# CARBON TRACKER METHODOLOGIES

# Asset Retirement Obligations: Transparency Scorecard

Carbon Tracker Initiative

## About Carbon Tracker

The Carbon Tracker Initiative (Carbon Tracker) is a team of financial specialists making climate risk real in today's capital markets. We carry out in-depth analysis on the impact of the energy transition on capital markets and the potential investment in high-cost, carbon-intensive fossil fuels. Our research to date on unburnable carbon and stranded assets has started a new debate on how to align the financial system in the transition to a low carbon economy.

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## Asset Retirement Obligations Scorecard

This document sets out the framework and methodology for how Carbon Tracker assesses and scores corporate transparency in financial statements. In particular, it looks for disclosure of the information companies use to measure and record liabilities related to decommissioning or asset retirement obligations (together, AROs) as well as any "off-balance sheet" AROs. This methodology was developed in 2025 by technical leads from Carbon Tracker and organisations with whom Carbon Tracker collaborates.[1] Carbon Tracker uses this methodology to assess published information, notably that provided in the notes to published audited financial statements, from specifically identified carbon-exposed companies.

[1] Including representatives from the Polluter Pays Project and the Climate Accounting and Audit Project.

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# 1 Introduction

## 1.1 Overview

Oil and gas companies often have significant obligations to dismantle, remove and restore items of property, plant and equipment commonly known as asset retirement or decommissioning obligations (herein, AROs). These include "the costs of dismantling and removing the item and restoring the site on which it is located, the obligation for which an entity incurs either when the item is acquired or as a consequence of having used the item during a particular period for purposes other than to produce inventories during that period."[2] Companies may also have obligations which address the impacts of environmental damage during the productive life of the asset (e.g. such as rectifying pollution of water); while also important, this scorecard does not intend to address such wider environmental obligations outside of the context of PPE commissioning/acquisition costs.[3]

The ability to continue to use such assets, and the timing of settling the relevant AROs, can be uncertain – particularly in the face of ageing infrastructure, replacement technology, changing policies and regulations. For example, electric vehicles, renewable energy and/or emissions regulations may mean that these assets are retired, and need to be decommissioned, sooner than originally anticipated.

The financial impacts of these uncertainties, for example, on future retirement timings, can significantly affect a company's current period financial position and reported profits. Global accounting standard setters[4] are clear that companies must consider the effects of risks and uncertainties, including but not limited to material climate-related matters, in preparing their financial statements today.[5] If material impacts are not included, the value of exposed assets and reported profits may be overstated, and liabilities, such as those related to AROs,[6] understated.

[2] International Accounting Standards (IAS) 16, *Property, Plant and Equipment*.
[3] Such AROs are described in paragraph 1 of IFRIC Interpretation 1, *Changes in Existing Decommissioning, Restoration and Similar Liabilities*.
[4] Including the International Accounting Standards Board (IASB) which is the body that develops and publishes International Financial Reporting Standards (IFRS), and the Financial Accounting Standards Board (FASB), the standard setter for US Generally Accepted Accounting Standards (US GAAP).
[5] For IFRS and local adoptions thereof: *in-brief-climate-change-nick-anderson.pdf (ifrs.org)*, *Effects of climate-related matters on financial statements (Republished July 2023)* and *Disclosures about Uncertainties in the Financial Statements-Illustrative Examples - Amendments to Illustrative Examples on IFRS 7, IFRS 18, IAS 1, IAS 8, IAS 36 and IAS 37* (November 2025). For US GAAP: *FASB Staff Educational Paper—Intersection of Environmental, Social, and Governance Matters with Financial Accounting Standards (March 19, 2021).*
[6] "ARO liabilities" refers to provision amounts on the balance sheet, recognised (or recorded) under the requirements of IAS 37 *Provisions, Contingent Liabilities, and Contingent Assets*. This contrasts with AROs for which no provision/liability has been recorded, sometimes referred to as "off-balance sheet" AROs.

Evidence of consideration of these matters is primarily meant to be provided via disclosures in the notes to the financial statements. A company may explain that it has AROs related to certain assets, and that significant assumptions are required to determine the relevant liabilities. However, often additional information about the AROs is necessary for investors to understand whether and how the company's accounting policies are applied in the current period.[7] This is particularly true for significantly "carbon-exposed" companies such as, but not limited to, oil and gas companies that have financially material AROs, and that make significant assumptions and estimates that are sensitive to market and other uncertainties in deriving the ARO liability amount that is recorded on the balance sheet. For example, disclosure of the quantified assumptions and estimates, such as the estimated costs and timing of settling the AROs, is a starting point for investors to assess the risk and financial impact of, and on, ARO liabilities. These disclosures help investors assess resilience and appropriately integrate financial information into their analysis. Without sufficient transparency, investors and other market actors may be making capital allocation decisions based on inaccurate or incomplete information.

## 1.2 Scope

The ARO transparency scorecard methodology defines the elements, or metrics, which are used to assess and score the audited financial statements (including the note disclosures) of select oil and gas companies operating in jurisdictions, which use IFRS Accounting Standards. The metrics focus principally on the types of information that existing IFRS requirements and guidance[8] might reasonably require from companies regarding financially material AROs, and that investors and other stakeholders would therefore expect the companies to disclose.

Given the context of the industry, regulatory and legal environments in which these companies operate, there is an underlying assumption that the information about AROs (as identified in the metrics) is material. In particular, we believe that for the companies assessed, it meets the materiality threshold of IAS 1 *Presentation of Financial Statements*: "if omitting, misstating or obscuring it could reasonably be expected to influence decisions that primary users [of the entity's financial statements] make on the basis of the financial statements."[9]

Companies are scored on the level of transparency provided in their most recent financial reports/published financial statements (including the notes thereto) about: their ARO liabilities, including key assumptions and estimates, and AROs for which no liability has

[7] See also Carbon Tracker's methodology for performing full Climate Accounting and Audit Assessments and example company profiles at 2023-CTI-Accounting-Methodology-1.pdf and Company Profiles - Carbon Tracker Initiative, respectively.
[8] Including *Disclosures about Uncertainties in the Financial Statements-Illustrative Examples - Amendments to Illustrative Examples on IFRS 7, IFRS 18, IAS 1, IAS 8, IAS 36 and IAS 37* (November 2025).
[9] IAS 1 paragraph 7.

been recognised.[10] Ultimately, the assessments will be used to compare company disclosures against their peers, and to signal to regulators, companies and auditors the additional information that investors expect to be disclosed in the audited financial statements.[11]

# 2 Assessment Framework

The ARO Transparency Scorecard comprises 15 metrics. Each metric represents information (primarily quantitative) that is necessary to provide a meaningful picture of the company's AROs and the associated liability (and/or off-balance sheet liability[12]). This entails:

1. Disaggregated amounts, including the specific financial value of the ARO liability on the balance sheet at year-end, disaggregated between current and non-current amounts, together with disaggregation of that value as relevant to the company's business (e.g., by reportable segment, business activity or fixed asset class[13]). Additionally, separate amounts attributed to changes from the prior year's assumptions and estimates.
2. The assumptions and estimates the company made related to the ARO liability value on the balance sheet. Typically, this amount is based on the following:[14]
    - estimated costs to settle the ARO as of the reporting period year-end (referred to herein as "the balance sheet date");
    - estimated timing of settling the obligations;
    - inflation rate applied to the estimated costs at the balance sheet date;
    - the future cash flows (based on estimated costs, timing and inflation rates); and
    - discount rate used to measure the ARO liability at the present value of the future cash flows.
3. Sensitivities of the ARO liability to changes in the assumptions and estimates (costs, timing, inflation rate, and discount rate).

[10] Note that these metrics do not assess whether these companies have included the impacts of climate-related matters on the related assumptions and estimates they have used to prepare the financial statements.

[11] Note that prior to the issuances of the IEs in November 2025, the IASB staff made the "near-final draft of the illustrative examples available to give entities early sight of the examples expected to be issued later in 2025." See "Near-final staff draft—Disclosures about Uncertainties in the Financial Statements Illustrated using Climate-related Examples" p. 2.

[12] Referred to as "contingent liabilities" in IAS 37.

[13] In the first year of the scorecard, the assessments focused on disaggregation by segment. Going forward we will also consider whether further disaggregation for these companies would appear to provide useful information to investors.

[14] There may be other approaches to measurement of an ARO liability, such as in acquisition accounting using fair value, or where a negotiated settlement amount has been agreed.

4. Qualitative and quantitative information about "off-balance sheet" AROs.[15]

Companies are expected to include the information covered by the metrics directly on their financial statements (balance sheet, or statement of profit or loss) or in the notes to their financial statements, when applicable. However, for the first year of this assessment, companies may also receive credit for information that is provided "outside" of the audited financial statements (and notes thereto) but in the same document as the audited financial statements (e.g. in the front of a document that is filed with the regulator as part of the company's annual filing). Going forward, in the face of existing IFRS accounting requirements and the November 2025 publication of Illustrative Examples, we will expect the information required under IFRS Accounting Standards to be in the financial statements (including the notes thereto).

Unless otherwise noted, metrics represent quantitative (numerical) information. Table 1 describes the metrics used for the scorecard assessment. Section 3 provides additional information on how we assess disclosures against each metric.

[15] "Contingent liabilities" per IAS 37 *Provisions, Contingent Liabilities and Contingent Assets.*

**TABLE 1: DESCRIPTION OF METRICS**

| Metric # | Information sought | Max score |
|---|---|---|
| | **Asset retirement liability at year-end (disaggregation)** | |
| 1 | Value of the ARO liability,[16] disaggregated into current and non-current amounts. | 1 |
| 2 | Disaggregation of the ARO liability amount (e.g., by reportable segment, business activity or fixed asset class) as relevant. | 1 |
| 3 | Disaggregation of changes in measurement of the ARO liability from the prior year, by type of assumption and estimate. | 1 |
| | **Assumptions and estimates used to measure the ARO liability** | |
| 4 | The estimated costs to settle the AROs at the balance sheet date. | 1 |
| 5 | A payment schedule for settling the AROs, showing estimated amounts allocated across time periods. | 1 |
| 6 | An estimated end date for settling the AROs. | 1 |
| 7 | The inflation rate(s) used. | 1 |
| 8 | The estimated future cash flows to settle the AROs. | 1 |
| 9 | The discount rate(s) used. | 1 |
| | **Sensitivities of the ARO liability to changes in key assumptions and estimates** | |
| 10 | Changes in the estimated costs required to settle the AROs at the balance sheet date (Metric 4). | 1 |
| 11 | Changes in the estimated timing for settling the AROs (Metrics 5 and 6). | 1 |
| 12 | Changes in the inflation rate(s) used (Metric 7). | 1 |
| 13 | Changes in the discount rate(s) used (Metric 9). | 1 |
| | **Off-balance sheet AROs** | |
| 14 | A description of any unrecorded ("off-balance sheet") AROs. | 1 |
| 15 | Estimated costs at the balance sheet date to settle any unrecorded AROs. | 1 |
| | **Total possible overall score** | **15** |

Each metric is assessed using a traffic light system (Yes, No or Partial) based on information published by the company and the extent to which this has met the requirements of the criteria described in this methodology document. If the information sought is not applicable to the company (as discussed in the Methodology and Scoring Guidance section), the metric will be scored as N/A. Overall scores will be based on the percentage of applicable information provided (e.g. if a company provides 13 of 14 relevant metrics, it will receive a score of 93%).

[16] It should be noted that where we refer to the "ARO liability," this is the sum value of the company's individual AROs."

| Description | Score |
|---|---|
| Yes = The company has disclosed the information required by the metric. | 1 |
| No = The company has not disclosed any of the information required by the metric. | 0 |
| Partial = The company has partially disclosed the information required by the metric. | 0.5 |
| N/A = The information criteria do not apply to this company. | N/A |

# 3 Methodology and Scoring Guidance

## Asset retirement liability at year-end (disaggregation)

### Metric 1: Value of the ARO liability, disaggregated into current and non-current amounts.

To meet this metric, the company must disclose the quantitative (currency) amount that it has recorded as an ARO liability, and the portion that is classified as current and as non-current.[17]

If the ARO liability amount is grouped together with other liability amounts on the balance sheet (for example, in "Other provisions" or together with "Environmental liabilities"), the company must explicitly state which portion relates to the ARO liability.

### Metric 2: Disaggregation of the ARO liability amount (e.g., by reportable segment, business activity or asset class) as relevant.

Different carbon-intensive assets or business activities may be exposed to different types of uncertainties or risks. To meet this metric, the company must disaggregate (break down) the quantitative amount of the ARO liability in sufficient detail to enable investors and other stakeholders to assess the company's exposure for each type of ARO. This means clearly indicating that it has recorded an ARO liability, as well as the amount recorded, for each reportable segment, business activity or fixed asset class, as applicable.[18]

- For example, a company may have AROs related to its oil and gas exploration and production assets (e.g., drilling rigs, well sites and offshore platforms), to its midstream equipment (such as pipelines, storage tanks and shipping vessels) and/or to its downstream assets (such as refining, petrochemical plants and processing facilities). Disaggregating the related ARO liability by segment (here, upstream, midstream and downstream) would provide material and useful information to investors as these assets

[17] "Current" typically refers to the amount expected to be settled within twelve months of year-end, and "non-current" to the amount expected to be settled beyond twelve months of year-end.
[18] For the first round of assessments (December 2025) we have analysed the need for further disaggregation based primarily on whether the company has more than one reportable segment. However, going forward we will also consider whether further disaggregation for these companies would appear to provide useful information to investors.

have different degrees of exposure to uncertainties such as climate-related risks (e.g. timing and financial impacts).

- If a company describes, but does not quantify, what it has recorded by relevant segment, activity or fixed asset class, as applicable, it will not meet this metric.
- In general, if disaggregation is not applicable (e.g. if the company is solely an exploration and production company or a pure play refiner, and only has one reportable segment), this metric will be assessed as N/A and weighted appropriately.

### Metric 3: Disaggregation of changes in measurement of the ARO liability over the year, by type of assumption and estimate.

To meet this metric, the company must separately quantify and explain changes to the measurement of the ARO liability for the current financial year that have resulted from specific changes in estimated costs, timing, inflation rate(s) and/or discount rate(s).[19]

- Disclosure should be by each type of assumption and estimate changed and the individual quantified impact on the ARO liability.
- The company must clearly explain the reasons for each of the revisions, by assumption or estimate.
    - For example, revisions from the prior year resulting in a net increase in the ARO liability of 50 might be made up of: (i) an increase of 100 due to higher estimated costs and (ii) a decrease of (50) due to a higher discount rate used. The company should quantify and explain each component, including why estimated costs and the discount rate increased.

## Assumptions and estimates used to measure the ARO liability on the balance sheet

### Metric 4: The estimated costs to settle the AROs at the balance sheet date.

To meet this metric, the company must provide the estimated costs of meeting the ARO obligations at the balance sheet date. These represent the costs before applying an inflation rate based on the expected timing of meeting such obligations.

### Metric 5: A payment schedule for settling the AROs, showing estimated amounts allocated across time periods.

To meet this metric, the company must break down estimated ARO amounts by estimated time bands (future years) to settle the liability.[20] The amounts could be represented by:

[19] Metrics 4-9, respectively.
[20] This would be a further breakdown of the non-current amount from Metric 1.

- Total current cost amount: the estimated current cost to settle the AROs at the balance sheet date (Metric 4),
- Total future cash flow amount: the estimated future cash flow amounts (Metric 8), and/or
- ARO liability amount: the amount recorded on the balance sheet (Metric 1).

The time bands must be sufficiently detailed to provide a meaningful picture of when the company expects to meet its obligations (e.g. over the short-, medium- and long-term) to enable investors and other users to assess the company's liquidity in the context of relevant risks and/or strategy. Companies are expected to show amounts for short enough time frames to make the information meaningful for the majority of the ARO balance. Additionally, any portion included as "thereafter" should not be significant.

- For example, a company might determine that, for the total current cost amount of 10 billion to settle the AROs, an estimated 2 billion will be met in 1-5 years, 2 billion in 5-10 years and 6 billion in 10-20 years.
- If a company discloses a weighted average timeframe for ARO amounts, it will partially meet this metric. For example, a company with the same estimated schedule as above, might have only disclosed that the weighted average timeframe was 11 years.

### Metric 6: An estimated end date for settling the AROs.

To meet this metric, the company must disclose the estimated end date (e.g. a specific year or in a specific number of years) by which it expects to have completed all retirement/ decommissioning activities for the relevant assets.

If a company discloses a payment schedule (as detailed in Metric 5) but does not indicate an end date (e.g. 6 billion thereafter), it will not meet this metric.

### Metric 7: The inflation rate(s) used.

To meet this metric, the company must provide the inflation rate(s) that it used to adjust the estimated costs to settle the liability at the balance sheet date (Metric 4) based on expected timing (Metrics 5 and 6) in arriving at the future cash flow amounts (Metric 8).

### Metric 8: The estimated future cash flows to settle the AROs.

To meet this metric, the company must provide the quantitative amount of (undiscounted, inflation-adjusted) future cash flows derived from the information assessed in Metrics 4 - 7.

### Metric 9: The discount rate(s) used.

To meet this metric, the company must provide the discount rate(s) that it used to discount the future cash flows and calculate the ARO liability. It must also indicate how the rate was determined. For example, it must indicate if it used a risk-free rate or if the rate includes adjustments for non-performance (credit risk) or other types of risks.[21]

- If it provides a range of discount rates, the range must be narrow, or detailed enough to enable investors to understand how the company calculated the ARO liability amount. This is particularly relevant when a company uses a wide range of discount rates (for example, due to differences in estimated timing or jurisdictions).
    - If a company disaggregated the ARO liability value (Metric 2), the company should provide a discount rate range that corresponds to that level of disaggregation - e.g. for each reportable segment, business activity or fixed asset class, as applicable.
- A company will partially meet this metric if it provides a weighted average discount rate.
- If a company **does not** provide the discount rate, but indicates that it has used a "readily available" risk-free rate and explains in sufficient detail the information it used to determine that rate (e.g., the specific timeframe, currency and jurisdiction), it can meet this metric. For example, if a company indicated that it used a 30-year US Treasury bond rate, it will receive credit for this metric.

| **Sensitivities of the ARO liability to changes in key assumptions and estimates[22]** |
|---|
| **The company provides the following separate quantitative sensitivities:** |
| **Metric 10: Changes in the estimated costs required to settle the AROs at the balance sheet date (Metric 4).** |
| **Metric 11: Changes in the estimated timing for settling the AROs (Metric 5).** |
| **Metric 12: Changes in the inflation rate(s) used (Metric 7).** |
| **Metric 13: Changes in the discount rate(s) used (Metric 9).** |
| For Metrics 10 - 13, companies must: |

[21] This additional qualitative information is being assessed here because of the significant variation in practise regarding use of a risk-free rate versus credit-adjusted rate, as well as the IASB's technical improvement project that proposes the removal of the option to adjust the discount rate for credit risk (e.g., reflect the effect of non-performance). See https://www.ifrs.org/projects/work-plan/provisions/

[22] For the purposes of this scorecard, estimated costs, timing, inflation rate(s) and discount rate(s) are the four key assumptions and estimates; that is, they could have the most significant impact on the carrying amount of the ARO liability.

- Disclose the quantitative change(s) in assumption(s) or estimate(s) that the company used for each sensitivity (e.g. a change in percentage or change in cost estimate); and
- Provide the quantitative result of each sensitivity analysis – i.e. the amount of impact on the ARO liability on the balance sheet.

## Off-balance sheet ARO liabilities

### Metric 14: A description of any unrecorded ("off-balance sheet") AROs.

If there are segments, activities and/or assets for which the company has significant obligations but for which it has not yet recorded an ARO liability, the company should indicate this and explain why.

- If a company has not recorded an ARO liability for certain assets, such as refineries or pipelines, because it has determined that it will continue to use such assets "indefinitely" and so cannot measure the liability given "indeterminate settlement dates," it must state this and explain why this is the case.
    - It should also identify the reportable segments, activities and/or fixed assets to which the ARO obligations relate, as applicable.
- If the company does not comment on the existence of any unrecorded AROs, but is a purely upstream oil and gas company (with ARO liabilities on the balance sheet), there is an underlying assumption that there are no significant off-balance sheet liabilities. This metric would be marked as N/A and the score weighted appropriately.
    - For example, some upstream Canadian companies have certain equipment (e.g. "gathering systems" or pipelines) that are part of their upstream activities. We would not expect their existence to result in significant off-balance sheet liabilities, if any.

## Metric 15: Estimated costs at the balance sheet date to settle any unrecorded AROs.

To meet this metric, companies must consider all AROs for which they have not yet recognised (recorded) a liability on the balance sheet (Metric 14), and disclose:

- the estimated costs of settling the AROs at the balance sheet date, or an estimate of the liability based on an assumption of timing;[23] and
- the reportable segments, activities and/or fixed assets to which these relate, as applicable.

Companies will likely have estimated the costs of settling such obligations as part of determining whether to sanction investments/when commissioning the asset for use. Accordingly, they will have already determined an expected amount or range of amounts.

The ARO costs should be disaggregated by segment, activity and/or asset class, as appropriate (see also Metric 2 on the identification of where ARO liabilities have been recognised on the balance sheet).

[23] Note that this is expected to relate to cases where the reason for non-recognition relates to uncertainty in the timing of settling the AROs; which appears to be the most commonly used reason for not recording a liability.

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