.

61. *Id;* Press Release, The White House, Statement by the President After Meeting With BP Executives (June 16, 2010), www.whitehouse.gov/the-press-office/statement-president-after-meeting-with-bp-executives.
62. It also provided a source that BP might draw upon to repay the Trust Fund for state and local governments' response efforts and for the payment of any judgments or settlements involving the Trust Fund.
63. Press Release, The White House, Statement by the President After Meeting With BP Executives (June 16, 2010), www.whitehouse.gov/the-press-office/statement-president-after-meeting-with-bp-executives.
64. Gulf Coast Claims Facility (GCCF), Overall Program Statistics 1 (Jan. 11, 2011), http://www.gulfcoastclaimsfacility.com/GCCF_Overall_Status_Report.pdf.
65. Press Release, BP, BP Pledges Collateral for Gulf of Mexico Oil Spill Trust (Oct. 1, 2010), www.bp.com/sectiongenericarticle.do?categoryId=2012968&contentID=7065280.
66. 33 U.S.C. §2706 (2006).
67. *Id.* §2702(b)(2)(A).
68. 15 C.F.R. §990 (2010).
69. In September 2010, the natural resource trustees issued a notice indicating their intent to start the assessment and planning process. Natural Resource Trustees, Notice of Intent to Conduct Restoration Planning (Pursuant to 15 C.F.R. §990.44)—Discharge of Oil From the Deepwater Horizon Mobil Offshore Drilling Unit and the Subsea Macondo Well Into the Gulf of Mexico 3 (Apr. 20, 2010), *available at* www.darp.noaa.gov/southeast/deepwater_horizon/pdf/Deepwater_Horizon_Final_NOI.pdf.
70. BP took an additional step that may help address the assessment cost question. In late May 2010, it announced the creation of a special $500 million fund to research the environmental effects of oil spills and the response measures. Press Release, BP, BP Pledges $500 Million for Independent Research Into Impact of Spill on Marine Environment (May 24, 2010), www.bp.com/genericarticle.do?categoryId=2012968&contentId=7062370. *See also* Press Release, BP, Three Gulf Research Institutions to Receive First Round of $500 Million Funding (June 15, 2010), www.bp.com/genericarticle.do?categoryId=2012968&contentId=7062936. Now called the Gulf of Mexico Research Initiative, the fund is administered by the Gulf of Mexico Alliance, a partnership of Gulf states and governed by a board of academic scientists appointed equally by the Alliance and BP. Press Release, BP, BP and the Gulf of Mexico Alliance Announce Implementation of BP's $500 Million Independent Research Initiative (Sept. 29, 2010), *available at* www.bp.com/genericarticle.do?categoryId=2012968&contentId=7065262.
71. Deepwater Horizon Oil Spill Trust, Trust Agreement, dated Aug. 6, 2010, among BP Exploration & Production, Inc., John S. Martin Jr., and Kent D. Syverud, Individual Trustees, and Citigroup Trust-Delaware, N.A., Corporate Trustee, 8-9.
72. The Act also imposed insurance obligations. It requires operators of vessels and offshore facilities to maintain evidence of financial responsibility. The statutory amount for offshore facilities beyond a state's boundary, such as the BP well, is $35 million. 33 U.S.C. §2716(c)(1)(B) (2006). The Act, however, allows the president to set higher amounts of up to $150 million for offshore facilities. *Id.* at §2716(c)(1)(C). Regulations pursuant to this authority require amounts up to $150 million based on the worst-case oil-spill discharge. 30 C.F.R. §253.13. The worst-case discharge is determined under 30 C.F.R. pt. 254. *Id.* §253.14.

Table 2: Summary of Payment Obligations for Oil Spills Involving Offshore Facilities

Type of Cost	Claimant	Responsible Parties' Legal Liability Under Oil Pollution Act	Trust Fund (up to $1 billion per incident and recoverable from responsible parties)	BP's $20 Billion Trust Fund (noting priority of payments)
Removal Costs	Federal and state governments, Indian tribes	For offshore facilities, responsible parties must pay all removal costs (unless complete defense, such as act of God)	Can pay federal and state removal costs consistent with national contingency plan (NCP) (without appropriation up to $50 million plus $100 million advance per incident)	Can pay for amounts owed by final "judgments or settlements" relating to oil spill (2nd priority) and state and local government response costs (3rd priority)
	3rd parties	Same	Can pay removal costs consistent with NCP not compensated by responsible party	Can pay removal and cleanup costs through GCCF (1st priority)
Natural Resource Damages				
Natural resource damages, including assessment costs	U.S. and state governments, Indian tribes, foreign trustee	$75 million per incident cap for responsible parties for all non-removal damages from offshore facilities; *but* no cap if incident caused by responsible party's gross negligence, willful misconduct, or violation of federal regulation	Can pay cost of federal, state, Indian tribes trustees' assessment of resource damage, plan development and implementation consistent with NCP (up to $500 million per incident; cost of initiating assessment eligible for $50 million exemption from appropriation above)	Can pay natural resource damages, including assessment costs (3rd priority)
Economic Damages				
Damages for injury or economic loss from destruction of real or personal property	Owner or lessor	$75 million per incident cap for responsible parties for all non-removal damages from offshore facilities; *but* no cap if incident caused by responsible party's gross negligence, willful misconduct, or violation of federal regulation	Can pay damages not compensated by responsible party	Can pay damages through GCCF (1st priority)
Damages for loss of subsistence use of natural resources	Any claimant who uses without regard to ownership	Same	Same	Can pay damages through GCCF (1st priority)
Damages for loss of taxes, royalties, rent, fees, profit share due to loss or injury of property or resources	U.S., state or political subdivision	Same	Same	Can pay for amounts owed by judgments or settlements relating to oil spill (2nd priority)
Damages for loss of profits and earning capacity due to loss of property or resources	Any claimant	Same	Same	Can pay damages through GCCF (1st priority)
Damages for net cost of providing increased public services during and after removal	State or political subdivision	Same	Same	Can pay state and local government response costs (3rd priority)
Administrative Costs				
General administrative costs for administering Oil Pollution Act	EPA, U.S. Coast Guard		Can pay federal administrative, operational costs to administer and enforce Oil Pollution Act (subject to specific statutory caps and appropriation)	N/A
Other Costs		**Clean Water Act**		
Fines	Federal government	Responsible parties pay for discharges in violation of the Clean Water Act	Fines paid into Trust Fund	N/A

A. The Emergency Response Function

First, the Trust Fund served an extremely valuable function in providing readily available cash to underwrite the costs of the immediate governmental responses, confirming the wisdom of its existence. That cost is logically funded by the industrywide tax. The need for an immediate response cannot wait for the identification of specific polluters, but properly lies on the shoulders of the industry that is generating the risk.

B. The Trust Fund's Limited Financial Capacity

Second, the Trust Fund was not capable of handling a huge, albeit unprecedented, oil spill. The Trust Fund's statutory limits on unappropriated financing were too low to accommodate the emergency response demands of a major oil spill. Congress had the political motivation to step in quickly when the advances were not sufficient to meet the need, but other circumstances might not be so favorable for fast political action and could leave governmental responders without resources.

In addition, the Trust Fund would have been insufficient to meet the challenge of responding to claims for economic and environmental damage if BP had not agreed to commit $20 billion to the payment of damages. Its $1 billion cap would have left many claimants uncompensated, absent litigation concluding that the responsible parties are not eligible for the $75 million limit on their liability.

Moreover, even a $1 billion draw-down would have left the Trust Fund's relatively modest balance sheet vulnerable. On June 1, 2010, the Trust Fund's balance was only $1.6 billion,[73] and in early June, the U.S. Government Accountability Office (GAO) determined that the Trust Fund could have difficulty sustaining itself in the face of catastrophes.[74] In this instance, BP has been reimbursing the Trust Fund for the immediate response costs, and the $20 billion fund relieves pressure for claims to the Trust Fund, but again, other oil spills might involve different circumstances and deplete the Trust Fund.

On the potentially positive fiscal side, any fines that the federal government recovers for violations of the CWA, which could be very substantial, will be deposited in the Trust Fund, unless Congress chooses to change the law. The National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling (the National Commission) estimates that civil penalties could be as high as $21 billion or as low as $4.5 billion and that criminal fines could be significant as well.[75] However, both the National Commission and the Secretary of the Navy have called for legislation dedicating some portion of any fines to Gulf of Mexico restoration efforts.[76] Congress will be faced with the decision about whether to leave the law as is, in which case any fines may significantly increase the Trust Fund's balance sheet, or amend the law to divert some or all of any fines to the Gulf region. Its decision may influence discussions about whether to raise the tax on petroleum that finances the Trust Fund.

C. Increasing the Financial Capacity of the Trust Fund

Third, the limits on the Trust Fund highlight the question of whether Congress should increase the eight-cent-per-barrel tax that finances the Trust Fund and correspondingly increase the per-incident limits. The White House proposed raising the tax to nine cents per barrel immediately and 10 cents in 2017 (and raising the Trust Fund's per-incident limit to $1.5 billion).[77] U.S. Senate Majority Leader Harry Reid (D-Nev.) introduced legislation increasing the tax to 45 cents per barrel (and raising the Trust Fund's per-incident limit to $5 billion),[78] and a bill introduced by Sen. Max Baucus (D-Mont.) called for increasing the tax to 78 cents (and also increasing the per-incident limit to $5 billion).[79] Other proposals in the 111th Congress would have raised the tax as well.[80] The 111th Congress did not act on these proposals, but the issues remain alive. In January 2011, the National Commission's report to the president recommended increasing the per-incident limit and either increasing the tax or imposing a surcharge on drilling leases,[81] and the president's budget for fiscal year 2012 proposes increasing the tax to nine cents in 2012 and ten cents in 2017.[82]

These tax increase proposals pale in comparison to the amount that BP and the oil industry have been willing to pay in response to the oil spill, in effect imposing "voluntary taxes." BP's $20 billion contribution over four years amounts to the equivalent of a tax of $35.40 per barrel of

73. Fleming, U.S. GAO, *supra* note 13, at 12.
74. *Id.* at 21-22. Only 10 of the 51 major oil spills (spills with costs of more than $1 million) between 1990 and 2006 generated uncompensated claims in excess of the responsible parties' liability limits, totaling payments of $252 million from the Fund. *Id.* at 6. Thus, the risk arises more from catastrophic spills, such as the BP spill.
75. National Commission Final Report, *supra* note 5, at 211.
76. *Id.* at 280 (recommending that 80% of the fines support restoration of the region); Ray Mabus, Secretary of the Navy, America's Gulf Coast: A Long Term Recovery Report After the Deepwater Horizon Oil Spill 5-6 (2010) (recommending that "a portion" of the civil penalties go to the Gulf Coast Recovery Fund and the Gulf states) [hereinafter Mabus Report].
77. Press Release, The White House, Fact Sheet: Deepwater Horizon Oil Spill Legislative Package (May 12, 2010), http://www.whitehouse.gov/the-press-office/fact-sheet-deepwater-horizon-oil-spill-legislation.
78. Clean Energy Jobs and Oil Company Accountability Act of 2010, S. 3663, 111th Cong. §5001 (2010).
79. Job Creation and Tax Cuts Act of 2010, S. 3793, 111th Cong. §421 (2010).
80. *See* Resources for Oil Spill Research and Prevention Act, S. 3580, 111th Cong. §2 (2010) (raising the tax to 11 cents per barrel for domestic crude and 15 cents for other crude and expanding the uses of the Trust Fund); Oil Spill Compensation Act of 2010, S. 3542, 111th Cong. §311 (2010) (raising the tax to 60 cents per barrel imported from non-WTO countries and 20 cents for other crude but suspending the tax when the Trust Fund's unobligated balance exceeds $10 billion); Omnibus Right to Equitable Means of Ensuring Damages for Injuries Are Efficiently Secured Act of 2010, H.R. 5676, 111th Cong. §4 (2010) (raising tax to 30 cents per barrel, increasing to 40 cents in 2017, and thereafter raising the per-incident cap to $10 billion (and $5 billion for natural resource damages)).
81. National Commission Final Report, *supra* note 5, at 286.
82. Office of Management and Budget, Fiscal Year 2012 Budget of the United States, Analytical Perspectives 202 (2011).

oil it will produce from deepwater wells in the Gulf over the next four years, assuming that its production stays at 2009 levels.[83] In addition, a consortium of major oil companies agreed to invest $1 billion to create the Marine Well Containment Company, a nonprofit organization that will complete a system within 18 months to respond to underwater blowouts in Gulf deepwater wells in the future.[84] BP joined the consortium, providing equipment and experience.[85] The consortium is designed to "rebuild trust" in energy production[86] and place the industry in a stronger position as the Obama Administration and Congress consider the future of deepwater wells in the Gulf.[87] If one spreads the cost of the $1 billion cash contribution over 18 months and assumes 2009 levels for industry production from deepwater wells in the Gulf, this commitment is equal to a $1.31-per-barrel voluntary tax on the major Gulf producers.[88] These financial commitments suggest that the oil industry is willing to and has the capacity to pay when it is in its interest to do so, but it remains to be seen whether it will have as strong an appetite for increasing the tax for the Trust Fund. It may be more willing to invest in funds directed at a specific region and very visible need rather than a nationwide, industrywide risk-sharing mechanism.

The question of the extent of the funding of the Trust Fund is, of course, linked to whether the federal government will raise liability limits. Another way to make the polluters pay is to increase the caps on their liability, such as the $75 million cap on BP's liability for non-removal damages (absent wrongdoing). A number of proposals to do so were introduced in the 111th Congress.[89] In September 2010, the Secretary of the Navy called for removing the liability cap for damages from offshore drilling,[90] and in January 2011, the National Commission recommended "significantly" raising the cap.[91] Making the polluter pay by raising liability limits seems advisable, given the BP oil spill experience. It targets the specific polluter, rather than the industry, and reduces the risk of free riders and moral hazard that might accompany an industrywide tax.[92]

It would seem prudent to raise both the liability limits and the tax. Raising the liability limits could diminish the role of the Trust Fund as the backup source of funding for uncompensated claims, particularly if combined with strong statutory requirements for financial responsibility.[93] The Trust Fund nevertheless may need a higher tax. The Trust Fund may need to produce more resources to finance its emergency response to high-risk oil spills and to guard against any risk that financially vulnerable responsible parties cannot satisfy their liabilities—and to provide compensation if liability limits are not increased significantly. At a minimum, the Trust Fund's operating rules could be revised to allow the Trust Fund to treat its Emergency Fund as a revolving fund. When emergency response costs are ultimately recovered from responsible parties, those funds could be returned to the Emergency Fund to replenish the account without appropriation, which is not allowed under current law.[94]

As this discussion suggests, defining the role of the Trust Fund involves the intricate interrelationship of liability limits, the per-incident caps on Trust Fund expenditures, the tax rate, appropriations rules, the use of revenue from fines, and assessments of the risks of high- and low-impact oil spills. One aspect cannot be resolved independently of the other, but the BP oil spill underscores the need to reconsider this interrelationship.

D. Concerns About Earmarking

Finally, from an administrative perspective, the Trust Fund has its strengths and weaknesses. Conventional concerns about earmarked trust funds are that they impair political accountability, diminish transparency, and generate entrenched bureaucratic stakeholders. These concerns can be addressed in part by requiring that earmarked funds must be appropriated before they can be spent, exposing them to the sunshine of annual legislative review. The Trust Fund, however, has good reason to allow funds to be dispersed without going through the appropriations process. Government will need ready access to funds for its emergency response, and coverage of uncompensated claims should not be subject to political intervention, which might disadvantage claimants dependent on the Trust Fund over

83. In 2009, BP produced 387,000 barrels per day in 2009, up from 244,000 in 2008 and 196,000 in 2007. BP, Annual Report and Accounts 2009, 27 (2010). Assuming perhaps conservatively that 2009 levels continue, it annually will produce 141,255,000 barrels. If one spreads the $20 billion contribution over four years and allocates the payment to the oil produced over those four years, the cost per barrel is $35.40. BP's payments will actually be made over a 41-month period from August 2010 through December 2013, which would generate an even higher per-barrel cost.

84. *See* Press Release, Chevron, New Oil Spill Containment System to Protect Gulf of Mexico Planned by Major Oil Companies (July 31, 2010), http://www.chevron.com/chevron/pressreleases/article/07212010_newoilspillcontainmentsystemtoprotectgulfofmexicoplannedbymajoroilcompanies.news (announcing consortium and $1 billion commitment); Chevron, ConocoPhillips, ExxonMobil, Royal Dutch Shell, New Containment System Fact Sheet (Sept. 2010), *available at* http://www.chevron.com/documents/pdf/ContainmentFactSheet.pdf (outlining purposes of organization).

85. Press Release, BP, BP Announces Intent to Join Marine Well Containment Company, Providing Experience and Equipment (Sept. 20, 2010).

86. Press Release, Chevron, New Oil Spill Containment System to Protect Gulf of Mexico Planned by Major Oil Companies (July 31, 2010) (quoting president of Shell Oil Company), http://www.chevron.com/chevron/pressreleases/article/07212010_newoilspillcontainmentsystemtoprotectgulfofmexicoplannedbymajoroilcompanies.news.

87. Shawn McCarthy, *Industry Hopes to Lift Ban Early but "Virtual Moratorium" Looms*, Fin. Times, Aug. 9, 2010, at B1.

88. The Gulf of Mexico's outer continental shelf produced 509,961,321 barrels of oil in 2009, data.gov. If production were flat, the production would be 764,941,982 over 18 months.

89. *See* Jonathan L. Ramseur, Cong. Research Serv., R41453, Oil Spill Legislation in the 111th Congress (2010) (describing legislative proposals upon which some action occurred).

90. Mabus Report, *supra* note 76, at 6.

91. National Commission Final Report, *supra* note 5, at 284.

92. For a discussion of moral hazard, see, e.g., Kenneth S. Abraham, Distributing Risk: Insurance, Legal Theory, and Public Policy 14-15 (1986).

93. Increasing liability presumably would also mean increasing financial responsibility requirements, such as insurance, to avoid the risk that responsible parties would not have the capacity to pay. National Commission Final Report, *supra* note 5, at 284-85.

94. Memorandum from Robert Meltz, Jonathan Ramseur and Carol Pettit, Congressional Research Service, to Senate Committee on Homeland Security and Governmental Affairs (June 14, 2010) (on file with author).

those who were able to recover from the responsible parties before liability caps were exceeded. At the same time, the appropriations process quite properly does apply to the Trust Fund's annual payments to agencies that administer the relevant pollution regulations, subjecting them to legislative scrutiny typical of most agencies' operating budgets. This procedure reduces the risk of entrenched bureaucratic expectations that might inhibit governmental assessment of its spending priorities.

Nonetheless, the operation of the Trust Fund could be more transparent. The Trust Fund's cash flow is not available in detail to the general public as the Trust Fund responds to an oil spill. For example, the Trust Fund does not list in a readily accessible manner the expenditures it has made for the BP oil spill. The itemizations on the bills it has submitted to BP are the only proxy, and while providing details about costs, they do not present a clear picture of how the Trust Fund's expenses relate to its statutory purposes. In addition, the Trust Fund's recent periodic reports are not highly detailed. The National Pollution Funds Center appears to issue only biennial reports, which offer information on the amount paid out per oil spill, but no further breakdown according to the type of costs (such as emergency response versus uncompensated claims), or details about the success of the Trust Fund's efforts to recover costs from responsible parties for each spill.[95] The GAO on occasion has reviewed the activities of the Trust Fund.[96] It has provided valuable insights, such as the fact that between 72 and 78% of the costs of 51 major oil spills between 1990 and 2007 have been paid by the responsible parties, and the remainder by the Trust Fund,[97] but it does not routinely conduct reviews. Finally, although statute requires the Coast Guard to submit to Congress a justification for each $100 million advance for emergency funding for the BP oil spill,[98] requests by telephone to obtain copies of these justifications from the National Pollution Funds Center and staff of the Senate Appropriations Committee during the course of research for this Article were declined.

Greater transparency would enhance the public and governmental understanding of the Trust Fund. It would provide important information on the Trust Fund's financial strength or vulnerability at any particular time, the specific expenditures for individual oil spills and the extent to which responsible parties reimburse those expenses, and the Trust Fund's functional relationship to the regulatory liability regime. Congress took a significant step in this direction in fall 2010 when it imposed an annual reporting requirement for all disbursements from the Trust Fund of at least $250,000. The reports, which will be available on the National Pollution Funds Center website, will describe how the use of the funds satisfies the statutory purposes of the Trust Fund.[99]

In sum, if the Trust Fund faces another major spill, it will need greater funding and higher spending caps to finance emergency response. Higher regulatory liability caps on the responsible parties would relieve pressure on the Trust Fund to cover uncompensated claims, but if those caps are not raised, the tax on the Trust Fund certainly should be increased to preserve the integrity and function of the Trust Fund. Another major spill by a party less willing than BP to pay could devastate the Trust Fund's ability to respond to other major or minor spills. Finally, to ensure accountability, the Trust Fund should engage in greater transparency.

IV. The Implications for Trust Funds for Adapting to Climate Change

The impacts of the BP oil spill at first blush seem quite different from the impacts of climate change. The BP spill was a dramatic, cataclysmic event that resulted from one clearly identified source and can be traced to the activities of a very limited number of parties. Although climate change may generate dramatic weather events, its impacts often will be gradual and diffused, and they are caused by millions of daily decisions worldwide. Nevertheless, the BP oil spill offers some potentially useful perspectives that can shed light on the potential role of trust funds in adapting to climate change.

A. *The Relative Orders of Magnitude of Need and Funding*

First and foremost, the cost of the BP oil spill underscores the magnitude of the potential costs of adaptation to climate change. As of November 2010, BP's quarterly statements estimated its past and future costs for the oil spill costs to be $39.9 billion, while also recognizing the high degree of uncertainty of future costs.[100] The National Commission estimated that fully restoring the Gulf will require between $15 billion and $20 billion over 30 years.[101] These amounts seem enormous, but they are dwarfed by estimates of the social cost of climate change. The impacts of climate change on a global scale are predicted to cause the

95. *See, e.g.*, National Pollution Funds Center, U.S. Coast Guard, Oil Spill Liability Trust Fund Annual Report FY 2004-FY 2008, *available at* http://www.uscg.mil/npfc/docs/PDFs/Reports/OSLTF_Report_FY04-FY08.pdf. The report contains aggregate information about the relatively low rate of recovery from responsible parties—16% of the removal and claims expenditures from 2004 to 2008—and cites among other factors the challenge of identifying the responsible party in almost one-half the spills (ocean and terrestrial). *Id.* at 4.

96. *See, e.g.*, Fleming, U.S. GAO, *supra* note 13; Letter from Linda M. Calbom, Director, Financial Management and Assurance, U.S. GAO, to the Hons. Lane Evans, Bob Filner, and Corrine Brown, U.S. House of Representatives (Jan. 13, 2004), *available at* http://www.gao.gov/new.items/d04340r.pdf (concerning need for improvements in internal control over disbursements from the National Pollution Funds Center). The Act authorizes the Comptroller General to audit the fund "as appropriate." 33 U.S.C. §2712(g).

97. Fleming, U.S. GAO, *supra* note 13, at 3.

98. 33 U.S.C. §2752(b) (2006).

99. Coast Guard Authorization Act of 2010, Pub. L. No. 111-281, 124 Stat. 2985. The legislation also requires the Comptroller General to audit all payments over $250,000 that are not reimbursed by the responsible party.

100. BP P.L.C., Group Results, Third Quarter and Nine Months 2010 (Nov. 2, 2010).

101. National Commission Final Report, *supra* note 5, at 279.

relocation of vulnerable human populations, the death or migration of economic sectors based on impaired natural resources, the repair of damage from extreme weather events, and more.[102] According to the Intergovernmental Panel on Climate Change (IPCC), studies of the social cost of each ton of carbon dioxide emitted have set the cost at anywhere from $3 per ton to $95 per ton, with an average of $12 per ton for the studies as a whole.[103] Using the average figure, the approximately 30 billion tons of global carbon dioxide emissions released just in 2007—just one year—would carry a future social cost of $360 billion.[104] The United Nations Development Programme (UNDP) estimates that developing countries alone will need $86 billion annually for adaptation by 2015.[105]

At the same time, disproportionately few resources have been set aside to date for climate change adaptation. While the Gulf of Mexico can draw on BP's $20 billion fund and up to $1 billion from the Trust Fund, the funds administered by the Global Environment Facility thus far have marshaled amounts in the hundreds of millions for adaptation.[106] The Strategic Climate Fund within the $6 billion international Climate Investment Funds has pledged $945 million for a pilot program for climate resilience.[107] The prospects for future adaptation funds could be brighter. The 2009 Copenhagen Accord commits developed countries to establishing a climate change fund that will generate $100 billion per year by 2020 for developing countries,[108] a decision supported in the Cancun Agreements in December 2010.[109] The Cancun Agreements, which call for enhanced attention to adaptation, took the first steps toward defining the use of the fund, but the extent to which the fund will be allocated between adaptation and mitigation remains unsettled.[110] The Cancun Agreements also note the developed countries' commitments to provide $30 billion between 2010 and 2012 for a "balanced allocation" between mitigation and adaptation, with priority in adaptation given to the most vulnerable developing countries.[111] Even with these commitments, putting the BP spill side-by-side with climate change adaptation underscores the tremendous need for assets committed to addressing adaptation.

B. The Relative Nature of the Environmental Damage to Be Financed

Comparing the two situations also highlights the nature of the environmental damage that will result from climate change. The federal legal regime surrounding oil spills largely assumes that government and the private sector can repair the damage to natural resources. Damages are predominantly measured by the cost of "restoring, rehabilitating, replacing, or acquiring the equivalent of, the damaged natural resources."[112] Implementing regulations define the goal of the Act's system of compensating for damages as "the return of the injured natural resources to baseline."[113] As of October 2010, the trustees for the natural resources were just starting the process of assessing the damage to natural resources from the BP spill and planning for restorative actions.[114] Although it is far too soon to determine the extent and type of environmental damage from the oil spill and whether a return to baseline is possible for all the injured elements of the complex Gulf ecosystem, the enormity of the spill brings into question the prevailing governmental assumption that the ecosystem can be restored.

The potential ecological impacts of climate change raise that question even more vividly. Adaptation to climate change in most instances will not involve restoration to baseline, but rather an adjustment to a very different ecological baseline. Government, the public, and the private sector will have to develop a frame of mind that does not assume that we can any longer "fix" the problem. This necessary shift in attitudes about environmental protection is quite obvious, but profound and unsettling after decades of focus on ameliorative pollution control.[115]

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102. *See generally* Nat'l Research Council of the Nat'l Acads., Adapting to the Impacts of Climate Change (2010).
103. Working Group II, Intergovernmental Panel on Climate Change, United Nations Env't Programme, Impacts, Adaptation, and Vulnerability 17 (2007).
104. United Nations, The Millennium Development Goals Annual Report 53 (2010). Developed countries emitted about 12 metric tons of carbon dioxide and developing countries 3 tons of carbon dioxide (0.8 tons of carbon). *Id.* Therefore, each person in a developed country in 2007 was responsible for $144 of future social cost—what could be viewed as a reasonable carbon assessment for adaptation.
105. United Nations Development Programme, UNDP Environment & Energy Group, Climate Change at UNDP: Scaling Up to Meet the Challenge 10 (2008) (citing the UNDP Human Development report 2007/2008).
106. *See* Global Environment Facility, 2009 Annual Report 11 (2010) (reporting that the GEF Strategic Priority for Adaptation, the UNFCCC Least Developed Countries Fund, and the UNFCC Special Climate Fund had provided over $250 million in adaptation projects in the funds' inception); Global Environment Facility, Financing Adaptation Action 6 (2007) (indicating that the GEF Strategic Priority on Adaptation Trust Fund, UNFCC Climate Change Funds (the Least Developed Countries Fund and the Special Climate Change Fund) and Kyoto Protocol Adaptation Fund had mobilized $400 million as of 2007). These figures do not include funding provided by partners to joint projects.
107. Climate Investment Funds, Piloting Low-Carbon Growth and Climate-Resilient Development in Developing Countries 2 (Apr. 2010), *available at* http://www.climateinvestmentfunds.org/cif/sites/climateinvestmentfunds.org/files/CIF%204-22-10.pdf.
108. Copenhagen Accord, Decision -/CP.15, ¶ 8, Dec. 18, 2009.
109. Press Release, United Nations Framework Convention on Climate Change Secretariat, UN Climate Change Conference in Cancun Delivers Balanced Package of Decisions, Restores Faith in Multilateral Process (Dec. 11, 2010), http://unfccc.int/files/press/news_room/press_releases_and_advisories/application/pdf/pr_20101211_cop16_closing.pdf.
110. Draft Decision -/CP.16, Outcome of the Work of the Ad Hoc Working Group on Long-Term Cooperation Under the Convention ¶¶ 95-112. Under the decision, a significant share of multinational funding for adaptation will flow through a Green Climate Fund. *Id.* ¶ 100.
111. *Id.* ¶ 95.
112. 33 U.S.C. §2706(d) (2006).
113. 15 C.F.R. §990.10 (2010). For a discussion of the natural resource damage regime, see Kristina Alexander, Cong. Research Serv., R41396, The 2010 Oil Spill: Natural Resource Damage Assessment Under the Oil Pollution Act (2010). The Act acknowledges the inability to return to the precise baseline in some instances by allowing restoration of a comparable element of the ecosystem as an alternative, or acquisition of an alternative. *Id.* at 12.
114. Natural Resource Trustees, Notice of Intent to Conduct Restoration Planning (Pursuant to 15 C.F.R. §990.44)—Discharge of Oil From the Deepwater Horizon Mobil Offshore Drilling Unit and the Subsea Macondo Well Into the Gulf of Mexico 3 (Apr. 20, 2010), *available at* www.darp.noaa.gov/southeast/deepwater_horizon/pdf/Deepwater_Horizon_Final_NOI.pdf.
115. *See generally* Robin Kundis Craig, *"Stationarity Is Dead"—Long Live Transformation: Five Principles for Climate Change Adaptation Law*, 34 Harv.

The effect and cause of the environmental damage also have an important temporal aspect. In terms of effect, the BP oil spill's environmental consequences may easily span decades, or possibly be permanent. The environmental effect of climate change and corresponding adaptive measures will carry on for generations to come. In terms of causes, the BP spill was a clearly enunciated event involving a limited group of responsible parties, whereas preceding and present generations have contributed to climate change, as will future generations, even if emissions levels fall. The polluters and the environmental and social consequences are much more diffused over time. This temporal diffusion of cause and effect raises deep issues of intergenerational equity, but it may make it more difficult to find resources to fund adaptation, as explored below.

C. The Role of Trust Funds

The potentially irreversible effects of climate, the magnitude of their associated social costs, and the intergenerational inequities would seem to call for the creation of international and national trust funds to prepare for adaptation on a long-term basis. Present generations could contribute to the costs that future generations will bear. The Oil Spill Liability Trust Fund demonstrates the value of having funds available on a nonappropriated basis to respond to emergency events. Adaptation to climate change is expected to require short-term emergency responses to severe weather events and their consequences, such as flooding, for which governments will need ready assets. Trust funds can allow governments to save for that proverbial rainy day.

Trust funds can also accumulate funds for the future that will be necessary to address more structural, long-term issues. The National Commission recognized this need for the Gulf of Mexico, calling for dedicated financing for long-term restoration of the Gulf.[116] Adaptation to climate change will require long-term shifts, such as shifts in residential patterns, employment, and potable water resources. Although less likely to be emergencies, these programs will require significant investments, the costs of which will fall on individuals unless government provides financing. Relying on the routine annual appropriations process of government, where the full range of government priorities compete based on funds available from that year's taxpayers, is likely to mean that many needs will go unmet. It would be rather like the boa constrictor trying to digest the elephant in *The Little Prince*—too large a demand for ordinary circumstances. Or like a homeowner who is saddled with a balloon payment on a mortgage and does not have refinancing opportunities. As in the case of emergency expenses, it is important to save for the future and to put some of the financial burden on today's taxpayers who are contributing to the problems of the future. Transparency in the operation of the funds, however, would be key to their credibility.[117]

The fact that trust funds for climate change adaptation presumably would not be self-replenishing raises the stakes for finding viable ongoing funding. The Oil Spill Liability Trust Fund can seek reimbursement of some of its costs from responsible parties (up to their liability limits). Funds established to pay for the costs of adaptation, however, are not likely to be able to recoup expenses. Consequently, it is critical to find ways to identify current polluters who can pay now for the damage of the future.

D. The Issue of Economic Self-Interest and Leverage

If the establishment of adaptation trust funds represents sound policy, the challenge is how to develop the political will and circumstances that will generate the support for their creation and financing.

The BP spill highlights the role of economic self-interest and leverage in obtaining commitments to meet needs. When BP agreed to set aside $20 billion to cover damages from the oil spill, it presumably concluded that creating the fund would promote its self-interest. Even though BP had to cancel dividends when it made that commitment, its chairman concluded that, "it was in the best interests of the Company and its shareholders."[118] This result is not surprising. In 2009, the Gulf of Mexico provided 58% of its U.S. production and 28% of its global production,[119] giving the Gulf an important position in BP's portfolio. Its continued role in the Gulf was dependent on federal decisions. Congress was considering amendments to the Act,[120] and the federal government had imposed a six-month moratorium on the drilling of deepwater wells soon after the spill started.[121] The goodwill generated by the $20 billion fund could not only help rebuild relationships at the local level but also might help pave the way for future investments in the Gulf. Similarly, the oil industry's willingness to create the $1 billion Marine Well Containment Company may have served it well. When the federal government chose in early October 2010 to lift the moratorium,[122] it cited, in part, the oil industry's commitment to the Marine Well Containment Company.[123]

Envtl. L. Rev. 9, 31-39 (discussing need to shift law from restoration and preservation to adaptation).

116. National Commission Final Report, *supra* note 5, at 280. The National Commission proposed that Congress dedicate 80% of any civil or criminal fines from the oil spill under the CWA to long-term restoration or find other means of dedicating funding that would not be subject to the appropriations process. *Id.*

117. The question of how these funds would be structured and how the funds would be dispersed lies beyond the scope of this analysis.

118. Press Release, BP, BP Establishes $20 Billion Claims Fund for Deepwater Horizon and Outlines Dividend Decisions (June 16, 2010), www.bp.com/genericarticle.do?categoryId=201296&contentId=7062966.

119. BP, Annual Review 2009: Operating at the Energy Frontiers 27 (2010). The global production numbers cover BP's subsidiaries, but not its share of equity-accounted entities. *Id.*

120. *See* Jonathan L. Ramseur, Cong. Research Serv., R41453, Oil Spill Legislation in the 111th Congress (2010).

121. Minerals Mgmt. Serv., U.S. Dep't of the Interior, NTL No. 2010 N-04, Notice to Lessees and Operators of Federal Oil and Gas Leases in the Outer Continental Shelf Regions of the Gulf of Mexico and the Pacific to Implement the Directive to Impose a Moratorium on All Drilling of Deepwater Wells, (May 30, 2010).

122. Decision Memorandum from Kenneth Salazar, Secretary of the Interior, to Michael R. Bromwich, Director of the Bureau of Ocean Energy Management, Regulation, and Enforcement (Oct. 12, 2010), *available at* http://www.doi.gov/news/pressreleases/loader.cfm?csModule=security/getfile&PageID=64767.

123. *Id.* at 3. *See also* Bromwich Decision, *supra* note 41, at 19-20.

In the climate change situation, international negotiations can provide the leverage for developed countries to set aside funds for developing countries, as seen in the Copenhagen Accord and the Cancun Agreements. Developing countries with low levels of historic responsibility for greenhouse gas emissions may be interested in entering into an agreement only if they obtain assistance from developed countries that will help them adapt to the consequences of climate change and to develop along low-carbon paths. Thus, the leverage potentially exists for inter-country dedications of funding to adaptation, although the degree and source of financing remains uncertain.

There is relatively little leverage, however, for the dedication of funding within countries to help them prepare for climate change adaptation. Unlike the BP situation, the polluters span centuries and permeate all sectors; there is no one actor to target. Some present polluters may not be dependent on receiving new benefits from the government that might give the government leverage to seek funds that could be used to right the future harms of past pollution. Nor in many instances are the polluters legally liable for the present and future damages of climate change,[124] again leaving government in a weak negotiating position. Given the lack of leverage for national funds and the more limited role of economic self-interest, the will to set aside funds to address future national adaptation will need to come from the political system. Legislators and the public will need to decide to set aside funds for the future. This represents a major challenge. For example, in the United States, there has been a lack of systematic, coordinated governmental attention to adaptation, fueled by the lack of funding, competition from higher priorities, the lack of public awareness and specific mandates, and other causes.[125] It may take time for the challenges of adaptation to become more real and politically demanding.

E. *The Role of Taxes*

International proposals look to carbon taxes as one way to fund adaptation and other climate change goals. When a United Nations advisory group recently evaluated how countries might raise $100 billion annually to meet the Copenhagen Accord's commitment to developing countries, it included carbon taxes among the options.[126] It estimated that developed countries could generate about $30 billion per year toward the goal if they adopted domestic carbon taxes or auctioned emissions allowances (set at a rate of $20 to $25 per ton of carbon dioxide equivalent) and merely dedicated up to 10% of the revenue to the developing countries' needs.[127] During the United Nations Framework Convention on Climate Change negotiations in Nairobi in 2006 and Bali in 2007, the Swiss government proposed a global carbon tax of $2 per ton of carbon dioxide to finance international and national funds.[128] The tax would exempt 1.5 tons of carbon dioxide equivalent for each inhabitant in a country and generate over $48 billion annually[129]—a very interesting proposal. Even in the absence of an international agreement to commit domestic carbon tax revenue to an international fund or to execute a global tax, a country could choose to independently establish and finance a national adaptation trust fund.

By rough calculation, a tax of just $1 per ton of carbon dioxide emitted from the combustion of fossil fuels in the United States, for example, would yield over $5 billion per year.[130] Although about comparable to BP's annual commitment to its $20 billion fund over four years, even this small amount would represent a significant step toward establishing the precedent that the polluters of the present should help pay for the costs of the future. Even small taxes in the near term would constitute an important step in the right direction.

V. Conclusion

Whether considering the BP oil spill or adaptation to climate change, ultimately, the question lies in who should pay. In the case of oil spills in the United States, the combination of a legal liability regime and an industry-funded Trust Fund put the cost largely on the oil industry. Caps on liability and caps on the Trust Fund, however, can leave individuals and society potentially bearing the cost of short-term response and long-term economic and environmental damages. The Trust Fund provides a vehicle for nimble governmental response, but it does not ensure that all who are injured will be compensated. Climate change is not currently subject to a comparable liability regime that will hold the polluters liable, yet it will wreak significant disruptions and costs that will fall on contemporaneous residents of countries. If the public sector and its taxpayers cannot assume the cost, the people who are injured will bear the burden. Trust funds can help prepare for those consequences at the cost of those who have contributed to the problem along the way.

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124. *See generally* Burns H. Weston & Tracy Bach, Recalibrating the Laws of Humans With the Laws of Nature: Climate Change, Human Rights, and Intergenerational Justice (2009).
125. U.S. GAO, GAO-10-113, Climate Change Adaptation: Strategic Federal Planning Could Help Government Officials Make More Informed Decisions 5-6, 31-33 (2009).
126. Secretary-General's High-Level Advisory Group on Climate Change Financing, Report of the Secretary-General's High-Level Advisory Group on Climate Change Financing 6 (2010). While not endorsing any particular measure, the Advisory Group emphasized the importance of using public instruments to establish a carbon price and evaluated approaches such as carbon taxes and auctioned emissions allowances. *Id.* at 6, 9.
127. *Id.* at 6 (using estimates for 2020).
128. Federal Department of the Environment, Transport, Energy and Communications, Swiss Confederation, Funding Scheme for Bali Action Plan: A Swiss Proposal for Global Solidarity in Financing Adaptation 5-8 (2008). The distribution system for the funds contains an elegant allocation of revenues between an international fund and national funds, depending on the countries' income levels. *Id.* at 8.
129. *Id.* at 6.
130. In 2008, carbon dioxide emissions from fossil fuels totaled 5.6 billion metric tons. *See* U.S. Envtl. Prot. Agency, ES-5, Inventory of U.S. Greenhouse Gases and Sinks: 1990-2008 (2010).