



MINISTRY OF ENVIRONMENT & CLIMATE CHANGE STRATEGY

Economic Benefit Guidance for Administrative
Monetary Penalty (AMP) Program under the
Environmental Management Act (EMA) and
Integrated Pest Management Act (IPMA)
(Supplementary to AMP Handbook)

Version 1.0, May 25, 2022

Part 1: Background

Context: Economic Benefit in Administrative Penalties

Administrative monetary penalties (AMPs) are intended to correct the behavior of a regulated entity by imposing a penalty amount for a contravention.¹ A penalty amount should be determined based on the contravention's gravity and benefits. Any benefit, such as an economic benefit, can create a competitive advantage for the contravening entity and disrupt a level playing field within the industry. If economic benefit is not removed, the regulated entity has a business incentive to continue the contravention.²

Removing economic benefit can be difficult because its value is not always known. Information may not be disclosed to the regulator, or the benefit may be difficult to quantify. Despite these challenges, statutory decision makers (SDMs) still need to make reasonable determinations by using the best information that is available to them.

Several methods are available to determine economic benefit, and the chosen method will depend on the available information. While more and better information will increase the accuracy of a determination, each method is suitable to remove some or all the benefits. Additionally, in Canada, quasi-judicial and court opinions about administrative penalties advise that the regulator has the initial burden to prove an economic benefit, but the burden then shifts to the regulated entity to disprove whether it is reasonable.³ During the issuance of an administrative penalty, the regulated entity is provided an opportunity to be heard where they can address the reasonableness of the determined values.

Methods like the ones outlined in the following guidance are intended to improve defensibility and consistency in decision making by reducing errors in judgement (i.e., undesired variability). In the absence of information to determine the true or estimated value, the guidance also outlines how to apply values based on known factors that contribute to the value of economic benefit.⁴ However, the guidance does not fetter a statutory decision maker's discretion. Each decision will depend on the context of the regulated entity and contravention; after applying a method, the determined value must be reviewed by the SDM and appear reasonable for the situation.

Purpose of Economic Benefit Guidance Document

The following guidance establishes a workflow to determine economic benefit. The workflow outlines three methods: true value, estimated value, and applied value. The selected method will depend on the available information. The guidance is also a living document, and it will be refined as new data, methods, and best practices become available.

¹ Note: In this document, contravention is used broadly to reference a contravention to a code or regulation or non-compliance with a permit condition.

² Organisation for Economic Co-operation and Development (OECD), *Determination of Administrative Fines for Environmental Offences: Guidance for Environmental Enforcement Authorities in EECCA Countries* (2009) p. 10

³ Alberta Utilities Commission, Decision 3110-D03-2015 ("Market Surveillance Administrator allegations against TransAlta Corporation et al.: Phase 2 – request for consent order"), October 2015, para 30-31

⁴ Kahneman, Daniel, et al. *Noise: A Flaw in Human Judgment*. Little, Brown Spark, 2021, p. 111-136

Key Terms

- **Economic benefit** is the gross benefit gained by the regulated entity (directly or indirectly), such that removal of the benefit would place the regulated party in the same financial position as if they had complied.
- **True value** is an actual economic benefit acquired by the regulated entity, where the value is specific to the regulated entity or contravention. True value is often determined by evidence or information provided by the regulated entity at their opportunity to be heard.
- **Estimated value** is an estimated economic benefit acquired by the regulated entity, where the value is modeled on scenarios with a similar regulated entity or contravention. Estimated value is often determined by evidence or information provided by previous administrative penalties and industry experts.
- **Applied value** is the amount of economic benefit that acknowledges a gain in the absence of true or estimated values, and it is a percentage increase of the base penalty based on the type of regulated entity and contravention.

Roles and Responsibilities

Referring officer

In determining economic benefit, the role of the referring officer is as follows:

- Identify and list the economic benefits that result from the contravention.
- For each economic benefit of the contravention, identify and provide evidence of the following:
 - Whether true value, estimated value, or applied value should be used.
 - If applied value is used:
 - Whether the regulated entity is Class 1 or Class 2, and
 - Whether the economic benefit is Low Cost, Medium Cost, or High Cost.
 - Any other relevant information to support the determination of the economic benefit.
- Consult with a relevant supervisor to determine whether additional effort should be undertaken to determine economic benefits.

Statutory decision maker

In determining economic benefit, the role of the statutory decision maker is as follows:

- Verify the list of economic benefits that result from the contravention (provided by the referring officer).
- Consider the identified methods and supporting evidence.
- If any new information about true or estimated value is provided, update the Economic Benefit Reference Spreadsheet.
- Determine each economic benefit using the most appropriate methods and the Economic Benefit Worksheet that accompanies the Penalty Adjustment Form (PAF).

Regulated entity

In determining economic benefit, the role of the regulated entity at the opportunity to be heard is to provide additional evidence to demonstrate or disprove the determined economic benefit.

Part 2: Application

Applying Economic Benefit

Many economic benefits may be associated with one contravention, and each one may require a different assessment based on the information that is available. For example, a contravention of “failure to maintain works” can include the costs associated with failure to purchase equipment, failure to hire a specialist to install the equipment, and failure to shut down operations during the equipment replacement.

Determining the values of each of these economic benefits may require different methods; a true or estimated value may be available for equipment and service costs, whereas continued operations may be harder to quantify and require an applied value to be used.

The table below identifies a workflow that outlines the steps to determine the economic benefit for any contravention.

Steps

1	Was there a material economic benefit? ⁵	If yes: If no:	Proceed to the next question. Do not complete Factor F.
2	Identify the economic benefits of the contravention.		See Part 3: Other, “ Types of economic benefits ”.
3	For each economic benefit identified, consider the following:		
3a	Option 1: Is information available to determine a true value?	If yes: If no:	See Part 2: Application, “ True value ”. Proceed to Option 2.
3b	Option 2: Is information available to determine an estimated value?	If yes: If no:	See Part 2: Application, “ Estimated value ”. Proceed to Option 3.
3c	Option 3: If a true value or estimated value cannot be determined, then apply a value.		See Part 2: Application, “ Applied value ”.

⁵ Materiality is considered the quality of being relevant or significant.

True Value

True value is the most accurate determination of an economic benefit and is the most impactful method to change behavior. True values are difficult to determine without information that is specific to the regulated entity and the contravention. As such, the method is not used as often as the estimated or applied value methods. Information that is collected on true values can be stored in the Economic Benefit Reference Spreadsheet, which will be used to inform estimated values for similar contraventions in the future.

Examples

The following are examples of true values:

- Receipts or estimates that are specific to the regulated entity or contravention (e.g., facility maintenance costs)
- Securities
- Permit fees
- Certification fees (e.g., Environmental Operators Certification Program (EOCP) classification fees)

Estimated Value

Estimated value is the second most accurate determination of an economic benefit and is an impactful method to change behavior. Estimated values are easier to determine than true values because information does not need to be specific to the regulated entity and the contravention – rather, they can be an average cost that is typical to a type of economic benefit. As such, the method is used more frequently than the true value method. Information that is collected on estimated values can be stored in the Economic Benefit Reference Spreadsheet, which will be used to inform estimated values for similar contraventions in the future.

Examples

The following are examples of estimated values:

- Standard sample and shipping costs
- Qualified professional hourly rates or retention fees
- Estimates based on reported costs for similar facilities or activities

Applied Value

The applied value is the third most accurate determination of an economic benefit. Applied value acknowledges that an economic benefit was gained and attempts to account for these gains in the absence of true or estimated values. The applied value is a percentage increase of the base penalty. Percentage increase is determined by an assessment of the class of entity (see “Entity class”) and the class of contravention (see “Contravention class”).

Entity classes

The entity classes structure the applied value ranges from 1-60%+ and 41-81%+. Class 1 entities, which include individuals or sole proprietors, fall within a 1-60%+ applied value range. Class 2 entities, which include federally incorporated companies, fall within 41-81%+ applied value range. The descriptors for the entity classes are included below.

Entity class	
Class 1	Class 2
1-60%+	41-81%+

Entity class descriptors	
Class 1	Class 2
Any one of the following: <ul style="list-style-type: none"> Individual or sole proprietor Not-for-profits, such as municipalities or provincial organizations <i>Does not meet any of the items listed in Class 2</i> 	Any one of the following: <ul style="list-style-type: none"> Federally incorporated (or a subsidiary of) Publicly traded (or a subsidiary of) Operates more than one facility More than 100 employees

Contravention classes

The contravention classes further structure the applied value ranges. The Class 1 and Class 2 applied value ranges are equally distributed between three contravention classes: Low Cost, Medium Cost, and High Cost. High Cost contraventions can extend beyond their range, when the value of economic benefit is unlikely to be removed if constrained to that range (this is denoted by the plus sign). The descriptors for the contravention classes are included below.

Contravention class (applied to Entity class)		
Contravention class	Entity class	
	Class 1	Class 2
Low Cost	1-20%	41-60%
Medium Cost	21-40%	61-80%
High Cost	41-60%+	81-100%+

Contravention class descriptors		
Low Cost	Medium Cost	High Cost
Contracted service (general)	Contracted service (specialized)	Contracted service (highly specialized)
<ul style="list-style-type: none"> Hydrovac 	<ul style="list-style-type: none"> Qualified professional EOCP Operator Waste disposal fees 	<ul style="list-style-type: none"> Qualified professional
Fixed assets (small)	Fixed assets (medium)	Fixed assets (large)
<ul style="list-style-type: none"> Samples and monitoring probes Warning signs Replacement equipment parts 	<ul style="list-style-type: none"> Boilers Ditches Electric fences 	<ul style="list-style-type: none"> Water treatment facilities Electrostatic precipitators, wet scrubbers Sediment ponds Tailings dams
Authorization	Permit	Operations
<ul style="list-style-type: none"> Minor permit amendment applications Registration packages under regulation or code of practice 	<ul style="list-style-type: none"> Major amendment applications Permit applications 	<ul style="list-style-type: none"> Operation of treatment works Failure to shut down operations if required
	Plans and Reports	
	<ul style="list-style-type: none"> Management/monitoring plans Emergency response plans Annual Reports 	

Examples
<p>The following are examples of applied values:</p> <ul style="list-style-type: none"> A large mining corporation (Class 2 entity) did not build the required surface water diversion ditch/structure (Medium Cost), and the base penalty is \$20,000. The applied economic benefit is 65% (61-80%) of the base penalty, which results in \$13,000 applied value. A municipality (Class 1 entity) failed to engage an EOCP operator for their sewage treatment facility (Medium Cost), and the base penalty is \$10,000. The applied economic benefit is 40% (21-40%) of the base penalty, which results in \$4,000 applied value.

Review Values

Each administrative penalty decision is based on the context of the contravention. The guidance above will support a statutory decision maker to determine the contravention’s economic benefit, but the determined value will need to be assessed for its appropriateness to the situation. If the value is not appropriate, then the statutory decision maker may use other reasonable methods to determine the economic benefit.

A note on use

Each method may result in an amount that is greater than the maximum amount allowable under the Administrative Penalty Regulation. In such situations, the assessed values should be retained in Factor F as it demonstrates the value needed to remove a regulated entity’s economic benefit. However, a reduction may be made in Factor J (“Any additional factors that are relevant”) as a method to ensure the assessed value is within the maximums allowed under the Administrative Penalty Regulation.

Part 3: Other

Types of Economic Benefits

The following are examples of types of economic benefits that may be gained by a regulated entity when they contravene. The referring officer and SDM should review the list to determine whether any specific item is relevant.

Sampling

Failure to:

- Obtain samples
- Ship samples
- Analyze samples

Reporting

Failure to:

- Hire qualified professionals
- Develop required reports

Permits

Failure to:

- Obtain, renew, amend, or transfer a permit
- Pay permit fees
- Register under a regulation or code of practice

Maintain works

Failure to:

- Purchase or replace components
- Shut down operations during maintenance

Authorized works

Failure to:

- Install works
- Operate works
- Hire certified operators

Plans

Failure to:

- Develop an emergency response plan
- Develop a management or monitoring plan

Considerations - When to Acquire Information?

Information to determine true values or estimated values may not always be available. Under certain circumstances, spending additional resources (e.g., time and money) to acquire this information may improve the program's ability to accurately determine economic benefits for the specific administrative penalty and future ones. Circumstances that may support acquiring additional information include:

- changing a regulated entity's behavior is of particular importance (e.g., repeated offender);
- the economic benefit is expected to be much greater than the maximums allowed under the Administrative Penalty Regulation; and
- an economic benefit or contravention is common and information to support an estimated value is not known, whereby determining that value would improve the program overall.

Calculating Avoided Costs and Delayed Costs

Avoided costs and delayed costs result in an economic benefit for the regulated entity. Whether using the true value and estimated value, each method needs to consider and remove these costs. An approach to calculate both avoided and delayed costs is provided below and requires several variables.

These variables are the true or estimated value of the economic benefit; estimated lifespan of a service or asset; length of contravention (e.g., period avoided or delayed); and interest rate. By using these variables in a compound interest calculator, an accurate value can be determined that appreciates the avoided or delayed cost for an economic benefit.

Example of calculating avoided costs and delayed costs

True value method

True value of the economic benefit

Qualified professional charges \$50,000 for an annual review of site, based on actual quote.

Estimated lifespan of a service or asset

Qualified professional conducts a review of site every year.

Length of contravention (e.g., period avoided or delayed)

Qualified professional has not conducted a review of site for two years.

Interest rate

Canada's central bank average rate was 5.8% from 1990 until 2022.

True value	\$50,000
Estimated lifespan	1 years
Period <u>avoided/delayed</u>	2 years
Interest rate	5.8%
Value (with interest)	\$102,900.08

Value of avoided cost

If fixed asset was not purchased and installed, avoided cost would be full estimated value (with interest) (\$102,900.08).

Value of delayed cost

An annual review that is not conducted annually is an avoided cost, not a delayed cost. If it was a five-year review that was conducted one year late, then it would be a delayed cost.

Estimated value method

Estimated value of the economic benefit

Fixed assets costs \$200,000 to purchase and install, based on similar fixed assets from previous contraventions.

Estimated lifespan of a service or asset

Similar fixed assets from previous contraventions have a lifespan of ten years.

Length of contravention (e.g., period avoided or delayed)

Fixed asset was not purchased and installed for two years.

Interest rate

Canada's central bank average rate was 5.8% from 1990 until 2022.

Estimated value	\$200,000
Estimated lifespan	10 years
Period <u>avoided/delayed</u>	2 years
Interest rate	5.8%
Value (with interest)	\$41,160.08

Value of avoided cost

If fixed asset was not purchased and installed, avoided cost would be full estimated value (with interest) (\$41,160.08).

Value of delayed cost

If fixed asset was purchased and installed after 2 years, economic benefit would be interest only (\$1,160.08).