
THE POLLUTER PAYS PRINCIPLE IN ALBERTA LAW

An Introduction & Survey



Environmental
Law Centre

Prepared By
Environmental Law Centre (Alberta)
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THE ENVIRONMENTAL LAW CENTRE (ALBERTA) SOCIETY

The Environmental Law Centre (ELC) has been seeking strong and effective environmental laws since it was founded in 1982. The ELC is dedicated to providing credible, comprehensive and objective legal information regarding natural resources, energy and environmental law, policy and regulation in the Province of Alberta. The ELC's mission is to educate and champion for strong laws and rights so all Albertans can enjoy clean water, clean air and a healthy environment. Our vision is a society where laws secure an environment that sustains current and future generations.

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EXECUTIVE SUMMARY

The polluter pays principle appears so straightforward: when you pollute, you pay the costs associated with that pollution. Yet application of the principle is often politically charged, undermined by economic arguments and hindered by the complexity of quantifying the costs of pollution.

The Environmental Law Centre (ELC) report, *The Polluter Pays Principle in Alberta Law*, provides a summary of how the principle has evolved, how it is operationalized, and how it is currently applied in Alberta. The objective of the report is to provide context to current and ongoing discussions about how the polluter pays principle can be applied and to provide a summary of approaches of how Alberta's laws adhere to this simple but complex principle.

The ELC report provides a general definition of the polluter pays principle, discusses some of the challenges in applying the principle, sets out proposed criteria for implementing the principle and finally, reviews existing Alberta laws to identify areas where more work is needed.

The ELC recognizes that many environmental and social costs of development go unpriced. This situation is not unique to Alberta rather it is a problem economy wide (regionally, nationally and globally).

The ELC provides a summary report card on implementation of the polluter pays principle in Alberta (below at Table 1). This report card should not be reviewed as an indictment of Alberta law and policy as implementation of the polluter pays system is challenged the world over. Rather the report card grades are meant to be used a general reference point; reflecting the need do better in implementing a polluter pays system. Ideally there is movement to polluter pays across jurisdictions to minimize cost disparity between provinces and nation states.

The report card grades are guided by:

- The scope of activities covered;
- The extent of environmental and social costs covered; and
- The certainty of costs being covered through operation of law.

Table 1: A polluter pays principle report card for Alberta

Grade Legend		
A/A+	Strong polluter pays system that covers all relevant activities and costs. Aspirational in nature. (Example: full social cost of carbon through carbon levy is realized).	
B	Relative strong laws and standards are applied reflecting application of the polluter pays principle but there still may be significant limitations in scope of activities and costs covered.	
C	Some application of the polluter pays principle, typically through regulations or levies that are limited in scope and application. Costs are not based on an assessment of harms rather they reflect a policy choice.	
F/D	Few regulatory standards; no or limited functional implementation of the polluter pays principle	
Environmental focus	Grade	Summary observations
Air Pollution		
Greenhouse Gas Emissions	C+	Limited # of emitters covered. (Note: federal regulations may apply)
Mercury	C	Regulation and approvals based. Standards do not cover all environmental costs. Limited # of polluters covered.
Cap and Trade for SO ₂ and NO _x	C	Limited # of polluters covered. Cap and trade system may not cover all environmental costs.
Other Air pollutants	**C+	Regulation and approvals based. Standards may not cover all environmental costs. Non-point sources are not regulated.
Water Based Pollution and Habitat Disturbance		
Water Pollution	**C+/B-	Regulation and approvals based. Non-point sources unregulated. Environmental costs not adequately covered.
Aquatic Habitat Disturbance and Loss	C	Regulation and approval based. Standards may not cover all environmental costs.
Instream Flows	D-	No environmental or social costs are covered. Limited and discretionary standards based in recent licences for water diversions.
Wetlands	B-	Wetland offsets required by policy (but not regulation). Environmental costs may not be reflected in compensation and restoration.
Land Based Pollution and Disturbance		
Land Disturbance - Reclamation	C+	Reclamation requirements exist for various activities (but not all). Significant compliance concerns exist (particularly where no security is required). End of life obligations may be avoided through insolvency.
Land Pollution – Remediation of contaminated land	B-	Remediation duties are significant. Standards of remediation may allow for ongoing harms. Regulatory assurance that remediation costs are covered are absent in some instances.
Agricultural Land Pollution	C	General standards apply. Scope of environmental costs covered is limited. (e.g. impacts of pesticide use and application of phosphorus)
Reforestation	B-	Impacts on species and other environmental services not considered.
Product Stewardship and Waste Management		
Landfills and Waste	C-	General waste fees apply. Standards may not cover all environmental costs.
Recycling	B-	Scope of materials covered is limited.

**Qualified grade: existing pollution standards and authorizations require further analysis.

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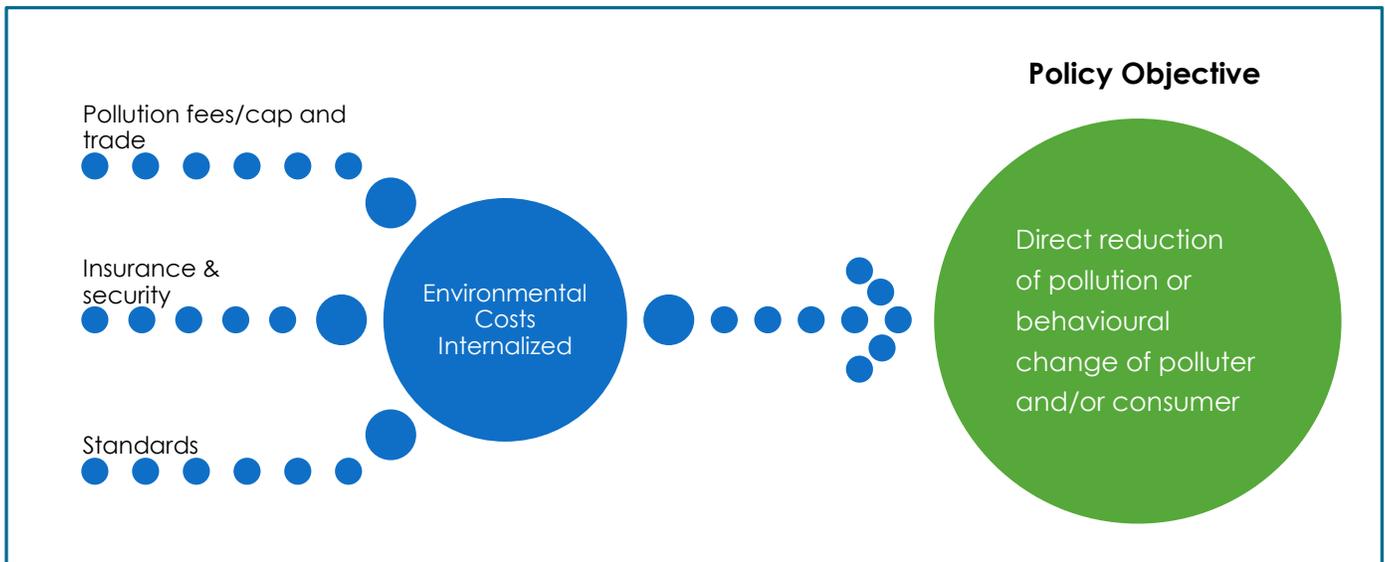
INTRODUCTION

On its surface the polluter pays principle seems simple: the costs of pollution should be borne by the polluter. However, in practice, several complications arise: Who is the polluter? Is it the manufacturer or is it the consumer? How is the cost of pollution calculated? What is the environment worth? How much of the cost is directly caused by the polluter? When should the polluter be responsible to pay the costs?

These questions and their often-complex answers illustrate the difficulties that underlie the seemingly simple concept of the polluter pays principle. This report explores the polluter pays principles and proposes some guiding criteria that can be used as a touchstone for implementing the principle in Alberta. This paper also provides a survey and gap analysis of Alberta's laws to assess, at a high level, the extent to which the polluter pays principle is currently implemented in Alberta.

The operation of the polluter pays principle at its most general and theoretical is illustrated in Figure 1. We pay for pollution in a variety of ways: through regulatory standards, levying fees or taxes, or requiring security payments or insurance. The payments are intended to internalize environmental costs and, in theory, drive innovation and changes in behaviour.

Figure 1: The polluter pays principle in action



It is recognized at the outset that various barriers exist to fully and strictly adopting the polluter pays principle. These barriers include economic arguments related to impacts on specific sectors and their ability to pay, implications for trade, and the political fall-out that may accompany changes that impact upon business and consumers.

This report presents a high level survey of how the polluter pays principle is implemented in Alberta. It is intended as an initial step to further understanding how the polluter pays principle has come to be integrated in certain areas of Alberta's regulatory structure and where there are areas for future work in law and policy reform. A significant challenge in this survey approach is recognizing that a variety of regulatory tools can reflect the polluter pays principle and the particular environmental impacts can vary on a sector-by-sector basis.

This paper is the first in a series exploring the polluter pays principle in Alberta law and policy. Forthcoming papers will explore the polluter pays principle in the context of insolvency law and the implementation of the polluter pays principle in a circular economy.



What is the Polluter Pays Principle?

The polluter pays principle requires the polluter to “bear the expense of preventing, controlling, and cleaning up pollution”.¹ Its main goals are cost allocation and cost internalization.² Internationally it is reflected in Principle 16 of the United Nations *Rio Declaration of the Environment and Development*:³

National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.

¹ Margaret Russo Grossman, “Chapter 1: The Polluter Pays Principle and Agriculture: An Introduction” in Margaret Rossi Grossman (ed.), *Agriculture and the Polluter Pays Principle* (London, UK: 2009, British Institute of International and Comparative Law) at 1 [Margaret Russo Grossman]. See also Aruna B. Venkat, “Polluter Pays” Principle: A Policy Principle, online: <http://ssrn.com/abstract=2458284>.

² *Ibid.*

³ *Rio Declaration on Environment and Development*, UN Doc. A/Conf. 151/5/Rev. 1 (1992) [Rio Declaration on Environment and Development].

Nationally, the Supreme Court of Canada described the role of the polluter pays principle (in 2003) as follows:⁴

To encourage sustainable development, that principle assigns polluters the responsibility for remedying contamination for which they are responsible and imposes on them the direct and immediate costs of pollution. At the same time, polluters are asked to pay more attention to the need to protect ecosystems in the course of their economic activities.

The Court further noted that the principle has become “firmly entrenched in environmental law in Canada” and that “It is found in almost all federal and provincial environmental legislation.”⁵ In 2019 the Supreme Court of Canada referred to the polluter pays principle as “a well-recognized tenet of Canadian environmental law”.⁶

Does this mean the principle is widely implemented? Marie-Ann Bowden notes:⁷

The Polluter Pays Principle (PPP) in Canada is alive, if not well. Ensclosed in environmental legislation and touted by the Supreme Court of Canada (SCC) as a principle which “has become firmly entrenched in environmental law in Canada,” one might assume that the principle has widespread acceptance and adherence among the various sectors of Canadian society...Such is not the case. [references omitted]

Bowden finds that, although endorsed by the Supreme Court of Canada, the lower courts have been slow in embracing the polluter pays principle.⁸ Further, while the polluter pays principle appears in federal and provincial legislation, its reference is “often veiled” and its efficacy is lessened by other non-environmental legislation that protects industries from application of the principle.⁹ Nevertheless the principle still holds significant appeal for how we approach pollution in society and how we can move toward sustainable development.

The polluter pays principle is closely tied to the idea of pollution prevention, which requires the “use of processes, practices, materials, products or energy that avoid or

⁴ *Imperial Oil v Quebec (Minister of Environment)*, [2003] 2 SCR 624 at para 24.

⁵ *Ibid* at para. 23. See also *St. Lawrence Cement Inc. v Barrette*, [2008] 3 SCR 392.

⁶ *Orphan Well Association v Grant Thornton Ltd.*, 2019 SCC 5 [Orphan Well Association v Grant Thornton Ltd.] at para 29.

⁷ Marie-Ann Bowden, “The Polluter Pays Principle in Canadian Agriculture”, (2017) 59(1) *Oklahoma Law Review* 53 at 53 [Marie-Ann Bowden].

⁸ *Ibid.*

⁹ *Ibid.* at 53.

minimize the creation of pollutants and wastes, at the source".¹⁰ Pollution prevention promotes continuous improvement through operational and behavioural changes. Along with the precautionary principle¹¹, pollution prevention may prevent environmental costs that would otherwise trigger application of the polluter pays principle.¹² In other words, the polluter pays principle plays a role in both pollution prevention and remediation, because under the polluter pays principle the polluter should be liable for pollution prevention compliance costs (such as through applicable laws and standards), cleaning up pollution, restoring environmental damage, and reparation for harm.¹³

A Brief History of the Polluter Pays Principle

Early consideration of the polluter pays principle is reflected in the work of British economist Arthur C. Pigou in the 1920 publication *The Economics of Welfare* where he recognized that certain external costs of the market could be offset through a tax system.¹⁴ The emergence of Pigouvian taxes as a mechanism to internalize adverse transaction costs on third parties or the environment continues to be the subject of economic study today.¹⁵

Formal adoption of the polluter pays principle on the international stage came in the 1970s through policies of the Organization for Economic Co-operation and Development (OECD):¹⁶

The principle to be used for allocating costs of pollution prevention and control measures to encourage rational use of scarce environmental resources and to avoid distortions in international trade and investment is

¹⁰ Canadian Council of Ministers of the Environment, A Strategy to Fulfil the CCME Commitment to Pollution Prevention (May 1996).

¹¹ The precautionary principle provides that a lack of scientific certainty should not be used as a reason to postpone measures to prevent environmental harm.

¹² Margaret Russo Grossman, *supra* note 1.

¹³ Brian J. Preston, Sustainable Development Law in the Courts: The Polluter Pays Principle (7 April 2009) The 16th Commonwealth Law Conference, Hong Kong, D6: Environmental Law.

¹⁴ See Arthur C. Pigou *The Economics of Welfare* (London: Macmillan and Co. 1920), 4th edition available online at http://oll-resources.s3.amazonaws.com/titles/1410/0316_Bk.pdf.

¹⁵ See for instance Jonathan Masur and Eric A. Posner "Toward a Pigouvian State" (2015) *U of Chicago Law School*, online:

https://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?referer=https://scholar.google.com/&httpsredir=1&article=12110&context=journal_articles and also see the commentary by Robert G. Evans "Health, Wealth and the Price of Oil" (2016) *Healthy Policy* 11(4). Online: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4872548/>.

¹⁶ OECD, Recommendation of the Council on Guiding Principles concerning International Economic Aspects of Environmental Policies, OECD/LEGAL/0102.

the so-called "Polluter-Pays Principle". This principle means that the polluter should bear the expenses of carrying out the above-mentioned measures decided by public authorities to ensure that the environment is in an acceptable state. In other words, the cost of these measures should be reflected in the cost of goods and services which cause pollution in production and/or consumption. Such measures should not be accompanied by subsidies that would create significant distortions in international trade and investment.

The polluter pays principle was presented as an economic principle to address the economic and trade implications of emerging environmental policies. In particular, it was designed to ensure that the costs of environmental policies are reflected in the cost of goods and services and to avoid government subsidies that can cause trade distortions.

In its *Recommendation of the Council on the Implementation of the Polluter-Pays Principle* the OECD reaffirmed the polluter pays principle as "a fundamental principle for allocating costs of pollution prevention and control measures introduced by the public authorities".¹⁷ The OECD recommended uniform application of the principle to "encourage the rational use and the better allocation of scarce environmental resources and prevent the appearance of distortions in international trade and investment".¹⁸

The OECD did accept that some subsidies for pollution abatement may be required in certain instances, i.e. as exceptions to the polluter pays principle. Specifically, any subsidy should be limited to sectors or industries where "severe difficulties would otherwise occur", where it is only transitional in nature, and where it doesn't cause significant market distortions.¹⁹

In *The Polluter Pays Principle: Definition, Analysis, Implementation*, the OECD provided some additional clarifications on the principle:²⁰

- The polluter pays principle means that the polluter should be charged with the cost of pollution prevention and control measures, but, it does not matter

¹⁷ OECD, *Recommendation of the Council on the Implementation of the Polluter-Pays Principle*, OECD/LEGAL/0132 [OECD, *Recommendation of the Council on the Implementation of the Polluter-Pays Principle*].

¹⁸ *Ibid.*

¹⁹ OECD, *The Polluter Pays Principle: Definition, Analysis, Implementation* (Paris: OECD 1975) at pages 34-36. OECD, *Recommendation of the Council on the Implementation of the Polluter-Pays Principle*, *supra* note 18 at III (2).

²⁰ OECD, *The Polluter Pays Principle: Definition, Analysis, Implementation* (Paris: OECD 1975) at pages 34-36.

whether the polluter's prices reflect some or all of those environmental costs. The polluter pays principle is not violated if environmental costs are passed on into prices. The key is that the polluter should be the first to pay, so that the polluter's decision-making processes give full weight to the economic factor of overall environmental costs.

- The polluter pays principle is not a principle of compensation for damage caused by pollution, nor does it mean that the polluter is always responsible to pay the cost of pollution prevention measures. Rather, the polluter should be required to pay the cost of whichever pollution prevention and control measures are selected by government (this may be preventative measures, restoration, or both). If a government decides that a polluter should compensate for damage from residual pollution, in addition to costs for controlling pollution, that is not contrary to the polluter pays principle. However, as a principle, the polluter pays principle is not intended to internalize fully the costs of pollution.
- The polluter pays principle is an efficiency principle for allocating costs and does not necessarily involve bringing pollution down to an optimal level (although it does not exclude the possibility of doing so).²¹
- It is desirable that the private costs of goods and services reflect the relative scarcity of environmental resources used in their production.²²

In 1989 the OECD recommended that the principle be expanded to cover accidental pollution at hazardous installations.²³ In order for pollution prevention to be more effective, neither the risk nor consequences of accidental pollution should be paid from public funds. Stanford E. Gaines notes that this moved the polluter pays principle from being a principle of precaution to a principle of liability for compensation.²⁴

By 1992 the OECD identified that the polluter pays principle "has progressively been generalised and extended. From being a principle of partial internalization, it is increasingly become a principle of full internalization."²⁵

The OECD noted that the principle has been extended to include the costs of administrative measures, damage caused by the pollution, and accidental pollution. As

²¹ *Ibid.*

²² *Ibid.*

²³ OECD, *supra* note 17.

²⁴ Stanford E. Gaines, *The Polluter-Pays Principle: From Economic Equity to Environmental Ethos* (1991) 26 *Tex Int'l LJ* 463.

²⁵ OECD, *The Polluter-Pays Principles: OECD Analyses and Recommendations* (1992), OECD/GD (92) 81 at forward.

well, the polluter pays principle increasingly has become identified with full internalization of the external costs of pollution. The OECD further noted that the polluter pays principle “started out as an economic principle and has recently become a legal one” (since 1990). Nevertheless, in 1992 the OECD definition of the principle remained focused on efficiency concerns.²⁶

Margaret Russo Grossman describes how the polluter pays principle has shifted meanings over time:²⁷

... the [polluter pays principle] is no longer solely an economic principle designed to avoid distortion of competition, but has assumed some status as a legal principle. It applied at first to preventative measures by polluters, then was extended to the cost of government administrative actions occasioned by pollution. Its goals have moved from a partial internalization of the costs of pollution (under the OECD's 1970s references to keeping the environment “in an acceptable state”) toward full internalization of those costs. Polluters can be expected to pay for measures to control and prevent pollution and, in addition, to restore damage that occurred despite application of those measures. Different interpretations of the principle emphasize these approaches.

With its adoption as Principle 16 in the United Nations Rio Declaration on the Environment and Development,²⁸ the polluter pays principle further evolved into an internationally recognized legal principle. However, as noted by Woerdman et al. “[a] precise and generally accepted legal definition of the polluter-pays principle is lacking.”²⁹

Challenges in implementing the Polluter Pays Principle

The ELC envisages a version of the polluter pays principle that seeks not only to cover the costs associated with “repairing” environmental damages but also to drive avoidance and reduction of the cost of environmental damages in the first place. By pricing out costly environmental practices, the polluter pays principle can be used as a mechanism in achieving sustainable development (at least in theory, as imperfect

²⁶ *Ibid.*

²⁷ Margaret Russo Grossman, *supra* note 1 at 27.

²⁸ Rio Declaration on Environment and Development, *supra* note 3.

²⁹ Edwin Woerdman, Alessandra Arcuri and Stefano Clo, *Emissions Trading and the Polluter-Pays Principle: Do Polluters Pay under Grandfathering?* (2007) University of Groningen Faculty of Law Research Paper Series No. 01/2007 at 11 [Woerdman, Arcuri & Clo].

markets result in a failure to fully reflect and offset environmental and social costs associated with activities). In this regard, an ideal application of the polluter pays principle fosters pollution prevention in the first instance and environmental restoration in the second.³⁰

Operationalizing the Polluter Pays Principle

The function of the polluter pays principle depends on clearly articulated policy objectives, clear liability rules and effective enforcement.

Policy objectives that underlie how the principle is implemented are numerous and, at times, in conflict with each other. Most evidently, the economic goals of efficiency and competitiveness may not coincide with the environmental goals of pollution avoidance, pollution reduction, and restoration of environmental damage. Other policy objectives that have been articulated with respect to the principle (including equity, administrative simplicity, acceptability, and risk reduction) may give rise to competing objectives.³¹

Clear policy objectives should focus on providing guidance in the purpose and intended outcomes of the approach taken. An approach to monitoring and evaluating these policy objectives should also be put in place, to ensure that the polluter pays principle is being applied effectively and that any unforeseen or negative consequences of the approach can be identified.

The tradeoffs of policy approaches have been noted by the Ecofiscal Commission in the context of managing environmental risks and the choices to be made for providing a level of financial assurance in the system. Failure to balance competing policy goals leads to liability gaps that can result in too large a burden on society, result in excessive

³⁰ Margaret Russo Grossman, *supra* note 1 at 28-29. Grossman identifies the various functions of the principle. First, the polluter pays principle enables economic integration by minimizing state impacts on the distortion of trade by way of state aid to polluters. Second, the principle plays a redistributive function by requiring polluters to internalize the costs to government of pollution control activities (which allows pollution so long as the appropriate price is paid). Third, there is a preventative function in that the polluter pays principle may abate pollution by encouraging polluters to reduce emissions instead of paying charges. Finally, the polluter pays principle serves a curative function by assigning responsibility to polluters for damage to the environment despite regulatory compliance. This may include compensation to victims of pollution.

³¹ R. Kerry Turner, *Environmental Policy: An Economic Approach to the Polluter Pays Principle* (1992) Paper presented to the Economic Association One World Annual Conference 1992, 22-24 April, Liverpool (GSERGE Working Paper PA 93-04).

transfer of risk to the public and may exacerbate the risk of environmental damage happening in the first place.³²

It must also be recognized that other policy tools may be promoted for similar policy objectives but reflect a starkly different approach from the polluter pays principle. A clear example of this is the use of payments for environmental or ecological services (via incentives or subsidies) which runs counter to the polluter pays principle but reflects similar policy objectives. As described by Engel et al, “[p]ayments for environmental services (PES) have attracted increasing interest as a mechanism to translate external, non-market values of the environment into real financial incentives for local actors to provide environmental services (ES)”.³³

The rationale of PES is that payments by the environmental service user will make conservation of that environmental service more attractive for the manager of the relevant ecosystem. Effectively, much like the polluter pays principle, the use of PES is a mechanism to internalize what is otherwise an externality. However, rather than ensuring payment be made by a polluter, the PES ensures payment is made by the beneficiary of the environmental service. In other words, the PES allows pollution without cost and attaches a cost to the environmental service.

Another example of conflicting policy objectives can be seen in the Canadian agricultural sector, where other values – such as food security, heritage and cultural benefits – have been emphasized, allowing some aspects of the polluter pays principle to be marginalized.³⁴ Marie-Ann Bowden notes that agricultural activities may avoid the polluter pays principle through right to farm legislation and limited compliance and enforcement in the realm of agriculture in some instances.³⁵

The ability of farms to pass on these costs to consumers is also difficult and carries economic/trade risks. This illustrates the tension that can arise amongst competing policy objectives (economic, environmental and social) which may hamper effective implementation of the polluter pays principle.

These policy tradeoffs clearly exist in how we currently apply the polluter pays principle in Alberta. However, these policy tradeoffs are rarely articulated. Clear identification of

³² Canada's Ecofiscal Commission, *Responsible Risk: How putting a price on environmental risk makes disasters less likely*, July 2018 [Canada's Ecofiscal Commission], online: <https://ecofiscal.ca/wp-content/uploads/2018/06/Ecofiscal-Commission-Risk-Pricing-Report-Responsible-Risk-July-11-2018.pdf>.

³³ Stefanie Engel, Stefano Pagiola, and Sven Wunder, “Designing payments for environmental services in theory and practice: An overview of the issues” (2008) 65 *Ecological Economics* 663 at 663.

³⁴ Marie-Ann Bowden, *supra* note 7 at 88.

³⁵ *Ibid.*

policy objectives is essential to evaluating the implementation of the polluter pays system.

Defining Pollution and the Polluter

Clear liability rules require clear identification of who is liable and for what costs. A variety of perspectives on the scope and application of the principle pervades academic writing.

A polluter pays approach can range from “strong” to “weak” in terms of its application and scope. A weaker version of the polluter pays principle seeks only to ensure that polluters do not receive subsidies for adhering to pollution prevention and reduction measures³⁶ whereas the stronger version of the polluter pays principle is expanded to internalize all environmental costs.³⁷

Overall there remains debate about the extent to which costs should be covered and what types of harms will be remediated. Boris Mamlyuk notes three justifications for the polluter pays principle: cost internalization, liability allocation according to source of harm, and (in the OECD context) a cost allocation or non-subsidization principle to guide governments in addressing domestic pollution.³⁸ Ambec and Ehlers assert that the polluter should fully compensate the victim of the pollution otherwise the victim is paying part of the cost of someone else's pollution.³⁹ Further, it is possible that broad application of the polluter pays principle may even extend to the loss of land value due to the “stigma” of land contamination.⁴⁰

In terms of what constitutes pollution, Lindhout and van den Broek draw a distinction between a narrow and broad application of the polluter pays principle.⁴¹ Under the narrow application of the polluter pays principle, only emissions are considered to be pollution whereas, under the broad application, the polluter pays principle also applies

³⁶ Woerdman, Arcuri & Clo, *supra* note 29. See also Petra E. Lindhout and Berthy van den Broek, *The Polluter Pays Principle: Guidelines for Cost Recovery and Burden Sharing in the Case Law of the European Court of Justice* (2014) 10:2 *Utrecht L Rev* 46 [Lindhout & van den Broek].

³⁷ *Ibid.*

³⁸ Boris N. Mamlyuk, *Analyzing the Polluter Pays Principle through Law and Economics* (2010) 18.1 *Southeastern Env LJ* 43 [Boris N. Mamlyuk].

³⁹ Stefan Ambec and Lars Ehlers, *Regulation via the Polluter-Pays Principle* (2014) 126 *The Economic Journal* 884.

⁴⁰ For a case comment that discusses stigma, see Jodie Hierlmeier, *The Enigma of Stigma: A New Environmental Contamination Challenge Facing Canada's Judiciary* (2002) *Dalhousie J Legal Studies* 179.

⁴¹ Lindhout & van den Broek, *supra* note 36.

to environmental and resource damage.⁴² Further, the conception of pollution has evolved over time to include environmental damages and resource use (rather than strictly polluting releases into the environment and the measures to avoid such releases). As an example, the European Parliament Environmental Liability Directive 2004/35/EC establishes a framework based on the polluter pays principle to prevent and remedy environmental damage. The Directive includes damage to natural habitats, protected species, water, and soil as “environmental damage” for the purposes of liability.⁴³

In the Canadian context Jerry DeMarco notes that the principle can be “be used in the context of damage to any environmental value such as a forest or fishery, and is not limited to the more typical pollution context.”⁴⁴ Martin Olszynski observes that implementation of the polluter pays principle could be furthered by considering ecosystem services in sentencing (resulting from environmental prosecutions) which would enable more comprehensive environmental damages assessment.⁴⁵ The scope of potential damages arising from environmental harms beyond a more limited assessment of economic values was deemed an area of law in need of further exploration in the Supreme Court of Canada case of *British Columbia v. Canadian Forest Products Ltd.*⁴⁶

The question of what constitutes pollution will ultimately be bounded by what is considered an “acceptable level” of pollution. As noted, in the early days of the development of the principle, full implementation of the polluter pays principle required abatement of pollution to an “acceptable level”; a level determined by each state government.⁴⁷

Similar to the question of the scope of pollution covered, is the question of who should be considered the polluter. Should our laws limit the need to pay to only the party who carries out the polluting act or should a polluter pays net be cast wider?

⁴² *Ibid.*

⁴³ Directive 2004/35/EC, Article 2.

⁴⁴ Jerry V. DeMarco, Building a Strong Foundation for Action: A Review of Twelve Fundamental Principles of Environmental and Resource Management Legislation (2008) 19 *JELP* 59 at 61 [DeMarco – Building a Strong Foundation for Action].

⁴⁵ Martin Olszynski, Environmental Damages after the *Federal Environmental Enforcement Act*: Bringing Ecosystem Services to Canadian Environmental Law? (2012) *Osgoode Hal Law Journal* 50:129.

⁴⁶ [2004] 2 SCR 74, 2004 SCC 38 (CanLII), <http://canlii.ca/t/1h87s>.

⁴⁷ Judith Marquand, A Note on Some Aspects of the “Polluter-Pays” Principle and its Implementation in *The Polluter Pays Principle: Definition, Analysis, Implementation* in OECD, *The Polluter Pays Principle: Definition, Analysis, Implementation* (1975).

The academic literature reveals a variety of views as to who is the polluter under the polluter pays principle.⁴⁸ Is the manufacturer the polluter? Is the consumer? Perhaps it is both in most instances. In many instances the manufacturer or producer will simply pass on the costs to the consumer in any event, although this is not always feasible. What about others who enable the pollution? One approach is to identify the polluter via a "beneficiary pays" rationale which requires that the party who benefit economically from an activity should pay the costs of clean-up.⁴⁹ Effectively using a "beneficiary pays" approach, Benjamin Richardson argues that financial institutions should be liable for environmental damage under the polluter pays principle.⁵⁰

Because financial institutions intend to profit from the companies they fund, arguably they should share responsibility for any environmental costs caused by such companies. The "polluter pays" principle, which has dominated discussions of environmental liability, focuses on what should be paid for rather than who is the polluter. The precept that liability should attach to those that "cause" pollution begs the question of what is meant by "cause". Without loans from banks or equity purchases by investors, many companies would be unable to continue financing their activities without major adjustment. Financial sponsorship is thus intimately part of the "cause" of corporate activities that harm the environment. Financiers' contribution here differs from that of other stakeholders in a business, such as its workers and suppliers, because lenders and investors potentially wield considerably more power over corporate management than other stakeholders. By making financial sponsors partly liable for such harms, there would exist a potent disincentive to enter into financial relationships with polluting industries. This should lead to fewer polluting developments and the decline of harmful industries.

Richardson recommends reform of investment, banking and other financial services to promote environmentally sensitive financing.⁵¹ Such reforms could include the use of economic instruments such as taxes and tradable pollution credits.⁵²

Nickie Nickolaou has highlighted that scholars consider the "beneficiary pays" approach to be problematic because the costs of remediation may exceed any

⁴⁸ See Nickie Vlavianos, *Creating Liability Regimes for the Clean-up of Environmental Damage: The Literature* (1999) 9 JELP 145 for a literature review [Vlavianos].

⁴⁹ *Ibid.*

⁵⁰ Benjamin J. Richardson, *Financing Environmental Change: A New Role for Canadian Environmental Law* (2003) 49 McGill LJ 145 at 189-190.

⁵¹ *Ibid.* at 147.

⁵² *Ibid.*

benefits that were derived from the initial polluting acts. As well it can be difficult to define “beneficiary” (which may even extend to the whole of society).⁵³

According to her review of the literature, Nickolaou concludes that it impossible to define the polluter without considering the underlying rationales of the polluter pays principle:⁵⁴

- that efficiency internalizes environmental costs into the activity, thereby causing those engaging in activities to avoid excess environmental costs;
- the moral idea that people should be held accountable for consequences of their actions;
- the qualification of the moral notion that the polluter should be held liable only if they should have known better (i.e. liability based on claim of prior fault); and
- notions of economic benefit (since the polluter benefitted from the pollution, they should pay for the cleanup, as a matter of fairness).

These same rationales underlie the guidelines distilled from European Court of Justice (ECJ) decisions that consider the polluter pays principle. In their survey of ECJ decisions, Lindhout and van den Broek⁵⁵ identify several guidelines for cost recovery and burden sharing:

- A polluter is responsible only for the pollution it caused. A polluter is not responsible to pay for the elimination and prevention of pollution to which it did not contribute.
- If there are multiple sources of pollution, all categories of polluters must contribute to the abatement of the aggregate pollution (in proportion to their contribution to the aggregate problem).
- The polluter pays principle should not be applied to a person who did not pollute or contribute to the risk of pollution.
- While presumptions can be used to determine causation between activities and pollution and/or environmental damage, such presumptions must not be an “empty shell”.

⁵³ Nickie Vlavianos, *supra* note 48.

⁵⁴ *Ibid.*

⁵⁵ Lindhout & van den Broek, *supra* note 31.

- For the purposes of cost recovery, contributions can be differentiated among categories of polluters; however, those costs cannot be manifestly disproportionate to pollution capacity.

Since the polluter pays principle does not actually require the polluter to hand over some form of payment, the form of payment is of little importance and may be passed along as higher product prices.⁵⁶ It has been suggested that, aside from responsibility for pollution, there should be consideration given to who has the most effective ability to abate pollution (from an economic and technical standpoint).⁵⁷

Choosing a Regulatory Approach

The OECD highlighted the various regulatory tools and programs that could be used in pollution abatement, including:⁵⁸

- **Direct Controls**
Direct controls (also known as command-control regimes) impose absolute obligations according to standards fixed by the government. These instruments give precedence to environmental objectives over economic efficiency criteria. Shortcomings of direct control instruments may include cumbersome and expensive administration, reduced economic efficiency, and a lack of incentive to exceed the standard.
- **Taxation**
Taxation may be directed at a variety of potential “polluters”. Taxes may be imposed on users of resources, on producers of certain products, consumers, or combination thereof. It may even be desirable to tax potential polluters to provide a fund for restoring damage.
- **Charges**
Charges require a polluter to pay a sum proportional to the amount of pollution they discharge. This instrument is usually linked with a pre-existing body of regulations on environmental quality. The advantages of charges include requiring the polluter to include these charges as inherent in production costs, it

⁵⁶ The “Polluter-Pays” Principle and the Instruments for Allocating Environmental Costs in *The Polluter Pays Principle: Definition, Analysis, Implementation* in OECD, *The Polluter Pays Principle: Definition, Analysis, Implementation* (1975).

⁵⁷ *Ibid.*

⁵⁸ *Ibid.*

can be a flexible and effective instrument, and it can provide incentives. As well, charges can enable financial resources to be made available for restoring damage and/or financing pollution controls. However, charges often have large administrative costs and it is difficult to determine the appropriate level of charges.

- **Payments**

Payments amount to an inversion of the polluter pays principle by paying a polluter payment for abating pollution. This instrument internalizes costs in the same ways as pollution charges but its drawbacks include inequity (the community must meet the costs of the polluter's anti-pollution measures) and inefficiency (it is difficult to determine the optimal payment and there may be wrong allocation of costs because cost of production does not reflect cost of pollution).

- **Subsidies**

A subsidy is a bargaining instrument which effectively buys a polluter's right to pollute. This instrument is an aid to relieve cost of anti-pollution measures and is inefficient, unfair and does not provide incentives.

- **Incentives**

Incentives include tax benefits, accelerated amortization or credit facilities. Incentives can be a problematic instrument as it can be difficult to determine what actual part of investment will serve to combat pollution, may unfairly penalize the firms who already invested in pollution control, and may redistribute income in favour of polluters.

- **Auction of Pollution Rights**

The use of this instrument requires a market for trading/selling pollution rights. Typically, standards are determined *a priori*.

Insofar as subsidies and/or incentive payments are not reflective of the polluter paying these tools are not considered further. This does not mean there are not times and places that they will make sense, practically and economically.

The OECD indicates that government assistance (in terms of subsidies, tax advantages or other measures) may be compatible with the polluter pays principle if all the following conditions are met:⁵⁹

- assistance is selective and restricted to those parts of the economy, such as industries, areas or plants, where severe difficulties would otherwise occur;
- assistance is limited to well-defined transitional periods, laid down in advance and adapted to the specific socio-economic problems associated with the implementation of a country's environmental programme; and
- the assistance does not create significant distortions in international trade and investment.

The OECD also notes that aid to stimulate new pollution control technology and development of new pollution abatement technology is not necessarily incompatible with the polluter pays principle.⁶⁰ Similarly, measures taken to promote socio-economic objectives which have the incidental effect of being aid for pollution-control purposes are not necessarily incompatible with the polluter pays principle.⁶¹

Wilfred Beckerman notes that the fundamental policy choice is between direct control and regulation versus a price mechanism instrument.⁶² Beckerman identifies the three main forms of price mechanism instruments as charges (taxes), payments to polluters, or sales of pollution rights.

The classifications of mechanisms for implementing the polluter pays principle adopted by the ELC are command and control systems, charges (taxes or emission fees), and tradable discharge permits. All three mechanisms can be used independently or together. Each mechanism has its strengths and weaknesses.

⁵⁹ OECD, Recommendation of the Council on the Implementation of the Polluter-Pays Principle, *supra* note 18.

⁶⁰ *Ibid.*

⁶¹ It should be noted that these comments by the OECD were developed with respect to pollution abatement measures and were not directed toward the provision of ecological goods and services.

⁶² Wilfred Beckerman, The Polluter-Pays Principle Interpretation and Principles of Application in *The Polluter Pays Principle: Definition, Analysis, Implementation* in OECD, *The Polluter Pays Principle: Definition, Analysis, Implementation* (1975). See also Muhammad Munir, Implementation of the Polluter Pays Principle or Economic Approaches to Pollution: Command and Control, Taxes/Charges, and Tradable Discharges Permits (TDPs) online: <http://ssrn.com/abstract=2378796> [Muhammad Munir]. Further, see the Ecofiscal Commission *supra* note 44, in relation to managing environmental risks. These tools include:

- regulations that ensure minimum standards and practices to avoid environmental damage;
- clear liability rules which assign responsibility in case of harm; and
- financial assurance - such as cash deposits, environmental bonds, industry funds or insurance - which ensure compensation for harm that occurs.

While command and control systems are relatively easy to implement, these systems may be economically inefficient.⁶³ As well, these systems may actually be inconsistent with the polluter pays principle because polluters do not face the marginal opportunity costs associated with their decisions.⁶⁴ Having said that, command and control systems may be more effective than market mechanisms if the institutional, legal and judicial framework for market-based mechanisms is weak or the transaction costs for implementing the latter are high.⁶⁵

Charges provide a good mechanism for increasing the rate of adoption of new technologies and for raising revenue to subsidize new environmental projects.⁶⁶ However, a disadvantage of using charges is that there is uncertainty as to the appropriate level of charges required to achieve the environmental objectives.⁶⁷ As well, there may be a need to continuously change charges to reflect economic activity, new technology and inflation.⁶⁸

Tradable discharge permits are advantageous in that this instrument automatically adapts to maintain a desired level of pollution under changing levels of economic activity, technology and inflation.⁶⁹ This adaptability ensures a given level of environmental quality and allows the price spent on abatement be determined by the market.⁷⁰ However, tradable discharge permits can run into “grandfathering” which creates a bias against new market entries.⁷¹

Regardless of the approach, effective implementation of the polluter pays principle requires addressing a number of issues: the timing of payments (i.e., should occur at the nearest temporal point to the creation of that social or environmental cost), the appropriate mechanisms to mitigate risks, and the priority of financial burdens

⁶³ *Ibid.*

⁶⁴ *Ibid.*

⁶⁵ *Ibid.*

⁶⁶ *Ibid.*

⁶⁷ *Ibid.*

⁶⁸ Muhammad Munir, *supra* note 62.

⁶⁹ *Ibid.*

⁷⁰ *Ibid.*

⁷¹ *Ibid.*

Conclusion: Implementation is made-to-measure

The simple expression of the polluter pays principle – that the costs of pollution should be borne by the polluter – belies the complexity of implementing and operationalizing the polluter pays principle. Inherent in the principle are potentially complicating issues including identifying the polluter, calculating the quantum of pollution, and determining the right timing for payment.⁷² Further, implementation of the polluter pays principle requires compromises between policy objectives such as economic goals (efficiency and competitiveness) and environmental goals (pollution avoidance and reduction, and restoration of environmental damage). Administrative challenges – such as collection and distribution of funds, compliance and monitoring, and enforcement – also arise. The manner in which these challenges are to be addressed should be reflected in law and a regulatory structure which appropriately embodies the polluter pays principle.

Given the challenges inherent in the polluter pays principle, effective implementation of the principle means that legislation and policy must be accompanied by not only clear identification of policy objectives but also clear liability rules and regulatory oversight and compliance.

It is important that the polluter pays principle appear not just as a principle in the preambles and purpose sections of legislation but that it also be operationalized throughout legislation.⁷³

Given the broad range of sectors and environmental impacts (air emissions, water emissions, land based pollution and disturbance, habitat disturbance and loss, and product stewardship and waste management), each with their own economic realities, there will not be a “one size fits all” legislative framework for successful implementation and operationalization of the polluter pays principle. A legislative regime may

⁷² See Lawrence H. Goulder and Ian W. H. Parry, *Instrument Choice in Environmental Policy* (2008) Resources for the Future, Discussion Paper RFF DP08-07, online: <http://www.sfu.ca/~wainwrig/Econ400/enviro/goulder-Parry-Choice-enviro-instr-2008.pdf>.

⁷³ Jerry V. DeMarco, *The Supreme Court of Canada's Recognition of Fundamental Environmental Values: What Could be Next in Canadian Environmental Law?* (2007) 17 *Journal of Environmental Law and Practice* 159 [DeMarco, *Fundamental Environmental Values*]. Also see DeMarco – *Building a Strong Foundation for Action*, *supra* note 44.

incorporate a command-control approach, impose charges, create tradable discharge permits, or some combination thereof.

The ELC has developed several criteria that can be used to guide the application of a polluter pays systems. These criteria can be categorized into those of a general nature, criteria regarding how one identifies who pays, the quantum of payment and how the principle is implemented.



DEFINING THE POLLUTER PAYS PRINCIPLE FOR IMPLEMENTATION IN ALBERTA

Defining the polluter pays principle should clearly articulate the aspirations of sustainable development: where our activities on the landscape don't harm others or the environment, either today or for future generations. The ELC's definition of the polluter pays principle promotes this aspirational positioning.

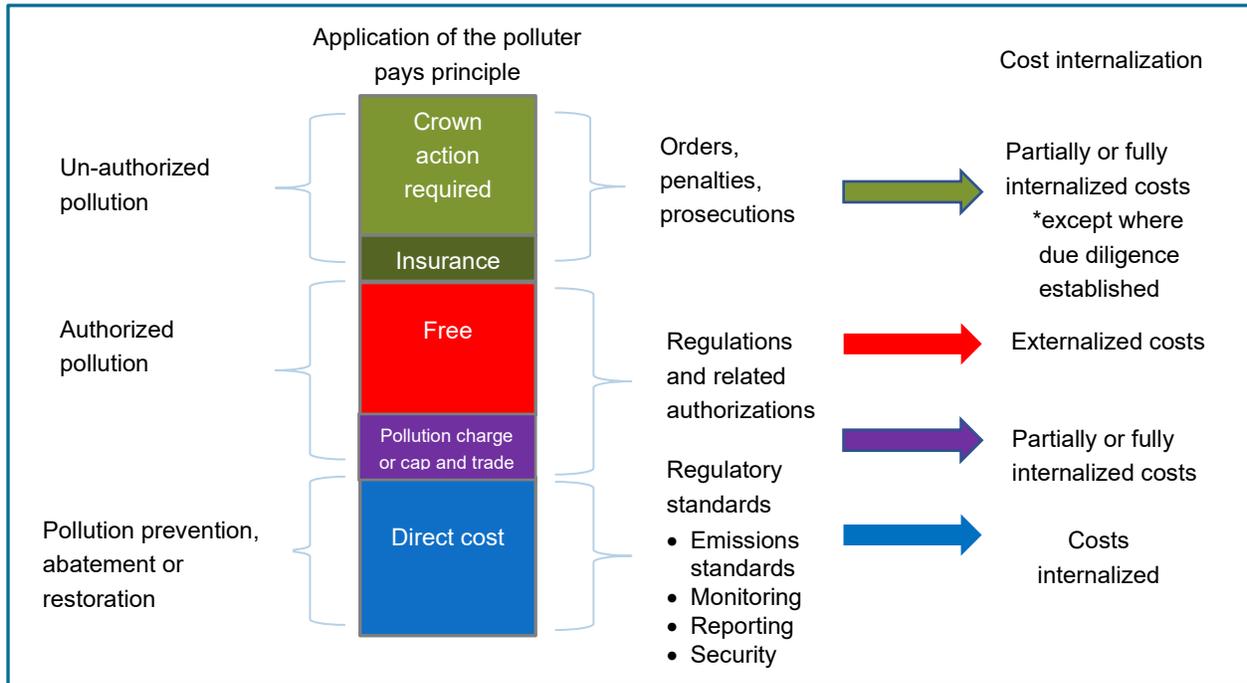
ELC definition of the polluter pays principle:

Polluters pay for all the social and environmental costs of their activities.

The ELC has developed criteria that frame an "ideal" polluter pays principle for implementation and operationalization in Alberta. The relative importance of any single criteria will vary with regulatory systems and the surrounding environmental and economic circumstances of an activity. The observations in this report should therefore be viewed as a starting point that gives rise to further questions on the efficacy of our regulatory system from the perspective of implementing the polluter pays system.

Implementation of the polluter pays principle in Alberta law currently takes many forms: levies on emissions, cap and trade systems, and, most substantively, pollution standards embedded in regulations and authorizations. It should be noted that what a polluter must pay will vary with the regulatory tool imposed, government regulatory requirements, and discretionary decisions made by government. The variability of the polluter pays system, the regulatory tools and the nature of how costs are internalized are illustrated in Figure 2 (below).

Figure 2: Pollution we pay for, pollution we don't



General Guiding Criteria

Implementation and operationalization of the polluter pays principle requires monitoring as to the efficacy of the approach and whether it meets policy objectives. Evaluation and, as necessary, adjustment of the regulatory system is required to ensure environmental goals and outcomes are being achieved. In a polluter pays system, it is essential to ensure that any required payments are sufficient to drive the desired behavioural change and that predetermined policy objectives are achieved.

General Criteria

1. The efficacy of polluter pays payments must be confirmed by continuous monitoring, periodic evaluation and adaptation of regulatory systems.
2. All pollutants or activities that result in harm are to be captured by a polluter pays system.

A polluter pays system should apply to all pollutants and activities that cause social and environmental harm. This can include destruction of public resources, building design approaches, industrial production systems, transportation methods and packaging systems.⁷⁴

Who Pays under the Polluter Pays Principle? And Who Doesn't?

Who pays (and who doesn't)?

1. *Causation governs the identification of the polluter responsible for payment of social and environmental costs associated with an activity (to the extent feasible).*
2. *In determining causation mechanisms for ensuring procedural fairness must be in place.*
3. *Responsibility to pay applies regardless of intent.*
4. *Multiple parties may be required to pay social and environmental costs where the harm is a result of cumulative effects.*
5. *Equity should be the starting point for determining who pays but sector differences may be justified.*
6. *Excluding polluters based on a de minimis contribution should be minimized where cumulative effects concerns exist.*
7. *Where a polluter can no longer pay, payment obligations should reside with those who most greatly benefited from the activity.*
8. *Where evidence exists that corporate structures are created to avoid liability the law should enable the "lifting of the corporate veil" and/or linking liability to parent and affiliated companies.*

⁷⁴ DeMarco – Building a Strong Foundation for Action, *supra* note 60.

Given that the polluter pays principle requires the costs of pollution to be borne by the polluter, identification of the polluter is essential. This is not necessarily a straightforward exercise. Identification of the polluter may be complicated by causation (i.e. whose activities are causing the pollution?) and the existence of multi-party causation (i.e. cumulative effects).

Defining the polluter therefore must identify clear liability rules for the scope of pollution that can be attributed to a party, with aspects of procedural fairness built into the system to ensure payments only lie with those who should account for harms.

Where the direct polluter has avoided liability there is also the need to consider expanding the scope of the principle to include beneficiaries.



How Much is Paid? The Question of Quantum

Although the polluter pays principle originated with a goal of addressing pollution and pollution abatement, the ELC recommends that the principle should address matters beyond strictly polluting emissions. The ELC uses the phrase more broadly to cover the impacts on the environment more generally, including the impacts on environmental and ecological systems through biophysical alteration and harm to species abundance.

The scope of application of the principle will drive the quantification process.

The broad definition focuses on “all...costs” and this poses a major challenge in applying the polluter pays principle as social and environmental costs may not be easily translated into dollar terms (such as habitat loss and other reductions in biodiversity). Typically, costs are more focused on more readily ascertainable economic measures such as reduced human welfare and lost market goods. The ELC's polluter pays principle objectives seek to cover the costs associated with environmental harm and to drive the avoidance and reduction of environmental harm *a priori*.

How much is paid?

1. *Payments shall cover the social and environmental costs associated with an activity.*
2. *Pollution liability attaches to the polluter and the polluter's assets.*
3. *In the case of cumulative social and environmental costs, shared burdens for payment of social and environmental costs may be appropriate and be proportionate to the pollution contribution.*

Nevertheless, the nature and temporal nature of harm is likely to be relevant to determining what should give rise to compensable harm. Is the harm irreparable? Can we even tell irreparable harm when we look at it? Should short term costs, that would be resolved through time, be covered and/or discounted?

The “right” amount of a payment requires an ongoing review and identification of costs to reflect the polluter pays principle. To this end, comments regarding the quantum of payment in this report are limited to a conceptual discussion of the evident gaps or issues in determining quantum. Incidentally, the methodology and accountability systems in coming to the right number are particularly relevant. However, in this report, there is no assessment of whether or not the “right” quantum is actually achieved in a particular circumstance.

There is also the question of where the liability begins and ends. The costs of pollution may be limited by the extent of assets or value of the polluted land. This is the current reality under the federal *Bankruptcy and Insolvency Act* which limits Crown claims

related to environmental damage to the property on which the pollution or damage occurred. Reliance on limiting the pool of assets may thereby undermine the polluter pays principle.

Finally, application of the principle to cumulative effects should apply a logical and equitable approach to paying of environmental costs. The proportion of the pollution contribution should determine the extent of liability.

How is the Polluter Pays Principle Applied?

How is the principle applied?

- 1. Payments should occur at the nearest temporal point to the creation of that social or environmental cost.*
 - 2. Where risks and barriers exist to having timely application of the polluter pays system, such as economic and/or compliance challenges for reclamation and remediation obligations, financial assurance systems be used to mitigate risks, e.g. up front financial security and/or insurance.*
 - 3. Legislation should include clear discretion to issue orders for remedial actions and clear mechanisms for enforcement of orders (i.e. to respond to failures in a timely polluter pays system).*
 - 4. Payments of funds arising from application of the polluter pays principle should be directed toward rectification of the relevant social and environmental costs. In other words, such payments should not be directed in general revenue of the government.*
-

Once you have decided who pays and how much is to be paid there is the question of the regulatory or financial vehicle to implement the principle. These include collection and distribution of funds, as well as requirements for compliance, monitoring and enforcement. Resolution of these matters will depend, to some extent, upon the regulatory model chosen (command-control, tradable pollution allowances, taxes, or some combination thereof).

Any payments arising from application of the polluter pays principle and environmental liability ought to be directed toward rectification of the related social and environmental harms. Furthermore, there must be clear authority to issue orders for remedial actions and clear mechanisms for enforcement of orders (in other words, to respond to failures in a timely polluter pays system).

THE POLLUTER PAYS PRINCIPLE IN ALBERTA LAW: A SURVEY

This part of the report will undertake a survey of Alberta's natural resources and environmental laws with a view to identifying gaps in adoption and implementation of the polluter pays principle. To do so, this report provides a summary of existing legislation and policy. The polluter pays impacts of these pieces of legislation are assessed by asking the following questions based on the criteria set out above:

1. Who pays? And who doesn't?
2. How is the principle applied?
3. How much is paid? A question of quantum.
4. What is the timing of payment? Where do payments go?
5. Is there authority to issue orders for remedial actions and clear mechanisms for enforcement of orders?

The legislation included in this survey is organized by the category of its environmental impact:

1. Air Pollution;
2. Water Based Pollution and Harm to Aquatic Habitat;
3. Land Based Pollution and Disturbance;
4. Product Stewardship and Waste Management; and
5. Regional Planning and Environmental Management Frameworks.

It should be recognized that even these categories are not exclusive, as there is cross over between medium in relation to many activities. For example, poor forestry practices may have impacts on water, habitat, and biodiversity. However, for the sake of clarity, in this report the legislation has been grouped according to its primary area of environmental impact.

Excluded from this review is the role of environmental impact assessment and its role in implementing the polluter pays principle.

Federal Examples of the Polluter Pays Principle

While not part of this review, it is noteworthy that federal environmental legislation also incorporates the polluter pays principle. This is typically done through setting regulatory standards (with some examples of conservation offsets) and by setting out general prohibitions regarding specific activities. The relevant federal laws include (but are not limited to):

- *the Canadian Environmental Protection Act, 1999 which focuses on pollution prevention and limiting toxic or polluting substances. The Act references the polluter pays principle in both its preamble as well as in its sentencing purposes;*
- *the Pest Control Products Act which governs the use of pest control products including which pest control products can be used or sold;*
- *the Fisheries Act which includes protections for fish and fish habitat and prohibits depositing harmful substances aquatic environments; it has significant polluter plays principle implications for effluent (municipal wastewater and industry) and also has been used to implement a “no-net-loss” of fish habitat policy;*
- *the Migratory Birds Convention Act, 1994 provides protections for listed migratory birds and references the polluter pays principle as a central objective of sentencing; and*
- *the Pipeline Safety Act which specifically references the polluter pays principle and is designed to establish liability for operators in the event of a release or spill.*



The Polluter Pays Principle in Alberta's Laws

The polluter pays principle is referenced directly in only one Alberta statute: the *Environmental Protection and Enhancement Act* (the "EPEA"). EPEA states that it is "the responsibility of polluters to pay for the costs of their actions".⁷⁵ Although the Act makes no further mention of the polluter pays principle it does integrate the principle in a variety of provisions.⁷⁶

No other law in Alberta currently cites the polluter pays principle as a specific purpose. While an express statutory commitment to the principle would be of value, the implementation of the polluter pays principle can readily occur without such an expression.

⁷⁵ *Environmental Protection and Enhancement Act*, RSA 2000, c E-12, s 2(i) [EPEA]. This is in the purposes section of the Act and is therefore directional in nature.

⁷⁶ It should be noted that the Act only applies to a subset of activities on the landscape. For a list of these activities see the *Schedule of Activities* in EPEA.

The Relevance of Regulatory Standards

Application of the polluter pays system in Alberta relies heavily on regulatory standards. These binding environmental standards (which typically focus on emissions) arise in regulations, codes of practice, and in the terms and conditions of various authorization issued across numerous pieces of legislation. These standards are typically applied with a “risk management” approach which is focused on managing emissions with the greatest risk of harming the environment, human health and property.

Among the standards provided for, pollution regulations and authorizations may include:

- Maximum concentrations of substances within effluent/pollution streams;
- Maximum volumes of releases/pollution;
- Monitoring and testing requirements;
- Decommissioning, reclamation and closure; and
- Reporting requirements.

The cost of a polluter pays system greatly depends on the scope and scale of regulatory standards. In some instances, regulatory standard can be significant in terms of cost, for example for wastewater effluent treatment for a small municipality. In other instances, the costs may be minimal and be readily incorporated into design (and passed onto consumers). The costs or “burdens” to meet regulatory standards are typically given significant weight in policy choices.⁷⁷

Air Pollution

The primary regulation of air pollution in Alberta falls under the *EPEA*⁷⁸ which prohibits the release of substances into the atmosphere, except in accordance with relevant legislation and approvals.⁷⁹ The following section on air pollution is divided into greenhouse gas emissions and non-greenhouse gas emissions.

⁷⁷ For a discussion of this *Goulder & Parry*, *supra* note 72.

⁷⁸ *EPEA*, *supra* note 85.

⁷⁹ *Ibid.*, s 108.

Greenhouse Gas Emissions in Alberta

Note: At the time of publication the Government of Alberta had tabled a bill that amends the *Climate Change and Emissions Management Act*, including changing the name to the *Emissions Management and Climate Resilience Act*.⁸⁰ This report does not reflect these amendments.

Snapshot	Who pays?	How Much?	Operation	Payment addresses harm	Grade
	Large industrial emitters	\$30/tonne of CO _{2e}	Cap and trade (modified)	Partial	C+

Climate change legislation in Alberta is designed to impose charges on large industrial emitters of greenhouse gases (GHGs). Until recently, the suite of climate change legislation included the *Climate Leadership Act*⁸¹ (CLA) which imposed carbon levies on most fuels and the *Climate Change and Emissions Management Act*⁸² (CCEMA) which established a cap and trade system for large industrial emitters of GHGs. The CLA was repealed on June 4, 2019, leaving only the CCEMA.

*Almost immediately after the repeal of the CLA, the Government of Canada announced plans to impose a federal GHG pricing regime on Alberta, beginning in January 2020.⁸³ This regime is set out in the *Greenhouse Gas Pollution Pricing Act*⁸⁴ which provides a backstop carbon pricing measure for those provinces who choose not to implement an 'equivalent' carbon pricing or cap and trade scheme. Notably, the ability of the federal government to do so was recently upheld by both*

⁸⁰ See Bill 19: *Technology Innovation and Emissions Reduction Implementation Act*, 2019 30th Legislature, 1st Session (2019).

⁸¹ *Climate Leadership Act*, SA 2016, C-16.9.

⁸² *Climate Change and Emissions Management Act*, SA 2003, C-16.7 [Climate Change and Emissions Management Act].

⁸³ Peter Zimonjic, "McKenna announces carbon tax on Alberta week after province kills former tax" (13 June 2019) CBC News online: <https://www.cbc.ca/news/politics/mckenna-imposes-carbon-tax-alberta-1.5174482>.

⁸⁴ *Greenhouse Gas Pollution Pricing Act*, SC 2018, c 12.

the Saskatchewan⁸⁵ and Ontario Courts of Appeal.⁸⁶ The Supreme Court of Canada has agreed to hear an appeal from both the Saskatchewan and Ontario governments on the Appeals Court decision.

Who pays? And who doesn't?

The CCEMA operationalizes the polluter pays principle by establishing a cap and trade system for **large industrial emitters** of “specified gases”, all of which are GHGs including, but not limited to, carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulphur hexafluoride.⁸⁷ Large industrial emitters are defined in the CCEMA as facilities that have total regulated emissions of 100,000 tonnes or more per year and facilities that opt-in to the cap and trade system.⁸⁸

Payments for credits are only required if emitters exceed their baseline allocation amount.

How is the principle applied?

The *Carbon Competitiveness Incentive Regulation (CCIR)*⁸⁹ provides the details of the GHG cap and trade system. Specifically, the CCIR sets out the method for determining the output-based allocation of emissions for each facility (the “cap” or, more accurately, the “baseline”).⁹⁰

If a facility's emissions fall below its baseline allocation, then it earns emission performance credits which may be banked for use in a future year or sold to another emitter.⁹¹ Emission offset credits may be earned via sequestration of carbon dioxide, a geological sequestration of carbon dioxide, or capture of carbon dioxide.⁹² Fund credits may be purchased by paying into the Climate Change and Emissions Management Fund.⁹³

⁸⁵ Reference re *Greenhouse Gas Pollution Pricing Act*, 2019 SKCA 40.

⁸⁶ Reference re *Greenhouse Gas Pollution Pricing Act*, 2019 ONCA 544.

⁸⁷ *Climate Change and Emissions Management Act*, *supra* note 82, s 1(g).

⁸⁸ *Carbon Competitiveness Incentive Regulation*, Alta Reg 255/2017, s 3 [CCIR].

⁸⁹ *Ibid.*

⁹⁰ *Ibid.*, s 5.

⁹¹ *Ibid.*, s 17.

⁹² *Ibid.*, s 16.

⁹³ CCIR, *supra* note 88, s 18.

There is also an Emission Offset Registry and an Emission Performance Credit Registry which allows for trades of these credits (operated by the Canadian Standards Association in partnership with the Government of Alberta).⁹⁴ The credits may be used to offset facility emissions above the permitted baseline (up to a certain percentage of net emissions).⁹⁵

How much is paid? A question of quantum

Payments under the CCEMA are made either through the costs of an emission offset or by the purchase of an emission credit. The cost of a credit in June of 2019 was \$30.⁹⁶

What is the timing of payment? Where do payments go?

Under the CCEMA, payments are made at the time of implementing an offset measure or by the purchase of credits – the Act requires that an emission performance credit issued for 2017 or later must be used for a reporting period within eight years of the year in which the emission performance credit is issued.⁹⁷ Credits may be purchased at any time or are received at the time of reporting if the “total regulated emissions of a facility” in a calendar year “is less than the output based allocation for the facility” for that year.⁹⁸

The CCEMA also sets up the Climate Change and Emissions Management Fund which is used for purposes related to reducing emissions of specified gases and supporting climate change adaptation.⁹⁹ The fund is comprised of monies required to be paid pursuant to the regulations for emission offsets; as a result of enforcement activities; from a supply vote appropriated for the purposes of the fund; and other contributions to the fund (such as gifts, donations and bequests).

⁹⁴ CSA Group, “Alberta Carbon Registries” online:
<https://www.csaregistries.ca/albertacarbonregistries/home.cfm>.

⁹⁵ CCIR, *supra* note 88, s 19.

⁹⁶ Ministerial Order 58/2017, (2017) A Gaz I, Appendix (*Climate Change and Emissions Management Act*).

⁹⁷ CCIR, *supra* note 88, s 19(2)(f).

⁹⁸ *Ibid*, s 17(1).

⁹⁹ *Climate Change and Emissions Management Act*, *supra* note 82, s 10.

Is there authority to issue orders for remedial actions and clear mechanisms for enforcement of orders?

The CCIR imposes a duty on the person responsible for a facility to ensure it does not exceed its output-based allocation.¹⁰⁰ In addition, there are numerous record-keeping and reporting requirements for facilities subject to the CCEMA and its regulations.¹⁰¹ Failure to meet these requirements constitutes an offence.¹⁰² The penalty for some offences is tied to the amount by which the facility exceeded its output-based allocation (\$200 for every tonne).¹⁰³ In other cases, the penalty is a fine of up to \$50,000 for an individual or up to \$500,000 for a corporation.¹⁰⁴

Aside from the provisions in the CCIR, there are numerous enforcement powers, as well as offence and penalty provisions, under the CCEMA. Enforcement powers include right of entry and inspection,¹⁰⁵ seizure,¹⁰⁶ compliance orders,¹⁰⁷ and administrative penalties.¹⁰⁸ There is also a provision allowing Alberta residents to apply for investigation of an alleged offence.¹⁰⁹

Gap identification

Scaling challenges

Under the current regime most emissions are excluded from the provincial polluter pays regime. What was once a near economy-wide price on carbon is currently limited to only those emitters that fall under the purview of the CCEMA i.e. large industrial emitters.

Note: At the time of writing Alberta was captured under the federal regime under the Greenhouse Gas Pollution Pricing Act which applies a fuel surcharge to a variety of activities.¹¹⁰

¹⁰⁰ CCIR, *supra* note 88, s 6.

¹⁰¹ *Ibid*, s 29.

¹⁰² *Ibid*, s 31.

¹⁰³ *Ibid*, s 33(1).

¹⁰⁴ *Ibid*, s 33(2).

¹⁰⁵ *Climate Change and Emissions Management Act*, *supra* note 82, s 13.

¹⁰⁶ *Ibid*, s 18.

¹⁰⁷ *Ibid*, s 29.

¹⁰⁸ *Ibid.*, s 38.

¹⁰⁹ *Ibid*, s 11.

¹¹⁰ S.C. 2018, c. 12. Online:Justice Laws Website, <https://laws-lois.justice.gc.ca/eng/acts/G-11.55/>.

Scoping challenges

There is a significant gap in addressing non-point sources of GHGs in Alberta. The CCEMA is focused on addressing large, point sources of GHGs rather than imposing on non-point sources and other sources. Some emissions such as methane are regulated through other regulations (not yet in force) as is flaring and venting from oil and gas facilities/wells.¹¹¹

Cumulative effects challenge

With a focus on point source emissions of GHGs, cumulative effects are not effectively addressed. The release of GHGs in Alberta is not being addressed with the broad scope necessary to address cumulative impacts.

The challenge of valuing carbon

Under the *CCIR*, emissions are initially free¹¹² (up until a certain level) and benchmarks for emissions are based on efficient operations within a sector. This “grandfathering” of emission allowances, as opposed to auctioning emission allowances, is one of the key debates surrounding the polluter pays principle and emissions trading schemes.¹¹³

Another key challenge is calculating the value of carbon. There is extensive literature on the calculation and appropriate use of the social cost of carbon (SCC) which is defined by the National Academy of Sciences as:¹¹⁴

an economic metric intended to provide a comprehensive estimate of the net damages—that is, the monetized value of the net impacts, both negative and positive—from the global climate change that results from a small (1 metric ton) increase in carbon dioxide (CO₂) emissions.

¹¹¹ See for example Alberta Energy Regulator, Directive 60 *Upstream Petroleum Industry Flaring, Incinerating and Venting*. Online: https://www.aer.ca/documents/directives/Directive060_2020.pdf . Also see *Methane Emission Reduction Regulation*, A.R. 244/2018.

¹¹² Andrew Read, Benjamin Israel & Sara Hastings-Simon, “Understanding the pros and cons of Alberta’s new industrial carbon pricing rules” Technical Note, December 2017, Pembina Institute, online: <https://www.pembina.org/reports/pros-and-cons-of-albertas-new-industrial-carbon-pricing.pdf>.

¹¹³ For additional context see Jonathon Remy Nash, Too Much Market: Conflict between Tradable Pollution Allowances and the Polluter Pays Principle (2000) 24 *Harv Envtl L Rev* 465 & Woerdman, Arcuri & Clo, *supra* note 29.

¹¹⁴ National Academies of Sciences, Engineering, and Medicine 2017. *Valuing Climate Damages: Updating Estimation of the Social Cost of Carbon Dioxide*. Washington, DC: The National Academies Press online: <https://doi.org/10.17226/24651> at 1.

The SCC is often used as metric for regulatory impact analysis in Canada (and elsewhere).¹¹⁵ Damages can include changes in agricultural productivity, energy use, and property damage, impacts on human health, and impacts on ecological goods and services.



Non-GHG Emissions in Alberta

Non-GHG related air pollution is regulated under the *EPEA* and its regulations and authorizations and is managed by conditions on emissions within authorizations and through pollutant specific regulation. In particular, two gasses are subject to a more robust polluter pays system - sulphur dioxide (SO_2) and nitrous oxides (NO_x) which are both subject to a cap and trade program¹¹⁶ - although it only applies to certain sectors. Finally, ambient air quality monitoring is paid for by various industrial emitters.

¹¹⁵ Anthony Heyes, Dylan Morgan and Nicholas Rivers "The Use of a Social Cost of Carbon in Canadian Cost-Benefit Analysis." (2010) *Canadian Public Policy / Analyse De Politiques*, Vol. 39, pp S67–S79.

¹¹⁶ *Emissions Trading Regulation*, Alta Reg 33/2006 [ETR].

Who pays? And who doesn't?

Alberta's air pollution regulations can be divided into two categories, pollutant specific regulations, and general regulations that apply to multiple pollutants across various sectors. The table below will briefly describe the type of regulations pollutant specific.

Table 2: Emission specific regulations

Pollution coverage	Relevant regulation	Who pays/is regulated?	Type of Polluter Pays system
NO_x & SO₂	<i>Emissions Trading Regulation</i>	Approval holders or owners of electrical generating power plants (or cogeneration units) "with a maximum continuous rating of 25 megawatts or more"	Cap and Trade
Mercury	<i>Mercury Emissions Regulation</i>	Coal-fired power plants	Standards and accompanying fines
Ozone-Depleting Substances and Halocarbons	<i>Ozone-Depleting Substances and Halocarbons Regulation</i>	"No person shall release or permit the release of an ozone-depleting substance or halocarbon" except in prescribed instances. Exceptions include: fighting fires; human or animal health care applications; and laboratory analytical procedures.	Standards and accompanying fines

Cap and Trade for SO₂ and NO_x

The *Emissions Trading Regulation (ETR)*¹¹⁷ (under *EPEA*) governs certain NO_x and SO₂ emitters and sets up a cap and trade program for both.

	Who pays?	How Much?	Operation	Payment addresses harm	Grade
Snapshot	Operators (power generation facilities)	Variable	Cap and trade	Not directly ascertainable *Credit retirement	C

Who pays? And who doesn't?

The *ETR* applies to “operators” which is defined in the regulation to include approval holders or owners of electrical generating power plants (or cogeneration units) “with a maximum continuous rating of 25 megawatts or more”.¹¹⁸

How much is paid?

Trading emission accounts consist of both a holding account and retirement account¹¹⁹ - each of which holds emission credits in different stages. Holding accounts are for credits which are yet to be used and retirement accounts hold credits which have already been traded. The emission credits used in these accounts are generated when a unit operator emits fewer kilograms of NO_x or SO₂ than its baseline emission rate as determined by a formula in the *ETR*.¹²⁰ If, over a twelve-month period, emissions from the operation fall below the pre-determined level, the unit operator is eligible to receive

¹¹⁷ *ETR*, *supra* note 116.

¹¹⁸ *Ibid*, s 16.

¹¹⁹ *Ibid*, s 18.

¹²⁰ *Ibid*, s 34.

emission credits.¹²¹ The goal of these emission credits is to reward those who emit lower levels of air pollution.

Credits can then be used for compliance purposes, such as when a generating unit exceeds their baseline emissions amount set out in the regulation. They can also be saved, traded, or sold to other eligible generating units. Ideally, this results in emissions being limited overall by capping the total amount of emissions and allowing individual operators to work out the details between themselves.

How is the principle applied?

The *ETR* provides “polluters” with an incentive to reduce the level of SO₂ and NO_x emissions on an individual basis. It does so through the regulation of a baseline emission rate for operating units, the amount of which is set through a regulatory equation which differs depending on the type of unit.¹²²

What is the timing of payment? Where do payments go?

Under the *ETR* program, payments are exchanged and remain between operators. Rather than creating a fund to pay for emissions-lowering programs, the *ETR* devises a system whereby emission credits can be used for compliance purposes.¹²³ Emission credits can be transferred between unit operators – both of whom must have an existing trading account.¹²⁴ This system allows credits to be allocated to those who need them, while ensuring a cap on the total number of available credits and accompanying emissions.

The *ETR* also sets limits on the use of credits for compliance purposes. Credits issued for coal fired generating units must be used within 50 years of the commissioning of the unit, while credits issued for natural gas fired generating units must be used within 40 years of the commissioning of the unit.¹²⁵

¹²¹ *Ibid*, s 34(1).

¹²² *Ibid*, ss. 21-24.

¹²³ *Ibid*, Division 3.

¹²⁴ *Ibid*, s 47.

¹²⁵ *Ibid*, s 46.

Is there authority to issue orders for remedial actions and clear mechanisms for enforcement of orders?

The *ETR* emissions credits are not directly enforceable by the Director because they are traded primarily between operators with no input from the Director or other government staff, however, in the event that a person governed by the Regulation fails to pay a fee, assessment, or charge levied against them, the delegated authority may recover the outstanding amount.¹²⁶

Nevertheless, the *ETR* does retain some control mechanisms. The Director retains control over an operator's initial application for a holding account, including control over the determination of a baseline emission rate, an application which would affect how/when emission credits are used.¹²⁷ The Minister also has the authority to cancel emission credits once they have been issued if the Minister is of the opinion that the cancellation is in the public interest and is necessary to prevent the release of substances from causing significant adverse effects.¹²⁸ In doing so, the Minister may issue an order against the operator, requiring them to take any steps necessary to minimize or remedy the effects that the emission credit has on the release of substances.¹²⁹

To keep track of emissions and the use of emission credits, the *ETR* requires a unit operator to submit an annual report setting out the annual air emissions data for NO_x and SO₂ emissions;¹³⁰ the annual MWh output for each generating unit;¹³¹ and the use/retirement of emission credits.¹³²

Annual reports must be submitted to the Minister by the delegated authority no more than six months after the end of its fiscal year¹³³ and must include a general summary of the delegated authority's policies and activities in that fiscal year and a financial report which must include an audited financial statement.¹³⁴ The *ETR* also includes requirements for those third party auditors preparing these reports.¹³⁵

¹²⁶ *ETR*, *supra* note 116, s 7.

¹²⁷ *Ibid*, s 27.

¹²⁸ *Ibid*, s 49(1).

¹²⁹ *Ibid*, s 49(3).

¹³⁰ *Ibid*, s 55(1)(a).

¹³¹ *Ibid*, s 55(1)(b).

¹³² *Ibid*, s 55(2).

¹³³ *ETR*, *supra* note 116, s 9(1).

¹³⁴ *Ibid*, s 9(2).

¹³⁵ *Ibid*, s 53.

Other Air Pollutants

	Who pays?	How Much?	Operation	Payment addresses harm	Grade
Snapshot	Approval holders & Registration Activities	Variable	Regulatory Conditions	Partial	C+ **requires further evaluation

**Qualified grade: existing pollution standards and authorizations require further analysis

Who pays? And who doesn't?

Other air pollutants (non-GHG and non-ETR emissions) are regulated under *EPEA*.¹³⁶ Emission standards are set and regulated through the terms and conditions of *EPEA* authorizations (typically approvals) as well as through codes of practice and other regulations. The terms and conditions of authorizations are further informed by the Air Monitoring Directive (the "Directive") which requires operators to measure and report on their yearly emission levels.¹³⁷ The Directive is typically incorporated into the air emissions regime through reference in *EPEA* approvals or through codes of practice for industrial facilities.

How much is paid?

The costs associated with standards and regulations of air emissions are associated with the design, construction, operation, and maintenance of air pollution abatement technologies.

In addition, a variety of monitoring and reporting requirements accompany facility approvals and registrations. For example, the *Annual Emissions Inventory Report*

¹³⁶ *EPEA*, *supra* note 75.

¹³⁷ Alberta Environment and Parks, "Air Monitoring Directive" (1 February 2014) Government of Alberta online: <https://open.alberta.ca/dataset/9f75b54e-641a-4d9d-885f-e87e973321b4/resource/f64b5050-0675-458e-8db4-1ae492a1b3b2/download/amd-chapter1-introduction-dec16-2016a.pdf>.

Standard and Guidance Document requires industrial operators to monitor their non-GHG air emissions and submit an emissions report on a yearly basis.¹³⁸ This report requires industrial operators to undertake reasonable efforts to monitor and report on air emissions but does not impose a payment or enforcement scheme, nor is it focused on limiting air emissions.¹³⁹

Additionally, the *Substance Release Regulation*¹⁴⁰ sets concrete limits on non-GHG air emissions with associated fines for emissions that exceed these amounts. These limits vary by type – such as visible emissions, particulate release, and gaseous emissions from vinyl chloride and polyvinyl chloride plants.¹⁴¹

Is there authority to issue orders for remedial actions and clear mechanisms for enforcement of orders?

Environmental protection orders (EPOs) may be issued under the *EPEA*. EPOs may be issued in a number of circumstances including when the Director is of the opinion:

- that a release of a substance may occur, is occurring, or has occurred and may cause an adverse effect;¹⁴²
- that a release of a substance previously authorized may cause an adverse effect that was not reasonably foreseeable at the time of the authorization;¹⁴³ and
- that a substance or thing is causing or has caused an offensive odour, unless it is from an agricultural operation being conducted in a generally accepted agricultural practice.¹⁴⁴

Emergency EPOs can also be issued, directing the performance of emergency measures including¹⁴⁵ where the Director is of the opinion that a substance has been

¹³⁸ Alberta Environment and Parks, "Annual Emissions Inventory Report Standard and Guidance Document: 2018 and 2019 Emissions Inventory Years" (August 2018) Government of Alberta online: <https://open.alberta.ca/dataset/7f234172-a595-47b0-b8f9-4b3739bbcfdq/resource/6c1cc270-ba68-4fff-8b12-f2b8eb6dfe73/download/aeir-standard-aug2018.pdf>.

¹³⁹ *Ibid* at 29.

¹⁴⁰ *Substance Release Regulation*, Alta Reg 124/1993 [Substance Release Regulation].

¹⁴¹ *Ibid*.

¹⁴² *Substance Release Regulation*, *supra* note 149, s 113(1).

¹⁴³ *EPEA*, *supra* note 75, s 113(2).

¹⁴⁴ *Ibid*, s 116.

¹⁴⁵ *Ibid*, s 247.

released (or may occur) and is causing (or may cause) an immediate, significant, and adverse effect.¹⁴⁶

Related costs incurred by the government may be recovered from the person who is subject to an EPO.¹⁴⁷

Beyond regulatory standards and general prohibitions, air pollution can be the subject of administrative penalties under the *EPEA*.¹⁴⁸

Where a release occurs in contravention of the *EPEA*, enforcement orders may be issued¹⁴⁹ and the person subject to the enforcement order is liable for the costs of complying with the order.¹⁵⁰ If the enforcement order relates to land, then costs incurred by the government are granted priority.¹⁵¹ In addition, the *EPEA* allows a civil cause of action for harm arising from contravention of the Act.¹⁵²

Gap identification

Scale challenges

The NO_x and SO₂ cap and trade system applies to just a few large emitters and while a cap and trade program does reflect the polluter pays principle, the limited scope means that most emissions are not caught by this regime. In fact, the national pollutant release inventory reported that in 2017 there were 1682 Alberta facilities reporting NO_x with cumulative emissions of 308,356 tonnes and only 300 Alberta facilities reporting SO₂ with cumulative emissions of 218,524 tonnes.¹⁵³ Importantly, this does not reflect all emitters. On a national level there are also large sources of emissions, both point and non-point, that are not included in any cap and trade scheme (see Table 2 below). This is similar to the situation in Alberta.

¹⁴⁶ *Ibid*, s 114.

¹⁴⁷ *Ibid*, ss 240 & 241.

¹⁴⁸ *Ibid*, s 237.

¹⁴⁹ *Ibid*, s 210.

¹⁵⁰ *EPEA*, *supra* note 75, s 215.

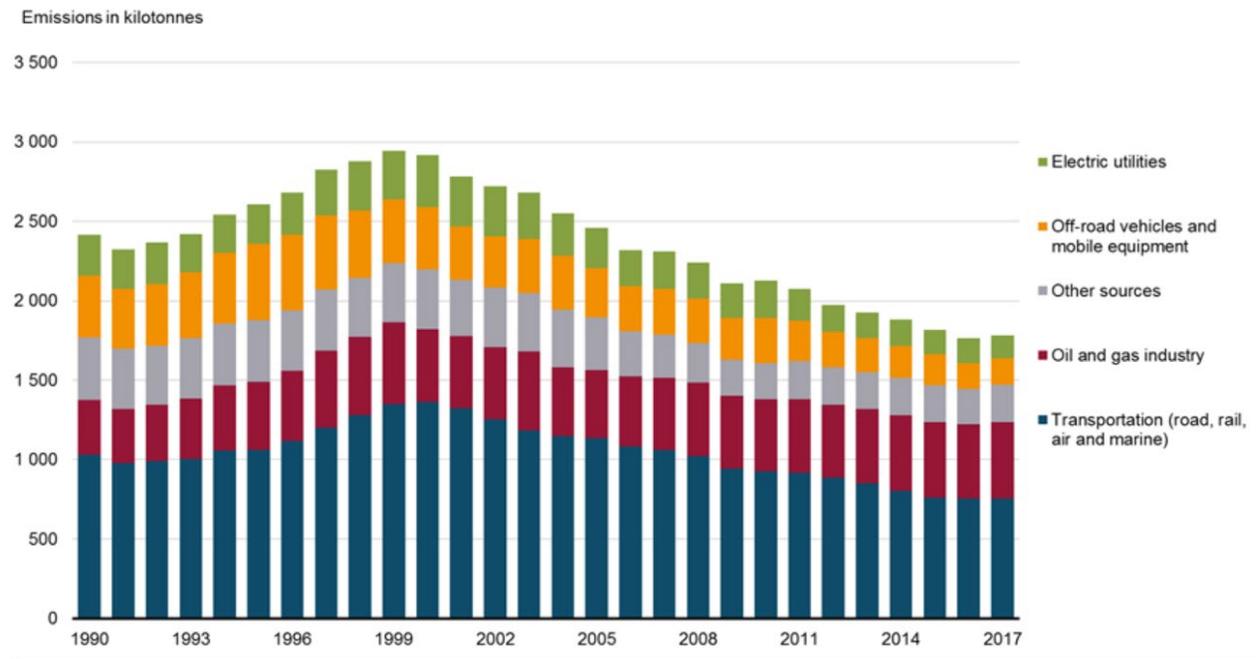
¹⁵¹ *Ibid*, s 216.

¹⁵² *Ibid*, s 219.

¹⁵³ Government of Canada, "National Pollutant Release Inventory Data Search: Pre-defined queries" (13 September 2018) online: https://pollution-waste.canada.ca/national-release-inventory/archives/index.cfm?do=common&common_query=1&lang=En.

Figure 3: Total Nitrogen Oxide Emissions reported through the National Pollutant Release Inventory¹⁵⁴

Total nitrogen oxide emissions by source, Canada, 1990 to 2017

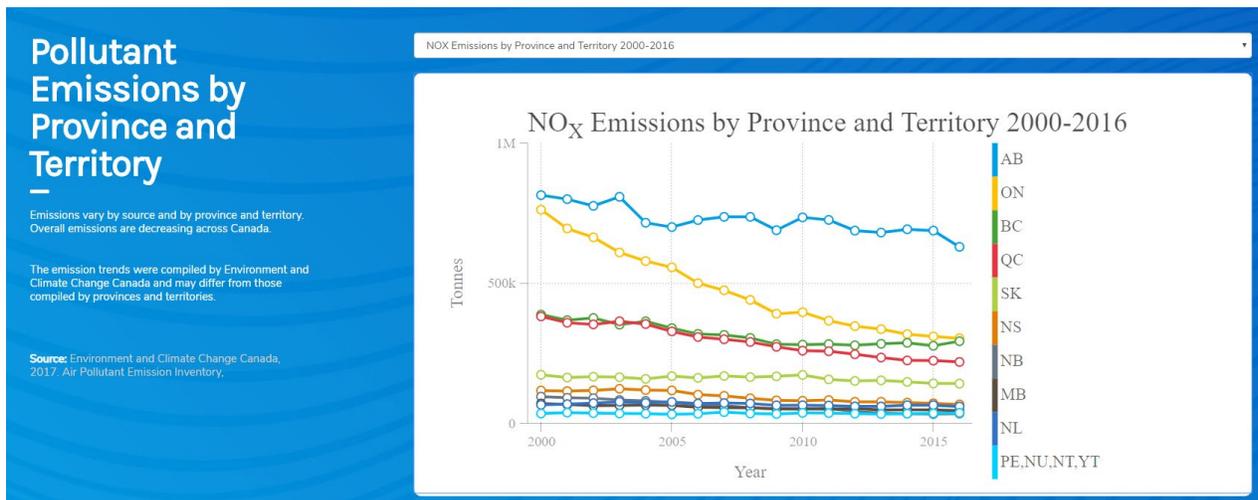


While emissions of NO_x have gone down between 2000-2016, emissions in Alberta remain the highest in the country.

The high rates of emissions in Alberta underscore the importance of further implementing the polluter pays principle to reduce pollution in Alberta. This could be done by increasing the number of emissions and facilities that are subject to a cap and trade program.

¹⁵⁴ Government of Canada, Air Pollutant Emissions, online: <https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/air-pollutant-emissions.html>.

Figure 4: Pollutant emissions by province and Territory (CCME, citing Environment and Climate Change Canada, 2017, Air Pollutant Emission Inventory)¹⁵⁵



Scoping challenges

The emissions cap and trade system is limited in its application to both type of emission and emitter. While standards exist for other air pollutants in authorizations and regulations, further standards and market-based tools should be considered for deployment. This includes standards for key air pollutants of fine particulates (pm 2.5) and volatile organic compounds.

Cumulative effects and non-point source emissions challenges

Non-point emissions and cumulative emissions of smaller amounts (i.e., the transportation sector) are areas of significant emissions and pollution that may be best suited to market-based mechanisms in this regard.

For further discussion of cumulative effects in air pollution see the section on the *Alberta Land Stewardship Act (ALSA)* and the accompanying management frameworks enabled by the ALSA below.

¹⁵⁵ Council of Canadian Ministers of the Environment, "Canada's Air" online: <http://airquality-qualitedelair.ccme.ca/en/>.

Accountability challenges

Accountability challenges also exist for current air emissions. Independent verification of emissions and auditing of reports is not mandated in legislation¹⁵⁶ which means that reports are based solely on self-reporting. This raises concerns about accuracy because there is no third-party monitoring.



Water Based Pollution and Harm to Aquatic Habitat

Water management in Alberta is governed primarily by the *Water Act* and the *EPEA*. The *Water Act* regulates activities that have impacts on bodies of water and water diversions while the *EPEA* regulates those activities that create water pollution. It also regulates releases of substances to the environment, including to both ground and surface water.¹⁵⁷

¹⁵⁶ *ETR*, *supra* note 116, s 15. The *ETR* requires an annual report be submitted by all registry operations on or before June 30 of each year (unless otherwise specified). These reports must include (a) the number of emission credits issued; (b) the number of emission credits that have been used for compliance purposes, retired, cancelled or otherwise extinguished; (c) the number of emission credits discounted and what that discount represents; (d) the number of transactions recorded by the registry; and (e) the aggregate balance of emission credits recorded in the registry.

¹⁵⁷ *EPEA*, *supra* note 75.

A polluter pays system may deal with both the pollution of water and the physical augmentation/degradation of bodies of water (and related habitat). To reflect this, the following section will be divided into water pollution and habitat degradation.

Water Pollution

The *EPEA* regulates water pollution through a general prohibition on the release of substances into the environment and by putting terms and conditions on authorizations for polluting activities that fall within the scope of regulation.¹⁵⁸

The general prohibition against pollution states:¹⁵⁹

(1) No person shall knowingly release or permit the release into the environment of a substance in an amount, concentration or level or at a rate of release that causes or may cause a significant adverse effect; and

(2) No person shall release or permit the release into the environment of a substance in an amount, concentration or level or at a rate of release that causes or may cause a significant adverse effect.

The *EPEA* also prohibits the disposal of waste into or under water or ice, except in accordance with the Act.¹⁶⁰

When a release is authorized by an approval, a code of practice, or a regulation, the relevant standard of water pollution will be dictated by that specific regulatory instrument.¹⁶¹ This includes standards for potable water and wastewater effluent.¹⁶²

The *Water Act* also regulates pollution in the form of erosion and sediment by virtue of requiring an approval for any activity that “causes, may cause or may become capable of causing the siltation of water or the erosion of any bed or shore of a water body, or ...causes, may cause or may become capable of causing an effect on the aquatic environment”.¹⁶³

¹⁵⁸ *EPEA*, *supra* note 75, Part 5.

¹⁵⁹ *Ibid*, s 109.

¹⁶⁰ *Ibid*, s 181.

¹⁶¹ *Ibid*, s 109(3).

¹⁶² *Ibid*, s 148.

¹⁶³ *Water Act*, R.S.A. 2000, c. W-3. At section 1 (1)(b)(i) and section 36 of the Act. Note that exemptions apply.

	Who pays?	How Much?	Operation	Payment addresses harm	Grade
Snapshot	Approval holders & Registration Activities	Variable	Regulatory Conditions	Partial	C+ **requires further evaluation

**Qualified grade: existing pollution standards and authorizations require further analysis

Who pays? And who doesn't?

The regulation of water pollution in Alberta is primarily done through the use of effluent standards. Consequently, only those undertaking a polluting activity subject to a regulation, code of practice, or an approval are required to pay to meet the applicable standard.

Other activities may incur costs when working to avoid releases that cause significant adverse effects or to mitigate the impacts of the activity on a water course to avoid prosecution under the general *EPEA* prohibition. These payments are typically used for pollution abatement technology and/or through required mitigation measures. The activity proponent may also be tasked with monitoring for environmental effects.¹⁶⁴ Where an activity is not regulated, is exempt, or has no pollution limits, the polluter pays principle does not apply.

Although there are standards and guidelines in place, there is limited assessment of potential harm and/or harm done and there is no cumulative effects consideration.

¹⁶⁴ *EPEA*, *supra* note 75, s 36.1.

How much is paid?

The amounts paid to meet effluent standards are highly variable. Costs associated with standards and regulations of effluent accrue through design, construction, operation, and maintenance of wastewater treatment technologies.

There is no payment required for polluting our waterways unless the pollution is unauthorized (or exceeds the authorized level) and attracts a fine and/or court order as a result of prosecution, administrative penalty, or administrative order.¹⁶⁵

How is the principle applied?

The polluter pays system that is applied to wastewater streams and water pollution is primarily focused on standards of water treatment and effluent limits. Unauthorized and unregulated water pollution are not covered by the polluter pays system unless compliance actions are initiated by government.

What is the timing of payment? Where do payments go?

The costs associated with standards and regulations of effluent are realized through design, construction, operation, and maintenance of wastewater treatment technologies.

For a compliance response, (i.e., a prosecution, administrative penalty, or administrative order) the timing of the payment will vary depending on the process. However, in every case it will occur sometime after the pollution event. Funds resulting from a fine or penalty will either be placed in general revenue or directed to an environment specific project or program through creative sentencing provisions – beyond fines and imprisonment.¹⁶⁶

¹⁶⁵ *Ibid*, ss 108 & 109.

¹⁶⁶ *EPEA*, *supra* note 75, s 234.

Is there authority to issue orders for remedial actions and clear mechanisms for enforcement of orders?

EPOs may be used including when the Director is of the opinion that:

- a release may occur, is occurring, or has occurred and may cause an adverse effect;¹⁶⁷
- a previously authorized release may cause an adverse effect that was not foreseeable at the time of authorization;¹⁶⁸
- a substance or thing is causing an offensive odour, so long as the odour is not coming from an agricultural operation that follows a generally accepted agricultural practice;¹⁶⁹
- a waterworks system is being operated or maintained in a manner that may cause potable water to be unfit for its intended purpose or may cause the concentration of a substance in the potable water to vary from the specified concentration set out in an applicable approval, code of practice, or regulations;¹⁷⁰ and
- any water has been or may be contaminated by a hazardous substance or pesticide.¹⁷¹

In terms of releases to the environment that are unauthorized - the potential fine ranges from a maximum \$100,000 for an individual, to \$1,000,000 in the case of a corporation.¹⁷² Quantification of social and environmental harms resulting from a violation is not required or directed.

¹⁶⁷ *Ibid*, s 113(1).

¹⁶⁸ *Ibid*, s 113(2).

¹⁶⁹ *Ibid*, s 116.

¹⁷⁰ *Ibid*, s 150(1).

¹⁷¹ *Ibid*, s 156.

¹⁷² *Ibid*, s 228(1).

Gap identification

A full technical and scientific evaluation of water pollutants of concern is needed to prioritize application of the polluter pays principle in Alberta law and regulation. Notwithstanding this, there are evident gaps in how water pollution is regulated in Alberta that warrant highlighting.

Scaling challenges

Only those activities that are subject to *EPEA* regulations (and codes of practice) have effluent based standards (such as limits on substance concentrations in potable waterworks systems¹⁷³ or prohibitions on hazardous substances or pesticides coming into contact with water¹⁷⁴). Other activities remain unregulated. This risk-based approach, which only regulates certain high-risk activities, creates problems associated with cumulative pollutant loading as well as unregulated sources of point and non-point source pollutants.

Further, it is evident that some pollutants may be authorized by the province despite resulting in adverse environmental effects. This authorization of adverse effects is evident in the disconnect between provincial approvals and federal law and regulation. For example, in 2008, the town of Beaverlodge pled guilty to a *Fisheries Act* offence after releasing wastewater from a treatment facility into the Beaverlodge River, resulting in over 12,000 dead fish. This offence resulted in a \$20,000 fine and the requirement for the town to install a \$1,000,000 treatment facility, despite the release having been previously authorized by the province.¹⁷⁵

This is an example of how the federal approach to the polluter pays principle is often more comprehensive by virtue of significant prohibitions against unauthorized pollution causing harm (to fish in this case).

Scoping challenges

Not all water borne pollutants are regulated under the *EPEA*. For example, emerging pollutants of concern such as hormone mimics, pharmaceuticals, and some pesticides are unregulated. Additionally, there is no regulatory mechanism to deal with the

¹⁷³ *EPEA*, *supra* note 75, s 148.

¹⁷⁴ *Ibid*, s 156.

¹⁷⁵ Deanna Cymbluk, Erin Eacott & Ryan Shannon, "Fisheries Act 1. Chlorinated Water (Drinking Water) 2. Wastewater Systems Effluent Regulations (WSER)" Environment Canada Enforcement Branch online: <https://awwoa.ca/public/download/documents/55374>.

cumulative effect of pollutants in water bodies. Further, different water bodies are subject to different levels of regulation.

An example of these differences in Alberta can be seen in the different wastewater effluent limits in place for different wastewater systems. For example, the *EPEA* approval for the wastewater system in Rocky Mountain House only has a limit on the amount of CBOD¹⁷⁶ while the Gold Bar Wastewater Treatment Plant in Edmonton includes limits on¹⁷⁷ CBOD, TSS, TP, TNH₃, e coli, and PH.¹⁷⁸ This type of discrepancy occurs largely because of the lack of provincial based standards for water quality, policy consideration of the ability of each community to pay, and the lack of any polluter pays system to drive pollution prevention.

Cumulative effects and non-point source pollution challenges

Although there are effluent standards and limits on emissions, there is very little in the way of regulations and monitoring of the cumulative effects of non-point source pollution to water ways by nutrients, pesticides, coliform bacteria, and sediment, for example. Non-point source pollution is particularly difficult to manage with the current regulatory regime.

Aquatic Habitat Disturbance and Loss

Environmental degradation of water bodies, often through impacts upon instream flow, and the aquatic ecosystems they support is primarily regulated under the *Water Act*, however, a variety of other statutes may also have an impact on water quality and quantity of flows. For the purposes of this report we only look briefly at instream flows and wetlands, considering how the polluter pays system may operate to protect aquatic systems.

¹⁷⁶ Alberta Environment and Parks, "Approval No. 1110-02-00 Town of Rocky Mountain House" Government of Alberta online: <https://avw.alberta.ca/pdf/00001110-02-00.pdf>.

¹⁷⁷ Carbonaceous biochemical oxygen demand (CBOD), Total suspended solids (TSS), Total phosphorus (TP), Total ammonia (TNH₃), Escherichia coli (e coli), and Acidic vs Basic (PH).

¹⁷⁸ Alberta Environment and Parks, "Approval No. 361975-00-00 Epcor Water Services Inc." Government of Alberta online: <https://avw.alberta.ca/pdf/00361975-00-00.pdf>.

Instream Flows

The instream flows of a water body can be impacted by climatic conditions, hydrogeology, and water extraction (and return) rates. A polluter pays system as it applies to instream flows would recognize the acute and cumulative impacts of diversions on the social and ecological values of the water body in question.

	Who pays?	How Much?	Operation	Payment addresses harm	Grade
Snapshot	No one (prohibitions may apply)	n/a	Discretionary Conditions exist to protect the environment	Limited to creative sentencing for harms	D

Who pays?

No one pays for the social and environmental costs associated with authorized diversions. However, unauthorized water diversions may result in compliance actions including administrative orders.

There is an exception to the general premise that no one pays for social and environmental costs of diversions. Arguably, water allocation transfers during a water licence transfer, where enabled, allow for a form of payment for environmental impacts as the Director has the discretion to holdback up to 10% of a water allocation that is subject to a licence transfer.¹⁷⁹ In this regard, the ability to transfer a water licence allocation may result in restoration of instream flows through the holdback mechanism.

¹⁷⁹ *Water Act*, RSA 2000, c W-3, s 83 [*Water Act*].

How is the principle applied?

The polluter pays principle is not applied directly to water diversions. In those watersheds where surface water allocations have been halted, there is an argument that a form of cap and trade system has been put in place. This system creates monetary incentives to minimize externalities by requiring growth to occur within a cap on water allocations. However, past allocations, intensification of water use, or changes in return flows may result in harm or degradation to aquatic systems going unpaid.

How much is paid?

Generally nothing is paid for impacts on an aquatic system due to water diversions.

The ability to assess harms to ecological systems based on acute and cumulative impacts of water extractions makes the assessment of "value" or costs difficult. For this reason, a cap and trade system which protects instream flows could be more readily implemented.¹⁸⁰ This would require changes to the *Water Act*.

What is the timing of payment? Where do payments go?

There are no payments made, making the timing of payment inapplicable.

For transfers of water allocations, the payment occurs around the time of the execution of the private contract between the parties undertaking the transfer, typically contingent upon regulatory approval of the transfer.

Is there authority to issue orders for remedial actions and clear mechanisms for enforcement of orders?

The Director may issue a water management order to stop an unlicensed (or unregistered) diversion and to avert any adverse effect on the aquatic environment.¹⁸¹

¹⁸⁰ A cap and trade system requires granting the highest priority to the instream flows to be protected. Currently the *Water Act* can grant priority to instream flow by issuance of water conservation objectives. Water conservation objectives (WCOs), are defined in the *Water Act* at s 1 (hhh)(i) to include "(i) protection of a natural water body or its aquatic environment, or any part of them."

¹⁸¹ *Water Act*, *supra* note 179, s 97(c).

This may be used to halt an environmental externality from occurring with a related cost to the party who has been issued to stop diverting water.¹⁸²

The Director may also suspend or cancel a licence to avert a “significant adverse effect on the aquatic environment”.¹⁸³ Compensation is payable to the licence holder (reflecting a societal payment to halt ongoing social/environmental harm).¹⁸⁴ In this regard, the polluter pays principle may be applied by the Director to prevent harm but only against unlicensed water diverters.

Gap identification

Water use and the resulting environmental impacts are not subject to the polluter pays principle. While the closure of the South Saskatchewan River Basin resulted in a cap and trade system of sorts, all historic diverters were grandfathered in and current environmental costs are barely covered by the regulatory system.

A complicating factor is how to quantify the impacts of reduced water flow on the costs associated with these reduced flows in terms of ecology and water quality.

¹⁸² *Ibid*, s 99(1).

¹⁸³ *Ibid*, s 55(2)

¹⁸⁴ *Ibid*, s 55(2).



Wetlands

Wetlands are regulated under the *Water Act*.¹⁸⁵ Altering and draining wetlands requires a *Water Act* approval and diverting wetlands for use requires a licence (unless otherwise exempt). The polluter pays principle is implicated in wetland management through application of the *Alberta Wetland Policy* (the "Policy").¹⁸⁶ The Policy is focused on avoiding and offsetting harms through the payment of funds or the construction and restoration of wetlands. It is worth noting that both the water and the land under a permanent and naturally occurring wetland are property of the Crown.¹⁸⁷

The Policy has only been applied in the White (settled) Area of the province since June 1, 2015 and in the Green Area since June 1, 2016.¹⁸⁸ The White Area of the province was previously covered by a wetland offset policy (since 1993).

¹⁸⁵ *Water Act*, *supra* note 179.

¹⁸⁶ Government of Alberta, *Alberta Wetland Policy*, (September 2013) ISBN 978-1-4601-1287-8 (online version) [*Alberta Wetland Policy*]. The *Alberta Wetland Policy* is augmented by a variety of guidelines, directives, and other government information. Particularly relevant to the issue of wetland restoration and replacement are the *Alberta Wetland Restoration Directive* (the "Restoration Directive") and the *Alberta Wetland Mitigation Directive* (the Mitigation Directive"). The Restoration Directive is designed to ensure that wetland restoration activities include restoration of wetland areas and functional outcomes. The Mitigation Directive is meant to inform planning and decision-making such that negative impacts to wetlands are avoided or minimized and, where needed, lost wetland area and value is replaced. The Mitigation Directive confirms that the onus is on the proponent to demonstrate avoidance and/mitigation of wetland impacts and the preservation of relative wetland value. Similarly, proponents bear obligations to ensure reclamation or replacement of lost wetlands.

¹⁸⁷ By virtue of the *Water Act* and the *Public Lands Act*.

¹⁸⁸ Alberta Environment and Parks, "Wetland Policy Implementation" (June 2016) online: <http://aep.alberta.ca/water/programs-and-services/wetlands/documents/WetlandPolicyImplementation-Jun2016.pdf>.

	Who pays?	How Much?	Operation	Payment addresses harm	Grade
Snapshot	Approval holders seeking destruction of wetland	Variable	Harm Offset system	Partial	B-

Who pays? And who doesn't?

The person seeking either an approval or licence under the *Water Act* to alter, drain, or divert a wetland will be subject to conditions imposed by the Director resulting in a requirement to restore a wetland or make a payment in lieu of restoration. Ephemeral wetlands are not included for the purpose of replacement or in-lieu payments.¹⁸⁹

How is the principle applied?

The approval process under the *Water Act* is used to implement the Wetland Policy. The Policy also sets out a process to evaluate and rank wetland types and allocates a ratio of wetland replacement of specified wetlands where an applicant seeks to damage or destroy a wetland.¹⁹⁰ The Director retains the discretion to refuse to issue an approval related to wetland drainage or augmentation.

How much is paid? A question of quantum

The Policy creates replacement requirements based on the “relative value” of the wetland that is to be lost. The identification of “relative wetland value” is based on a variety of functions including, contribution to water quality improvement, hydrology, biodiversity, and various human uses. In addition, abundance also impacts wetland value.

¹⁸⁹ *Alberta Wetland Policy*, *supra* note 186 at 7.

¹⁹⁰ *Ibid* at 11-13.

The Policy provides that replacement may be restorative or non-restorative. Restorative replacement involves activities that restore, enhance, or construct another wetland to make up for lost wetland value. Non-restorative replacement includes contributions that advance the scientific understanding and management of wetlands. In-lieu fee payments can be made as financial restitution for a wetland loss. Fees should be sufficient to include restoration, long-term monitoring, administration, and land value.

The in-lieu fee payment is based on four factors: the average cost of wetland restoration work, the cost of monitoring restoration success, an administrative fee, and the average value of the land within the area of the original wetland. Schedule 1 of the *Alberta Wetland Mitigation Directive*¹⁹¹ sets out the replacement fee rates (\$10,300 per hectare for public lands in the Green Area, and a range of rates in the White Area (\$17,300 to \$19,400 per hectare)).

What is the timing of payment? Where do payments go?

The fees that are payable for wetland replacement are typically paid prior to the issuance of a *Water Act* approval.¹⁹² The restoration of wetlands arising from these payments depends on the government entering into a contractual relationship with an approved restoration agent, for which there are set timelines. As of December 2018, wetland replacement fees are payable to the Government of Alberta for the Wetland Restoration Program.¹⁹³

If a proponent is undertaking its own restoration, the proponent is responsible for any costs following the issuance of a *Water Act* approval.¹⁹⁴

¹⁹¹ Alberta Environment and Parks, *Alberta Wetland Mitigation Directive*, Water Conservation, 2015, No. 7 (updated December 1, 2018).

¹⁹² Government of Alberta, "Wetland Replacement Factsheet" (June 2019), online: <https://open.alberta.ca/dataset/434aa433-8836-4637-9386-c67844b41b9d/resource/9e455832-f97b-4905-9575-e772dccd9338/download/wetland-replacement-factsheet-201812.pdf>.

¹⁹³ Alberta Environment and Parks, "Alberta Wetland Replacement Fact Sheet: (23 January 2019) Government of Alberta online: <https://open.alberta.ca/dataset/434aa433-8836-4637-9386-c67844b41b9d/resource/9e455832-f97b-4905-9575-e772dccd9338/download/wetland-replacement-factsheet-201812.pdf>.

¹⁹⁴ *Ibid.*

Is there authority to issue orders for remedial actions and clear mechanisms for enforcement of orders?

The enforcement mechanisms included in the *Water Act* reflect the polluter pays principle (albeit not expressly). For instance, a water management order may be used to direct a person to take measures that the Director considers necessary for the prevention, minimization, or remedying of any adverse effects on the aquatic environment, human health, property, or public safety.¹⁹⁵ A water management order may also require the restoration or reclamation of an area to a condition satisfactory to the Director.¹⁹⁶ These orders may be enforced by recourse to the Court of Queen's Bench¹⁹⁷ or, alternatively, the Director may carry out the order and seek costs from the person subject to the order.¹⁹⁸ Contravention of a water management order or enforcement order constitutes an offence under the *Water Act*¹⁹⁹ and is subject to fines and/or imprisonment.

Gap identification

A variety of challenges result in the polluter pays principle being undermined in relation to wetlands in the province.

These challenges include:

- Payments made following wetland alteration or destruction may not actually go towards addressing the environmental harm;
- The exclusion of ephemeral wetlands;
- Hydrogeology impacts surrounding wetlands are often not considered, which may impact avoided or restored wetlands;
- The relative wetland value may not reflect an empirical assessment of the multiple values that a wetland contributes and is instead an attempt to attribute value based on a prescribed array of criteria. The relative weighting of functions

¹⁹⁵ *Water Act*, *supra* note 179, s 99(1)(viii).

¹⁹⁶ *Ibid*, s 99(1)(xi).

¹⁹⁷ *Water Act*, *supra* note 179, s 102.

¹⁹⁸ *Ibid*, s 103.

¹⁹⁹ *Ibid*, s 142.

may undermine the application of the polluter pays principle, particularly when considered at the larger landscape scale of functions.

- Replacement values do not pay for loss of function and there is a lack of clarity as to how the fee rates outlined in Schedule 1 of the *Wetland Mitigation Directive* are derived; and
- Restoration standards and accountability for replacement values are not clearly articulated nor are they publicly tracked and reported.



Land Based Pollution and Disturbance

Land based pollution and disturbance is addressed by a variety of legislation and, often, using a sector-based approach. The *EPEA* sets out requirements for conservation and reclamation of disturbed lands, and for remediation of contaminated lands. There are specific requirements relating to land-based pollution and disturbance association with agricultural and forestry activities.

Land Disturbance - Reclamation

The *EPEA* sets out the requirements for the conservation and reclamation of disturbed lands in Alberta. This Act defines “reclamation” as “any or all of the following”:²⁰⁰

- (i) the removal of equipment or buildings or other structures or appurtenances;
- (ii) the decontamination of buildings or other structures or other appurtenances, on land or water;
- (iii) the stabilization, contouring, maintenance, conditioning or reconstruction of the surface of land; and
- (iv) any other procedure, operation or requirement specified in the regulations.”

	Who pays?	How Much?	Operation	Payment addresses harm	Grade
Snapshot	Operators on “specified land”	Variable	Regulatory standard (with some financial security)	Yes but not fully (“equivalent land capability”)	C+

Who pays? And who doesn't?

Under the *EPEA*, “operators” on “specified land” are required to reclaim land involved with their activities. “Specified land” currently includes “land that is being or has been used or held for or in connection with...a well, an industrial pipeline or a battery, an oil production site, a municipal pipeline, a telecommunication system or transmission line,

²⁰⁰ *EPEA*, *supra* note 75, s 1(ddd). “operators” are also defined as

- (i) approval and registration holders;
- (ii) any person other than who carries on or has carried on an activity on, or in respect of, specified land other than pursuant to an approval or registration;
- (iii) holders of licences and approvals issued by the AER and AUC; and working interest participants. *EPEA*, s 134(b).

a mine, pit, borrow excavation, quarry or peat operation, a roadway, an exploration operation, a railway, a plant, or a renewable energy operation."²⁰¹

Activities expressly excluded from this definition include:²⁰²

- (i) land used solely for the purposes of an agricultural operation;
- (ii) subdivided land that is used or intended to be used solely for residential purposes;
- (iii) any part of any unsubdivided land that is the site of a residence and the land used in connection with that residence solely for residential purposes;
or
- (iv) land owned by the Crown in right of Canada.

The *Agricultural Operations Practices Act (AOPA)* authorizes regulations to be created to deal with the abandonment and reclamation of confined feeding operations (CFOs) and manure management facilities.²⁰³ Currently, no regulations detailing abandonment and reclamation obligations have been passed under that legislation.

How is the principle applied?

The *Conservation and Reclamation Regulation* has a stated objective to return "specified land to an equivalent land capability" which is defined as "the ability of the land to support various land uses after conservation and reclamation, is similar to the ability that existed prior to an activity being conducted on the land, but that the individual land uses will not necessarily be identical."²⁰⁴

The *EPEA* requires conservation and reclamation to follow standards set out in the applicable regulations.²⁰⁵ Additional details/standards of reclamation may be included in an approval or code of practice, in an EPO, and by the direction of an inspector or the Director.

²⁰¹ *Conservation and Reclamation Regulation*, Alta Reg 115/1993, s 1(t) [*Conservation and Reclamation Regulation*].

²⁰² *EPEA*, *supra* note 75, s 134(f).

²⁰³ *Agricultural Operations Practices Act*, RSA 2000, c A-7, s 44(2)(c) [AOPA].

²⁰⁴ *Conservation and Reclamation Regulation*, *supra* note 201, s 1(e) & 2.

²⁰⁵ *EPEA*, *supra* note 75, s 137.

The Minister may issue orders designating where security payments apply to an activity.²⁰⁶ Some of these operators may be required to provide security under the Alberta Energy Regulator's liability management system.²⁰⁷

Financial security taken for the abandonment and reclamation of oil and gas well sites and pipelines is governed by the Licensee Liability Rating Program (LLR) and administered by the AER.²⁰⁸ Under the LLR, the AER can require an operator provide financial security when their calculated and prescribed liabilities exceed their assets.²⁰⁹ In the event that a company's LMR ratio (measured as liabilities over assets) is below 1.0, the company must provide the AER with security in an amount to make up the difference between assets and liabilities.²¹⁰ This program is designed to minimize risk from those companies that have more marginal operations (in terms of cash flow) through a requirement for security.

Similarly, the AEP collects financial security for a number of activities including:²¹¹

- coal and oil-sands mining;
- hazardous waste and recyclable projects;
- landfills;
- metal production plants;
- quarry activities;
- sand and gravel operations; and
- waste management facilities.

Under both the AER and AEP programs, security is used to ensure that disturbances are reclaimed and to act as a payment plan in the event that reclamation does not occur.

²⁰⁶ *Conservation and Reclamation Regulation*, *supra* note 201, s 17(2).

²⁰⁷ Alberta Energy Regulator, Directive 006: Licensee Liability Rating (LLR) Program and Licence Transfer Process (17 February 2016) [AER - Directive 006]. Also see Directive 011: *Licensee Liability Rating (LLR) Program –updated Industry Parameters and Liability Costs*.

²⁰⁸ *Ibid.*

²⁰⁹ *Ibid* at 4.

²¹⁰ *Ibid* at 4.

²¹¹ Alberta Environment and Parks, "Financial security for land reclamation" (2019) *Government of Alberta* online: <https://www.alberta.ca/financial-security-for-land-reclamation.aspx> [AEP – Financial security for land reclamation].

How much is paid?

The amount an operator pays for reclamation will depend on the circumstances of the case, including the nature of the disturbance, the ecotype and the complexity of reclaiming a site to “equivalent land capability”.²¹² If an operator completes their own reclamation, they can apply to the government for a reclamation certificate once they feel the reclamation has been successfully completed. If completion is done to the degree required by the Director, they will receive their security deposit along with the certificate. The security amount may also be partially returned in the event that reclamation is started, but not completed.²¹³

The Director determines the amount of financial security as the amount that is “sufficient to ensure completion of any necessary conservation and reclamation on the specified land”.²¹⁴ The goal of this security deposit is to ensure that in the event an operator fails to reclaim the land, the security amount can be forfeited to the Crown and used to finish any necessary reclamation.²¹⁵

For oil and gas well sites, pipelines and facilities, financial security is managed and directed by the AER, using the LLR formula.²¹⁶

What is the timing of payment? Where do payments go?

Where no reclamation security is required, reclamation costs are realized at the time of reclamation and decommissioning. This is typically at the end of the activity's life.

Where reclamation security is required, the Director must receive the security prior to granting an approval or registration for the activity.²¹⁷ The security may then be returned to the operator following issuance of a reclamation certificate or it may be forfeited to the Crown in the event that the operator has failed to meet its obligations.²¹⁸

²¹² Equivalent land capability is defined as “the ability of the land to support various land uses after conservation and reclamation is similar to the ability that existed prior to an activity being conducted on the land, but that the individual land uses will not necessarily be identical” in section 1(e) of the *Conservation and Reclamation Regulation*, Alta Reg 115/1993.

²¹³ *Conservation and Reclamation Regulation*, *supra* note 201, s 22(2).

²¹⁴ *Ibid*, s 18(1).

²¹⁵ *Ibid*, s 24.

²¹⁶ AER - *Directive 006*, *supra* note 27.

²¹⁷ *Conservation and Reclamation Regulation*, *supra* note 201, s 17(1)(a).

²¹⁸ *Ibid*, ss 22-24.4.

Under the LLR program, the AER conducts LMR assessments on the first Saturday of each month, following the receipt of updated production information from the operator.²¹⁹ Depending on the results of this assessment, the AER may require a licensee to provide a new or further security deposit. The date for payment is ordinarily the Friday before the first Saturday of the following month.²²⁰

Is there authority to issue orders for remedial actions and clear mechanisms for enforcement of orders?

The *EPEA* authorizes the use of an EPO, administered by an inspector, to direct an operator to perform or suspend work, if it is in the opinion of the inspector necessary to do so in order to conserve and reclaim specified land.²²¹

EPOs may also be issued for off-site damage (defined as a location other than the specified land)²²² and after a reclamation certificate has already been issued if the factors set out in the *EPEA* are met.²²³ As well, an emergency EPO can, if necessary, be issued to suspend any work from being done on the specified land.²²⁴

Where an operator fails to reclaim the land and the security amount does not cover the full reclamation at the end of an activity, the Director may complete the work and seek to collect the cost as a debt.²²⁵

The remedies available to the AER under the LLR program arise in the event that a licensee under any one of the LLR programs is no longer operating. In that situation, the AER has two options:

1. any non facility specific LMR funds held by the AER can be used to address any unfunded liabilities; or
2. any facility specific funds held by the AER will be applied first to the facility for which it was collected and then any surplus can be used for any unfunded liabilities.²²⁶

²¹⁹ AER - *Directive 006*, *supra* note 207 at 4.

²²⁰ *Ibid.*

²²¹ *EPEA*, *supra* note 75, s 140.

²²² *Ibid.*, s 141.

²²³ *Ibid.*, s 142.

²²⁴ *Ibid.*, s 143.

²²⁵ *Conservation and Reclamation Regulation*, *supra* note 201, s 24.4; AEP – Financial security for land reclamation, *supra* note 207.

²²⁶ AER - *Directive 006*, *supra* note 207 at 5.

The other option for unfunded liabilities is the Orphan Fund (funded by all licensees in the program) which will pay the costs to suspend, abandon, remediate and reclaim a well or facility in the program if the operator ceases operation.²²⁷

Gap identification

A variety of challenges arise in terms of reclamation in Alberta.

Timing challenges

Reclamation typically occurs at the end of the productive life of an activity, which means that it happens after an operator's cash flow has halted.²²⁸ As a result, payment is not guaranteed where an operator has not paid security or has paid insufficient security, because the operator may not have any money left to pay for the reclamation. This has become a central issue in Alberta where commodity price drops have resulted in many insolvencies with accompanying reclamation liabilities being offloaded on other parties.

Further, given that there are no regulated timelines for reclamation, there is a lack of timeliness in reclamation.²²⁹

Scale challenges

Financial security may be insufficient to cover off the amount of liability.²³⁰ This is particularly the case if there is a need for remediation of contaminated land at the site.

²²⁷ *Ibid* at 5.

²²⁸ *Orphan Well Association v Grant Thornton Ltd.*, *supra* note 6 at para 86.

²²⁹ Jason Unger, "Reclaiming Tomorrow Today: Regulatory timing for abandonment and reclamation of well sites in Alberta" (March 2013) *Environmental Law Centre* at page 19 online: http://elc.ab.ca/Content_Files/Files/Reclaiming_Tomorrow_Today.pdf [Jason Unger].

²³⁰ For example, the total deemed liability of oil and gas sites is estimated at ~\$31 billion while financial security held by the AER is ~\$200million. Estimates of the liability related to oil and gas in the province reach as much as \$260 billion in worst case scenarios (see Sharon J. Riley, "The story of Alberta's \$100-billion well liability problem. How did we get here?" (2 November 2018) *The Narwhal* online: <https://thenarwhal.ca/the-story-of-albertas-100-billion-well-liability-problem-how-did-we-get-here/>); Jason Unger, *supra* note 238 at page 19; & A. Janz, "An analysis of Alberta's Conservation and Reclamation program – does the program work as intended?" (April 2018) AIA Conference online: <https://aia.in1touch.org/document/3980/AIA%20conference%20Arnold%20Janz.pdf#page=45> [A. Janz].

Accountability challenges

There appears to be insufficient formalized post reclamation assessment and monitoring to ensure reclamation standards are being met.²³¹ Alberta's Auditor General noted this in relation to gravel pits in a 2008 report.²³² This was noted again in 2014 with a continued lack of compliance being highlighted.

²³¹ *Ibid.* A. Janz. Also see a recent look at audit rates for reclamation success rates, Sharon J. Riley, "Alberta issues 97% of reclamation certificates without ever visiting oil and gas sites" (29 March 2019) *The Narwhal* online: <https://thenarwhal.ca/alberta-issues-97-of-reclamation-certificates-without-ever-visiting-oil-and-gas-sites/>. This reporter found that the "[d]ata shows that 12.7 per cent of approvals have involved any kind of audit at all over the most recent four years' data is available, 2014 to 2018. Of those audits, the vast majority are simply a human review of the paperwork, a procedure called a "desktop review" that was introduced in 2016."

²³² Auditor General, *Report of the Auditor General of Alberta* (July 2014) "Environment and Sustainable Resource Development – Management of Sand and Gravel Resources Follow-Up, online: https://www.oag.ab.ca/documents/220/EP_PA_July2014_ESRD_Sand_GravelFU.pdf.



Land Pollution – Remediation of contaminated land

Contaminated lands, often referred to as brownfields, are regulated under the *EPEA*. The Act dictates when a duty to remediate arises²³³ and, in conjunction with the *Remediation Regulation*²³⁴ and policy documents, what the remediation standards are.

	Who pays?	How Much?	Operation	Payment addresses harm	Grade
Snapshot	"person responsible for the substance"	Variable	Regulatory Standards	Yes but not fully	B-

²³³ *EPEA*, *supra* note 75, s 112.

²³⁴ *Remediation Regulation*, Alta Reg 154/2009 [*Remediation Regulation*].

Who pays? And who doesn't?

When a substance is released into the environment that may cause, is causing, or has caused an adverse effect, the person responsible for the substance has a duty to take remedial measures.²³⁵ EPEA defines a “person responsible” for the substance (or a thing containing a substance) to include:²³⁶

- (i) the **owner and a previous owner** of the substance or thing;
- (ii) **every person who has or has had charge, management or control of the substance or thing**, including, without limitation, the manufacture, treatment, sale, handling, use, storage, disposal, transportation, display or method of application of the substance or thing;
- (iii) any successor, assignee, executor, administrator, receiver, receiver-manager or trustee of a person referred to in subclause (i) or (ii); and
- (iv) a person who acts as the principal or agent of a person referred to in subclause (i), (ii) or (iii). [emphasis added]

How is the principle applied?

The polluter pays principle is applied to contaminated lands through the duty to remediate and the imposition of costs associated with full remediation. Remediation must be to the Director's standard, whether that is a standard included in the remediation guidelines or otherwise. The duty to remediate arises where a substance is released into the environment that “may cause, is causing, or has caused an adverse effect.”²³⁷ It is notable that the adverse effect need not be “significant”. The costs associated with remediation are imposed by virtue of meeting a statutory duty to remediate pollution or to be in compliance with an administrative order issued by the Director. There is also a duty to report prescribed releases under the *Release Reporting Regulation*²³⁸ and obligations for remediation planning in prescribed instances under the *Remediation Regulation*.²³⁹

²³⁵ EPEA, *supra* note 75, s 112.

²³⁶ *Ibid*, s 1(tt).

²³⁷ *Ibid*, s 112.

²³⁸ *Release Reporting Regulation*, Alta Reg 117/1993.

²³⁹ *Remediation Regulation*, *supra* note 234.

How much is paid? A question of quantum

Remediation of contaminated land must meet a standard that is “satisfactory to the Director.”²⁴⁰ The payments associated with remediation are linked to the factual circumstances of the pollution (i.e., type, extent, remediation techniques) and the standard set by the Director. Typically, payments will not include the requirement to restore the environment to a state that existed prior to the pollution event. Rather, the EPEA states that a duty to remediate involves taking all reasonable steps “to restore the environment to a condition satisfactory to the Director”.²⁴¹ For some substances the standard may be the *Alberta Tier 1*²⁴² and *Tier 2*²⁴³ *Soil and Groundwater Remediation Guidelines* (which are guidelines incorporated by reference into the *Remediation Certificate Regulation*²⁴⁴ – making them binding) or another standard dictated by the Director.²⁴⁵ For substances not covered by the guidelines, the standards of remediation will be determined by the Director or an inspector.²⁴⁶

The Environmental Site Assessment Standard (published by the Department on March 1, 2016),²⁴⁷ the Exposure Control Guide (published by the Department on May 3, 2016),²⁴⁸ and the Risk Management Plan Guide (published by the Department on October 31, 2017)²⁴⁹ also set out a variety of standards that will require some level of monetary expenditure to manage risks related to contaminated sites.

²⁴⁰ EPEA, *supra* note 75, s 112(1)(b).

²⁴¹ *Ibid*, s 112(1).

²⁴² Alberta Environment and Parks, “Alberta Tier 1 Soil and Groundwater Remediation Guidelines” (10 January 2019) Government of Alberta online: <https://open.alberta.ca/dataset/842becf6-dc0c-4cc7-8b29-e3f383133ddc/resource/a5cd84a6-5675-4e5b-94b8-0a36887c588b/download/albertatier1guidelines-jan10-2019.pdf> [Alberta Tier 1 Guidelines].

²⁴³ Alberta Environment and Parks, “Alberta Tier 2 Soil and Groundwater Remediation Guidelines” (10 January 2019) Government of Alberta online: <https://open.alberta.ca/dataset/aa212afe-2916-4be9-8094-42708c950313/resource/157bf66c-370e-4e19-854a-3206991cc3d2/download/albertatier2guidelines-jan10-2019.pdf> [Alberta Tier 2 Guidelines].

²⁴⁴ *Remediation Certificate Regulation*, Alta Reg 154/2009.

²⁴⁵ *Ibid*, s 2.

²⁴⁶ *Ibid*, s 2(3).

²⁴⁷ Alberta Environment and Parks, “Alberta Environmental Site Assessment Standard” (1 March 2016) Government of Alberta online: <https://open.alberta.ca/dataset/3acc7cff-8c50-44e8-8a33-f4b710d9859a/resource/579321b7-5b66-4022-9796-31b1ad094635/download/enviromentsiteassessstandard-mar01-2016.pdf>.

²⁴⁸ Alberta Environment and Parks, “Alberta Exposure Control Guide” (3 May 2016) Government of Alberta online: <https://open.alberta.ca/dataset/6ce7e015-2cee-4bc4-b863-e84feddccaaf/resource/d9d6b320-3e26-46ff-8c13-fe86382e372e/download/exposurecontrolguide-may03-2016.pdf>.

²⁴⁹ Alberta Environment and Parks, “Alberta Risk Management Plan Guide” (31 October 2017) Government of Alberta online: <https://open.alberta.ca/dataset/ffa8dc73-d464-4aa4-a391-f03428ae728f/resource/b363b5e3-f897-4a29-9630-7534bfb0056/download/abriskmanagementguide-oct31-2017a-final.pdf>.

The polluter pays system in this area reflects a risk management approach and does not require restoration of the environment to the state it was in prior to the polluting event.

What is the timing of payment? Where do payments go?

The EPEA states that remedial measures must be taken “as soon as the person becomes aware of or ought to have become aware of the release.”²⁵⁰ While this statutory duty remains there were amendments to regulation in 2018 (that came into force on January 1, 2019) that set out a timeline and requirement for remediation activities that can't be completed within two years.

When the “person responsible becomes aware or ought to have become aware of the release of a substance, they must, as soon as possible: (a) submit a Phase 2 environmental site assessment to the Director; or (b) complete remediation and submit a report to the Director, along with any other requirements specified by the Director.”²⁵¹

If the site cannot be remediated to the satisfaction of the Director within a two-year period, then a remedial action plan, which specifies a period of time for completion acceptable to the Director, must be submitted immediately.²⁵²

The 2018 changes only apply to releases after January 1, 2019. Grandfathered sites are not included within these timelines.

Is there authority to issue orders for remedial actions and clear mechanisms for enforcement of orders?

When a substance release was duly authorized under an approval, code of practice, registration, or a regulation, the Director is limited to issuing orders where he/she is of the opinion that any adverse effect was not reasonably foreseeable at the time the approval, code of practice, or regulation came into force.²⁵³

Where the release was not authorized (or exceeded an authorized standard), EPOs and enforcement orders may be used to order the person responsible to do anything deemed necessary, including, but not limited to, monitoring, installing equipment to

²⁵⁰ EPEA, *supra* note 75, s 112(1).

²⁵¹ Remediation Regulation, *supra* note 234, s 2.2.

²⁵² *Ibid*, s 2.2(2).

²⁵³ EPEA, *supra* note 75, s 113(2).

control the substance, and restoring and remediating the area to a condition satisfactory to the Director.²⁵⁴

For releases that have the potential to cause or are causing an “immediate and significant adverse effect” an EPO can be issued to the person responsible for the substance by an inspector, an investigator, or the Director.²⁵⁵ Emergency EPOs can be issued regardless of whether the release was authorized.²⁵⁶

The government may also require “financial or other security” or the carrying of insurance in respect of activities (as set out in the Schedule to *EPEA*) or in relation to activities to which remediation certificates apply.²⁵⁷ Financial security is tied to reclamation and conservation of specified land under the *Conservation and Reclamation Regulation*.²⁵⁸ Where security is required, an approval or registration cannot be issued until the required security has been provided.²⁵⁹ However, these financial regimes are not directly regulated for contaminated land.

Gap identification

Scoping challenges

Remediation requirements for contaminated lands are based on the *Alberta Tier 1*²⁶⁰ and *Tier 2*²⁶¹ *Soil and Groundwater Remediation Guidelines* and do not reflect a full application of the polluter pays system insofar as there is no clear legal accountability to remediate the environment and fully account for all social or environmental costs.

Timing and compliance challenges

Historically many contaminated sites were left in a contaminated state. A regulatory response by the provincial government was unlikely to be initiated unless the pollution was migrating offsite or into groundwater. The number of brownfields in the province reflects a failure to remediate sites in a timely fashion. This reflects a lack of compliance oversight that should be evaluated further.

²⁵⁴ *Ibid*, s 113(3). For releases prior to 1993 where the activity that resulted in the release has been “permanently discontinued” an EPO is only available if an adverse effect “has occurred or is occurring”.

²⁵⁵ *Ibid*, s 114(1).

²⁵⁶ *Ibid*, s 114(2).

²⁵⁷ *Ibid*, s 84.

²⁵⁸ *Conservation and Reclamation Regulation*, *supra* note 201.

²⁵⁹ *Approvals and Registrations Procedure Regulation*, Alta Reg 113/1993, s 9.

²⁶⁰ Alberta Tier 1 Guidelines, *supra* note 242.

²⁶¹ Alberta Tier 2 Guidelines, *supra* note 243.

Scale challenges

There is no regulatory obligation to monitor, assess or pay for social and environmental impacts beyond the duty to remediate and the related director's standard (Tier 1 or Tier 2 guidelines typically). Harm to third parties resulting from a release are left to civil actions to remedy.

Accountability challenges

Accountability for long term management of pollution, where full remediation is not feasible, is largely absent. Liability related to ongoing risk management is not tied to the land title which means that it is unclear how an operator can be held responsible once the land has been sold. There is also no requirement for security or insurance in the Act or regulations related to ongoing risk management. Where the "person responsible" for a release transfers land, winds up, or otherwise disappears, the only accountability measure relies on the regulator pursuing the original polluter, where feasible, or the subsequent landowners.

Agricultural Land Pollution

As a sector, agriculture has some unique aspects that pose challenges for the polluter pays system. Specifically, much of the pollution related to agriculture relates to non-point source impacts of runoff from agricultural properties. Further the ability to have a polluter pays system accepted by the sector is minimized by difficulties in passing the cost on to consumers of their products. Economic and trade competitiveness arguments typically take precedence over a strict application of polluter pays principle in agriculture. Mitigation of harms is typically done through voluntary adoption of best management practices.

	Who pays?	How Much?	Operation	Payment addresses harm	Grade
Snapshot	Confined Feeding operations and manure management operations	Variable	Regulatory standards.	Standards aimed at minimizing risks	C (limited scope of regulation)

Who pays? And who doesn't?

The level and nature of potential pollution streams resulting from agriculture vary by farming practice (i.e. livestock versus cropping) as well as among subsectors of agriculture. Typical waste and pollution impacts related to farming include pesticide runoff, nutrient runoff, sedimentation, bacterial runoff, and related substances involved in an operating farm. Other related environmental costs may arise from land conversion as well as from ecological impacts of pesticide use and farming practices.

Agricultural operations are subject to the *Water Act*, *EPEA* and the *Agricultural Operations Practices Act (AOPA)*. Hence prohibitions found in the *Water Act* and *EPEA* still apply. *AOPA* sets out the requirement for confined feeding operations (CFOs) and manure storage or collection facilities.²⁶² Approvals and registrations are required for CFOs of a minimum size based on the category and type of livestock.²⁶³ Authorizations for manure facilities are only required if the facility contains 500 tonnes or more of manure or compost material for 7 months of the year.²⁶⁴

Pesticide application is regulated by adherence to federal labelling requirements and this may often include provisions that mitigate risks of harms to the environment and to people.²⁶⁵ Third party pesticide applicators must also be certified provincially. Where farmers apply pesticides directly they need not be certified.

²⁶² *AOPA*, *supra* note 203.

²⁶³ *Ibid*, at ss 2 & 3; Agricultural Operations, Part 2 Matters Regulation, Alta Reg 257/2001, sched 2 [Agricultural Operations, Part 2 Matters Regulation].

²⁶⁴ *Ibid*, s 4.

²⁶⁵ *Pest Control Products Act*, SC 2002, c 28.

How much is paid? A question of quantum

The amount paid for managing risks associated with manure are primarily governed by the design, construction and maintenance of CFOs and manure storage facilities.²⁶⁶ Other costs include record keeping, monitoring, and testing is also required for CFOs and manure storage sites. In addition, the regulations set out manure management and application limits.²⁶⁷

As a result of prescribed setbacks from waterbodies, there may be additional costs associated with design, construction, operation, and maintenance of regulated sites (i.e. CFOs and manure storage facilities). Similarly, expenditures in terms of manure management may be necessary.

How is the principle applied?

The polluter pays principle is applied through technical requirements for construction and risk mitigation requirements (i.e. setbacks) and through limits on nitrogen application to soils.

The principle is also applied through some regulations and mitigation measures that are mandated in relation to pesticide and nutrient application.

What is the timing of payment? Where do payments go?

Payments occur during design, construction, operation, and maintenance of regulated sites, i.e. CFOs and manure storage facilities.

In addition, the principle is applied by limiting nitrogen application to fields and requiring expenditures in terms of manure management.

Is there authority to issue orders for remedial actions and clear mechanisms for enforcement of orders?

Aspects of the *Water Act* apply to farming and related orders may be used. The *Water Act* authorizes the use of enforcement orders in the event that a section of that Act is

²⁶⁶ *Standards and Administration Regulation, Alta Reg 267/2001.*

²⁶⁷ *Ibid*, ss 22-25.

contravened.²⁶⁸ This can include an order to minimize or remedy any adverse effect on the (i) aquatic environment, (ii) the environment, or (iii) human health, property, or public safety.²⁶⁹

For other matters the AOPA enables the Natural Resources Conservation Board to use enforcement orders where “a person is creating a risk to the environment or an inappropriate disturbance, or is contravening or has contravened an approval, registration, authorization, variance, terms or conditions of a cancellation, this Act or the regulations.”²⁷⁰ These orders can direct the person to comply with the relevant statutory instrument and to take action to stop and or repair the situation.

Further, an inspector under the AOPA can issue an EPO where the release of manure, compost, or composting materials poses significant risks to the environment. These orders can “[direct] the performance of emergency measures that the inspector considers necessary”.²⁷¹

EPOs are also available under the EPEA for:

- the release of a substance that may cause, is causing, or has caused an adverse effect;²⁷²
- a substance or thing that is causing or has caused an offensive odour unless it results from an agricultural operation carried out in accordance with generally accepted practices;²⁷³
- any crop, food, feed, animal, water, plant, produce, product, or other matter that has been or may be contaminated by a hazardous substance or pesticide;²⁷⁴ or
- the manufacture, use, handling, transportation, storage, sale, disposal, or application of a hazardous substance or pesticide that may cause an adverse effect.²⁷⁵

²⁶⁸ *Water Act*, *supra* note 179, s 135.

²⁶⁹ *Ibid*, s 136(h).

²⁷⁰ AOPA, *supra* note 203, s 39.

²⁷¹ *Ibid*, s 42.1.

²⁷² EPEA, *supra* note 75, s 113.

²⁷³ *Ibid*, s 116.

²⁷⁴ *Ibid*, s 156.

²⁷⁵ *Ibid*, s 158.

Gap identification

The primary area of regulation for the agricultural sector is on CFOs and manure management. Regulatory requirements also apply to pesticide use. General prohibitions in other provincial regulations also apply, particularly in relation to water management and releases that may cause a significant adverse effect (under EPEA).²⁷⁶

Scope and Scale challenges

The environmental impacts of agricultural practices fall primarily under the *Water Act* and the *AOPA*. Specific agricultural-based pollution sees limited application of the polluter pays principle. Additionally, environmental impacts related to phosphorus releases and various pesticide related impacts are not accounted for in this same regime.²⁷⁷

Cumulative effects and non-point challenges

Agricultural pollution is of particular concern where it finds its way into waterbodies.²⁷⁸ While site specific runoff may have minimal impacts, the cumulative effect of inputs is a significant and growing concern.

Land conversions impacts

Additional impacts on the environment can result from land conversion which most often means converting natural or forested area into agricultural/cultivated land or land used for more intensive agricultural operations. These impacts are not currently quantified or applied to land use decisions or through the application of the polluter pays principle.

²⁷⁶ *Ibid.* at s.109.

²⁷⁷ It is of significance to note that using phosphorus-based application management is estimated to use 5-7 times more land in manure applications and 8-10 times more for compost. This results in phosphorus accumulation and the potential for environmental impacts. See Barry M. Olsen, Ross H. McKenzie, Francis J. Larney & Eric Bremer, "Nitrogen-and phosphorus-based applications of cattle manure and compost for irrigated cereal silage" (2010) *Can J Soil Sci* 90: 619-635. See for example C. Phelan "Pesticides in Alberta's Agricultural Watersheds: A Synthesis" (2012) Alberta Agriculture and Rural Development, Edmonton, Alberta, Canada.

²⁷⁸ Javier Mateo-Sagasta, Sara Marjani Zadeh & Hugh Turrall, "Water pollution from agriculture: a global review" (2017) The Food and Agriculture Organization of the United Nations online: <http://www.fao.org/3/a-i7754e.pdf>.

Civil claims in nuisance and injunctions

An additional aspect of note is that the AOPA bars bringing a civil action in nuisance or seeking an injunction in relation to agricultural operations.²⁷⁹ So long as the operation is in line with statutory requirements and/or "generally accepted agricultural practice" (as defined), an injunction or liability in nuisance will be barred. This is directly contradictory to the notion of the polluter pays principle, as reflected in the civil tort context.



Forestry and Reforestation

Activities in Alberta's forests are governed by the *Forests Act*²⁸⁰ and the *Public Lands Act*.²⁸¹ Like many other areas of the environment, the polluter pays principle is not expressly referenced in Alberta's forest management regime nor in Alberta's public land management legislation; however, reforestation requirements inherent in these systems reflect the principle.

²⁷⁹ AOPA, *supra* note 203, Part 1.

²⁸⁰ *Forests Act*, RSA 2000, c F-22 [*Forests Act*].

²⁸¹ *Ibid.*

	Who pays?	How Much?	Operation	Payment addresses harm	Grade
Snapshot	Timber disposition holder	Variable	Direct reforestation regulations or levy	Partial	B-

Who pays? And who doesn't?

Those who receive timber dispositions under the *Forests Act* are required to meet certain regulatory requirements when undertaking their activities, including reforestation activities, or payment of reforestation levies upon deforestation or forest harvest.

Timber may be harvested on Crown land via three types of dispositions:²⁸²

1. forest management agreements (FMA);
2. timber licences in conjunction with timber quota certificates; and
3. timber permits.

A holder of a timber licence or timber permit must pay a reforestation levy based on the volume of timber cut or "progressively reforest" land based on their cutting.²⁸³ In turn, reforestation obligations for FMAs are typically set out in the agreements themselves and are negotiated by the forestry company.

How is the principle applied?

The polluter pays principle is reflected in the reforestation requirements of the *Forests Act* and its regulations which are designed to ensure that deforestation is managed. The requirements for reforestation, along with applicable reforestation levies, are set out

²⁸² *Forests Act*, supra note 280, s 15.

²⁸³ *Ibid*, ss 21(5) & 22(5).

in the *Timber Management Regulation*²⁸⁴ with further standards provided in the *Reforestation Standard of Alberta* (the “Reforestation Standard”).²⁸⁵ The Reforestation Standard is very detailed and has the aim of determining “the forest regeneration status of young managed stands relative to an assumed future condition”.²⁸⁶ To do so, the Reforestation Standard includes the methodologies and procedures for conducting surveys, determining yields, reporting, and other similar measures directed at monitoring progress to ultimately enable assessment of the level of reforestation success in managed stands following harvest. It is incumbent upon the timber disposition holder to meet the applicable reforestation requirements.

Another key tool for forest management are operating ground rules. Each FMA has its own set of operating ground rules²⁸⁷ and there are also some operating ground rules developed for specific forest management units (which are established under the *Forests Act*).²⁸⁸ Otherwise, forest management is governed by provincial operating ground rules known as the *Timber Harvest Planning and Operating Ground Rules*.²⁸⁹ In general, operating ground rules address a variety of management issues including reforestation. In addition, operating ground rules typically require preparation of Annual Operating Plans which detail harvesting plans.

How much is paid? A question of quantum

In addition to timber dues (which reflect crown ownership not an environmental degradation charge), a holder of a timber licence must pay a reforestation levy, based on the volume of timber cut, or progressively reforest any land where the holder harvested or an equivalent amount of forest land within the management unit.²⁹⁰ The same reforestation requirements apply to holders of timber permits (except for forest

²⁸⁴ *Timber Management Regulation*, Alta Reg 60/1973, Part 6 [*Timber Management Regulation*].

²⁸⁵ Government of Alberta, *Reforestation Standard of Alberta, Effective May 1, 2018 to April 30, 2019* (2018). The status of reforestation in Alberta was most recently reported in November 2017, see: Alberta Government, *Annual Status of Reforestation in Alberta Report, 2016* (November 6, 2017).

²⁸⁶ *Ibid* at 30.

²⁸⁷ These are available on the Government of Alberta website at <https://www.agric.gov.ab.ca/app21/forestrypage?cat1=Forest%20Management&cat2=Forest%20Management%20Manuals%20%26%20Guidelines>.

²⁸⁸ *Ibid*.

²⁸⁹ Government of Alberta, *Timber Harvest Planning and Operating Ground Rules* (1994) available at [https://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/formain15749/\\$file/ProvGR94.pdf?OpenElement](https://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/formain15749/$file/ProvGR94.pdf?OpenElement).

²⁹⁰ *Forests Act*, *supra* note 280, s 21(5).

product tags).²⁹¹ The reforestation levies are calculated in accordance with the *Timber Management Regulation*.²⁹²

The planning and operation rules devised for timber harvesting may mitigate some environmental harms such as the ability to work around fires and pests, however, they do not address the cumulative and ecosystem level effects that accompany deforestation.

What is the timing of payment? Where do payments go?

The *Timber Management Regulation*²⁹³ requires reforestation within two years of harvest. In prescribed circumstances, a disposition holder may elect to pay a reforestation levy as an alternative to conducting reforestation²⁹⁴ unless reforestation is required to be carried out through an FMA or other tool. Under the *Forest Resources Improvement Regulation*,²⁹⁵ all reforestation levies are paid to the Forest Resource Improvement Association of Alberta which has a mandate to sustain and enhance Alberta's forests. Any reforestation levies that are payable become due and owing at the same time as the timber dues for that timber (unless an FMA provides otherwise).²⁹⁶

The expiration or termination of a timber disposition, or the lapse of time, does not relieve a disposition holder of its reforestation obligation.²⁹⁷

A performance guarantee such as a cash deposit, letter of credit, or similar financial instrument is required to obtain a timber licence²⁹⁸ and the Director may require a deposit as security, prior to the issuance of a commercial or coniferous community timber permit.²⁹⁹ However, these forms of security are based on timber dues rather than potential reforestation costs.

Under the *Timber Management Regulation*, where a timber licence holder or the holder of a commercial or coniferous community timber permit³⁰⁰ fails to perform any requirement or obligation under the licence, the Director may fulfill those requirements

²⁹¹ *Ibid*, s 22(5).

²⁹² *Timber Management Regulation*, *supra* note 284.

²⁹³ *Ibid*, Part 6.

²⁹⁴ *Ibid*, s 143.9.

²⁹⁵ *Forest Resources Improvement Regulation*, Alta Reg 152/1997.

²⁹⁶ *Timber Management Regulation*, *supra* note 284, s 97.3.

²⁹⁷ *Forests Act*, *supra* note 280, s 143.8.

²⁹⁸ *Timber Management Regulation*, *supra* note 284, s 28.

²⁹⁹ *Ibid*, ss 40 & 40.1.

³⁰⁰ *Ibid*, s 41.

or obligations and recover the costs from the guarantee deposits.³⁰¹ Likewise, for commercial or coniferous community timber permits.³⁰²

For local timber permits, a permit will not be issued until all timber dues and reforestation levies are paid.³⁰³ A performance guarantee deposit may also be required.³⁰⁴

Is there authority to issue orders for remedial actions and clear mechanisms for enforcement of orders?

If a disposition holder fails to meet the reforestation standards, the Director may order suspension of operations under any timber disposition held by that person.³⁰⁵ The Director may also make orders requiring a person conducting reforestation activities to vary any procedure or method being used in order to ensure that the reforestation complies with all reforestation requirements in place.³⁰⁶ Failure to comply with such an order may result in the Director:

- suspending operations that may be carried out under the timber disposition;
- performing whatever work is necessary to mitigate or rectify the unsatisfactory conditions arising from non-compliance; or
- both.

The *Forests Act* allows the Minister to carry on afforestation or reforestation programs on any public land or on private land (subject to agreement with the landowner).³⁰⁷ However, unless the Crown was also responsible for the original deforestation, this does not exemplify the polluter pays principle because it would not be holding the polluter accountable but would rather be transferring the accountability.

Offence and penalty provisions are found in Part 4 of the Act and include administrative penalties for contravention of a term of a timber quota or disposition.

³⁰¹ *Ibid*, s 33.

³⁰² *Ibid*, s 41.

³⁰³ *Ibid*, s 55.

³⁰⁴ *Ibid*, s 62.

³⁰⁵ *Timber Management Regulation*, *supra* note 284, s 142.

³⁰⁶ *Ibid*, s 142.9.

³⁰⁷ *Forests Act*, *supra* note 280, s 41.

Gap identification

Scope and scale

Reforestation requirements are not reflective of the full environmental and social costs associated with forestry. Impacts of forestry on ecosystem services as well as impacts on biodiversity and species at risk are not generally considered. Site specific mitigation measures may be required to avoid harm to individual species or residents but there are no regulatory requirements or payments for habitat related impacts.

Current standards are also primarily focused on timber supply rather than forest ecosystems– reflective in the payment of timber dues rather than payments reflective of the cost of reforestation.

Finally, there is no express provision allowing the Minister to reforest an area as required for the environment and seek costs from the disposition holder.



Product Stewardship and Waste Management

Landfills and Waste

Waste management in Alberta is governed primarily by the *EPEA* and its associated, *Waste Control Regulation*.³⁰⁸ It is this Regulation that sets out rules for waste disposal and storage and it is also this Regulation which sets out the requirements for a financial security regime for the reclamation and closure of waste management facilities in the province.

Waste Management

The *Waste Control Regulation* sets out limits and prohibitions on waste streams and pollution is allowable according to the Regulation so long as it does not exceed the established limits. Further, the *EPEA* prohibits the disposal of waste except at a waste

³⁰⁸ *Waste Control Regulation*, Alta Reg 192/1996 [*Waste Control Regulation*].

management facility or in a container (the contents of which will be taken to a waste management facility).³⁰⁹

While much of Alberta's waste is landfilled, some may be diverted to other resources where feasible, including plastics recycling, and composting (with or without energy recovery). These diversion points are differentiated from specific recycling regulations discussed further below.

Who pays? And who doesn't?

Both individual waste producers and waste managers have costs associated with waste management. Waste producers (i.e. everyone) typically have a limited "tipping fee" or fee for bringing waste to landfill. This fee may be paid directly to a landfill or through the waste collection system (typically municipally run or contracted). These fees are typically found in municipal utility fees and set out in relevant bylaws. It is otherwise unlawful to dispose of waste except at a prescribed facility.³¹⁰

For recyclables, discussed further below, deposits are required from consumers which can be recovered at point of return.

For operators of a waste management facility there are requirements to meet design, construction, operation and maintenance regulations and codes of practice, and to pay financial security for landfill reclamation and closure.³¹¹

How is the principle applied?

Landfilling is typically governed by municipal bylaws. These bylaws set rates and set out the scope and administration of the waste management system. Landfills that require registrations and approvals also typically come with certain requirements to monitor the landfill for impacts to land and groundwater. Beyond regulatory standards (described briefly below) the only specific polluter pays program for landfilling is the financial security required for waste management facilities.

Garbage incineration in Alberta is limited by section 26 of the *Waste Control Regulation*, which states that no person shall burn or permit burning at a waste management facility unless the burning is in accordance with the *Substance Release Regulation*

³⁰⁹ EPEA, *supra* note 75, s 176.

³¹⁰ EPEA at s.176

³¹¹ *Waste Control Regulation*, *supra* note 308, s 27.

(which regulates emissions) and is done in a proper area, following proper notification.³¹²

The *Substance Release Regulation* provides a definition for both burnable debris and prohibited debris,³¹³ and sets limits on types of emissions including: visible emissions, particulate release, gaseous emissions from vinyl chloride and polyvinyl chloride plants, and other activities causing releases.³¹⁴ Incineration is allowable so long as it complies with the Regulation's definition of burnable debris and abides by the limits on emission type. Below these limits, there is no restriction on the emissions produced by incineration.

The Regulation also differentiates between hazardous and non-hazardous waste with different requirements for the disposal of each type. Hazardous waste is controlled through the transport and storage phases;³¹⁵ is limited in its disposal methods;³¹⁶ and cannot be imported without prior approval.³¹⁷ In contrast, non-hazardous waste must adhere to rules about incineration;³¹⁸ types of landfilling;³¹⁹ and general requirements about disposal.³²⁰ Overall, non-hazardous waste comes with significantly fewer prohibitions and fewer lifecycle requirements than hazardous waste.

How much is paid? A question of quantum

The amounts paid for waste management will vary by the type of waste and the regulatory requirements that must be met. This is typically set by municipal bylaws.

For waste management facility reclamation and closure the amount of financial security required for each particular waste management facility is determined by the Director - with the goal of ensuring that reclamation can be completed to the standards set out in the Regulation.³²¹ Notably, however, the Regulation also allows for the amount of security to be adjusted after the fact.³²²

³¹² *Ibid.* s 26.

³¹³ *Substance Release Regulation*, *supra* note 149, ss 1(d) & (j).

³¹⁴ *Ibid.*

³¹⁵ *Waste Control Regulation*, *supra* note 308, ss 2-11.

³¹⁶ *Ibid.* s 13.

³¹⁷ *Ibid.* s 6.

³¹⁸ *Ibid.* s 26.

³¹⁹ *Ibid.* ss 24 & 25.

³²⁰ *Ibid.* ss 23-25.

³²¹ *Waste Control Regulation*, *supra* note 308, s 28.

³²² *Ibid.* s 29.

Security is held until the point in time when and if proper reclamation is completed by the facility operator. At that time, security may be returned in whole.³²³ In the event that reclamation is started but not completed, a corresponding portion of the security amount may be refunded.³²⁴ In the event that the operator does not reclaim the land and the amount of security being held is not sufficient to allow for reclamation, the operator is liable for the remaining reclamation costs.³²⁵

What is the timing of payment? Where do payments go?

Payments for landfilling waste are typically paid to municipalities at the time of payment of utility bills.

Payments regarding operations and monitoring of waste management facilities continue throughout the facilities life. Security requirements for closure and reclamation of sites are paid prior to commencing operation.³²⁶ This security regime is primarily designed to ensure that a landfill or other waste management facility is properly reclaimed at the end of its lifetime.

Is there authority to issue orders for remedial actions and clear mechanisms for enforcement of orders?

The EPEA authorizes an environmental protection order (EPO) in the event that unsightly property can be viewed from a road, lane, sidewalk or highway.³²⁷ Municipalities will also typically have nuisance bylaws that cover waste being stored on private property.

Gap identification

The environmental and social costs of waste are not typically considered. A lifecycle assessment of wastes on the long term are not typically taken.

Currently, the regulation of landfills and waste incineration is primarily concerned with setting limits on emissions and ensuring that hazardous waste is controlled, rather than

³²³ *Ibid*, s 31.

³²⁴ *Ibid*, s 31.

³²⁵ *Ibid*, s 33(6).

³²⁶ *Ibid*, s 27.

³²⁷ EPEA, *supra* note 75, s 183.

focusing on changing individual or group behaviours and relationships with waste, through the use of the polluter pays principle.

Within the regulatory scheme, there is also very little assessment of the sufficiency of security amounts for waste management facilities. This may result in the accountability for reclamation of sites being undermined where insufficient security is held by the Crown.

Finally, it is noteworthy that the security regime for waste management facilities does not apply to the Crown or other local authorities.³²⁸



Recycling

Recyclable materials in Alberta are governed primarily by the *EPEA*³²⁹ and waste and recycling regulations.³³⁰ In this regime, the polluter pays principle is incorporated by imposing handling fees for recyclable materials. Payments are required when the consumer passes a designated material (as defined in the Regulation discussed below)

³²⁸ *Waste Control Regulation*, *supra* note 308, s 27(2).

³²⁹ *EPEA*, *supra* note 75, Part 9, Div 1.

³³⁰ *Waste Control Regulation*, *supra* note 308.

to the recycling facility and the payments are set and controlled by industry-run recycling funds which are used to help pay for the recycling process.³³¹

Snapshot	Who pays?	How Much?	Operation	Payment addresses harm	Grade
	Consumers	Variable	Regulation (surcharge)	Partial	B-

Who pays? And who doesn't?

Payments under the recycling regime are generally passed on to the consumer of the product either through a deposit (as is the case for beverage containers) or with a handling fee at the time the consumer drops the material off for recycling. The EPEA requires that manufacturers and distributors of designated materials collect and deposit surcharges³³² (charged either upon item purchase or disposal) and provide for collection and recovery systems - also according to the regulations.³³³

To do so, recycling funds have been established for beverage containers (*Beverage Container Recycling Regulation*³³⁴); lubricating oil (*Lubricating Oil Material Designation Regulation*³³⁵); tires (*Tire Designation Regulation*³³⁶); paint (*Paint and Paint Container Designation Regulation*³³⁷); and electronics (*Electronics Designation Regulation*³³⁸). Each of these products is considered a 'designated material' under the *Designated Material Recycling and Management Regulation*.³³⁹

³³¹ *Designated Material Recycling and Management Regulation*, Alta Reg 93/2004, s 3 [*Designated Material Recycling and Management Regulation*].

³³² EPEA, *supra* note 75, s 170.

³³³ *Ibid*, s 173.

³³⁴ *Beverage Container Recycling Regulation*, Alta Reg 101/1997 [*Beverage Container Recycling Regulation*].

³³⁵ *Lubricating Oil Material Designation Regulation*, Alta Reg 100/2018, s 2 [*Lubricating Oil Material Designation Regulation*].

³³⁶ *Tire Designation Regulation*, Alta Reg 95/2004, s 2 [*Tire Designation Regulation*].

³³⁷ *Paint and Paint Container Designation Regulation*, Alta Reg 200/2007, s 2 [*Paint and Paint Container Designation Regulation*].

³³⁸ *Electronics Designation Regulation*, Alta Reg 94/2004, s 2 [*Electronics Designation Regulation*].

³³⁹ *Designated Material Recycling and Management Regulation*, *supra* note 331.

Handling fees are set by municipalities, however, regulations under the *EPEA* set maximum fees for certain products such as electronics,³⁴⁰ tires,³⁴¹ paint products,³⁴² and oil.³⁴³ These products are specifically identified as recyclables. In addition to these limits, handling fees are often applied to products that are more difficult to dispose of, or recycle. For example, products with CFCs, such as refrigerators, often come with a higher handling fee due to the extra work involved in safely removing the CFCs.³⁴⁴ Although some of these products may end up in a landfill, the handling fees are primarily designed to enable the recycling process.

How is the principle applied?

The principle is applied through the use of surcharges, paid by either the consumer or producer and which are intended to pay for the process of recycling the material. In some cases, the payment is charged to both the consumer and producer, at different times in the process. For example, under the *Beverage Container Recycling Regulation*, depot operators are required to provide refunds for containers submitted to their depots.³⁴⁵ The manufacturer of the beverage, or the collection system agent, must then collect the containers from the depots and reimburse the depot operators.³⁴⁶ Containers are then either recycled or re-used.³⁴⁷

The required surcharges are considered environmental handling fees and are designed to ensure that the materials are properly recycled.

Similar to waste, recyclables are distinguished between hazardous recyclables and non-hazardous recyclables and, as is the case for waste products, hazardous recyclables are subject to shipping, storing, and information requirements³⁴⁸ while non-hazardous recyclables are not.

³⁴⁰ *Electronics Designation Regulation*, *supra* note 338.

³⁴¹ *Tire Designation Regulation*, *supra* note 336.

³⁴² *Paint and Paint Container Designation Regulation*, *supra* note 337.

³⁴³ *Lubricating Oil Material Designation Regulation*, *supra* note 335.

³⁴⁴ City of Edmonton, "Waste Fees and Rates – 2019" online: https://www.edmonton.ca/programs_services/garbage_waste/rates-fees.aspx.

³⁴⁵ *Beverage Container Recycling Regulation*, *supra* note 334, s 10.

³⁴⁶ *Ibid*, s 13.

³⁴⁷ *Ibid*, s 16.

³⁴⁸ *Waste Control Regulation*, *supra* note 308, Part 2.

How much is paid?

Maximum surcharges are set out in regulation and are different for each type of material. In fact, surcharges can differ for specific types of each designated material such as different types of beverage container or tire. The amount of the surcharge associated with each product is set out in regulation. However, there is no indication whether the amount actually corresponds with the cost of recycling. Although the method of calculating surcharges is not set out in the regulations, the *EPEA* requires that industry operated funds focus on waste minimization and recycling for each of their respective designated materials.³⁴⁹

What is the timing of payment? Where do payments go?

Payments are made at the time of purchase (for beverage containers) or at the time of return to the applicable management facility for all other materials.

The *Designated Material Recycling and Management Regulation* states that the Alberta Recycling Management Authority shall establish a separate industry operated recycling fund for each designated material – each fund will be responsible for the management of these materials.³⁵⁰ Further, all surcharges collected from the sale of these materials in Alberta must be deposited into the appropriate industry-operated fund.³⁵¹

Is there authority to issue orders for remedial actions and clear mechanisms for enforcement of orders?

The Recycling Management Authority retains the ability to recover any surcharges that have yet to be remitted as an action in debt³⁵² and can cancel those registrations for suppliers who contravene the Act and Regulation³⁵³ – registrations which are required to take part in the recycling authority processes.

The *Designated Material Recycling and Management Regulation* makes it an offence if a supplier does not remit the prescribed surcharge to the Authority or if a supplier does

³⁴⁹ *EPEA*, *supra* note 75, s 172(2).

³⁵⁰ *Designated Material Recycling and Management Regulation*, *supra* note 331, s 6.

³⁵¹ *EPEA*, *supra* note 75, s 165(2).

³⁵² *Designated Material Recycling and Management Regulation*, *supra* note 331, s 5.

³⁵³ *Ibid*, s 9(3).

not account to the Authority for all surcharges remitted.³⁵⁴ It also limits suppliers of designated materials to those already registered with the Authority³⁵⁵ – potentially limiting the potential for unauthorized supply and disposal/recycling.

Finally, the transport or provision of any designated material to a depot, processor, or recycler without authorization and reporting, is considered an offence.³⁵⁶ Each of these offences can result in a fine.³⁵⁷

Gap identification

Scope and scale

The current recycling regime in Alberta includes a limited number of products. As a result, many recyclable products are left out of any polluter pays regime. This could be improved through the expansion of the definition of a 'designated material' or through other polluter pays programs.

Accountability

There is little accountability or explanation for the amounts assigned to surcharges under each designated material's respective regulation. It is unclear where these surcharges come from (no explanation is included in the regulations or the *EPEA*) which means that amounts may not be reflective of the ongoing actual costs of recycling or disposal.

Finally, there is very little indication of enforcement for dumping of recyclables in the incorrect manner. Although the regulations provide for fines, it is unclear how the legislative framework ensures that these products do not end up in landfills.

³⁵⁴ *Ibid*, s 3.

³⁵⁵ *Ibid*, s 8.

³⁵⁶ *Ibid*, s 11.

³⁵⁷ *Ibid*, s 14.

Regional Planning and Environmental Management Frameworks: An Attempt at Cumulative Effects Management

Alberta's regional planning process is enabled by the *Alberta Land Stewardship Act* (ALSA) which has been used to enable the creation of environmental management frameworks (EMFs). Currently, only 2 of 7 regional plans are complete (the Lower Athabasca Regional Plan³⁵⁸ (LARP) and the South Saskatchewan Regional Plan (SSRP)).³⁵⁹

EMFs are focused on various media and seek to drive management decisions in response to cumulative impacts of development on the environment. Completed frameworks include air and surface water quality frameworks. Environmental frameworks regarding biodiversity are also contemplated in regional plans but have yet to be published.

The general approach of the frameworks is to alter decision making and management approaches in response to environmental triggers and limits. There is significant discretion in these tools in relation to deciding whether a management response is required.³⁶⁰

The EMFs and corresponding regional plans can also be used to create a cap and trade system and engage other market-based instruments such as conservation offsets.

For surface water quality management under the LARP, the Minister determines whether triggers or limits on substances of concern have been exceeded in the regional planning area and for how long.³⁶¹ The Minister may then establish and maintain programs designed to manage, monitor, and evaluate these triggers.³⁶² In the

³⁵⁸ Alberta Environment and Parks, "Lower Athabasca Regional Plan 2012-2022" (1 September 2012) Government of Alberta online: <https://www.landuse.alberta.ca/LandUse%20Documents/Lower%20Athabasca%20Regional%20Plan%202012-2022%20Approved%202012-08.pdf> [LARP].

³⁵⁹ Alberta Environment and Parks, "South Saskatchewan Regional Plan 2014-2024" (May 2018) Government of Alberta online: <https://landuse.alberta.ca/LandUse%20Documents/South%20Saskatchewan%20Regional%20Plan%202014-2024%20-%20May%202018.pdf> [SSRP].

³⁶⁰ LARP, *supra* note 371, Regulatory Details Plan, Part 5, s 30(1); SSRP, *supra* note 372, Regulatory Details Plan, s 36(1).

³⁶¹ LARP, *supra* note 371, Regulatory Details Plan, Part 5, s 30(1).

³⁶² *Ibid*, Regulatory Details Plan, Part 5, s 31.

event that a trigger or limit is exceeded, a management response can be initiated. This will include a notice explaining which activity is expected to have an effect, whether direct or indirect, on the limit; setting out the applicable limits that have been exceeded; the area of the region that has been affected; the decision maker and local government that has been affected; the anticipated duration of these effects; any action that needs to be taken in response; and that no statutory consent in respect of the activity shall be issued.³⁶³ These notices will then bind any decision-maker or local government affected.³⁶⁴

The SSRP sets out a similar management plan for surface water quality. According to the SSRP, the Minister can measure any substances of concern and determine whether a limit has been exceeded and for how long.³⁶⁵ The Minister is then tasked with:

- managing water quality triggers that are considered to be indicators of the surface water quality effects of concern in the basin;
- monitoring and evaluating the water quality in the basin; and
- evaluating the effectiveness of the framework in meeting the water quality objectives from the Implementation Plan of the SSRP.³⁶⁶

Notices can be issued by the Minister informing local government bodies or decision-makers of an exceedance of an emissions limit.³⁶⁷ Notably, a notice of this type is not required if a non-point source is reasonably expected to have contributed to the limit being exceeded.³⁶⁸ This notice specifies the management response to be taken and the specific actions required to alleviate the negative effects of the emission and subsequent limit exceedance.³⁶⁹

Air Quality Management Frameworks under both the LARP and SSRP take a similar approach to air quality, focusing on NO₂, O₃ and fine particulate matter.

³⁶³ LARP, *supra* note 371, Regulatory Details Plan, Part 5, ss 32(1)(a) – (h).

³⁶⁴ *Ibid*, Regulatory Details Plan, Part 5, s 32(3).

³⁶⁵ SSRP, *supra* note 372, Regulatory Details Plan, s 36(1).

³⁶⁶ *Ibid*, Regulatory Details Plan, s 37.

³⁶⁷ *Ibid*, Regulatory Details Plan, s 38(1).

³⁶⁸ *Ibid*, Regulatory Details Plan, s 38(2).

³⁶⁹ *Ibid*, Regulatory Details Plan, ss 39(1) & (2).

Challenges with regional planning and EMFs

Regional planning and environmental management frameworks may provide an opportunity to implement the polluter pays principle but this remains to be seen. Further, existing frameworks may not foster adherence to the polluter pays principle insofar as triggers and limits are often based on statistical movement from a reference condition and not on whether harm has, is or may occur. Further, notwithstanding exceedances occurring in 2015-2017 in the SSRP a report on management actions does not indicate that any specific actions have been required of contributing activities to curb contribution to the exceedance.³⁷⁰ Rather, additional assessment (particularly for surface water quality exceedances in the SSRP) and general planning appears to be the focus of the management response.³⁷¹

The inherent discretion and a lack of clarity of what concrete management responses will be taken to proactively decrease pollution is likely to undermine the potential of EMFs as a mechanism to implement the polluter pays principle. Further, the EMF system is largely reactive in nature and fails to deal with pollution loading from source. A reactive system based on regional and ambient environmental quality exceedances raises concerns about accountability by individual pollution activities as the causal linkage will be difficult to establish. Finally, only 2 out of 7 regions have cabinet approved regional plans at the time of writing, leaving much of Alberta without EMFs.

³⁷⁰ See Alberta Government, *South Saskatchewan Region Status of Management Response for Environmental Management Frameworks as of October 2017* (Government of Alberta, 2018), online: <https://open.alberta.ca/dataset/7fc8c948-edbf-402f-94ea-1ac5bcce10d7/resource/54c1ef2b-8e92-448f-aeb5-851b40a99e7b/download/ssrp-statusairsurfacewaterquality-oct2017.pdf>.

³⁷¹ *Ibid.*

CONCLUSION

Alberta is like many jurisdictions across the globe insofar as the polluter pays principle is applied variably across sectors and across the nature of pollutants. Who must pay, what pollution is covered, how much must be paid, and the legislative and regulatory tools used to implement the polluter pays principle varies.

This report seeks to provide a snapshot of the polluter pays principle in Alberta to drive future work. There is no shortage of areas to look at in terms of evaluating how standards, fees and taxes are working to effectively internalize environmental costs associated with human impacts on the planet. The provides criteria to guide implementation and operationalization of the polluter pays principle within the regulatory and policy landscapes in Alberta.

A key challenge in implementing the polluter pays principle is that policy outcomes are subject to the vagaries of politics and this in turn can result in shifting costs and outcomes. Similarly, economic and trade concerns will always be a key consideration in how palatable robust application of the polluter pays principle can be, requiring in turn analysis of trade and economic barriers to enable a stronger version of the polluter pays principle.

Criteria for the Polluter Pays Principle

General application

- 1. The efficacy of polluter pays payments must be confirmed by continuous monitoring, periodic evaluation and adaptation of regulatory systems.*
- 2. All pollutants or activities that result in harm are to be captured by a polluter pays system.*

Who pays (and who doesn't)?

- 1. Causation governs the identification of the polluter responsible for payment of social and environmental costs associated with an activity (to the extent feasible).*

- 2. In determining causation, mechanisms for ensuring procedural fairness must be in place.*
- 3. Responsibility to pay applies regardless of intent.*
- 4. Multiple parties may be required to pay social and environmental costs where the harm is a result of cumulative effects.*
- 5. Equity should be the starting point for determining who pays how much but sector differences may be justified.*
- 6. Excluding polluters based on a de minimis contribution should be minimized where cumulative effects concerns exist*
- 7. Where a polluter can no longer pay, payment obligations should reside with those who most greatly benefited from the activity.*
- 8. Where evidence exists that corporate structures are created to avoid liability the law should enable the "lifting of the corporate veil" and/or linking liability to parent and affiliated companies.*

How much is paid?

- 1. Payments shall cover the social and environmental costs associated with an activity.*
- 2. Pollution liability attaches to the polluter and the polluter's assets.*
- 3. In the case of cumulative social and environmental costs, shared burdens for payment of social and environmental costs may be appropriate and be proportionate to the pollution contribution.*

How is the principle applied?

- 1. Payments should occur at the nearest temporal point to the creation of that social or environmental cost.*
- 2. Where risks and barriers exist to having timely application of the polluter pays system, such as economic and/or compliance challenges for reclamation and remediation obligations, financial assurance systems be used to mitigate risks, e.g. up front financial security and/or insurance.*

3. *Legislation should include clear discretion to issue orders for remedial actions and clear mechanisms for enforcement of orders. (i.e. to respond to failures in a timely polluter pays system).*
4. *Payments of funds arising from application of the polluter pays principle should be directed toward rectification of the relevant social and environmental costs. In other words, such payments should not be directed in general revenue of the government.*

The ultimate objective in applying the polluter pays principle and environmental liability is that all social and environmental costs associated with an activity should be offset.

Due to the nature and scope of impacts on the landscape operationalizing the polluter pays principle will be an ongoing endeavour, subjected to ongoing evaluation and review to ensure that assessed social and environmental costs are reflected in our regulatory approaches.

The ELC will continue exploring the polluter pays principle in upcoming reports regarding insolvency law (especially as it pertains to orphan and abandoned oil and gas wells) and in the context of the potential for a circular economy in Alberta.

