This review is focused on one dimension of issuer preparedness for the energy transition: the audited financial statements. Current and ongoing actions to reduce emissions, whether by governments, society, or corporations themselves, can impact assets, liabilities, and profitability. This work analyses the extent to which companies and their auditors are addressing the financial impacts of these items in their financial statements today.

OVERVIEW OF ASSESSMENT: Unlike the prior year, in 2021 Chevron Corporation (Chevron) included a reference to carbon costs and the pace of the energy transition when discussing matters that could lead to impairment of property, plant and equipment (PPE). Its auditor PwC identified carbon costs as one of the variables impacting Chevron’s estimated volumes of crude oil and natural gas proved reserves. Despite this, as in 2020, Chevron and PwC did not indicate the results of consideration of these or other climate-related matters in the preparation of the financial statements and in performing the audit, respectively. Moreover, Chevron has failed to adequately address a pending shareholder resolution5 to improve financial statement disclosures and to provide a sensitivity to relevant assets and liabilities using the International Energy Agency’s Net Zero by 2050 (IEA NZE) inputs. Accordingly, like in 2020, the general lack of disclosure and so transparency is the driver for Chevron’s low scores.

Climate Action 100+ ASSESSMENT METRICS AND SCORES4

<table>
<thead>
<tr>
<th>Metric 1a: incorporated the effects of material climate-related matters</th>
<th>Metric 1b: disclosed quantitative climate-related inputs.</th>
<th>Metric 1c: were consistent with other reporting.</th>
<th>Metric 2a: how the auditor assessed impacts of material climate-related matters.</th>
<th>Metric 2b: inconsistencies in the company’s reporting.</th>
<th>Metric 3a: The financial statements used inputs that were aligned with this drive6.</th>
<th>Metric 3b: The audit report identified that the inputs used were aligned with this drive7.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAAA metrics</td>
<td>Judgements</td>
<td>Visibility in accounts</td>
<td>Consistency with other reporting.</td>
<td>Visibility in Critical audit matters</td>
<td>Consistency check</td>
<td>Paris alignment</td>
</tr>
</tbody>
</table>

| FY2021: Overall score | The alignment assessment was not met | No | No | No | No | No | No |

| Prior Year Scores (FY2020) | The alignment assessment was not met | No | No | No | No | No | No |

---

1 Sales and other operating revenues.
2 US Public Company Accounting Oversight Board.
4 New provisional Climate Accounting and Audit Alignment Assessment (CAAA). See also “Background to this Assessment” at end of summary.
5 And no more than 1.5 degrees warming. We referred to the IGCC Investor Expectations for Paris-aligned Accounts when developing the assessment methodology and reference the International Energy Agency’s Net Zero by 2050 (IEA NZE) scenario when assessing this metric.
6 Or disclosed a sensitivity to these inputs (assumptions and estimates).
7 Or the auditor performed its own sensitivity analysis on the potential implications.

Review date: April 12, 2022
Overview

Chevron is an integrated oil and gas company with investments grouped into two business segments: “Upstream” and “Downstream”.

Significant YOY changes: In 2021, Chevron added an aspiration to achieve net zero for Scope 1 and 2 emissions from production, on an equity basis, by 2050. We note that, unlike many of its European peers, this net zero aspiration does not cover any of its Scope 3 emissions even though these represent most of the emissions relating to the production and usage of Chevron’s products. Chevron also announced a Downstream emissions target to reduce Scope 1 and 2 “refining carbon intensity” (RCI) 2%-3% by 2028 (from 2016). This includes both equity emissions and third-party feedstock processing. These add to Chevron’s existing Upstream 2028 intensity reduction targets for Scope 1 and 2 emissions. Chevron also introduced a “portfolio carbon intensity” (PCI) metric, which includes a targeted reduction of >5% between 2016 and 2028 for Scope 1, 2 and 3 emissions, but no longer-term goals.

Chevron formed the New Energies organization (CNE) in 2021 to help grow its low carbon businesses. Chevron indicated that its strategies to achieve its emission targets include, but are not limited to, growth in renewable fuels, hydrogen, carbon capture and offsets and spending of approximately $2bn on various greenhouse gas (GHG)-abatement projects through 2028.

Assessment of financial statements (Sub-Indicator 1, Score: No)

We noted that for Chevron, the most relevant, material items that could be materially affected by climate change-related issues were:

- **PPE, net, of $147.0 bn** – Upstream $130.8bn, Downstream $14.1bn, Other $2.1bn. According to Chevron, it did not have any “material impairments” in 2021. It did not provide the amounts or reasons for the impairments that it did record. By comparison, Chevron’s 2020 impairments were driven by downward revisions to its oil and gas outlook (which it did not relate to climate change). In 2021 it had relatively small amounts of goodwill ($4.4bn), most of which related to its 2005 acquisition of Unocal. No impairment was recorded for goodwill in 2021.

- **Investments and advances totalled $40.7bn** and included equity investments in various entities. The largest Upstream investment is Tengizchevroil (a 50% ownership in joint venture in Kazakhstan) at $23.7bn. The largest Downstream investment is in Chevron Phillips Chemical Company (a 50% ownership with Phillips 66) of $6.5bn. There were no impairments recorded on any of these investments in 2021.

- **Asset retirement obligations (AROs) were $12.8bn** and are mostly related to Chevron’s oil and gas producing assets. As in the prior year, Chevron noted that “no significant AROs associated with any legal obligations to retire long-lived Downstream assets have been recognized, as indeterminate settlement dates for the asset retirements prevent estimation of the fair value of the associated ARO”.

---

8 Chevron Corporation Form 10-K For the fiscal year ended December 31, 2021 (Chevron 2021 10-K), p. 74.
9 Ibid, p. 33.
10 For example, bp, Equinor and Shell.
12 Targeted 2028 reductions from 2016 on an equity ownership basis include a: 40% reduction in oil production GHG intensity, 26% reduction in gas production GHG intensity, 53% reduction in methane intensity, and 66% reduction in flaring GHG intensity. It also targets no routine flaring by 2030. Ibid.
15 Including renewable natural gas (RNG), renewable diesel, sustainable aviation fuel, and renewable base oils and lubricants.
16 CCR Report, pp. 50-53
18 Chevron 2021 10-K, p. 82.
19 Ibid, p. 67.
20 Ibid, p. 95.
21 Including $28.6bn of Upstream and $11.8bn of Downstream. Ibid, p. 77.
22 Of which $11.6bn were long-term. Ibid, pp. 93 and 94.
23 Ibid.
New to 2021: In the notes to the financials Chevron discussed the potential for climate change litigation such as from claims of “alleged misrepresentations or omissions relating to climate change risks associated with [its] products.”  

24 It noted that, “while remote”, any resulting penalties or other costs related to such claims could have a “material adverse effect on [its] results of operations and financial condition.”  

25 It did not record anything related to these at year end.

**Consideration of climate-related matters (Metric 1a: No):** Like the prior year, Chevron indicated that significant decreases in estimated oil and gas reserves, or changes to items such as commodity prices or supply and demand outlooks, could trigger an impairment review. In 2021, Chevron also identified carbon costs and “the pace of the energy transition” (including regulations or laws to stop or reduce oil and gas production) as potential triggers of impairment.  

26 However, Chevron also indicated that its “impairment reviews and calculations are based on assumptions that are generally consistent with the company’s business plans and long-term investment decisions.”  

Based on this, it did not appear that Chevron considered the effects of climate-related matters on the commodity prices, estimated units of production that it used for Upstream asset valuations, or on estimated remaining lives or margins for Downstream assets. Further, it did not indicate whether achieving its interim and longer-term emissions aims may affect the continued use of existing assets or the inputs used in valuing these assets. Additionally, Chevron did not appear to consider the impacts of climate change/the energy transition on the estimated timing of its AROs.

Accordingly, Chevron did not meet the requirements of this metric because it did not disclose whether or how it incorporated the impacts of material climate-related matters, on a comprehensive basis, when accounting for the relevant assets and liabilities.

**Disclosure of relevant quantitative assumptions and estimates (Metric 1b: No):** We noted that Chevron used the following assumptions and estimates that could be materially impacted by climate-related issues:

- long-term forecasted oil and gas commodity price assumptions (for Upstream impairment tests);
- carbon costs;
- estimated changes in refining margins (for Downstream impairment tests);
- estimates of future production;
- the estimated remaining useful lives of assets (or units-of-production); and
- the average estimated timing, undiscounted estimated costs and discount rates used to calculate its AROs.

As in the prior year, Chevron did not disclose the relevant climate-related quantitative ($ or other numerical) assumptions and estimates that it used. In its 2021 report *Climate Change Resilience: Advancing a Lower Carbon Future (October 2021)* (CCR Report), Chevron contended that the commodity and carbon price forecasts (and carbon costs) that it uses are “proprietary” information. However, we note that peers such as bp in Europe and ConocoPhillips in the US disclosed the inputs that they used, belying the argument that such information is commercially sensitive. This information is needed to provide a meaningful picture of climate-exposed amounts so investors can assess the extent to which Chevron is including climate change considerations in its financial statements (if at all), Chevron’s resilience to the energy transition, and adjust as necessary. As Chevron did not provide the relevant quantitative inputs that it used to prepare its financial statements, it did not meet this metric.

**Consistency of the financial statements (Metric 1c: No):** For this assessment, this metric score is contingent on Metric 1a, which was scored as “No”. As noted in Metric 1a, there was no evidence of whether, or how, Chevron considered the financial impacts of climate-related matters that it discussed elsewhere when...
preparing its financial statements. Accordingly, there appeared to be an inconsistency across Chevron’s reporting and this metric was scored as “No”.

Additional information: We noted that Chevron included the following climate-related discussions in its other reporting31, yet did not appear to include any related financial impacts within its financial statements:

- its GHG targets/aims, such as the long-term aim of achieving net zero by 2050 (for Scope 1 and 2, Upstream production emissions);
- its strategy to achieve these targets/aims-including, but not limited to, growth in renewable fuels, hydrogen, carbon capture and offsets; and
- relevant climate-related risks, such as:
  - the potential for acceleration of economic end-of-life or impairment for certain assets because of efforts to achieve climate-related initiatives;
  - legislation, regulation, and other actions related to GHG emissions and climate change which could increase costs and reduce customer demand for its hydrocarbons; and
  - the progress of commercially viable technologies of low- or non-carbon-based energy sources.

Assessment of audit report (Sub-Indicator 2, Score: No)

As in the prior year, PwC identified the following (single) Critical Audit Matter (CAM): “The Impact of Proved Oil and Natural Gas Reserves on Upstream Property, Plant and Equipment, Net”. We noted that this CAM could be materially affected by climate change-related issues. For example, Chevron’s ability to continue to produce these resources economically could be impacted by reduced demand for Chevron’s products (leading to declining oil and gas prices), climate regulations that result in either increased costs of carbon emissions or that reduce the use of oil and gas products, and/or Chevron’s own emissions reduction aims. All these factors could reduce the volume of resources that could be classified as reserves.

Consideration of climate in the audit report (Metric 2a: No): Like in the prior year, there was no evidence that PwC considered the impacts of relevant climate-related matters in its audit of this CAM, although it noted that carbon costs were one of the variables which impacted management’s estimates32. (PwC also used the work of management specialists33 in its assessment of this CAM.) Accordingly, PwC did not meet this metric.

Identification of inconsistencies between financial statements and ‘other information’ (Metric 2b: No): For this assessment, this metric is partially contingent on Metric 1c, which was assessed as "No". Despite this, the auditor can still receive a “Yes” on this metric if the inconsistencies were included in the other information that the auditor is responsible for reviewing, and if the auditor identified such inconsistencies in its audit report. PwC expressed its role as extending to the consolidated financial statements only34 and made no mention of procedures to ascertain consistency of other information included in the 10-K. Under PCAOB auditing standards, information in the “front-end” of the 10-K is subject to the auditor’s consistency check. We noted that Chevron discussed some of the information that we expected it to consider in its financial statements (such as the impact of climate-related risks or its own emission reduction aims and strategies to achieve them) in the front-end of the 10-K. The apparent lack of consideration of these issues in its financial statements appeared inconsistent. However, PwC made no mention of any inconsistencies in Chevron’s reporting. Accordingly, it did not meet this metric.

Audit Committee Report: Chevron discusses climate-related matters and climate-related resolutions in its 2022 Proxy Statement. However, this commentary does not extend to a discussion regarding how climate may impact its financial statements; Chevron’s audit committee report35 does not comment on the incorporation of climate risks into the accounts or the consistency of Chevron’s reporting. The 2022 Proxy Statement also includes a shareholder resolution36 (Item 6) requesting that Chevron provide an audited report addressing

---

32 Chevron 2021 10-K, p. 57.
33 Its own earth scientists, engineers and reserves advisory committee, which are collectively referred to as “management specialists”. Ibid.
34 “Our responsibility is to express opinions on the Company’s consolidated financial statements and on the Company’s internal control over financial reporting based on our audits.” Ibid, p. 56.
how using the assumptions and estimates of the IEA NZE scenario would impact relevant assets and liabilities. Chevron indicated that it has “substantially addressed the request” in its CCR Report. We have studied both the resolution and the CCR Report and we do not believe that Chevron has met this resolution’s request. See our analysis in the Appendix herein.

Assessment of alignment with net zero by 2050 (or sooner)\textsuperscript{(Sub-Indicator 3, Score: No)}

Financial statements use (or provide a sensitivity to) inputs aligned with this (Metric 3a: No): Chevron did not provide the relevant assumptions/estimates, such as long-term commodity prices, estimates of future production or carbon costs, or estimated margins that it used to prepare the financial statements. Accordingly, there is no way to determine whether Chevron’s inputs are aligned with achieving Net Zero by 2050 or sooner. Additionally, in the MD&A Chevron indicated that performing sensitivity analyses of its property values (e.g., its impairment tests) or its asset retirement obligations were “not practicable, given the broad range of the company’s [PPE and long-lived assets, respectively] and the number of assumptions involved in the estimates”\textsuperscript{(9)}. Accordingly, it did not meet this metric.

Note: In its CCR Report, Chevron indicated that it tested its portfolio against the IEA NZE\textsuperscript{(10)}. However, as noted above, we determined that this report does not provide the quantitative ($) impacts of using IEA NZE inputs on Chevron’s relevant assets and liabilities and so also fails to meet this metric. See further discussions of our review of the CCR Report in the Appendix herein.

The audit report identifies that the company’s inputs were aligned with net zero by 2050 (or sooner) or provides a sensitivity analysis to this (Metric 3b: No): PwC did not comment on whether the assumptions and estimates used by management were aligned with this, what appropriate inputs might be, nor did it conduct a sensitivity to such inputs. Accordingly, PwC did not meet this metric.

\textbf{BACKGROUND TO THE ACCOUNTING ASSESSMENT:} In 2022, the Climate Action100+ added a provisional Climate Accounting and Audit Alignment Assessment (CAAA) to its Net Zero Benchmark\textsuperscript{(11)}. Chevron’s FY2020 and FY2021 financial statements and auditor’s report were assessed under the CAAA. The 2020 assessment results were translated from a prior analysis to assessment results under the new CA100+ methodology\textsuperscript{(12)}.

\textbf{APPENDIX: ASSESSMENT OF CHEVRON’S IEA NZE ANALYSIS}

In 2021, Chevron shareholders filed a resolution\textsuperscript{(33)} requesting that Chevron provide an audited report on the impacts of using inputs from the IEA NZE on the values of relevant assets and liabilities. As noted above, investors need this information to assess the extent to which Chevron has included climate change considerations in its financial statements (if at all), Chevron’s resilience to the energy transition and achieving the goals of the Paris Agreement, and to adjust as necessary. Chevron indicated that is has “substantially addressed this request” in its CCR Report. We performed an itemized analysis of the information in the CCR Report and concluded that Chevron did not provide the items requested. The following table includes the relevant financial statement topic (in alphabetical order), text and page references from the CCR Report and an explanation of why the quoted CCR Report text/disclosure fails to adequately address the resolution. For

\begin{itemize}
\item \textsuperscript{37} Chevron also refers to this as its “October 2021 TCFD-aligned Climate Report”. 2022 Proxy Statement, pp. 35 and 93.
\item \textsuperscript{38} And no more than 1.5 degrees warming. We currently use the IEA NZE scenario to assess this.
\item \textsuperscript{39} Chevron 2021 10-K, p. 51.
\item \textsuperscript{40} CCR Report, p. 32.
\item \textsuperscript{41} Further information can be found in the CAAA methodology. The financial statement and audit report assessments are grounded in the existing requirements of the relevant accounting and audit standard setters, with Net Zero by 2050 requested by investor groups. The CAAA uses a binary Yes/No scoring system at the metric level assessment. Metric scores are combined at the Sub-indicator and overall level, with a “Partial” score indicated where there is at least one ‘Yes’ assessment.
\item \textsuperscript{42}Scores are based on the new March 2022 CA100+ CAAA. The company’s prior year reporting was initially assessed based on a four-level rating system (significant concerns, some concerns, few concerns and good practice), which in part used the IGCC Investor Expectations for Paris-aligned Accounting as a framework. The results were published as part of the “Flying Blind” report. We did not attempt to aggregate the seven scores for those assessments. For the 2021 AGM four level scores, please reference prior company summary.
\item \textsuperscript{43} https://www.asyourow.org/resolutions/2021/12/9-chevron-request-to-improve-climate-related-audit-procedures.
\end{itemize}

© 2022 Carbon Tracker Initiative. All Rights Reserved.
2nd floor, 40 Bermondsey Street, SE1 3UD London - UK, http://www.carbontracker.org
context, the shareholder resolution sought that:

“...Chevron’s Board of Directors provide an audited report addressing how application of the assumptions of the IEA’s Net Zero by 2050 pathway would affect the assumptions and estimates underlying its financial statements, including its long-term commodity and carbon prices, remaining asset lives, existing and future asset retirement obligations, capital expenditures, and asset valuations (impairments). The report should be produced at reasonable cost and omitting proprietary information.”

We interpreted this to call for, at a minimum, the dollar amount difference between commodity and carbon prices that Chevron used in its financial statements and those in the IEA NZE, and the resulting dollar impacts of using IEA NZE assumptions on remaining asset lives, asset impairments, and AROs.

<table>
<thead>
<tr>
<th>Topic</th>
<th>CCR Report</th>
<th>Page(s)</th>
<th>Why it is not responsive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset retirement obligations (AROs)</td>
<td>“Long-term impacts (10–plus years), Upstream: In this scenario, post-2030, there would be no new investment in Upstream. Free cash flow would decline substantially in the 2030s. By 2050, cash flow and production would be modest.”</td>
<td>36</td>
<td>It is not clear if this means that Upstream assets will be retired by 2050, but it seems to imply that Chevron will continue to use these assets post-2050 under present planning. Additionally, this does not address shareholders' requests for the dollar impact of the IEA NZE on existing assets and AROs. Note: under the IEA NZE, “...no new oil and gas fields are required beyond those already approved for development.”</td>
</tr>
<tr>
<td>Asset retirement obligations (AROs)</td>
<td>&quot;Lower prices may challenge assets in disadvantaged parts of the supply stack, which may lead to changes in our Upstream portfolio.&quot;</td>
<td>36</td>
<td>This may indicate retirement of some Upstream assets but gives no real indication of changes to estimated retirement costs, estimated dollar amounts, or the extent to which the timing might be accelerated, as requested by shareholders. Although Chevron references &quot;lower prices&quot; it does not provide any indication of the dollar prices it has used or to which it refers, as shareholders have requested.</td>
</tr>
<tr>
<td>Carbon prices</td>
<td>&quot;We use carbon prices and derived carbon costs in business planning, investment decisions, impairment reviews, reserves calculations, and assessment of carbon-reduction and new energy opportunities.”</td>
<td>3</td>
<td>This does not provide the dollar carbon price/cost assumptions that Chevron used in preparing its financial statements (e.g., in the impairment tests), as requested by shareholders.</td>
</tr>
<tr>
<td>Carbon prices</td>
<td>“For us, the term carbon price refers to an external price resulting from a policy like a carbon tax or cap-and-trade system, and for us, a carbon cost is generally a function of a jurisdiction specific carbon-price forecast and asset-specific characteristics that represent the cost for compliance the asset</td>
<td>29</td>
<td>This does not provide the dollar carbon price or cost assumptions that Chevron used in its financial statements that shareholders have requested.</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>Topic</th>
<th>CCR Report</th>
<th>Page(s)</th>
<th>Why it is not responsive</th>
</tr>
</thead>
</table>
| Carbon prices            | "Business planning: Business units incorporate carbon costs and anticipated capital and operating expenditures related to carbon issues in multiple ways.  
• Business plans: In jurisdictions with regulations that impose a carbon price, carbon costs are included in business plans; in jurisdictions that do not yet have such regulations, but that are projected to implement them in the future, carbon costs are included in the business plan the year the prices are forecasted to start.  
• Carbon management plans: Business units in jurisdictions with regulations that impose a carbon price go through an annual compliance-planning process with the goal of achieving the most efficient manner of compliance. Where we have multiple assets in a single jurisdiction, integrated plans are developed to optimize total compliance costs across the business. We develop MACCs for our facilities and compare the cost of internal reduction options with the carbon price or fees and purchasing offsets or allowances. The anticipated compliance costs, including investments to generate internal emissions reductions, are included in business plans." | 30      | This does not provide the dollar carbon price or cost assumptions that Chevron used in its financial statements that shareholders have requested. |
| Carbon prices            | "Carbon costs are included in impairment reviews. ... When calculating reserves, we incorporate a carbon cost in jurisdictions with enacted carbon-pricing regulations. For reserves accounting, per guidance in Accounting Standards Codification 932, our carbon-cost estimates are based on enacted regulations, not carbon-price forecasts, and follow reserve-accounting principles. ... Our internal carbon-price forecast and derived carbon costs are considered in the economic evaluations supporting major capital-project appropriations. In addition, a number of GHG-related factors are considered in project-appropriation assessments, such as:  
• The annual profile of anticipated project GHG emissions and emissions intensity (both Scope 1 and 2)  
• The identification and assessment of the options for reducing GHG emissions and optimizing carbon intensity." | 31      | This does not provide the dollar carbon price or carbon cost assumptions that Chevron used in its financial statements that shareholders have requested.  
[Note that the reserves accounting comment appears to relate to determining whether the reserves are economically producible. This is a different test from the asset impairment tests that shareholders have requested.] |
<p>| Carbon prices            | Upstream: &quot;Our continued focus on reducing the emissions intensity of our operations&quot;.                                                                                                                       | 36      | This provides an indication of emissions reduction activities but no indication of cost amounts (e.g., in dollars) that shareholders have requested. |
| Commodity prices         | &quot;As part of our strategic planning process, we use models and internal analysis to forecast demand, energy mix, supply, commodity pricing, and carbon prices—all of which include assumptions about future policy, such as those that may be implemented in support of the Paris Agreement’s goal of...&quot;                                                                 | 3       | This does not provide the forecast oil and gas prices, in dollars, that Chevron used in its financial statements as requested by shareholders. |</p>
<table>
<thead>
<tr>
<th>Topic</th>
<th>CCR Report</th>
<th>Page(s)</th>
<th>Why it is not responsive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>“holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5° C above pre-industrial levels.”</td>
<td></td>
<td>This does not provide the forecast oil and gas prices, in dollars, that Chevron used in its financial statements as requested by shareholders. See prior comments about references to “proprietary” information as reasons for not disclosing.</td>
</tr>
<tr>
<td>Commodity prices</td>
<td>“Our comprehensive, proprietary forecasts of commodity prices significantly influence our strategic and business planning. Because price is determined in a competitive marketplace, scenarios are used to reflect market uncertainties, generating multiple price trajectories. Our price outlooks include carbon price forecasts and cover a wide range of oil prices, natural gas prices, and costs of goods and services, among other considerations. These forecasts reflect long-range effects from population and economic growth, renewable fuel penetration, energy efficiency standards, climate-related policy actions, and demand response to oil and natural-gas prices.”</td>
<td>29</td>
<td>This does not provide the forecast oil and gas prices, in dollars, that Chevron used in its modelling assumptions as requested by shareholders.</td>
</tr>
<tr>
<td>Commodity prices</td>
<td>“We utilize various quantitative methods to combine our supply-and-demand views and solve for equilibrium commodity prices at which the marginal producer can enter the market and still earn a reasonable rate of return.”</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>“Note: For illustration only. Not drawn to scale. Producers with costs lower than the marginal producer—lower and to the left on the blue stack—produce more and have larger margins than the marginal producer, in yellow. Producers with costs higher than the marginal producer—higher and to the right on the gray supply stack—typically would not develop assets. “Margin is shared between all parties involved in production.”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commodity prices</td>
<td>“…an oil and gas company’s primary valuation comes from the oil and gas reserves it holds. Per the U.S. Securities and Exchange Commission, the definition of “reserves” requires that those assets be economically producible as of a given date. The commodity price used in these calculations is the average of the first-of-the-month pricing of the preceding 12-month period prior to the end of the reporting period, projected forward as a flat—or unescalated—price for the life of the field. For example, the Brent oil price used in reserve calculations for 2020 year-end reporting was approximately $41.”</td>
<td>31</td>
<td>Chevron is describing the SEC’s standardised measure of oil and gas (“SMOG”) disclosure requirement⁴⁶. For purposes of the SMOG (which is unaudited), the SEC dictates the price that companies should use. Such price (as referenced here) is not a forecasted oil price and is not necessarily the price that Chevron used in the financials.</td>
</tr>
</tbody>
</table>

⁴⁶ See Rule 4-10 of SEC Regulation S-X. Full name: “Standardized Measure of Discounted Future Net Cash Flows Related to Proved Oil and Gas Reserves”. Also known as “present value-10” or “PV-10”.
Why it is not responsive (and that shareholders have requested. (We have provided more information about the use of the SMOG in a blog on our website).)

**Commodity prices**

“We use long-term energy-demand scenarios and a range of commodity prices to test our portfolio, assess investment strategies, and evaluate business risk to strive to deliver results under a range of potential futures.”

Aside from the specific scenarios that Chevron identified, this provides no dollar amount regarding commodity prices used as requested by shareholders.

**Impairments**

“We believe that our asset mix and actions in new energies enable us to be flexible in response to potential changes in supply and demand, even in lower carbon scenarios like the International Energy Agency’s (IEA) Net Zero by 2050 (NZE 2050) scenario.”

This does not provide any actual or potential dollar impact on existing assets and liabilities that shareholders have requested.

**Impairments**

stranded assets

"High-profile publications have stated that the portfolios of many oil and gas companies are not competitive in a ‘well below 2°C world,’ implying that companies and their investors have significant exposure to ‘stranded’ assets because a company’s value is tied to these undeveloped assets. However, an oil and gas company’s primary valuation comes from the oil and gas reserves it holds. Per the U.S. Securities and Exchange Commission, the definition of ‘reserves’ requires that those assets be economically producible as of a given date. The commodity price used in these calculations is the average of the first-of-the-month pricing of the preceding 12-month period prior to the end of the reporting period, projected forward as a flat—or unescalated—price for the life of the field. For example, the Brent oil price used in reserve calculations for 2020 year-end reporting was approximately $41.”

Chevron is referencing the SEC’s SMOG disclosure requirement. This is not the impairment test for the relevant existing balance sheet assets that shareholders have requested. By stating this, Chevron appears to be conflating impairment testing of oil and gas assets on the balance sheet with the reserves that will be used to produce the cash flows used to test such assets. This is not a discussion of actual impairment tests, any dollar impairments, or the assumptions it used to calculate such impairments as requested. The price that is included here is not a forecasted oil price and is not necessarily the price used in the financials. Accordingly, this

---

47 CTI has also referenced the 2020 SMOG in previous analyses to underscore why disclosure of these assumptions is so important. See: https://carbontracker.org/can-you-see-stranded-assets-through-the-smog/

48 As previously noted, impairment tests under US accounting standards involve two steps. For both of those steps companies must compare the relevant cash flows to the carrying value of the asset. The SMOG does not do this.
<table>
<thead>
<tr>
<th>Topic</th>
<th>CCR Report</th>
<th>Page(s)</th>
<th>Why it is not responsive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impairments</td>
<td>&quot;As discussed in this report, we continually evaluate potential climate-related risks and energy transition opportunities as part of our decision making around future investments and portfolio composition.&quot;</td>
<td>31</td>
<td>This does not provide the information that shareholders have requested.</td>
</tr>
<tr>
<td>Impairments</td>
<td>&quot;We analyze alternative scenarios to stress-test our portfolio and integrate learnings into our decision making to remain competitive and resilient in any environment.&quot;</td>
<td>32</td>
<td>This is not an impairment test of existing assets, nor does it quantify the effects of these stress-tests, as requested by shareholders.</td>
</tr>
<tr>
<td>Impairments</td>
<td>Exhibit 30 (see below).</td>
<td>32</td>
<td>This provides a general description of potential impacts to oil and gas from lower-carbon scenarios which is not specific to Chevron’s business and so not responsive to shareholders’ requests.</td>
</tr>
</tbody>
</table>
| Impairments   | “…we do not rely on the NZE 2050 scenario for our business planning. Nonetheless, we have conducted a scenario test of the IEA’s NZE 2050 demand projections, as well as its oil, gas, and carbon price projections, to test against our portfolio.” Chevron indicated that the “…NZE 2050 scenario’s assumptions relevant to the oil and gas sector are as follows”:  
  • “…By 2050, crude oil prices drop to less than $25 per barrel, in real terms, and international gas prices drop to $2–$5 per mmbtu, in real terms. …By 2050, carbon prices rise to $250 per tonne CO2e in advanced economies, $200 in China, Russia, Brazil, and South Africa, and $55 in other emerging-market and developing economies.”  
  Chevron also indicated that, in the absence of certain info in the IEA NZE 2050, it used:  
  • regional demand information from IEA SDS ("as a guide to interpolate from the available NZE 2050 information to create the regional input estimates necessary to run the scenario").  
  • its own "...extremely aggressive growth of CCUS, offsets, hydrogen, renewable fuels, and renewable natural gas."  
  • “Refining and petrochemicals margins were decreased by the percentage change in Brent prices relative to our 2021 Business Plan price forecast.”  
  • “Marketing volumes were based on regional gasoline and diesel demand.”  
  Full discussions are on pages 33-36. | 33      | This does not provide the dollar impact on existing asset valuations that shareholders have requested. Additionally, this is a scenario test, not a sensitivity of Chevron’s existing balance sheet items to the IEA NZE inputs. Chevron itself recognises that a scenario and sensitivity are not the same: "A scenario is a hypothetical construct that uses assumptions and estimates to highlight central elements of a possible future, but is not a forecast, prediction, or sensitivity analysis." Chevron does not provide quantitative information about the impact on the assets which are on the balance sheet today, and that shareholders have requested. |
| Impairments   | Portfolio analysis  
  “Under the assumptions underlying the [NZE] scenario analysis, we believe Chevron could transition to meet the market” | 35      | Chevron is merely indicating that, by shifting focus, it believes it could survive the energy transition. This does |
<table>
<thead>
<tr>
<th>Topic</th>
<th>CCR Report</th>
<th>Page(s)</th>
<th>Why it is not responsive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impairments (and AROs)</td>
<td>Upstream assets</td>
<td>35, 36</td>
<td>not quantify the potential impact on relevant assets and liabilities on the balance sheet today, as requested by shareholders.</td>
</tr>
</tbody>
</table>

**Impairments**

**Upstream assets**

**Short- to mid-term impacts (0-10 years):**

"In the NZE 2050 scenario, Chevron's diverse and flexible portfolio would help to mitigate modeled risk and would enable us to adjust capital in response to changing industry economics. In addition, our MACC investments would enable us to further reduce the carbon intensity of our assets and supply the market with lower carbon-intensity crude, which is still needed in NZE 2050. Although Upstream capital and exploratory spending, production, and cash flow would decline over the first decade in the NZE 2050 scenario, free cash flow is projected to remain positive."  

(Relating to assets in Kazakhstan, Gulf of Mexico, and Nigeria): "strong upstream base...based on investments largely made in the past..."  

"The startup of the Future Growth Project in Kazakhstan would increase the cash generation ability of our base business there.")

**Long-term impacts (10-plus years):**

"...Free cash flow would decline substantially in the 2030s. By 2050, cash flow and production would be modest. ... declining prices would also push other industry costs lower. ... legacy gas assets such as Gorgon, Wheatstone, and the Eastern Mediterranean would continue to be competitive in meeting demand for natural gas. In addition, the increased demand for hydrogen would create opportunities to supply gas for blue hydrogen. Lower prices may challenge assets in

---

50 Marginal abatement cost curve.

51 Impairments should only be based on cash flows that are relevant to individual assets (or the lowest level of identifiable cash flows for groups of assets).
<table>
<thead>
<tr>
<th>Topic</th>
<th>CCR Report</th>
<th>Page(s)</th>
<th>Why it is not responsive</th>
</tr>
</thead>
</table>
| Impairments (and AROs)      | **Downstream & Chemicals**  
  **Short- and mid-term impacts (0–10 years):**  
  “Although NZE 2050 shows a sharp decline in demand for transport fuels in the United States and Asia, we believe that the Downstream portion of our portfolio would remain resilient through 2030 due to actions we have taken to enhance refinery competitiveness. In addition, our investments in renewable fuels would provide opportunities for more rapid growth as demand for these commodities would increase in NZE 2050. Petrochemical demand is shown to increase in NZE 2050, which could help maintain cash flow from the chemical business.”  
  **Long-term impacts (10–plus years):**  
  “The continued decline in demand for gasoline and diesel would result in reduced margins globally. [emphasis added] Lighter crudes and lower runs would lead to less feed for conversion units in more complex refineries, which in the absence of flexibility, efficiency, and reconfiguration could disadvantage high-conversion refineries (e.g., coking), relative to simpler refineries. Our investments in biofuels could allow for full refinery conversion to meet the continued demand for these commodities. In addition, tightly integrated value chains in areas, such as the U.S. West Coast, the U.S. Gulf Coast, and Asia, could enable us to pivot these operations to blue and green hydrogen. Finally, the continued demand for chemicals could enable continued select investments in petrochemical facilities.” | 36      | Impairments: Chevron indicates that it assessed the impacts on the Downstream & Chemicals businesses using IEA NZE. This is not the impairment or sensitivity test on existing assets that shareholders have requested. Chevron appears to mention future investments in renewable fuels, which are not on the balance sheet today. Long-term impacts reference disadvantaging refineries. Chevron does not indicate if this means that existing assets could be impaired using the IEA NZE and, if so, the quantified amount of impairment, as requested by shareholders. |
<p>| Impairments                  | “Recognizing that climate models continue to evolve, in 2020, we undertook a stress-test exercise for our operated assets with regard to the hypothetical upper bound of physical risks that third parties model as potentially related to climate change using a time horizon of 30 years. Our assessment used third-party tools and methodologies and evaluated IPCC RCPs.”                                                                                                                                                                                                                                         | 37      | Chevron does not provide an estimated financial/dollar effect on its business/portfolio if policies do not enable lower-carbon solutions to scale (nor does it address the requests in the Resolution). |
| Impairments                  | <strong>Summary of scenario test:</strong> “Although our asset mix would need to evolve to adapt to various scenarios, we believe our portfolio management approach would enable Chevron to be resilient under the modeled assumptions. We believe our processes for tracking leading indicators and adapting our business enable us to be flexible in response to potential changes in policy, supply, demand, and physical risk.”                                                                                                                                                                                                  | 37      | Chevron provides no quantitative (dollar) indications of its resilience in this scenario that shareholders have requested. |
| Impairments                  | Exhibit 35 (see below)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 40      | This does not provide a quantified indication of amounts/impacts as requested by shareholders. |</p>
<table>
<thead>
<tr>
<th>Topic</th>
<th>CCR Report</th>
<th>Page(s)</th>
<th>Why it is not responsive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remaining asset lives</td>
<td>“A common way to evaluate the depth of a company’s reserves is to divide the quantity of proved reserves (R) by the annual production (P), creating a ratio (R/P) that indicates the number of years remaining before all proved reserves will be produced. At the end of 2020, Chevron’s R/P ratio was 9.9 years.”</td>
<td>31</td>
<td>Chevron is merely providing a reserves-to-production ratio for its assets. This does not indicate whether remaining asset lives would be shortened, or not, in a low-carbon scenario and as requested by shareholders.</td>
</tr>
</tbody>
</table>
| Remaining asset lives      | **Upstream**  
Short- and mid-term impacts (0–10 years): "These short-cycle [unconventional] assets give us the flexibility to respond to commodity price volatility, cash flow, and earnings, even in a hypothetical low-price environment like the IEA’s NZE 2050 scenario."  
(Re: assets in Kazakhstan, Gulf of Mexico, and Nigeria): "...strong upstream base... based on investments largely made in the past..."  
Long-term impacts (10–plus years): "...post-2030, there would be no new investment in Upstream."  
**Downstream & Chemicals**  
Short- and mid-term impacts (0–10 years): "...we believe that the Downstream portion of our portfolio would remain resilient through 2030 due to actions we have taken to enhance refinery competitiveness"  
Long-term impacts (10–plus years): "Our investments in biofuels could allow for full refinery conversion to meet the continued demand for these commodities. In addition, tightly integrated value chains in areas, such as the U.S. West Coast, the U.S. Gulf Coast, and Asia, could enable us to pivot these operations to blue and green hydrogen." | 35, 36 | While this may imply remaining asset lives (or fully depreciated assets), Chevron does not specifically identify remaining asset lives (in years or production amounts) as requested by shareholders.  
Investors need this information to understand the extent to which the same asset will continue to be used and/or how its life would be impacted (e.g., whether estimated production/asset life could be shortened and what that means in terms of actual percentages or years). |
DISCLAIMER: Carbon Tracker is a non-profit company set up to produce new thinking on climate risk. The organisation is funded by a range of European and American foundations. Carbon Tracker is not an investment adviser and makes no representation regarding the advisability of investing in any particular company or investment fund or other vehicle. A decision to invest in any such investment fund or other entity should not be made in reliance on any of the statements set forth in this publication. While the organisations have obtained information believed to be reliable, they shall not be liable for any claims or losses of any nature in connection with information contained in this document, including but not limited to, lost profits or punitive or consequential damages. The information used to compile this report has been collected from a number of sources in the public domain and from Carbon Tracker licensors. Some of its content may be proprietary and belong to Carbon Tracker or its licensors. The information contained in this research report does not constitute an offer to sell securities or the solicitation of an offer to buy, or recommendation for investment in, any securities within any jurisdiction. The information is not intended as financial advice. This research report provides general information only. The information and opinions constitute a judgment as at the date indicated and are subject to change without notice. The information may therefore not be accurate or current. The information and opinions contained in this report have been compiled or arrived at from sources believed to be reliable and in good faith, but no representation or warranty, express or implied, is made by Carbon Tracker as to their accuracy, completeness or correctness and Carbon Tracker does also not warrant that the information is up to date.