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Primary Purpose Pollution Control Tax Incentives: Is the Public Getting What It's Paying For

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Comment

"PRIMARY PURPOSE" POLLUTION CONTROL TAX INCENTIVES: Is the Public Getting What It's Paying for?

INTRODUCTION

In the midst of Wyoming's increasing budget difficulties,[1] the Wyoming Supreme Court has before it a case in which an oil refining company is claiming that over thirty-six percent of the value of the refinery is "designed, installed and utilized primarily for" pollution control,[2] and is therefore exempt from ad valorem taxes.[3] This case, *Laramie County Board of Equalization v. Frontier Refining, Inc.*, requires the court to decide a question that has been the most difficult issue for other courts to resolve in applying similar statutes.[4]

Faced with a growing concern for the environment, Wyoming and other states have enacted pollution control tax incentives to encourage

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1. *See generally* Campbell County Sch. Dist. v. State, 907 P.2d 1238 (Wyo. 1995). Several school districts challenged Wyoming's public finance system as unconstitutional under the equal protection section and education article of the Wyoming Constitution. The case highlights the ongoing battle for revenue allocation for educational purposes. *Id. See also Wyoming Lawmakers Override Petroleum Bill Veto*, IMPROVED RECOVERY WEEKLY, March 22, 1993. The main agenda of Wyoming's 1993 legislative session was to address a budget problem caused, at least in part, by declining revenues from the minerals industries. *Id.*

2. WYO. STAT. § 35-11-1103 (1977 & Supp. 1995) provides:

> The following property is exempt from ad valorem taxation pursuant to the provisions of this act and includes facilities, installations, machinery or equipment attached or unattached to real property and designed, installed and utilized primarily for the elimination, control or prevention of air, water or land pollution, or in the event such facility, installation, equipment or machinery shall also serve other beneficial purposes and use, such portion of the assessed valuation thereof as may be reasonably calculated to be necessary for and devoted to elimination, control or prevention of air, water and land pollution. The department of revenue shall determine the exempt portion on all property assessed pursuant to W.S. 39-2-201 through 39-2-213. The county assessor shall determine the exempt portion on all property assessed pursuant to W.S. 39-2-301 through 39-2-304. The determination shall not include as exempt any portion of any facilities which have value as the specific source of marketable byproducts.

3. Laramie County Bd. of Equalization v. Frontier Ref., Inc., No. 95-96 (Wyo. filed Aug. 30, 1995).

4. *See infra* notes 67-70 and accompanying text.

companies to install pollution control equipment. Many of the incentives reduce property or sales-and-use taxes on equipment used "primarily for" pollution control.[5] The most difficult issue for courts has been interpreting the word *primarily* in statutes that require the purpose of the equipment to be primarily for pollution control.[6] The difficulty arises when equipment both reduces pollution and contributes to a manufacturing process. Another problem occurs when equipment yields a less-polluting end product rather than reducing the pollution created in the process. The courts have referred to this anomalous situation as a merger situation.[7]

Courts have developed two different approaches, the functional analysis and the subjective intent analysis. The functional analysis focuses on the function of the equipment. The subjective intent analysis focuses on the company's reasons for installing the equipment.

This comment analyzes these two approaches, as well as the different approaches to the merger anomaly. This comment then criticizes the use of positive tax incentives, and suggests an alternative approach. Finally, the comment examines how the functional analysis, the merger anomaly analysis, and the alternative approach apply to the facts of the *Frontier* case.

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5. *Charts-Pollution Control Tax Incentives*, 1 St. & Loc. Taxes (P-H) ¶ 298 (Nov. 11, 1995). *See e.g.* ALA. CODE §§ 40-9-1(20), 40-23-4(a)(16), 40-23-62(18) (1995); CONN. GEN. STAT. §§ 12-81(51-52), 12-412(21-22) (1993 & Supp. 1996); FLA. STAT. CH. 193.621(1 & 4) (West 1989 & Supp. 1996); GA. CODE. ANN. §§ 48-5-41(a)(11), 48-8-3(36) (1991 & Supp. 1995); ILL. REV. STAT. CH. 35, para. 105/2a, /32a, /102a (1993); 1996 KY. REV. STAT. ANN. 224.01-310 (Michie Butterworth 1995); ME. REV. STAT. ANN. tit. 36, § 656(1)(E) (1990 & Supp. 1995); MICH. COMP. LAWS §§ 323.351-354 (1992); MINN. STAT. § 272.02(9) (1989 & Supp. 1996); N.J. REV. STAT. § 54:4-3.56-.57 (1996); N.J. STAT. ANN. § 54:4-3.56 (West 1986); OHIO REV. CODE ANN. § 5709.20, .21, .25 (Baldwin 1991); R.I. GEN. LAWS § 44-18-30(15)(1995); TENN. CODE ANN. §§ 67-4-906(a)(6), 67-5-604 (1994 & Supp. 1995); W. VA. CONST. art. 6A, § 11-6A-2 (1995).

6. In Chemical Waste Management, Inc. v. State, 512 So. 2d 115, 116 (Ala. Civ. App. 1987), the court stated that "[b]y far the greatest source of difficulty for courts which have construed statutes similar to the one in question has been in construing the word 'primarily' in the phrase 'acquired, or constructed primarily for the control, reduction or elimination of air or water pollution.'" *Id.* In Ethyl Corp. v. Adams, 375 A.2d 1065, 1075-76 (Me. 1977), Maine's Supreme Judicial Court said that it was not clear from the statutory language just how the primary purpose for which a facility was "installed, acquired or placed in operation" was to be determined. The court was unsure whether to look to the company's reasons for installing the facility or the actual function of the facility. The court asked, "is the statutory primary purpose test a subjective standard, focusing on why a facility was installed, or an objective standard, focusing on what the facility does?" *Id.*

7. *Chemical Waste Management*, 512 So. 2d at 117.

Background

Beginning in the 1960's, a new environmental policy trend emerged.[8] Hoping to use market forces to reduce pollution,[9] lawmakers introduced laws providing tax incentives for companies that installed pollution control equipment.[10] As of 1995, forty-nine states have incorporated pollution control tax incentive provisions in their principal revenue laws.[11] Many of these statutes reduce property or sales-and-use taxes for equipment used "primarily for" pollution control.[12]

Unsure how to apply the language of the statutes, many courts look to legislative intent. For example, Alabama's statute provides an ad valorem tax exemption for equipment "acquired or constructed primarily for the control, reduction or elimination of air or water pollution."[13] The Alabama Court of Civil Appeals noted that the legislature's objective was to protect the public by encouraging businesses to control, reduce, or eliminate air and water pollution.[14] According to Oregon's Supreme Court, the Oregon legislature designed its statute to help prevent, control and reduce air and water pollution.[15] The Washington Supreme Court explained that Washington's legislation did not intend to provide a tax incentive for facilities that created rather than abated pollution.[16] The Wyoming Supreme Court has said that "[section 35-11-1103] was obviously intended to provide a tax incentive that would encourage the design, installation and utilization of pollution control equipment and devices for the beneficial public purpose of reducing or eliminating environmental pollution to the extent practical."[17]

Despite legislators' good intentions, in practice pollution control equipment tax incentives have been burdensome to administer.[18] Although

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8. John W. McNulty, *State Tax Incentives to Fight Pollution*, 56 A.B.A. J. 747 (1970).

9. Arnold W. Reitze & Glenn Reitze, *Tax Incentives Don't Stop Pollution*, 57 A.B.A. J. 127 (1971).

10. McNulty, *supra* note 8.

11. *See supra* note 5.

12. *Id.*

13. ALA. CODE § 40-9-1(20) (1975).

14. *Chemical Waste Management*, 512 So. 2d at 116.

15. Kenneth R. Reed, *Economic Incentives for Pollution Abatement: Applying Theory to Practice*, 12 ARIZ. L. REV. 511, 525 (1970) [*citing* ORE. REV. STAT. § 449.615 (1968)].

16. Weyerhaeuser Co. v. State Dep't of Ecology, 545 P.2d 5, 13 (Wash. 1976).

17. State Bd. of Equalization v. Tenneco Oil Co., 694 P.2d 97, 100 (Wyo. 1985).

18. FREDERICK R. ANDERSON, ET AL., ENVIRONMENTAL IMPROVEMENT THROUGH ECONOMIC INCENTIVES 19 (1977). Anderson noted that "[i]f these incentives were widely introduced, their administration would become extremely complex because of the intimate relationship between production processes and the wastes produced. Without careful policing of individual plants, it would be virtually impossible to distinguish costs incurred to reduce waste loads from costs incurred to increase

a presumption exists in favor of taxation and against finding an exemption,[19] many courts still struggle in determining when a particular device should be tax exempt.

In particular, courts have a difficult time deciding what factors are appropriate to consider in determining the primary purpose of a piece of equipment. The statutory phrases *primary purpose* and *primarily for* are ambiguous because courts can interpret them in more than one way. The courts cannot determine from the terms whether to examine the company's intentions in installing the equipment, the actual functions of the equipment, the economic benefits received from the investment, or other factors.[20]

No dispute arises when a piece of equipment functions only to reduce pollution. However, courts have trouble determining the primary purpose when equipment serves dual purposes. A single piece of equipment may contribute to the production process while also reducing the amount of pollution emitted from that process.[21] Courts have questioned whether the legislature intended to exempt property that provides economic or manufacturing benefits in addition to pollution control benefits.[22] Some courts deny the exemption if the equipment has a substantial function in the production of goods or services.[23]Another problem arises when the equipment yields a less-polluting end product or provides a pollution-reducing service rather than reducing pollution created in the production process itself.[24] For example, a coal company may install coal-washing

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the profitability of industrial processes." *Id. See also* Thomas T. Ingersoll and Bradley R. Brockbank, *The Role of Economic Incentives in Environmental Policy*, Controversies in Environmental Policy 201 (Sheldon Kamieniecki et al. eds., 1986).

19. State Bd. of Equalization v. Tenneco Oil Co., 694 P.2d 97, 100 (Wyo. 1985). The Wyoming Supreme Court said that "exemptions must be strictly construed in favor of the taxing power, [but] this does not mean that if there is a possibility of a doubt it is to be at once resolved against the exception. It simply means that if, after the application of all rules of interpretation for the purpose of ascertaining the intention of the legislature, a well founded doubt exists, then an ambiguity occurs which may be settled by the rule of strict construction. . ." (citing COOLEY, THE LAW OF TAXATION § 674, at 1415 (1924)). Courts have traditionally construed tax exemptions strictly against the one claiming the exemption. 71 AM. JUR. 2D *State and Local Taxation* § 326 (1973).

20. *See supra* note 5.

21. Chemical Waste Management, Inc. v. State, 512 So. 2d 115, 117 (Ala. Civ. App. 1987).

22. Illinois Cereal Mills, Inc. v. Dep't of Revenue, 346 N.E.2d 69 (Ill. App. Ct. 1976).

23. *Chemical Waste Management*, 512 So. 2d at 116 (hazardous waste facility equipment was taxable because the taxpayer acquired it to make a profit). *See also* Alabama Dep't of Revenue v. Brewton, No. U.91-144, 1991 WL 214509 (Ala. Dept. Rev. Aug. 23, 1991) (exemption denied to equipment used by company engaged in wastewater disposal business); Alabama Dep't of Revenue v. Industrial Safety Products, Inc., No. U.88-107, 1992 WL 509514 (Ala. Dep't. Rev. Nov. 18, 1992) (exemption denied to containers, trucks, etc. used by company engaged in residential and commercial solid waste disposal business).

24. *Chemical Waste Management*, 512 So. 2d at 117. Courts have attempted to distinguish such property and equipment as primarily directed either to pollution control or to the stated business

equipment that produces a premium, lower-polluting coal. The feature that results in less pollution (cleaner-burning coal) is the same feature that causes people to buy the product. Courts question whether the legislature intended the exemption to apply in such a circumstance.[25] Courts also wrestle with the fact that the equipment does not reduce the company's own pollution by making cleaner coal.[26]

Courts have developed two general approaches to determine whether equipment qualifies for pollution control tax incentives: the subjective analysis and the functional analysis. The functional analysis focuses on the actual function of the equipment.[27] The subjective intent analysis concentrates on the company's reasons for acquiring the equipment.[28] Additionally, three courts have struggled to apply the statutes to the anomaly known as a merger situation.[29]

Functional Analysis

Leading the nation with reported cases on the issue, Illinois courts have developed the functional analysis approach.[30] Illinois courts focus on whether the equipment actually functions to control pollution, and deny the exemption if the equipment has a substantial function in the industrial process.[31] The Illinois courts specifically reject the subjective intent or "but for" analysis,[32] which focuses on the company's reasons for installing the equipment, not on the function of the equipment itself.

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purpose itself. This is not always an easy distinction to make because there is frequently an overlap of pollution control with the principal business function. *Id. See also* Weyerhaeuser Co. v. State Dep't of Ecology, 545 P.2d 5, 7 (Wash. 1976).

25. *Chemical Waste Management*, 512 So. 2d at 117.

26. *Id.*

27. *Illinois Cereal Mills*, 346 N.E.2d at 71; Sun Oil Co. v. Lindley, 383 N.E.2d 908, 911 (Ohio 1979); Central Ill. Pub. Serv. Co. v Dep't of Revenue, 511 N.E.2d 222, 224-25 (Ill. App. Ct. 1987).

28. Illinois Cereal Mills, Inc. v. Dep't of Revenue, 346 N.E.2d 69, 70-71 (Ill. App. Ct. 1976); Meijer, Inc. v. State Tax Comm'n., 238 N.W.2d 582, 583 (Mich. Ct. App. 1975).

29. *Chemical Waste Management*, 512 So. 2d 115; Marietta Coal Co. v. Lindley, 450 N.E.2d 1164 (Ohio 1983); Amax, Inc. v. State Bd. of Tax Comm'rs., 552 N.E.2d 850 (Ind. 1990).

30. *Illinois Cereal Mills*, 346 N.E.2d at 71. Indiana, Maine, Massachusetts, Washington, Wisconsin, and Ohio also use an analysis that focuses on the equipment's function. *See, e.g.*, Amax, Inc. v. State Bd. of Tax Commn'rs., 552 N.E.2d 850, 854-55 (Ind. 1990); Ethyl Corp. v. Adams, 375 A.2d 1065, 1075-76 (Me. 1977); Henry Perkins Co. v. Bd. of Assessors of Bridgewater, 384 N.E.2d 1241, 1243 (Mass. 1979); Timken Co. v. Lindley, 416 N.E.2d 592, 596 (Ohio 1980); Weyerhaeuser Co. v. State Dep't of Ecology, 545 P.2d 5, 10 (Wash. 1976).

31. *Illinois Cereal Mills*, 346 N.E.2d at 71. *See also Sun Oil Co.*, 383 N.E.2d at 911, which states that a statute "does not permit exemption of property which serves a pollution control purpose and also provides an incidental function which benefits the taxpayer's production process."

32. Central Ill. Pub. Serv. Co. v Dep't of Revenue, 511 N.E.2d 222, 225 (Ill. App. Ct. 1987).

In a landmark case, *Illinois Cereal Mills, Inc. v. Department of Revenue*, a cereal company replaced its coal-fired boilers with gas-fired boilers to meet environmental standards.[33] The new boilers provided steam both to dry grain and to heat the processing plant.[34] Illinois Cereal Mills claimed a pollution control tax exemption pursuant to the Illinois statute, which exempts property "sold or used or intended for the primary purpose of eliminating, preventing, or reducing air and water pollution."[35] The company received no economic benefit from installing the new equipment, because the old boilers were in satisfactory condition and would have lasted many more years.[36] However, the Illinois Appellate Court denied the exemption because the primary function of the gas-fired boilers was to produce heat to carry on the company's manufacturing process.

> The [statute] does not seem to refer to equipment like the gas fired boilers even though they were installed because they were less polluting than the equipment formerly used. Rather the words refer to equipment such as precipitators, filters and smokestacks, *which have no substantial function in the manufacturing or processing of a product other than to abate pollution caused by the plant operation*.[37]

In *Central Illinois Public Service Company v. Department of Revenue*[38] [CIPS], the company purchased railroad cars to transport minerals used in an air pollution scrubber system.[39] The lower court applied a "but for" analysis, saying that "but for environmental regulations governing sulfur dioxide emissions at the Newton power station, CIPS would have no need for the railway cars and would not have purchased them."[40] In reversing the lower court's decision, the Illinois Appellate Court rejected the focus on the company's reasons for installing the equipment.[41] The court said, "It is clear that the primary purpose of the cars was transportation and that the ultimate pollution control was incidental."[42]

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33. 346 N.E.2d 69 (Ill. App. Ct. 1976).
34. *Id.* at 70.
35. *Id.*
36. *Id.*
37. *Id.* at 71 (emphasis added).
38. 511 N.E.2d 222 (Ill. App. Ct. 1987).
39. *Id.* at 223.
40. *Id.* at 224.
41. *Id.* at 225. Instead, the court said, "This court continues to eschew any reliance on a subjective purpose test as a basis for determining the 'primary purpose' of alleged pollution control equipment." *Id.*
42. *Id.* The court cited the same legislative intent it followed in *Illinois Cereal Mills*, but noted that the statute itself limited the exemption to equipment having the "primary purpose of eliminating,

Subjective Intent Analysis

Focusing on the motivations of the taxpayer, the courts using the subjective intent analysis consider several factors to decide the primary reason for installing the equipment.[43] One factor is whether the company would have purchased the equipment but for the pollution control problem.[44] Another factor is whether the taxpayer sought or gained any economic benefits from the decision to purchase the equipment.[45]

Meijer, Inc. v. State Tax Commission[46] illustrates the subjective intent analysis. Here, a retail company used incinerators to burn its solid waste, causing emissions violating Michigan air quality laws. Because of the violation, the company stopped incinerating the waste, which completely eliminated the emissions problem. Instead, the company recycled seventy-five percent of the waste and disposed of the remainder in landfills using a new baler and compactor facility. The company argued that its new facility was tax exempt because the equipment was installed to comply with environmental regulations.[47]

Michigan's statute exempts a "[f]acility . . . designed and operated primarily for the control, capture and removal of pollutants from the

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preventing, or reducing air and water pollution . . . " *Central Illinois*, 511 N.E.2d at 224 (citing ILL. REV. STAT. Ch. 120 para. 439.2a (1985)). The Department of Revenue had further narrowed the statute's scope, ruling that it "does not extend to . . . any other tangible personal property which may be used in some way in connection with such equipment, but which is not made a physical component part of the equipment as well." *Central Illinois*, 511 N.E.2d at 224 (citing 86 Ill. Admin. Code Ch. I § 130.335(a) (1985)).

43. The Michigan Appellate Court applied a subjective intent analysis. *See, e.g.*, Meijer, Inc. v. State Tax Comm'n., 238 N.W.2d 582, 583 (Mich. Ct. App. 1975). However, the Michigan Supreme Court later decided that the primary purpose of a piece of equipment need not closely align with the motivations of the person installing, acquiring or operating the facilities. Nevertheless, it is unclear whether the court completely rejected the subjective intent analysis. Covert Township Assessor v. State Tax Comm'n., 287 N.W.2d 895, 900 (Mich. 1980). While the Alabama courts have not explicitly decided the issue, the Alabama Department of Revenue has adopted the subjective intent analysis. *See, e.g.*, Alabama Dep't of Revenue v. Taxpayer, No. S.92-292, 1994 WL 501470 (Ala. Dept. Rev. Aug. 24, 1994); Alabama Dep't of Revenue v. Taxpayer, No. S.89-221, 1990 WL 141566 (Ala. Dept. Rev. July 30, 1990). See Rule 10.8.1(b).

44. *Meijer*, 238 N.W.2d at 583-84.

45. *Id.*

46. 238 N.W.2d 582 (Mich. App. Ct. 1975). *See also* Illinois Cereal Mills, Inc. v. Dep't of Revenue, 346 N.E.2d 69, 71-72 (Ill. App. Ct. 1976) (Simkins, J., dissenting). The dissenting opinion in *Illinois Cereal Mills* also illustrates the subjective intent analysis. In his dissent, Justice Simkins concluded that the boiler's primary purpose and the reason the company purchased the boilers were identical. The old boilers performed the same function as the new boilers, and the company received no economic benefit from the new boilers. Justice Simkins would have granted the exemption, and opined that the primary purpose of the new boilers was for pollution control. *Id.*

47. *Meijer*, 238 N.W.2d at 583.

air."[48] The statute defines facility" as property "installed or acquired for the primary purpose of controlling or disposing of air pollution."[49] In construing the provision, the court said that the legislature did not design the statute to focus solely on the equipment's function. The court reasoned that "devices which were not manufactured and sold with pollution control in mind would never qualify for tax exempt status, no matter how successful their use."[50] In other words, "a facility which completely eliminates pollution problems can never qualify for tax exempt status."[51]

The court granted the exemption, concluding that the statute applied when the company's primary reason for installing the equipment was to comply with state air quality standards. However, the court also noted that "acquisition of compactors and balers will not automatically entitle a party to tax exemption."[52] If there had been no pollution problem, and the company had simply chosen to use a compacting and baling to dispose of their waste, the equipment would not qualify for tax exemption. The necessary element—primary pollution control purposes—would be lacking.[53]

Comparison of the Approaches

DIFFICULTY IN APPLICATION. The subjective intent analysis is difficult to apply. The complexity of business decisions makes it virtually impossible for a court to determine the primary reason a company installed a particular piece of equipment.[54]

In contrast, the functional analysis provides a clearer, more objective standard. Rather than struggling to determine why the company bought the equipment, courts can focus on the equipment's physical characteristics. Furthermore, companies and tax assessors may agree more often on the function of the equipment, rather than why the company bought the equipment. The greater possibility of early agreement on empirical facts, such as the function of the equipment, may result in less litigation.

Consider a company that replaces an engine in its factory with one that is less polluting, but also more powerful and efficient. A court using the subjective intent analysis would have the difficult task of discerning

48. *Id.* at 584.
49. *Id.* at 583 (citing MICH. COMP. LAWS ANN. § 336.3 (West 1965)).
50. *Meijer,* 238 N.W.2d at 584.
51. *Id.* at 585.
52. *Id.* at 584.
53. *Id.*
54. *See supra* note 6.

the factory's primary motivation for replacing the engine. The primary reason for installing the new engine could have been to control pollution, or to increase the factory's efficiency and realize a greater profit.

Courts using the functional analysis, however, would look at the actual functions or physical characteristics of the engine, rather than the factory's subjective motivations. Determining the physical function of an engine is much easier because it is an objective fact. Since the primary function of an engine is to power the manufacturing process, not to control pollution, the court would deny the exemption under the functional analysis.

UNEQUAL TREATMENT OF TAXPAYERS. The subjective intent analysis often results in unequal treatment of taxpayers who installed the same equipment serving the same function, but for different reasons. Consider truck driver A, who replaces his old truck with a new truck to comply with state emission limits. Truck driver A would receive the exemption, because he bought the new truck primarily for pollution control. A second truck driver, truck driver B, may replace his old truck with a new one simply because the old one is worn out. He would not receive a tax exemption.

The functional analysis offers a more equitable approach because it creates a bright line rule. Once a court determines that a particular piece of equipment used in a particular manner is exempt, all companies using the same type of equipment in the same manner receive the exemption.

REWARDS POLLUTERS. The subjective intent analysis may also encourage a company to pollute from the start to obtain a tax incentive.[55] For example, consider company A and company B, who build their plants simultaneously. Company A installs a cheaper coal-fired boiler, and company B a less-polluting but more costly gas-fired boiler. Later, company A replaces its coal-fired boiler with a gas-fired boiler to comply with an environmental regulation. Using the subjective intent analysis, only company A would receive the exemption. By replacing the coal-fired boiler with a gas-fired boiler, company A corrected something it should not have been doing in the first place. Company B, who had been emitting less pollution all along, would not receive the exemption. Therefore, the exemption rewards company A for making an initially cheaper but environmentally poor decision.

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55. WILLIAM J. BAUMOL & WALLACE E. OATES, THE THEORY OF ENVIRONMENTAL POLICY 173 (1975). A subsidy scheme may make it profitable for the firm to start off by polluting more than it would have otherwise in order to qualify for larger subsidy payments. In addition, a subsidy will generally lead to an inefficient use of resources. By inducing the entry of more polluting firms, a simple subsidy may even increase the emissions of an industry, though the reverse is intended. *Id.*

SCOPE OF APPLICATION. The subjective intent analysis results in a broader application because it does not require the equipment to possess a particular characteristic. It applies to a wider variety of pollution control methods, such as strategies that replace or upgrade the production process. As long as the company installed the piece of equipment to comply with an environmental regulation, a court using this analysis would grant the exemption.

However, this broader scope presents several problems. First, contrary to legislative intent,[56] the subjective intent analysis allows courts to give exemptions to actual sources of pollution. For example, courts can exempt every new truck that an individual purchases because his old truck violated emission standards. A new truck is not a pollution control device; rather, it is a source of pollution, although it emits less pollution than the old truck.

The broader scope of the subjective intent analysis also exposes the statutes to more abuse. Although there may be many reasons the company installed the equipment, creative tax attorneys and accountants can characterize the company's decision as primarily for pollution control. As a result, tax agencies are faced with more applications for the incentives and more litigation. Therefore, many applications go undisputed because state tax agencies often have fewer resources to contest the exemptions.[57]

In contrast, the functional analysis in nearly every situation applies to methods that handle, capture, or treat existing pollution. The functional analysis results in this narrower scope because it requires the equipment to possess a pollution control function. Thus, a company receives an exemption if the equipment functions to control pollution, even if replacing or upgrading the production process would be more effective.

While the subjective intent analysis results in a broader application of the statutes, it is difficult to apply, treats taxpayers unequally, rewards polluters, and is vulnerable to abuse. In contrast, the functional analysis provides a clearer, more objective standard. Therefore, courts should choose the functional analysis over the subjective intent analysis to determine the primary purpose of a piece of property.

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56. Weyerhaeuser Co. v. State Dep't of Ecology, 545 P.2d 5, 13 (1976). The *Weyerhaeuser* court said that the Washington legislature did not intend to provide a tax exemption and tax credit for facilities that "create rather than abate pollution." *Id.*

57. Reitze & Reitze, *supra* note 9, at 131.

Merger Situations - An Anomaly

Another question that arises is whether an exemption applies to equipment that creates a product or service that reduces pollution of the final consumer, rather than reducing pollution created in the production process. When the business purpose and the pollution control purpose of a piece of equipment merge into one, courts have trouble determining which purpose is primary.

In *Chemical Waste Management, Inc. v. State,*[58] the company claiming the exemption was in the business of treating, containing, and disposing of hazardous waste. Alabama's statute exempts "all devices, facilities or structures . . . acquired or constructed primarily for the control, reduction or elimination of air or water pollution."[59] The company argued that since it was in the business of pollution control, all of its equipment should receive the exemption. The court developed a bright line rule that denies the exemption in merger situations even if the company uses the equipment for pollution control. The court reasoned that:

> [t]he equipment is integral to and is in fact the very service that the taxpayer purports to provide. It does not represent an unrecoverable cost of the enterprise . . . . The [company's] containment equipment is the very property from which its profits are derived. Accordingly, the primary purpose of the property is not pollution control . . . , rather it is part and parcel of the [company's] business purpose.[60]

Other courts shy away from such a bright line rule. For instance, in *Marietta Coal Co. v. Lindley,*[61] the Supreme Court of Ohio granted a tax incentive to a coal-mining company for its coal washing equipment. The company used the equipment to produce a cleaner, lower-polluting coal. As a result of EPA standards, Marietta's largest customer, the Ohio Power Company, had two choices. They could either install equipment to filter its emissions, or buy higher-quality, lower polluting coal than what Marietta was providing. Together, Marietta and the Ohio Power Company explored alternative ways in which the Ohio Power Company could comply with the EPA's regulations. The companies concluded that the most effective and economical method was to install coal-washing equipment to produce lower-

58. 512 So. 2d 115 (Ala. Civ. App. 1987).
59. *Id.* at 116 (citing ALA. CODE § 40-9-1(20) (1975)).
60. *Chemical Waste Management,* 512 So. 2d at 118.
61. 450 N.E.2d 1164 (Ohio 1983).

polluting coal. Washing the coal also reduced the size and weight of the coal, resulting in lower shipping costs. Together, the companies decided that it would be more cost effective for Marietta to operate the equipment close to its mine site. The court granted the exemption, stating that "[b]ecause the property and . . . would satisfy the statutory definition of air pollution control in the hands of the utility [Ohio Power Company], . . . the plant also satisfies that same statutory definition in appellant's [Marietta's] hands."[62] The court further reasoned that Marietta derived no incidental benefits from the process, and should thus receive the exemption.

In a similar case involving another coal-mining company, *Amax, Inc. v. State Board of Tax Commissioners*,[63] the Indiana Tax Court also granted an exemption for coal-washing equipment. In that case, however, Amax coal company could not find a market for the unwashed, higher-polluting coal. Furthermore, the company made the decision to purchase the equipment without the participation of its customers, unlike *Marietta*.

Indiana's exemption statute, among other things, requires the court to make two determinations. First, the equipment must be "employed predominantly in the operation of the air pollution control system."[64] Second, the equipment cannot be "primarily used in the production of property for sale."[65] The court found that Amax used the equipment in the production of property for sale. However, the court noted that this use was only secondary because the equipment served no other function in the production process but to clean the coal. The court said that "[o]nce the Court finds that the equipment is primarily used in the control of air pollution, it must necessarily find that the equipment is *not* primarily used in the production of property for sale."[66] Accordingly, the court exempted the coal washing equipment.

Of these three decisions, the Alabama merger approach makes the most sense. Because the overriding purpose of business is to make a profit, in merger situations courts can reasonably presume that the pollution control purpose is secondary to making a profit. Also, environmental economists question the wisdom of providing businesses with incentives in addition to the profits derived from the customer.[67]

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62. *Id.* at 1167.

63. 552 N.E.2d 850 (Ind. 1990).

64. *Id.* at 852.

65. *Id.*

66. *Id.* at 859 (emphasis added).

67. BAUMOL & OATES, *supra* note 55, at 172-190. Baumol and Oates question the economic wisdom of encouraging production where market forces themselves do not sufficiently reward producers. *Id.*

In any event, the *Marietta* case is distinguishable from most circumstances. The court appeared troubled by the idea that the equipment would be exempt in the hands of the power company, but not in the hands of the mining company. Focusing on the combined effort of the two companies in resolving the pollution problem, the *Marietta* court treated the coal mining company and power company like a joint venture.[68]

In contrast, the *Amax* court avoided the merger issue by nullifying part of the statute and granting the exemption.[69] Indiana's statutory language appears explicitly designed to deny the exemption in a merger situation. The Indiana statute exempts equipment from tax if "it is not primarily used in the production of property for sale," and "it is employed predominantly in the operation of the air pollution control system."[70] The only time a piece of property can be both "employed predominantly in pollution control" *and* "primarily used in the production of property for sale" is in a merger situation. Therefore, to give effect to every word of the statute, the court should have construed the statute to deny the exemption. However, the *Amax* court decided that once the equipment met the first part of the statute, the equipment necessarily failed the second part of the statute.[71] This reading makes the second requirement of the statute irrelevant.

In any case, it is unclear that any legislature intended the exemptions to apply in merger situations.[72] Given the general presumption against finding exemptions,[73] courts should follow the analysis of the *Chemical Waste Management* case, which denies the exemption in merger situations. This approach will best fulfill legislative intent because it requires companies to pay taxes on equipment they need anyway.

Wyoming Law

The Wyoming Supreme Court has interpreted Wyoming statute section 35-11-1103 several times prior to the pending *Frontier* case.

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68. *Marietta Coal Company*, 450 N.E.2d at 1167.

69. *Amax*, 552 N.E.2d at 859-60.

70. *Amax*, 552 N.E.2d at 852 (citing IND. CODE § 6-1.1-10-12 (1995)).

71. *Amax*, 552 N.E.2d at 859. Thus, if the equipment was primarily used in the production of property for sale, the equipment could not simultaneously be employed predominantly in the operation of the air pollution control system. *Id.*

72. Only *Chemical Waste Management* clearly addresses whether the exemption applies in a merger situation. *See supra* note 6 and accompanying text. With the exception of the Indiana statute, no statute appears to grant or deny an exemption when a merger situation occurs. And even though the Indiana statute seems to deny the exemption in a merger situation, the *Amax* court did not apply the statute in that way. *Amax*, 552 N.E.2d 850 (citing IND. CODE § 6-1.1-10-12 (1995)).

73. *See supra* note 19 and accompanying text.

However, the court has not decided what factors to consider in determining the primary purpose of a piece of equipment.

The first of these cases, *State Board of Equalization v. Tenneco Oil Company*,[74] involved a company that was constructing a soda ash plant and trona mine over a three-year period. During the construction process, the company installed several pieces of pollution control equipment. *Tenneco* dealt with whether section 35-11-1103 exempted equipment during the period of installation or construction. The Board of Equalization pointed to the terms "designed, installed *and utilized* primarily for" pollution control, and argued that the equipment was not being "utilized" during construction.[75] The Wyoming Supreme Court held that the pollution control equipment was exempt upon acquisition if it was of the type ordinarily designed, installed and utilized primarily for pollution control.[76]

In *General Chemical Corporation v. Wyoming State Board of Equalization*,[77] the court construed the latter part of section 35-11-1103. That section reads, "The state board of equalization . . . shall not include as exempt any portion of any facilities which have value as the specific source of marketable byproducts."[78] The court held that, in valuing the non-exempt portion of pollution control equipment, an assessor must consider the value of any marketable by-products, disregarding the cost of operating the equipment.[79]

Finally, in *State Department of Revenue and Taxation v. Pacificorp*,[80] the court invalidated State Board of Equalization regulations that limited the exemption only to pollution control equipment required by existing environmental regulations. The court also found that monitoring devices that warned workers of dangerous gas leaks were pollution control equipment, though the monitors themselves did not actively reduce pollution. Reasoning that a monitoring device was an integral part of a pollution control system because Pacificorp could not control pollution without first detecting its presence, the court granted the exemption.[81]

These cases, while shedding light on how Wyoming courts have applied section 35-11-1103, do not address the appropriate factors to

74. 694 P.2d 97 (Wyo. 1985).
75. *Id.* at 99 (emphasis added).
76. *Id.* at 100.
77. 819 P.2d 418 (Wyo. 1991).
78. WYO. STAT. § 35-11-1103 (1977 & Supp. 1995). *See supra* note 2 for full text of this section.
79. *General Chemical Corp.*, 819 P.2d at 421.
80. State Dep't of Revenue and Taxation v. Pacificorp, 872 P.2d 1163 (Wyo. 1994).
81. *Id.* at 1170.

consider in determining the primary purpose of the equipment. This issue is currently before the Wyoming Supreme Court in *Frontier Refining, Inc. v. State Board of Equalization.*[82]

DISCUSSION

As illustrated above, courts have trouble applying "primary purpose" pollution control tax incentives. Part of the problem is that the statutes are ambiguous and are subject to differing interpretations. The way in which legislative bodies have drafted these statutes makes it impossible for courts to fulfill the legislators' intentions. Additionally, legal and economic commentators have overwhelmingly concluded that positive tax incentives simply do not work.[83]

Problems With the Use of Positive Tax Incentives

Many commentators criticize the use of positive tax incentives to obtain environmental policy objectives.[84] Paying the polluter to stop polluting is like environmental blackmail.[85] As one commentator suggested, "It would be egregiously inequitable to pay the polluter to refrain from an act which he has no right to commit."[86] Many argue that incentives fail to create any change, are poorly aimed, and discourage the best solution for pollution reduction by circumventing natural market forces.[87] Some commentators suggest using negative tax incentives or emission fees, instead of positive tax incentives or subsidies.[88] Despite widespread condemnation, some consider incentives beneficial when used with other tools.[89] The main criticisms of using economic incentives for pollution abatement are explained below.

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82. No. 95-96 (Wyo. filed Aug. 30, 1995).

83. *See, e.g.*, Arnold W. Reitze, Jr., *Real Property Tax Exemptions in Ohio-Fiscal Absurdity*, 18 CASE W. RES. L. REV. 64 (1966); A. V. KNEESE & B. T. BOWER, MANAGING WATER QUALITY: ECONOMICS, TECHNOLOGY, INSTITUTIONS 175-78 (1968). Kneese and Bower point out that various bills have recently been introduced in Congress offering this type of subsidy in a variety of forms including rapid tax write-offs and tax credits. Aside from the fact that such subsidies can never by themselves make abatement investments profitable, they suffer from at least three other defects. First, they increase the "excess burdens" imposed by the tax system. Second, this sort of arrangement rewards only the installation of particular types of equipment (for example, treatment equipment), and hence may not induce the adoption of the most efficient pollution control methods. Finally, this type of subsidy aids only firms that are profitable enough to invest and may not be very helpful to marginal concerns. *Id.*

84. *See supra* note 84.

85. Reed, *supra* note 15, at 519. *See also* Reitze, *supra* note 84.

86. Reed, *supra* note 15, at 519.

87. *See infra* note 98 and accompanying text.

88. *See infra* note 101 and accompanying text.

89. *See infra* note 106 and accompanying text.

FAIL TO REMOVE GOVERNMENT INTERFERENCE. Many proponents of tax incentives assert that using tax incentives instead of government subsidies frees a private enterprise's decision-making process from government interference.[90] However, when a company applies for a tax exemption for a particular piece of equipment, a government agency makes the decision to approve or deny the exemption. The result is that a tax exemption, like a direct subsidy, requires government approval and thus the same amount of paper work.[91]

FAIL TO CAUSE ANY CHANGE. Positive tax incentives fail to induce investments that a company otherwise would not make without the incentive.[92] Pollution control is generally a net loss for companies, because it offers no economic benefit. Often, the structure of the incentives do not overcome the capital loss a company will incur by purchasing the equipment. Therefore, no rational company would make the investment, even with the exemption.[93]

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90. Walker B. Lowman, *Legislative Responses to Air and Water Pollution*, 33 OHIO ST. L.J. 860, 883-84 (1972).

91. *Id.* "The most frequently asserted advantage for tax incentives is that they promote private decision-making and keep governmental bureaucracy out of private industrial operations." *Id.* at 883 (citing Symposium, *Survey, Tax Incentives-Conceptual Criteria for Indentification and Comparison with Direct Government Expenditures*, Tax Incentives Symposium, Tax Institute of America, Nov. 20-21, 1969, 3, 17-18 (1971)). Often, the tax incentive requires that the state facility certification be applied for, granted and forwarded to the taxing authority. Then the tax relief must be applied for on the appropriate taxing forms. No more government interference is involved in the subsidy process than in the taxing process. "These agencies are concerned with revenue rather than pollution control, and are unlikely to consider the equipment's effectiveness in deciding whether to allow a credit or deduction. If a tax-prompted program fails, tax departments cannot be held accountable . . . [because] they do not know or care whether the program is wise or foolish." *Id* at 885. Additionally, state tax agencies often lack the necessary environmental expertise to decide whether to grant the exemption. A state tax collector's only duty is to collect the tax, not to question the validity of the program or the pollution control capabilities of a particular piece of equipment. *Id. See also* Reitze & Reitze, *supra* note 9. If the responsibility for approving exemptions did fall on the state environmental agency, that agency would have to devote its energies to processing increasing quantities of tax incentive applications rather than enforcing existing regulations. *Id.* at 127.

92. Reitze & Reitze, *supra* note 9, at 129. *See also* Lowman, *supra* note 91, at 884. Lowman says that "[c]ommon sense and responses to industry questionnaires compel the conclusion that existing tax incentives do not induce investments that would not otherwise be made." *Id. See also* Reed, *supra* note 15, at 519. Reed observes that tax incentives have been ineffective means of controlling pollution. "A fast writeoff may reduce the cost of an abatement facility, but it does not eliminate the fact that industry is being required to invest in assets which will not necessarily produce any economic benefit." *Id. See also* James E. Krier, *The Pollution Problem and Legal Institutions: A Conceptual Overview*, 18 UCLA L. REV. 429, 468-70 (1971). Krier asks, "Do we wish to subsidize profit-making ventures? Neither award payments nor tax incentives function to internalize the social costs of pollution on polluting firms and their customers . . . . As a result, more of such goods might be produced than would be the case if the market were allowed to function." *Id.*

93. ANDERSON, *supra* note 18, at 18. "[Economic incentives] merely reduce losses on waste treatment equipment; they do not make installation of that equipment profitable. In other words, no firm or local government acting rationally would provide any treatment solely because it is offered

Positive tax incentives also favor larger companies that do not need the additional capital assistance.[94] Pollution control equipment requires large initial capital outlays. Thus, only those companies with sufficient capital can acquire the equipment to receive the tax incentive. Smaller companies, unable to acquire sufficient capital, do not receive the tax exemption.[95] In any case, the tax incentives frequently apply to equipment that a company must install despite any incentive, because the equipment is necessary to comply with regulations.[96]

CIRCUMVENT MARKET FORCES. Most incentive schemes reward only capital intensive methods of pollution control.[97] This focus may discourage the most effective pollution control such as switching fuel.[98] Critics also point out that positive tax incentives shift the burden to the public, rather than to the company and to the consumer, both of whom enjoy the fruits of the polluting process.[99] The consumer purchasing the end product pays an artificially lower price, resulting in greater consumption and therefore greater production and pollution.[100]

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this kind of incentive." *Id. See also* Marc J. Roberts, *River Basin Authorities: A National Solution to Water Pollution*, 83 HARV. L. REV. 1527, 1531 (1970). Roberts notes that "[e]ven with a significant tax incentive, pollution control will remain a large net loss item for the firm . . . " *Id.*

94. Reitze & Reitze, *supra* note 9. *See also* Lowman, *supra* note 91, at 884. Lowman notes that positive tax incentives aid only firms that are profitable enough to invest and may not be very helpful to marginal concerns. *Id. See also* KNEESE & BOWER, *supra* note 84, at 175-78.

95. Smaller companies may even be forced out of business as the cost of pollution control equipment and penalties rise. Some economists would argue that this is a good result. Reitze & Reitze, *supra* note 9. *See also* KNEESE & BOWER, *supra* note 84, at 175-78. A grant or subsidy, on the other hand, may allow a smaller company to invest in pollution control equipment because they would receive the grant or subsidy before actually purchasing the equipment. *Id.*

96. *See, e.g.*, Reed, *supra* note 15, at 519; ANDERSON, *supra* note 18.

97. *See, e.g.*, Lowman, *supra* note 91, at 884. Lowman notes that, in many cases, the limiting language inflates control costs and actively discourages investment at the most effective point in the process. *Id. See also* ROBERT W. HAHN, A PRIMER OF ENVIRONMENTAL POLICY DESIGN 13 (1989); KNEESE & BOWER, *supra* note 84, at 175-78.

98. Reed, *supra* note 15, at 519. "Such subsidy payments make capital expenditures artificially inexpensive in relation to process changes with the ultimate result being that what may be the most effective means of abatement is actually discouraged." *Id.*

99. Reitze & Reitze, *supra* note 9, at 131.

100. *Id.* A positive tax incentive may even go so far as encouraging a company to emit more pollution than it would otherwise simply to qualify for the exemption. BAUMOL & OATES, *supra* note 55. Instead, environmental economists overwhelmingly propose negative tax incentives that penalize the production of pollution itself. *See, e.g.*, STEVEN KELMAN, WHAT PRICE INCENTIVES? ECONOMISTS AND THE ENVIRONMENT (1981); Reed, *supra* note 15; Robert N. Stavins & Bradley W. Whitehead, *Dealing with Pollution*, 34 Environment 7 (1992) (discussing advantages of and problems with pollution charging systems); Richard A. Westin, *Understanding Environmental Taxes*, 46 TAX LAW. 327 (1993) (discussing alternative approaches); Howard Gensler, *The Economics of Pollution Taxes*, 10 J. NAT. RES. & ENVTL. L. 1 (1995). "A market burdened by pollution is out of equilibrium. The good is over-produced and under-priced and a social welfare loss results. The market can be put back into equilibrium through governmental intervention by way of imposition of a tax on pollution . . . . [P]ollution is a legitimate expense of the production process which ought to be borne by the manufac-

By allowing the price to reflect the cost of pollution, environmental economists expect either that consumption will appropriately be curbed, or that businesses will invent a cost-effective, less-polluting alternative production process.[101]

IMPROPER AIM. Other criticisms focus around the theory that positive tax incentives treat the symptoms of pollution rather than the cause.[102] A company merely has to install a pollution control device to get a tax break.[103] There is no requirement that the device be the most efficient means of reducing pollution, or even be effective.[104]

POSITIVE TAX INCENTIVES AS PART OF A LARGER SCHEME. Despite the widespread criticism, a few commentators would retain positive tax incentives when used with other tools to reduce pollution.[105] A governing entity can use incentives and disincentives together to bring companies into compliance with pollution control standards through economic mechanisms.[106]

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turer". *Id. See also* Joe Loper, *Evaluating Existing State and Local Tax Codes from an "Environmental Tax" Perspective: The Case of Energy-Related Taxes*, 12 PACE ENVTL. L. REV. 61 (1994) (proposing pollution taxation); Richard L. Ottinger & William B. Moore, *The Case for State Pollution Taxes*, 12 PACE ENVTL. L. REV. 103 (1994); Kriangsak Kittichaisaree, *Using Trade Sanctions and Subsidies to Achieve Environmental Objectives in the Pacific Rim*, 4 COLO. J. ENVTL. L. & POL'Y 296 (1993); RICHARD B. STEWART & JAMES E. KRIER, ENVIRONMENTAL LAW AND POLICY 564 (1978) (discussing emission fees and other solutions); BARRY C. FIELD, ENVIRONMENTAL ECONOMICS (1994) (discussing emission fees generally); INGERSOLL & BROCKBANK, *supra* note 18 (discussing the problems involved in applying economic incentives).

101. BAUMOL & OATES, *supra* note 55, at 172-190; HAHN, *supra* note 98, at 13-16.

102. Reed, *supra* note 15, at 530. "The various tax relief provisions are ill-drafted to accomplish their supposed purpose. Rather than pegging the amount of the tax relief to any reduction in the discharge of pollutants, tax incentives are proportionate to the capital investment in abatement facilities." *Id.*

103. Lowman, *supra* note 91, at 886.

104. *Id.* Switching to a different fuel may be far more effective than installing a filter. However, the company derives no tax benefit from switching fuel, because fuel is an integral part of the production process and not primarily a pollution control device. Reitze & Reitze, *supra* note 9, at 130. Likewise, the incentives do not reward the company that overhauls its entire production process to reduce its emissions. Rather, the company that invests the most capital in extraneous pollution control devices gets the tax break. *See, e.g.*, KNEESE & BOWER, *supra* note 84, at 175-78; Reed, *supra* note 15, at 519; Lowman, *supra* note 91, at 886.

105. *See, e.g.*, KELMAN, *supra* note 101; Stavins & Whitehead, *supra* note 101; Westin, *supra* note 101; Gensler, *supra* note 101; Loper, *supra* note 101; Ottinger & Moore, *supra* note 101; Kittichaisaree, *supra* note 101; STEWART & KRIER, *supra* note 101; FIELD, *supra* note 101; CELIA CAMPBELL-MOHN ET AL., SUSTAINABLE ENVIRONMENTAL LAW § 4.2(G)(3)(1993); McNulty, *supra* note 8.

106. *See, e.g.*, CAMPBELL-MOHN ET AL., *supra* note 106, at 4.2(G)(3). Campbell-Mohn notes that "[e]ven the most ardent proponents of economic incentives, however, agree that they are not a panacea and must be used in the context of a command-and-control overlay that sets minimum standards that are implemented through economic mechanisms." *Id.*; *See also* ANDERSON, *supra* note 18, at 18 ("Subsidies may 'sweeten' a control program, but they can never replace it."); J.B. OPSCHOOR & DR. HANS B. VOS, ECONOMIC INSTRUMENTS FOR ENVIRONMENTAL PROTECTION 117 (1989)

A New Approach

Positive tax incentives are an ineffective means of abating pollution. The incentives overwhelmingly apply to equipment which companies must install pursuant to other statutes. The tax incentives result in a form of corporate welfare, causing the public to lose revenue while failing to improve the environment. In addition, many incentive schemes do not provide a sufficient economic return to make the investment in pollution control equipment profitable. For these reasons, lawmakers should consider abolishing pollution control tax incentives.

However, lawmakers favoring the incentives should design the exemption to apply only to capital investments that companies would not otherwise make without the incentive. Thus, the incentives would exempt only equipment that exceeds the level already mandated by existing law. For example, a company may have a choice between installing two different pieces of equipment. Choice A provides the minimum required pollution control, and choice B exceeds the minimum required pollution control. If the company elects choice A, it would not get the exemption. However, if the company elects choice B, the company would get an exemption for the price difference between the two equipment choices. The statute would apportion the exemption so that the company pays taxes on the equipment required by law, and receives the exemption only for the equipment that exceeds the legal minimum.[107]

In another example, facilities that reduce their emissions early, pursuant to the National Emission Standards for Hazardous Air Pollutants (NESHAPs),[108] receive a six-year compliance extension.[109] If a state statute exempts equipment used to achieve the early reduction, more companies might install the equipment before the deadline. This alternative would require a lower economic incentive to be effective. Since the company would have to invest the capital in the equipment eventually, the incentive would only have to overcome the cost of investing the capital earlier.

("Subsidy systems are generally considered to have a low compatibility with the 'Polluter Pays' principal, but are widely applied, nonetheless, as an important tool of environmental policy. Subsidies speed up old plant renewals, solve economic problems encountered in the process of policy implementation and contribute to development and introduction of clean technologies. Therefore, with a few exceptions, subsidy systems are considered as a vital counterpart to direct regulations.").

107. *See, e.g.*, Requirements for Preparation, Adoption, and Submittal of Implementation Plans, 40 C.F.R. pt. 51 (1995).

108. National Emission Standards for Hazardous Air Pollutants for Source Categories, 40 C.F.R. pt. 63 (1995).

109. General Provisions for Compliance Extensions, 40 C.F.R. § 63.72 (1995).

Even this suggested approach, however, presents theoretical problems. In any given situation, the benefit to the public of exceeding the minimum pollution controls required by law may not exceed the costs.[110] For example, an electric utility can install a dry scrubber to control sulfur dioxide emissions and achieve emission reductions of eighty percent or more. A dry scrubber is generally adequate to meet state and federal standards if the factory is burning low sulfur coal. A wet scrubber can achieve reductions of over ninety percent. However, the additional ten percent emissions reduction may not affect the overall pollution level because the pollution may naturally be eliminated by the environment. Therefore, the extra cost of shifting the tax burden to the public by exempting the more costly wet scrubber system may not be worth the ten percent marginal emission reduction.

Frontier Case Study

The *Frontier* case provides a good fact pattern to illustrate the Alabama merger approach, the Illinois functional analysis, and the new suggested alternative. For many years Frontier has been producing diesel fuel for highway use. Sulfur is a naturally occurring substance in diesel fuel. Certain levels of sulfur in diesel fuel can create engine corrosion problems. Thus, Frontier has had to remove sulfur from diesel fuel to produce marketable fuel. Frontier used a desulfuring system to meet old fuel quality standards. In 1990, the EPA promulgated new fuel quality standards that further reduced the allowable amount of sulfur in diesel fuel.[111] Frontier's old desulfuring system did not have the capacity to remove sufficient amounts of sulfur to comply with the new regulations. Accordingly, Frontier replaced the equipment with a similar but higher capacity desulfuring system.[112]

The new desulfuring system consists of three types of equipment: the hydrotreater,[113] the amine unit and the sulfur recovery plant. The hydrotreater is the piece of equipment that actually removes the sulfur from the diesel fuel, creating a marketable product. The hydrotreating process creates hydrogen sulfide, propane, ethane, and methane by-products. Hydrogen sulfide is a lethal and explosive nerve gas. As such, Fron-

110. *See, e.g.*, Sierra Club v. Costle, 657 F.2d 298 (D.C. Cir. 1981).

111. Clean Air Act Amendments, 42 U.S.C.A. § 7545(i) (1990).

112. Brief of Appellant at 8, Laramie County Bd. of Equalization v. Frontier Ref., Inc., No. 95-96 (Wyo. filed Aug. 30, 1995).

113. The hydrotreater also includes a hydrogen plant which produces hydrogen used in the hydrotreating process. Bried of Appellant at 35, Laramie County Bd. of Equalization v. Frontier Ref., Inc., No. 95-96 (Wyo. filed Aug. 30, 1995).

tier cannot vent the gas for environmental, property protection, and worker safety concerns.[114] The amine unit separates the propane, ethane and methane from the hydrogen sulfide gas. Frontier uses the captured propane, ethane and methane as fuel to power its refinery. Finally, the sulfur recovery plant converts the hydrogen sulfide into liquid sulfur, a marketable by-product.

The hydrotreater presents a merger situation because the equipment adds a pollution control feature to the product,[115] rather than controlling the refinery's own pollution. Applying the *Chemical Waste Management* analysis, the Alabama courts would deny the exemption. Frontier is in the business of producing marketable diesel. Thus, part of Frontier's business purpose is to remove sulfur from diesel fuel. When the business purpose and pollution control purpose are the same, the business purpose should be considered primary.

Applying the functional analysis to the amine unit, a court would deny the exemption because the amine unit does not function to control pollution. Rather, the amine unit functions to capture the valuable propane, ethane and methane gases for use as power in the refinery. This situation is similar to *Shell Oil Company v. Department of Revenue*.[116] In that case, Shell made revisions to a system which handled pitch, a by-product of the distillation of crude oil.[117] Shell used the combined high and low sulfur pitch to make asphalt in the summer and to power the refinery in the winter.[118] However, the high sulfur pitch that powered the refinery caused unacceptable pollution levels.[119] Shell made changes in the refinery that segregated the low sulfur pitch from the high sulfur pitch. The changes allowed the refinery to use the less-polluting low sulfur pitch for power.[120] The court denied the exemption because the primary function of the changes was to provide power for the refinery, not to control pollution.[121]

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114. *Id.* at 38.

115. It is debatable whether removing sulfur from diesel fuel should be viewed as primarily a pollution control feature. In the past, sulfur has been removed from diesel fuel primarily for engine corrosion concerns. Brief of Appellant at 6, Laramie County Board of Equalization v. Frontier Refining, Inc., No. 95-96 (Wyo. filed Aug. 30, 1995). In addition, the EPA gave several reasons for the new fuel quality standard, only one of which was for pollution control. The EPA stated that the new fuel quality standard would result in greater fuel economy, hardware and maintenance costs savings, reduced engine wear, and air quality control benefits. Regulation of Fuels and Fuel Additives: Fuel Quality Regulations for Highway Diesel Fuel Sold in 1993 and Later Years, 55 Fed. Reg. 34120, 34121 (1990) (to be codified at 40 C.F.R. pts. 80 and 86).

116. 453 N.E.2d 125 (Ill. App. Ct. 1983).

117. *Id.* at 126-27.

118. *Id.* at 127.

119. *Id.*

120. *Id.*

121. *Id.* at 128.

The equipment benefits Frontier by providing an additional power source. The exemption would only subsidize that power source. Therefore, granting the exemption provides the public with no environmental benefit in exchange for paying Frontier's taxes on the amine unit.

Applying the functional analysis to the sulfur recovery plants presents a difficult problem for the courts to resolve. The sulfur recovery units convert hydrogen sulfide gas into liquid sulfur. This function serves several objectives. Hydrogen sulfide cannot be vented because it is a pollutive gas which would violate environmental regulations. Hydrogen sulfide is also an extremely lethal nerve gas which can severely injure or kill Frontier's employees if vented. In addition, venting the gas may cause property damage because hydrogen sulfide is highly explosive. Finally, Frontier sells the liquid sulfur produced by the recovery units.[122] Therefore, neutralizing the gas serves pollution control, worker safety, property protection, and by-product recovery functions. The difficulty for the courts to resolve is determining which function is primary.

The Wyoming State Board of Equalization, in *Appeal of Exxon Company, U.S.A., From a Decision of the Sublette County Board of Equalization*,[123] denied an exemption for a flaring device which incinerated hydrogen sulfide gas. The board reasoned that the nature of hydrogen sulfide gas was such that the flaring device was primarily for worker safety and property protection concerns.[124] The sulfur recovery plants neutralize the hydrogen sulfide much like the flaring device, except the sulfur recovery plants have an additional benefit of by-product recovery. Applying this reasoning to the sulfur recovery plant, the exemption would not apply to the sulfur recovery plants.

Even if equipment is primarily for pollution control, the Illinois courts would deny the exemption if the equipment has a substantial function in the manufacturing process. Worker safety and property protection equipment is necessary to the production process. The sulfur recovery plants function to safeguard workers and protect property, but do not manufacture the product. A court may have difficulty in determining whether worker safety and property protection equipment have a substantial function in the manufacturing process. The issue is whether "the manufacturing process" requires the equipment to manufacture the product.

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122. Brief of Appellant at 37-38, Laramie County Bd. of Equalization v. Frontier Ref., Inc., No. 95-96 (Wyo. filed Aug. 30, 1995).

123. In The Matter of the Appeal of Exxon Co., U.S.A., From a Decision of the Sublette County Bd. of Equalization, No. 92-185, 1993 WL 69808 (Wyo. St. Bd. Eq. Mar. 3, 1993).

124. *Id.*

Illinois Cereal Mills does not resolve this question because the equipment in that case physically manufactured the product. The Supreme Judicial Court of Maine, however, determined that a bark-oil boiler had two functions: disposing of bark and producing steam.[125] The court held that bark disposal was the primary purpose because the company had alternative ways of generating steam. However, the court denied the exemption because the lower resulting pollution was only incidental to the primary function of waste disposal.[126]

Applying this reasoning to the *Frontier* case, a court may find that pollution control was primary if Frontier had an alternative method of protecting its workers and property. If, however, Frontier had installed the sulfur recovery plants for worker safety and property protection concerns despite the tax exemption, there should not be an exemption. The public receives no benefit in exchange for, in essence, paying the taxes on Frontier's sulfur recovery plants.

Applying the new suggested approach, a court should deny the exemption for all the equipment. Since the equipment does not exceed the minimum pollution control required by law, Frontier would have to install the equipment despite the tax incentive. Therefore, granting the exemption would only amount to subsidizing Frontier's production, and the public would receive no benefit.

CONCLUSION

Beginning in the 1960's, lawmakers introduced statutes providing tax incentives for companies that installed pollution control equipment. Many of these statutes reduce property taxes for equipment used primarily for pollution control. Despite legislators' good intentions, pollution control equipment tax incentives have been burdensome to administer. In particular, courts have had difficulty deciding what factors are appropriate to consider in determining the primary purpose of a piece of equipment.

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125. Ethyl Corp. v. Adams, 375 A.2d 1065, 1078 (Me. 1977). In this case, the company's paper manufacturing process produced bark waste. The company dumped the bark waste in local landfills. As a result of pollutive gases caused by the decomposing bark, local governments prohibited further bark dumping. Since the company had no place to dump the bark, it purchased a bark-oil boiler used to incinerate the bark. The company claimed that the bark-oil boiler was exempt pursuant to Maine's statute which exempts property which is "installed, acquired or placed in operation primarily for the purpose of reducing, controlling or eliminating water pollution caused by industrial waste." *Id.* at 1074.

126. *Id.*

Struggling to apply these statutes, courts have developed two approaches to determine whether equipment qualifies for pollution control tax incentives: the functional analysis and the subjective intent analysis. The functional analysis focuses on whether the equipment actually functions to control pollution. The subjective intent analysis focuses on the company's reasons for acquiring the equipment. The subjective intent analysis results in a broader application of the statutes, applying to a greater variety of pollution control methods. However, the subjective intent analysis is difficult to apply, treats taxpayers unequally, rewards polluters, and is vulnerable to abuse. In contrast, the functional analysis provides a clearer, more objective standard. Therefore, courts should apply the functional analysis.

Courts have also been confronted with merger situations in which the equipment creates a product or service that reduces the pollution of the final consumer. The Alabama courts have developed a bright-line rule that denies the exemption in merger situations even if the equipment is used for pollution control. Because the object of a business is to make a profit, courts should assume the business purpose overrides the pollution control purpose. In addition, it is unclear whether lawmakers intended the incentives to apply in merger situations. In the context of the general presumption against finding exemptions, courts should deny the exemption in merger situations.

Legal commentators and environmental economists overwhelmingly criticize the effectiveness of positive tax incentives as a means reducing pollution. Agencies and courts have predominantly applied these incentives to equipment that companies are required to install pursuant to other statutes. This results in a form of corporate welfare, causing the public to lose revenue while failing to improve the environment. With this in mind, lawmakers should consider abolishing pollution control tax incentive statutes altogether. Lawmakers favoring tax incentives should at least design the incentives to provide tax relief only when the equipment exceeds the minimum pollution control required by law.

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