

# BNEF Oil and Gas Business Model Transition Scores

Methodology and User Guide  
Part of the Bloomberg Climate Transition Scores

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**Bloomberg**NEF

# Executive summary

Companies in heavy-emitting industries face substantial risk from a world that transitions toward a low-carbon economy in alignment with the Paris Agreement, in order to mitigate the worst effects of climate change. This is 'transition risk', and oil and gas companies in particular have their work cut out for them, as such a world is likely to consume far less fossil fuel. The BNEF business model transition scores described here assess 39 major oil and gas companies on their business model preparedness for a low carbon world and make up half of the Bloomberg climate transition scores.

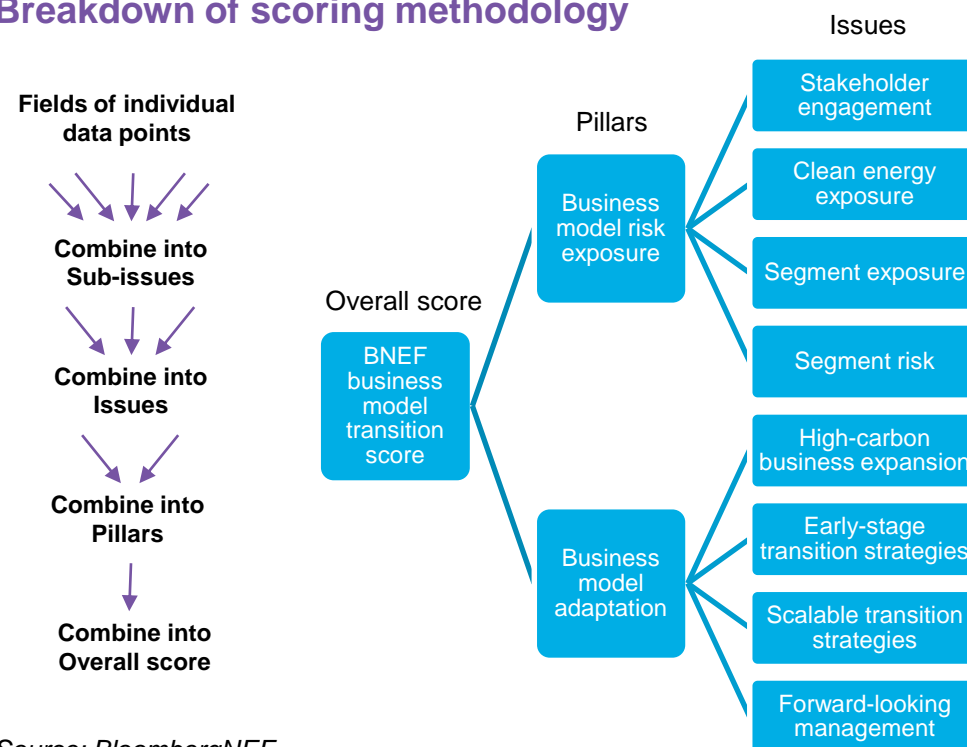
- These scores were calculated for 39 companies and based on approximately 40 individual metrics across two pillars, assessing the current business model risk and future direction. These include topics such as whether or not the company has undertaken efforts to develop alternative, clean revenue streams like electric vehicle charging, how at risk the current upstream business is, if the company is actively expanding fossil operations and whether or not the company is based in a region with a government-set, net-zero goal.
- The scores are industry-specific, data-driven and transparent, relative to peers, and forward-looking. This allows companies to contrast their transition preparedness using industry-relevant comparable data, and investors to assess and understand companies' risks based on both their current activities and their plans.
- Some 23 of the target companies are integrated oil and gas groups, with the remaining 16 evenly split between exploration and production, and refining and marketing organizations. The scores are dynamic, in that they weight specific metrics more or less heavily, based on the particular company's upstream or downstream emphasis. This document is a user guide and detailed methodology; results analysis will be published separately.

**39** Number of oil and gas companies scored

**90%** Proportion of scored companies targeted by Climate Action 100+

**5** Number of key steps to scoring, weighting, normalizing, and scaling target companies

## Breakdown of scoring methodology



Source: BloombergNEF

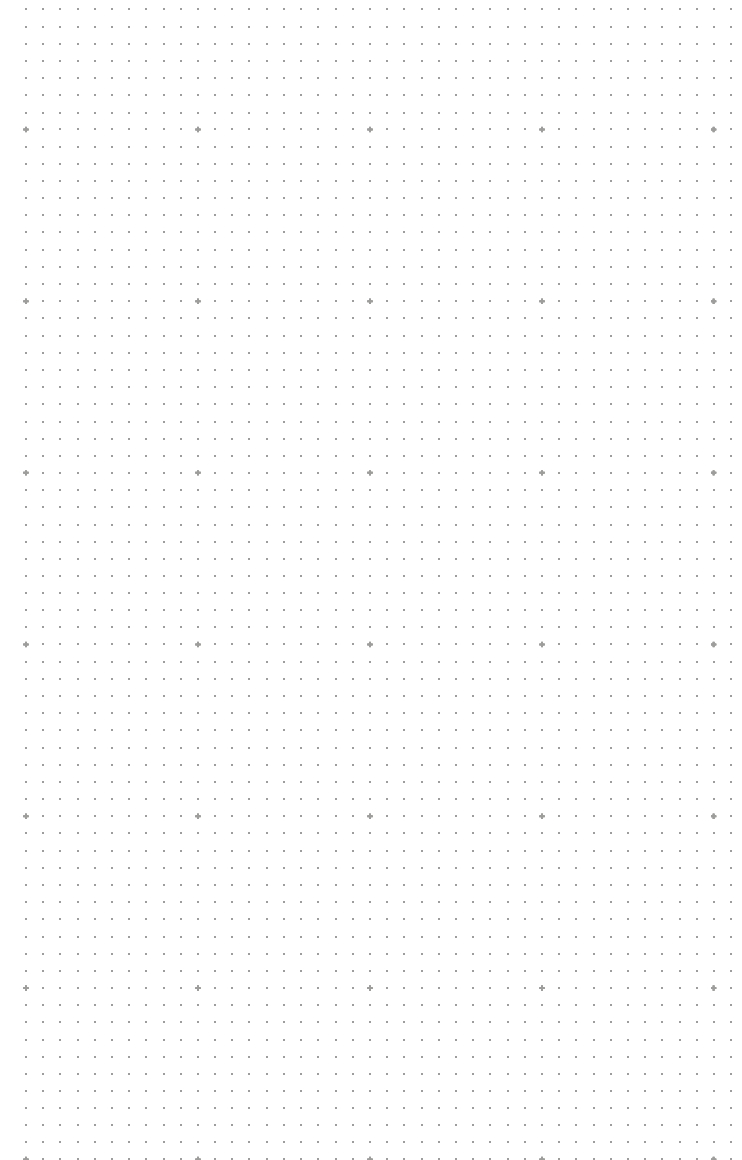


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# What is a climate transition score?

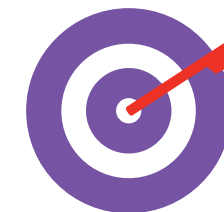
And why make one?



What is a climate transition score?

# The need for comparable, forward-looking assessment

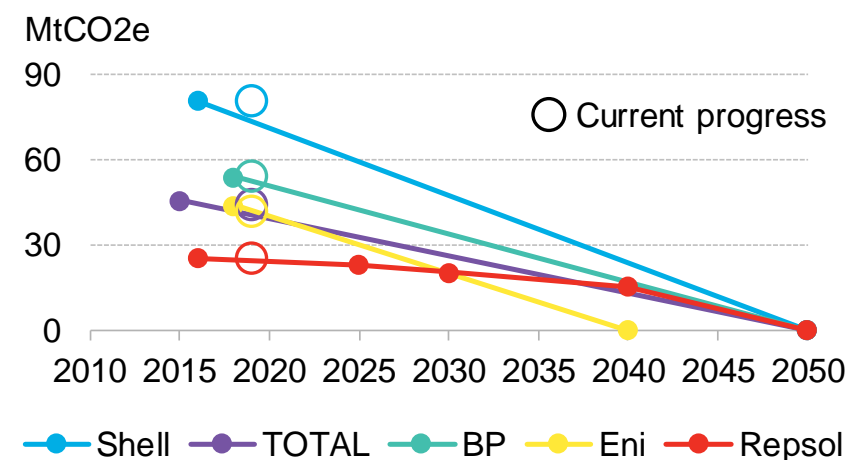
- **Momentum on climate action is growing** as the risks of climate change become apparent and more companies across industries publicly set ambitious emission targets. More than 1,050 companies have set Science Based Targets as of November 2020 – these are corporate goals to reduce greenhouse gas emissions in alignment with the Paris agreement. The UN’s Race to Zero campaign counts 1,100 companies committed to net zero by mid-century at the latest.
- **Climate action creates transition risk** for high-emission businesses and companies exposed to the fossil economy. For the oil and gas industry, a world headed for compliance with the Paris Agreement consumes substantially less oil – and possibly gas – than one where global climate action remains limited. It also faces potentially costly environmental regulation.
- **But transition risk is hard to analyze.** There are little useful data, as adoption of the Taskforce on Climate-related Financial Disclosures (TCFD) recommendations remains limited. Most data are historical and qualitative or hard to compare. This is why transition risk assessment is opaque: it tends to rest on analyst opinion, not a clear, data-driven approach.
- **Just comparing emissions is insufficient.** While being a useful indicator of companies’ transition risk, the data are lagging and even the most efficient oil and gas company will still face substantial transition risk.
- **Emission targets are forward-looking, but hard to compare.** Oil and gas companies are increasingly setting emission targets, and some leaders have begun setting net-zero targets. However, even net-zero targets are challenging to compare between companies, due to different scopes, special exclusions, base years and type (absolute or intensity-based).
- **There is no standard for assessing business model transition risk.** Even companies with similar emissions profiles may have radically different exposures to transition risk, depending on their business model and competitive positioning.
- **Companies’ scenario analyses cannot be compared.** These are increasingly performed as part of TCFD disclosure, but vary substantially in nature, meaning they cannot be used as a basis for quantitative comparison of strategy resilience in the face of a transition to a low-carbon economy.
- **Transition investment disclosure is limited.** Many oil and gas companies do not disclose the scale of their investments in transition strategies such as renewable energy. Where they do provide detail on their strategies, it is often qualitative or non-standard, making comparison challenging.



8 out of 39

Oil and gas companies with some form of CO2 neutral target, according to BI Carbon

Scope 1 and 2 net-zero targets for select oil & gas companies



Source: BloombergNEF, Bloomberg Terminal, company reports  
Note: Chart is for scope 1 and 2 emissions only.

What is a climate transition score?

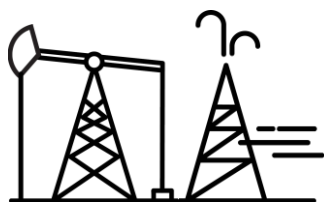
# Our solution: Bloomberg climate transition scores

- The scores help investors answer one key question:

**“How prepared is this company for a (sub-)2degC world, relative to its peers”**

- They also allow scored companies to understand how they compare to their peers in terms of transition and across a spectrum of indicators, and gives non-scored companies and other stakeholders insight into what matters to be well-prepared for transition.
- Starting with the oil and gas industry, the Bloomberg climate transition scores are a combined effort by BloombergNEF and Bloomberg Intelligence, both of which are research centers within Bloomberg. The scores are available on the Bloomberg Terminal at BI BESGG TRANSCORE <GO> and will be published on BloombergNEF soon.
- The scores are designed with four principles in mind: they are industry-specific, data-driven and transparent, relative to peers, and forward-looking. Data for the scores are derived from the Bloomberg Terminal, BloombergNEF proprietary datasets, Bloomberg Intelligence and publicly available information.

## Industry-specific



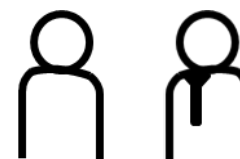
An industry-by-industry approach allows precise measurement of what transition entails for each sector, taking into account the specific industry business models and emission profiles. Our scores use data salient to oil and gas companies, such as upstream versus downstream operations, and petrochemical activity.

## Data-driven and transparent



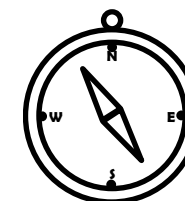
The scores are based on approximately 40 data fields, which are combined into an overall score. All underlying data and weightings are made available and explained, so that scores are understandable and open to scrutiny.

## Relative to peers



The scores compare transition progress and potential for each target company to a universe of peers. For this reason, scores are relative; a good score describes performance within the peer group – and not that the company is universally well-poised for transition.

## Forward-looking



The climate transition scores are designed to be forward looking. Strategies, plans and targets, as well as current operations and investments in new technologies are all factors in determining transition preparedness.

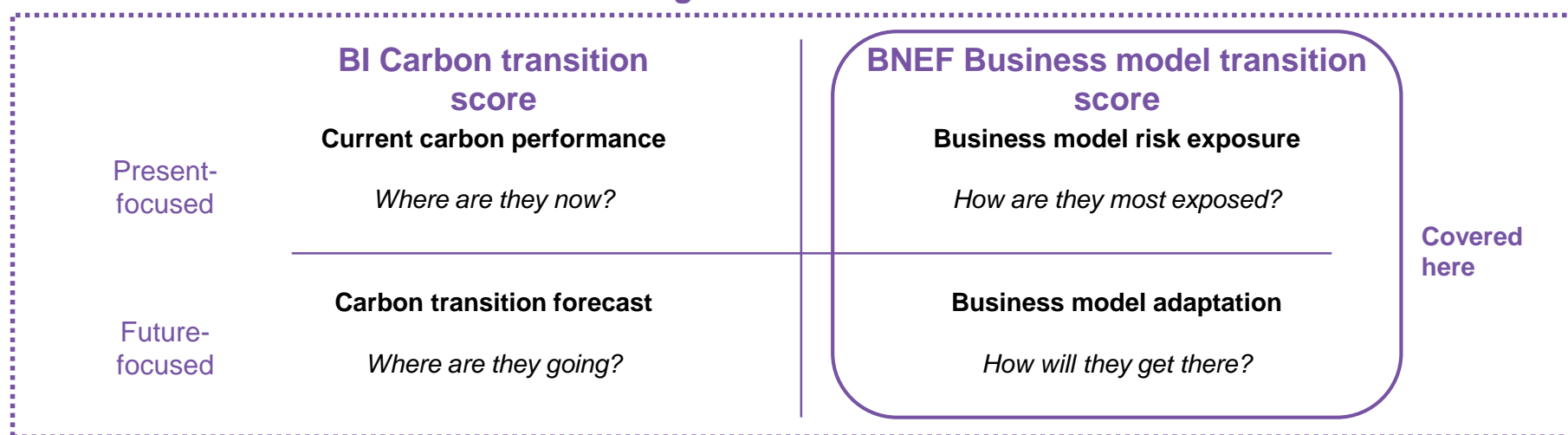
Source: BloombergNEF

What is a climate transition score?

# The four pillars of the Bloomberg climate transition scores

- The climate transition score is broken into two tracks, each with two pillars: In the first track are **carbon transition risk exposure** and **carbon transition forecast**; in the second are **business model risk exposure** and **business model adaptation**.
- This is the methodology document for the **BNEF business model transition score**, made up of the latter two pillars.
- The **Bloomberg Intelligence (BI) carbon transition** data can be found at **BI CARBON <GO>** along with methodology documentation found at DOCS 2095195 <GO> on the Bloomberg Terminal. The BI carbon transition score assesses current oil and gas company emissions performance (carbon transition risk exposure), as well as assessing forecast emissions (carbon transition forecast, based on emission targets). These together show each company's current carbon intensity, recent past reduction, future carbon intensity, future reduction, and comparison to the IEA 2degC benchmark.

## Bloomberg Climate Transition Score



### Business model risk exposure

This pillar measures the company's current exposure to transition risk. It assesses the current business model, as well as external pressures.

### Business model adaptation

This pillar measures the company's progress in shifting its business model, including its efforts to advance transition-friendly activity, climate disclosure, and progressive governance.

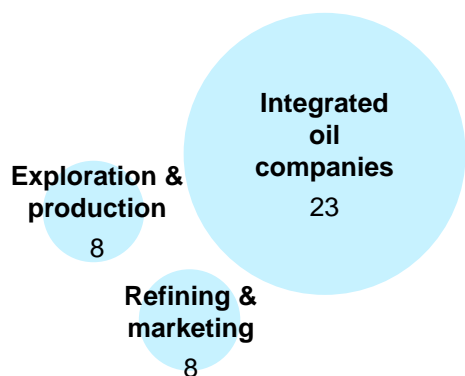
Source: BloombergNEF

What is a climate transition score?

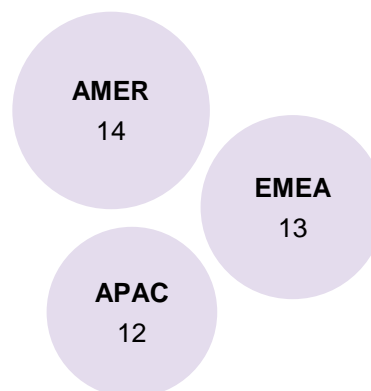
# Scoring universe

- The first release of the Bloomberg climate transition scores covers 39 major, public oil and gas companies. More high transition-risk sectors will be added, with power utilities next, and the scores will be updated on an annual basis.

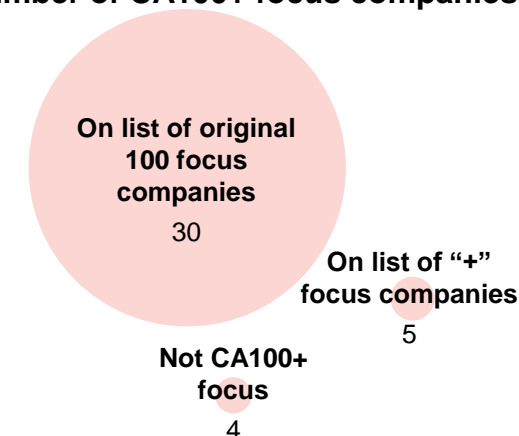
Number of companies per type



Number of companies per region



Number of CA100+ focus companies



## Universe of companies scored:

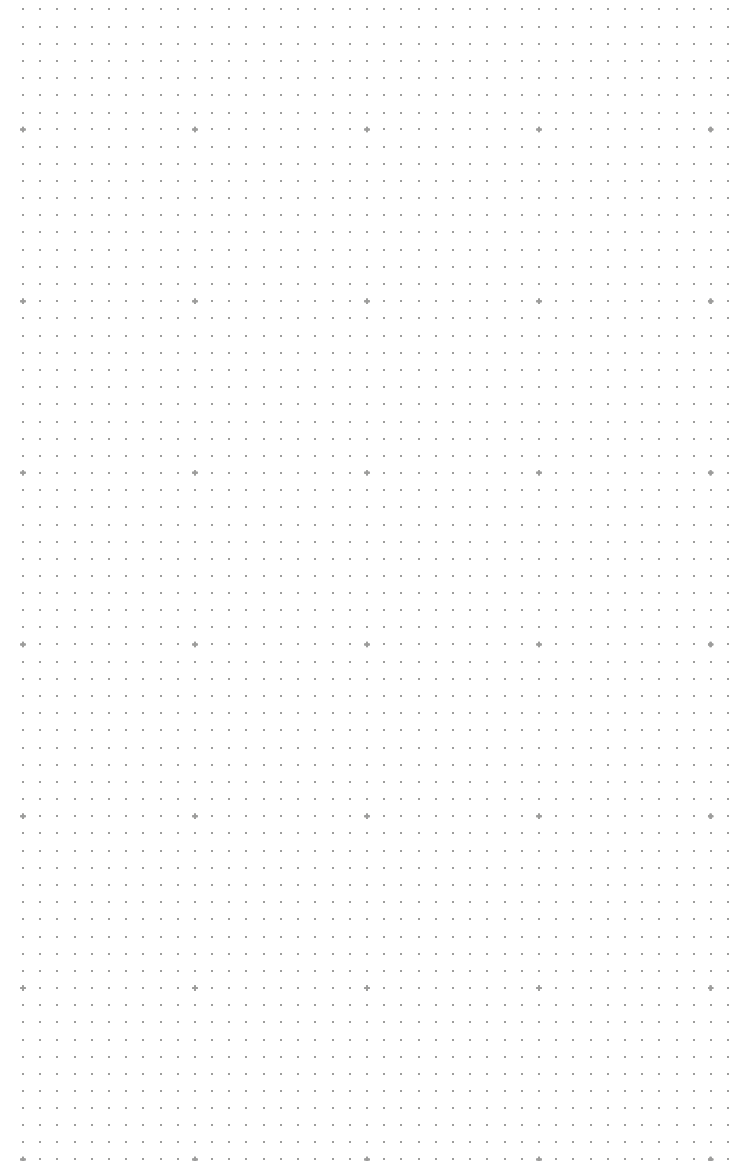


Source: BloombergNEF, company documents



# Using the scores

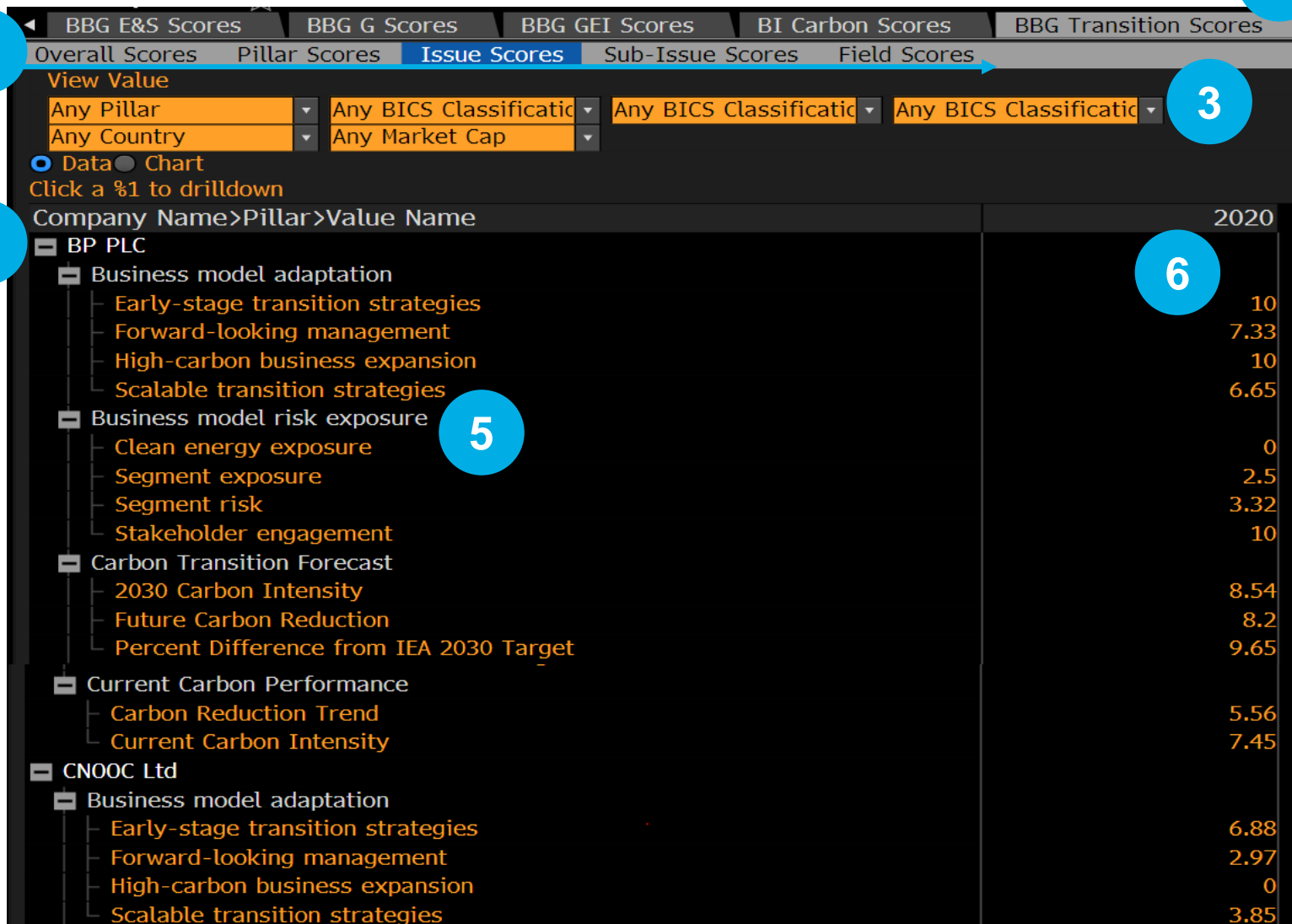
What can you do with them?



Using the scores

# Scores on the Bloomberg Terminal

## BI ESG TRANSSCORE <GO>



- 1 Use the Terminal to view scores for all four pillars, from overall scores down to field scores. This example shows issue scores.
- 1 In BI ESG <GO>, navigate to BBG Scores and then to BBG Transition Scores to view the results.
- 2 Start with Overall Scores and drill down to investigate score drivers. Each tab from pillars → issues → sub-issues → fields provides greater and greater detail. The final tab, Field Values, shows the raw data for each field.
- 3 Filter for attributes like company, pillar, market cap and country. Filter selections are sticky.
- 4 View scores for selected companies.
- 5 The tree hierarchy shows how scores roll up, with up to two higher levels shown at a time – in this case, the pillar and overall levels.
- 6 See the numeric scores and compare for issues and companies. Use the plus and minus toggles to hide and unhide issues and companies.

Source: BloombergNEF, Bloomberg Terminal

Using the scores

# Use cases for the scores



• **Oil and gas strategists**

- Identify where your company is leading on transition and plan how to keep ahead of peers.
- Determine where your company is lagging peers and use this to inform your strategy. With climate action likely to accelerate among oil and gas companies, effort will be required just to tread water, let alone swim ahead.
- Recognize the full universe of material transition-related metrics for your company, the context of climate transition for the industry as a whole and the pertinent initiatives to investigate and on which your company could engage.
- Use scores and raw data to benchmark peers’ performance in detail.



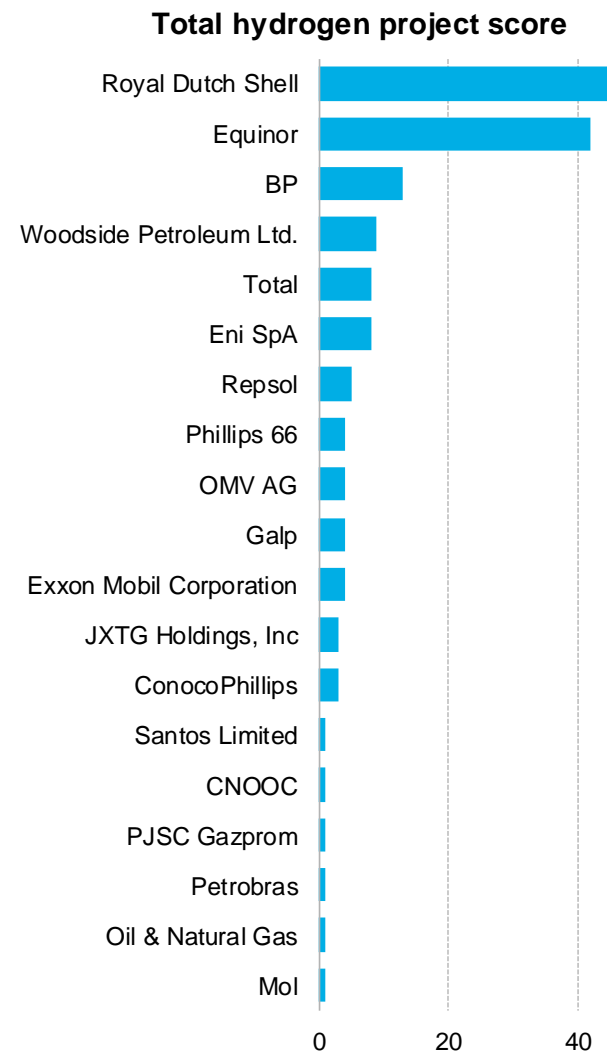
• **Investors and lenders**

- Benchmark companies’ transition performance, and identify those most at risk from accelerating global climate action and technological transformation.
- Understand the material transition factors affecting the oil and gas industry.
- Assess your portfolio for transition risk using overall scores, detailed scores or data.
- Engage with companies, using detailed, material data on their transition progress.



• **Oil and gas sustainability officers**

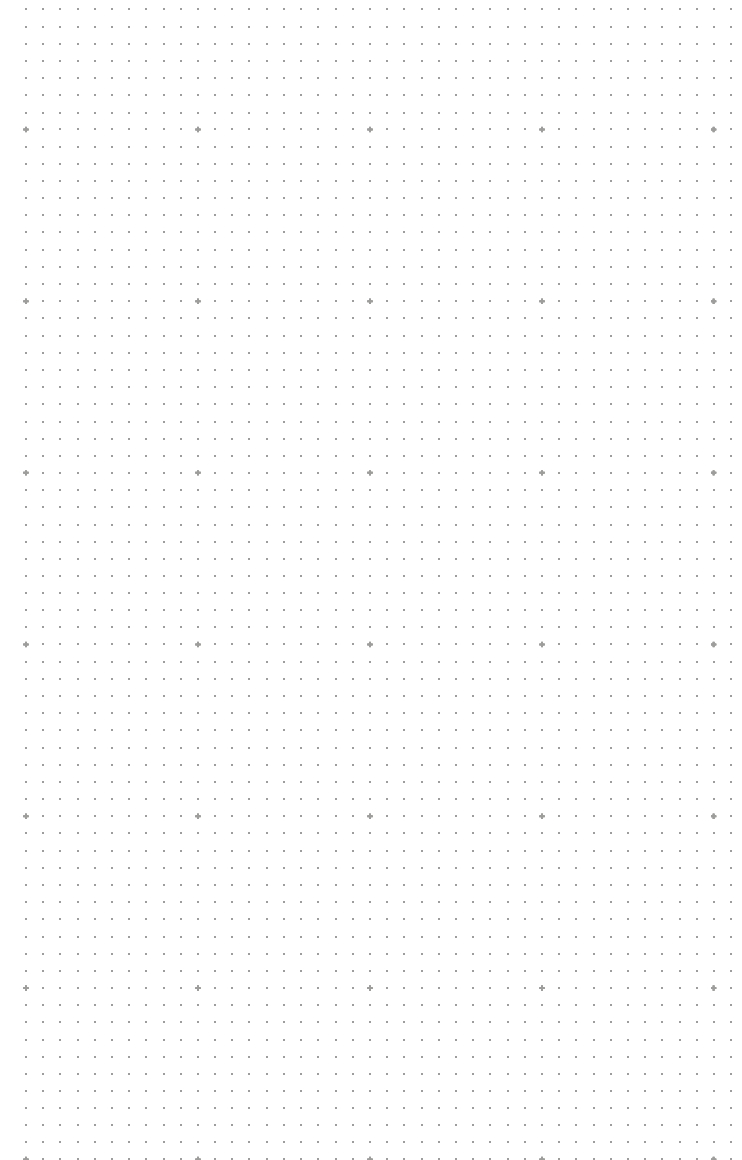
- Understand what data and disclosures are material to your company from a transition perspective.
- Identify where improved disclosure would increase the market’s trust in your company’s transition performance.
- Compare companies apples-to-apples, with standardized metrics and comparable data fields.



Source: BloombergNEF, Note: hydrogen projects are scored 1-6 with 1 for feasibility studies and 6 for fully commissioned commercial-scale projects.

# Understanding the framework

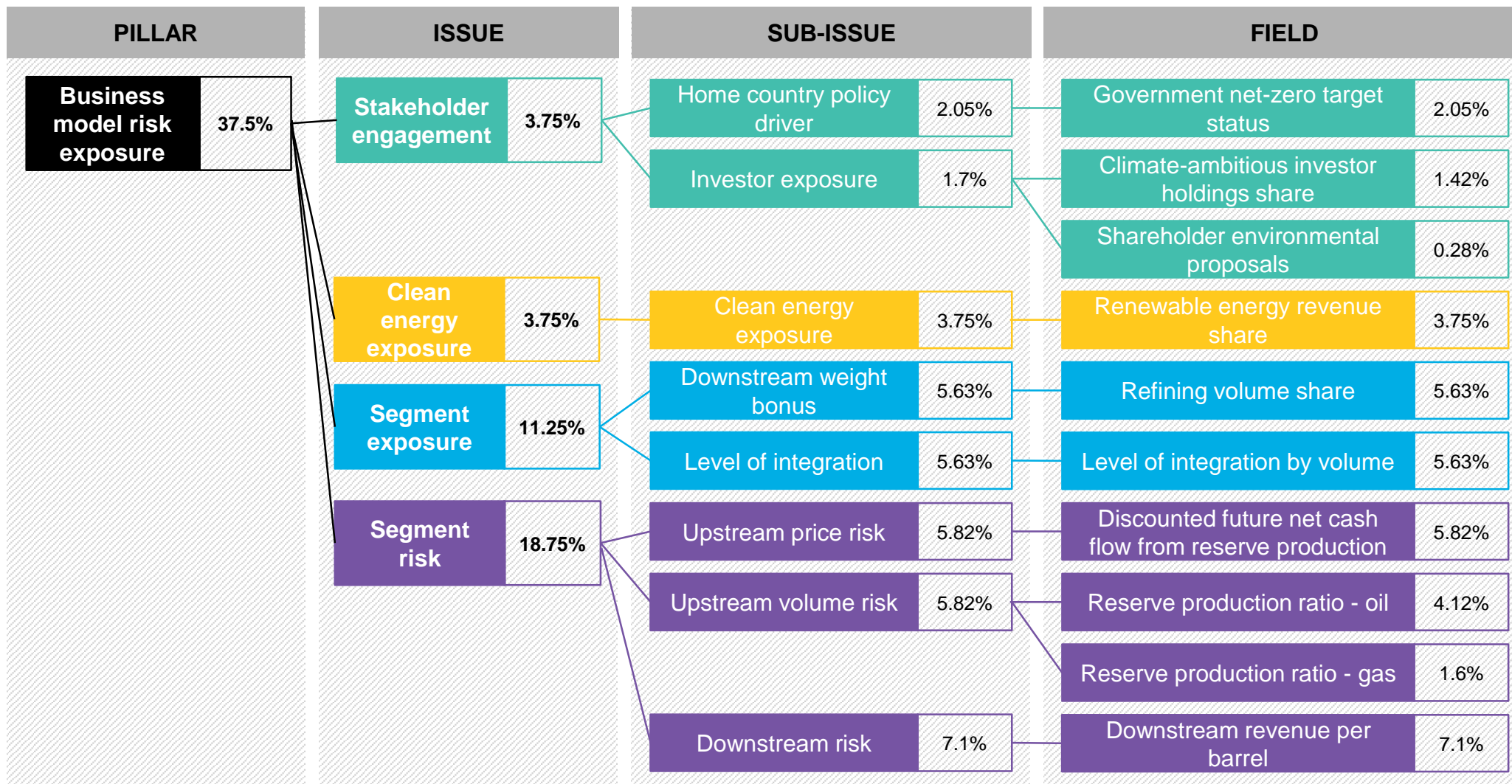
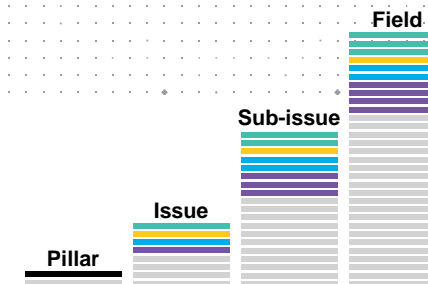
Detailing and explaining the components of the score



Understanding the framework

# Pillar 1: Business model risk exposure

Business model risk exposure is one of two BNEF business model transition score pillars. Scores are calculated by scoring data in **Fields** and combining these on a weighted basis into **Sub-issues**, **Issues**, **Pillars** and finally the **Overall score**. Item importance varies – each item contributes a specific percent to the overall score\*.

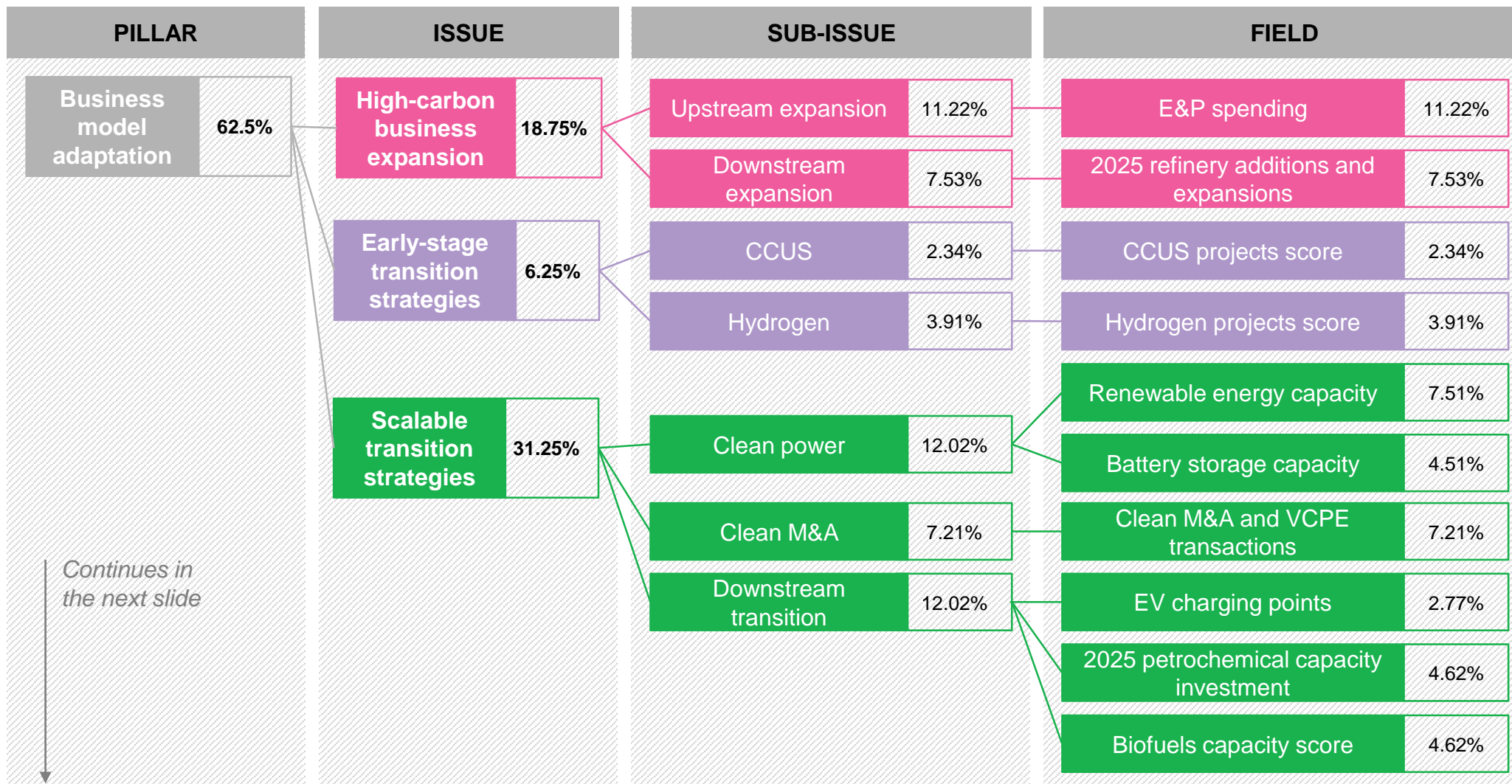
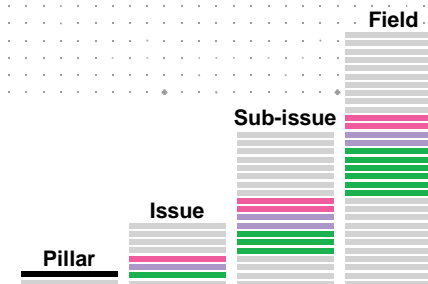


Source: BloombergNEF. \*: average weight shown in percent. Weight can vary due to scaling, see [calculations slide](#).

Understanding the framework

# Pillar 2: Business model adaptation 1

Business model adaptation is one of two BNEF business model transition score pillars. Scores are calculated by scoring data in **Fields** and combining these on a weighted basis **into Sub-issues, Issues, Pillars** and finally the **Overall score**. Item importance varies – each item contributes a specific percent to the overall score\*.



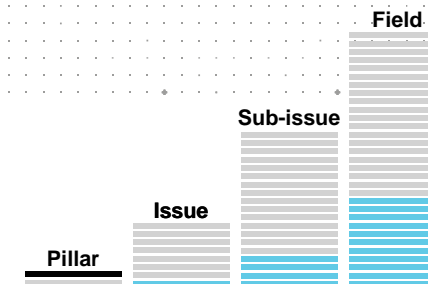
Continues in the next slide

Source: BloombergNEF. \*: average weight shown in percent. Weight can vary due to scaling, see [calculations slide](#).

Understanding the framework

# Pillar 2: Business model adaptation 2

Business model adaptation is one of two BNEF business model transition score pillars. Scores are calculated by scoring data in **Fields** and combining these on a weighted basis **into Sub-issues, Issues, Pillars** and finally the **Overall score**. Item importance varies – each item contributes a specific percent to the overall score\*.



PILLAR		ISSUE		SUB-ISSUE		FIELD	
Business model adaptation	62.5%	Forward-looking management	6.25%	Operational emissions reduction	1.88%	Renewable PPA activity	1.29%
				Digitalization	0.63%	Zero routine flaring commitment	0.58%
				Sustainable Finance	0.63%	Digitalization activity	0.63%
				TCFD	3.13%	Sustainable debt activity	0.63%
						Compensation linked to climate change	0.49%
						Bloomberg TCFD disclosure score	0.82%
						Climate change opportunities discussed	0.49%
						Risks of climate change discussed	0.16%
						Conducting scenario analysis	0.49%
						Carbon pricing strategy	0.49%
						Climate change integrated into strategy	0.16%

Source: BloombergNEF. \*: average weight shown in percent. Weight can vary due to scaling, see [calculations slide](#).

Understanding the framework

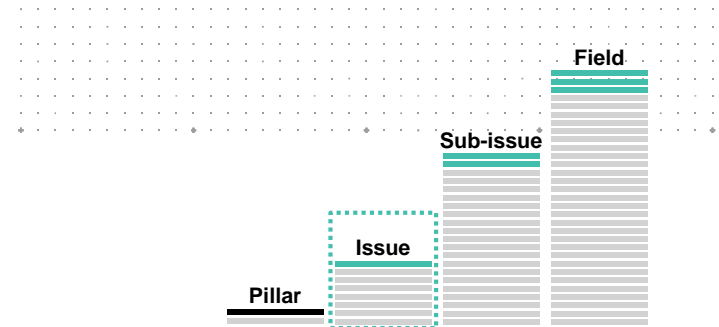
# Risk exposure issue: stakeholder engagement

## What is stakeholder engagement and why does it matter?

- The level of engagement with the climate transition of the company’s external stakeholders.
- Pressure for companies to transition often comes from external parties. Stakeholders that acknowledge the importance of climate action can help push companies to address their transition risks and increase the likelihood that they will meet ambitious goals. This issue measures the strength of that influence from two key groups: governmental regulatory bodies and investors.

## How is stakeholder engagement measured?

- **National and regional commitments** are powerful signals that a government intends to support transition. Such commitments to reduce greenhouse gas emissions ultimately risk constraining non-aligned behavior from companies and individuals. However, there are varying degrees of intensity of these commitments, from simple, stated political priorities to detailed, legislated acts. The ‘stakeholder engagement’ issue measures state (in the U.S., Canada, and Australia), country, and trans-national (in the case of the European Union) commitments to achieve net-zero greenhouse gas emissions over time. The current status of the commitment (e.g. in discussion, achieved) is used as an indicator for the pressure companies domiciled in those areas are likely to experience.
- **Investor pressure** for transition is measured in using two proxies to measure influence. The first is highly analogous to country commitments described above: the degree to which the company’s investors have signed on to initiatives, such as the Net-Zero Asset Owner Alliance in which they commit to influencing their investments to transition. The second is via shareholders submitting environmental proposals for voting in proxy statements. These are two key ways investors influence their holdings toward transition.
- **For majority state-owned companies**, the country policy driver sub-issue is considered more important than investor exposure. This is because companies that are owned by the state will be more closely tied to government commitments than private entities.
- **Overall, the issue is weighted ‘low’** within the risk exposure pillar. This is because, even though external pressures can serve as powerful drivers, they remain indirect. Substantial pressure from stakeholders may nevertheless be ignored by the management.



### Issue

Stakeholder engagement, 3.75%

### Sub-issue

Home country policy driver, 2.05%	Investor exposure, 1.70%
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### Field

Government net-zero target status, 2.05%,	Climate-ambitious investor holdings share, 1.42%
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Shareholder environmental proposals, 0.28%

Source: BloombergNEF. \*: average weight shown in percent. Weight can vary due to scaling, see [calculations slide](#).



## Understanding the framework

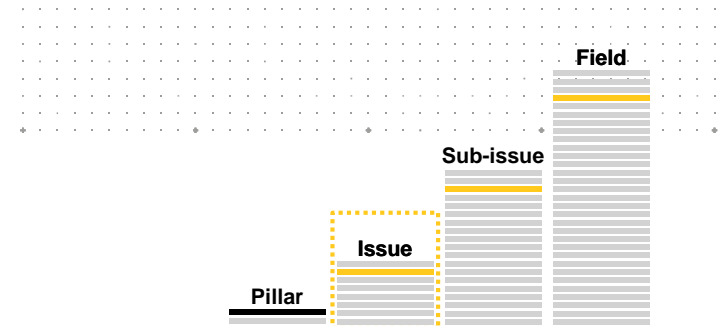
# Risk exposure issue: clean energy exposure

### What is clean energy exposure and why does it matter?

- The presence of renewable energy as a source of revenue.
- One of the most obvious ways for a fossil energy company to transition is to produce energy from renewable sources. Companies that gain some revenue from renewable energy have less transition risk than those without, all else being equal.

### How is clean energy exposure measured?

- **Share of company revenue that is derived from renewable sources.** Relatively few oil and gas companies currently disclose revenue from renewable sources. Even when they do, this percentage is small. For this issue, companies with no renewables revenue receive poor scores and those with any renewables revenue receive top scores.
- **Overall, the issue is weighted 'low'** due to the small amount of renewable energy revenue drawn from any target companies. It is not currently a defining factor for one company over another. Over time, this indicator may become more critical as oil and gas companies build out their renewable energy platforms.
- Note that we account for renewable energy project capacity in the 'scalable transition strategies' issue (See [slide 17](#)). This differs from the renewable energy revenue field because it captures capacity that is both commissioned and in various stages of development, making it more akin to investment in renewable energy (which hardly any oil and gas company discloses in a meaningful way). It is therefore a useful measure for the business model adaptation pillar, rather than as a measure of risk exposure reduction.



## Issue

Clean energy exposure,  
3.75%

## Sub-issue

Clean energy  
exposure, 3.75%

## Field

Renewable energy  
revenue share,  
3.75%

Source: BloombergNEF. \*: average weight shown in percent. Weight can vary due to scaling, see [calculations slide](#).

## Understanding the framework

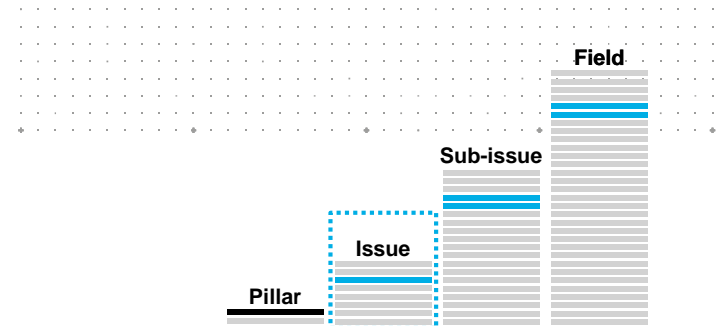
# Risk exposure issue: industry segment exposure

### What is segment exposure?

- **The transition risk inherent due to business composition: upstream, downstream or integrated.**
- The Bloomberg oil and gas transition scores examine companies from across the value chain. Some are primarily exploration and production businesses, some are focused on refining and marketing and some are integrated across upstream and downstream practices. A company's positioning across these segments in part determines its transition risk. Some practices, such as oil production, are particularly risky as they would likely require a substantial business model shift to become resilient to transition. Others are more flexible.

### How is segment exposure measured?

- The proportion of upstream to downstream activities and the level of integration are the components measured in the 'segment exposure' issue.
- **Companies with a higher refining volume share have less transition risk** than those focused on production. The majority of current oil production is unlikely to be compatible with a low-carbon world that has restricted global warming to 1.5 or well below 2 degrees Celsius, as per the Paris Agreement. This risks making exploration and production companies' core business redundant. A downstream company, however, can switch with more ease from refining crude oil to biofuel, focus on petrochemicals or move to distributing hydrogen to end-users, for example.
- **Companies that are more integrated also face less transition risk**, as they are more diversified across the value chain and flexible in the face of business risks. With their eggs in many baskets, they tend to have a broader skill base to rely upon in order to innovate and transition, and, most importantly, tend to have a stronger financial position from which to invest in transition. With no clear single, or even multiple, discrete paths for oil and gas transition, an all-of-the-above transition strategy with regard to technologies and business models is the wisest option today. Integrated oil and gas companies are better able to adopt numerous transition-focused alternative strategies and technologies at once.
- **The 'industry segment exposure' Issue is weighted as medium.** Value chain focus is a strong determinant of transition risk. However, it is not as important as how resilient to transition the business is within the segments it is active. This is captured in the 'segment risk' issue on the next slide.



## Issue

Segment exposure, 11.25%

## Sub-issue

Level of integration, 5.63%

Downstream weight bonus, 5.63%

## Field

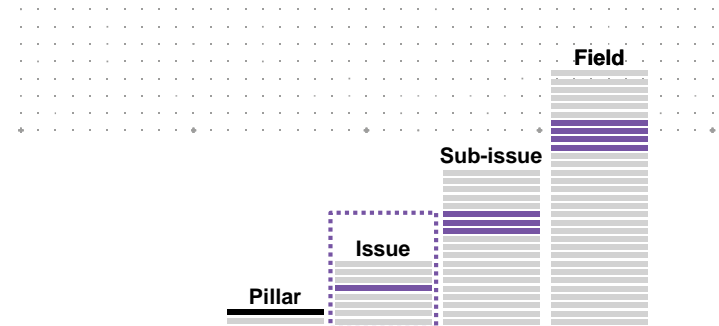
Level of integration by volume, 5.63%

Refining volume share, 5.63%

Source: BloombergNEF. \*: average weight shown in percent. Weight can vary due to scaling, see [calculations slide](#).

Understanding the framework

# Risk exposure issue: segment risk



What is segment risk?

- **The transition risk faced by the upstream and downstream components of the business.**
- The 'segment risk' issue is a measurement of inertia. Companies face barriers to transition in terms of sunk costs and opportunity costs. Companies that have invested a great deal in existing technologies for oil and gas energy will expect returns on investment over a long lifetime of the asset before potentially retiring it in favor of a more transition-positive model. Additionally, if revenues are expected to be high for existing business practices, the cost of missing out on that business over a finite period may outweigh the desire to transition for future longevity. The more segment risk, the lower the transition score.

How is segment risk measured?

- Much of the upstream business' value is tied up with its reserves. Transition threatens oil demand and therefore puts the reserve at risk of not being monetized.
- **How long it will take the company to produce its reserve** is an important measure of upstream transition risk. The more years it will take the company at current production rates – the reserve production ratio – the greater the risk that some of the reserve will have to be written off as a global transition to a low-carbon economy causes oil demand to decline.
- **The competitiveness of oil produced from the reserve** is equally important in assessing upstream transition risk. The more profitable the production of oil from a company's reserves, the more likely it can keep selling its oil even as transition forces demand to decline and other oil producers to reduce output. This is captured by the discounted future net cash flow from reserve production per barrel of reserves.
- **Downstream revenue per barrel** captures how much money refiners are able to squeeze out of every barrel of crude oil they take in. In the absence of consistent, high-quality reporting on refining margins, this gives a good indication of how well a refiner is able to adjust its output towards higher-value products, therefore putting it in a stronger position to continue to do so as fuel demand declines due to transition.
- **This is the most important issue within the pillar**, worth half of the pillar score. A company with low segment risk is more resilient to transition and will be able to keep its fossil fuels business going for longer.
- Within this Issue, the two upstream sub-issues are weighted more heavily for upstream-focused companies. The opposite is true for downstream companies.

Source: BloombergNEF. \*: average weight shown in percent. Weight can vary due to scaling, see [calculations slide](#).

## Issue

Segment risk, 18.75%

## Sub-issue

Upstream price risk, 5.82%	Upstream volume risk, 5.82%
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Downstream risk, 7.10%

## Field

Reserve production ratio – oil, 4.12%	Reserve production ratio – gas, 1.60%
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Downstream revenue per barrel, 7.10%	Discounted future net cash flow from reserve production, 5.82%
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Understanding the framework

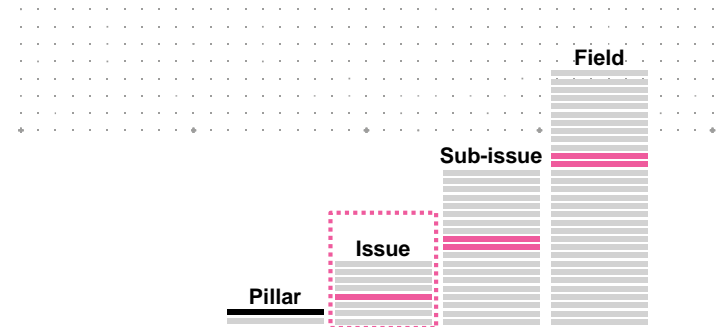
# Adaptation issue: high-carbon business expansion

## What is high-carbon business expansion?

- **Expansion of the company’s traditional fossil fuels business, representing the opposite of adaptation.**
- Regardless of a company’s expansion into new, transition-friendly business arms (see other issues, such as early-stage transition strategies), a negative signal for the company’s adaptation for transition is its continued investment in high-carbon activities. Depending on the relative scale of expansion of its fossil fuel business compared to its investment in transition strategies, this may even cause the company’s future transition risk to increase.

## How is high-carbon business expansion measured?

- There are two main categories that affect this issue: expansion of upstream business practices and expansion of downstream business practices. Because we consider downstream activities to have less transition risk than upstream ones (as explained on the ‘industry segment risk’ issue slide), downstream expansion carries a lower weight.
- **Expanding traditional refining capacity** has a negative effect on business model adaptation as it increases the risk the company’s downstream business will be left with stranded assets as fuel demand declines due to the transition to a low-carbon economy. It could also leave the company with fewer financial resources to invest in transition strategies.
- **Exploration and production spending** to seek out, develop or acquire new oil and gas reserves sets the company’s business model adaptation back.
- **The issue is weighted as ‘medium.’** It is an important issue because it captures investment in business practices that will increase the company’s transition risk. However, high-carbon business expansion and climate-conscious business adaptation may occur in tandem – high-carbon business expansion does not mean there are no efforts to pivot business.
- For this issue, upstream expansion is scaled by the proportion of the business that falls under the E&P category while downstream expansion is scaled by the proportion of business in refining and marketing. This means that the more upstream a competitor a company is, the more heavily its ‘high-carbon business expansion’ issue score will be weighted on upstream E&P spending, and vice versa for downstream.



### Issue

High-carbon business expansion, 18.75%

### Sub-issue

Upstream expansion, 11.22%

Downstream expansion sub-issue score, 7.53%

### Field

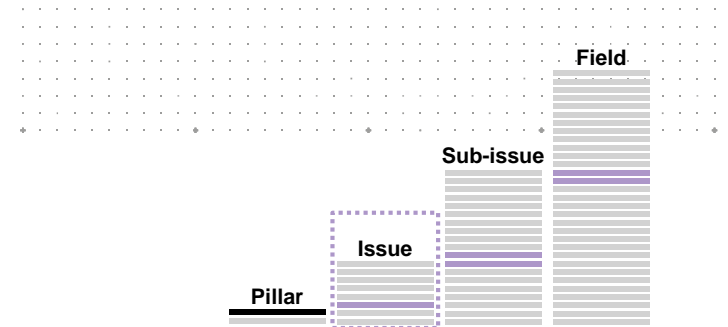
E&P spending, 11.22%

2025 refinery additions and expansions, 7.53%

Source: BloombergNEF. \*: average weight shown in percent. Weight can vary due to scaling, see calculations slide.

## Understanding the framework

# Adaptation issue: early-stage transition strategies

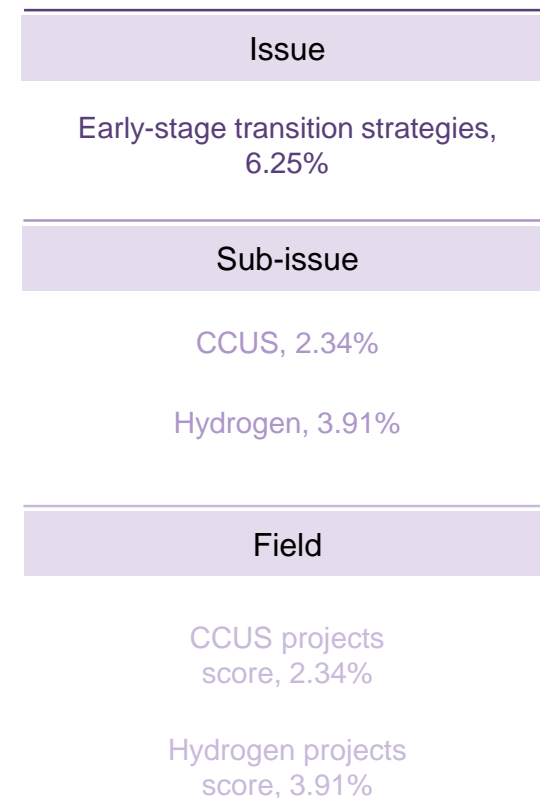


## What are early-stage transition strategies?

- **Developing businesses in promising low-carbon technologies that lack a proven revenue model.**
- Some technologies could be promising business model options for a transitioning oil and gas company, but are as yet at an early stage of development and lack a proven revenue model. Investment by oil and gas majors into these technologies could accelerate their development. An individual company could potentially get a competitive head-start, and increase its options for scaling up transition activities.

## How are early-stage transition strategies measured?

- **Low-carbon hydrogen** could be a significant part of the solution to achieving a low-carbon economy, offering potential decarbonization options in industry, heating and transport that are hard to achieve with electricity. However, low-carbon hydrogen as an energy carrier is still in the early stages and not yet competitive, with limited adoption and no real market. Though it is a powerful potential transition tool, many projects remain at the research and pilot stage, and substantial obstacles must be overcome. Read more about our hydrogen research ([web](#) | [terminal](#)).
- **Carbon capture, utilization and storage (CCUS)** could be used as a way for oil and gas companies to reduce their operational emissions footprint and help them achieve climate goals, thereby likely reducing their transition risk. The technology is substantially more developed than hydrogen. Read more about our CCUS research ([web](#) | [terminal](#)). However, unlike hydrogen it is not a ‘complete’ solution – it is neither a full alternative business model for oil and gas firms to pursue, nor is it a way to make possible continued oil and gas production. This is because it cannot remove the emissions from the combustion of fuels that make up the vast majority of oil and gas company carbon footprints. Therefore it is not given as much weight as hydrogen.
- **This issue is rated ‘low’ within the pillar.** While hydrogen and CCUS are respectively highly promising decarbonization tools, they have yet to be associated with scalable revenue models. In future, this issue may become more important as these technologies develop.



Notably, carbon offsets are not included in the strategies calculated for these scores. With the use of offsets, companies can invest in projects that remove emissions from the atmosphere, balancing out their own emissions. For more, see *Corporate Net-Zero Targets Primer: Jump on the Bandwagon* ([web](#) | [terminal](#)). But offsets do not protect a company from fossil business model risks (e.g. state electric-vehicle mandates, renewable energy generation targets), or help diversify practices toward transition in the face of increasingly stringent environmental policies (which may exclude offsets as an option).

Source: BloombergNEF. \*: average weight shown in percent. Weight can vary due to scaling, see [calculations slide](#).

## Understanding the framework

# Adaptation issue: scalable transition strategies

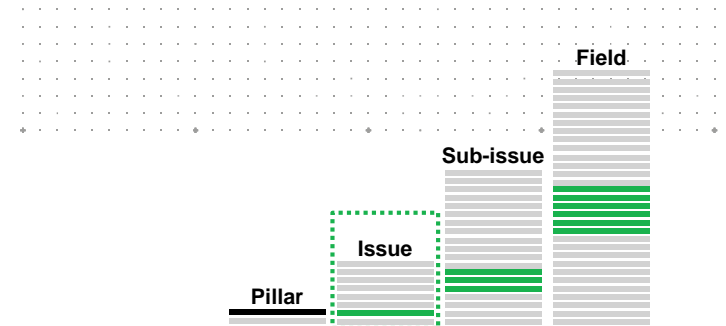
## What are scalable transition strategies?

- **Developing businesses in low-carbon technologies with a proven revenue model.**
- Oil and gas companies can employ a number of potentially viable investment options with substantial growth expectations in order to further their transition. These activities, measured in the ‘scalable transition strategies’ issue, are all based on widely employed, technologically mature low-carbon technologies with clear revenue models. The more deeply invested it is in these technologies, the more transition avenues will be available to the company, and the higher score it will achieve on this issue.

## How are scalable transition strategies measured?

- **Clean energy**, including renewable energy and battery storage activities.
- **Transition of downstream activities**, including petrochemicals, biofuels and EV charging. This includes expanding existing operations into related, cleaner alternatives. One example of this is in the diversification of traditional oil and gas business to biofuels. In an ambitious transition scenario, these new fields of business may eventually eclipse traditional operations.
- **Mergers, acquisitions and investment** in businesses representing transition opportunities for oil and gas companies. This can have the same effect as developing new, clean focus areas within a company. For example, an oil and gas company may choose to develop an electric vehicle charging branch in-house, partner and invest in an external business to provide charging connectors at existing gas stations, or purchase an EV charging business to reach its transition goals. A company is not expected to pursue all alternatives for the purposes of this score, but engaging multiple strategies can increase the likelihood that viable alternative sources of revenue are pursued and there is sufficient flexibility of business operations. This issue also does not describe whether or not the new strategies cause a shift away from traditional ones (also see [slide 15](#)).
- **The issue is weighted ‘high’ within the pillar.** It is the most important issue in the ‘business model adaptation’ pillar and therefore the single most important issue in the BNEF business model transition score. Though there may be other alternative business sources (see [slide 16](#) for early-stage transition strategies), the technologies and practices in this issue are longstanding, increasingly scalable, and well proven – the least speculative avenues the oil and gas companies could pursue for transitioning their businesses.

Source: BloombergNEF. \*: average weight shown in percent. Weight can vary due to scaling, see [calculations slide](#).



## Issue

Scalable transition strategies,  
31.25%

## Sub-issue

Clean power, 12.02%      Clean M&A, 7.21%

Downstream transition, 12.02%

## Field

2025 petrochemical capacity investment, 4.62%      Clean M&A & VCPE transactions, 7.21%

EV charging points, 2.77%      Battery storage capacity, 4.51%

Biofuels capacity score, 4.62%      Renewable energy capacity, 7.51%

## Understanding the framework

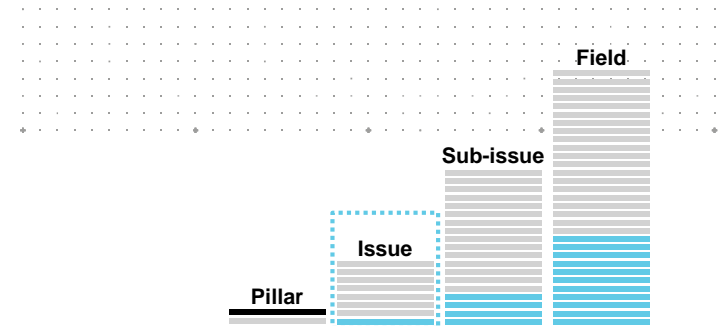
# Adaptation issue: forward-looking management

### What is forward-looking management?

- The degree of management engagement with climate-related issues.
- Companies can demonstrate that they are considering climate transition through their disclosure of management practices and actions that are not directly transitioning the business. These steps may not ensure a linear path to a Paris-aligned emissions trajectory, but they are useful indicators of more holistic management decisions that take emissions and climate into consideration and are, thus, transition-positive.

### How is forward-looking management measured?

- The 'forward-looking management' issue encompasses the most fields of any issue, because there are many ways for companies to show awareness of transition risks and opportunities. It has four main themes:
  - **Reducing operational emissions** – actions to tackle direct emissions are the first step towards tackling transition risk, even if they ultimately do little to reduce oil and gas companies' transition risk, which is more related to the emissions associated with the use of oil and gas products. Fields, such as procuring renewable power for operations and committing to zero routine flaring, whereby companies aim to halt flaring of methane emissions by 2030, show a sensitivity to stakeholders' climate impact concerns.
  - **Climate disclosures and analysis** – under the TCFD (Taskforce on Climate-related Financial Disclosures) name, this captures discernable transition risk-related management practices including placing an internal price on carbon, assessing business risks and opportunities of climate change and linking executive compensation to climate change targets. These metrics may not reduce emissions on their own, but they show institutional internalization of transition considerations.
  - **Digitalization strategies** – use of new digital technologies, which often help reduce emissions by improving efficiency, is another strategy that indicates a management with its finger on the pulse.
  - **Environmental financing** – Tying financial instruments, typically for millions to billions of dollars in borrowing activity, to sustainability can signal to investors and peers a commitment to transition.
- **This Issue is weighted 'low' within the pillar**, because the disclosures and actions themselves are not sufficient to guarantee business change and meeting a Paris-aligned trajectory.
- The zero-routine flaring field is scaled to the proportion of upstream activities to total volume. This means that it is given weight within the sub-issue for companies with a higher share of production versus refining.

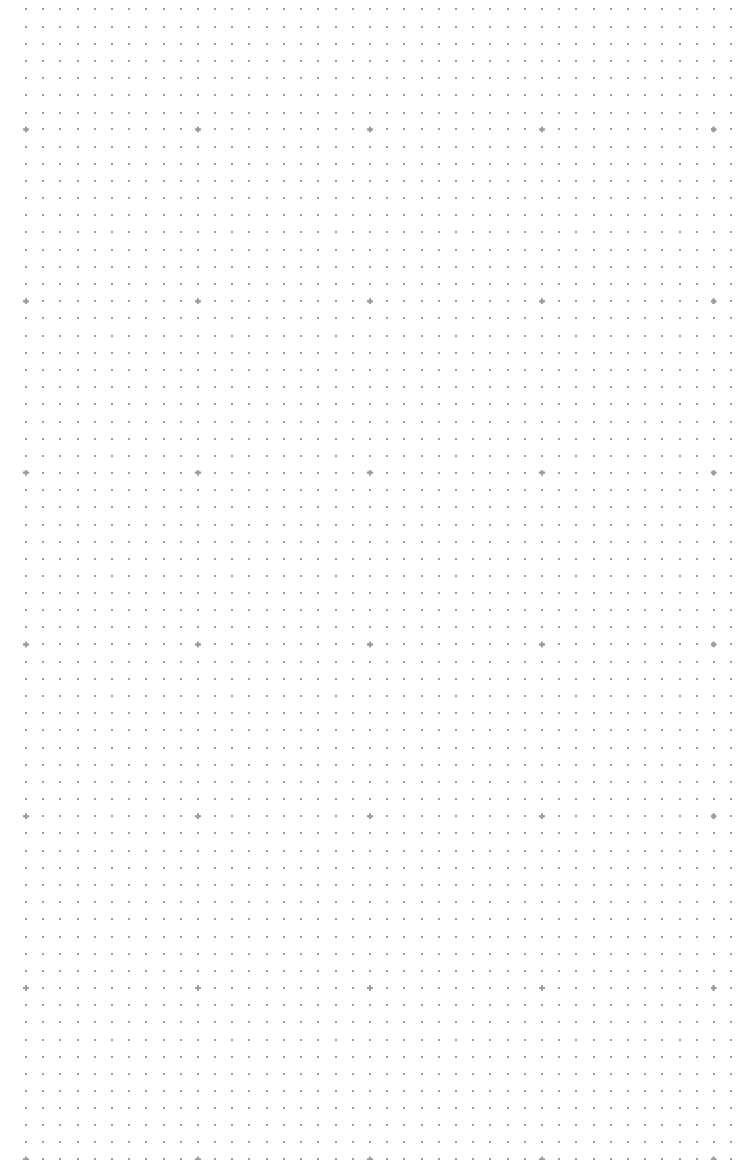


Issue	
Forward-looking management, 6.25%	
Sub-issue	
TCFD, 3.13%	Digitalization, 0.63%
Sustainable finance, 0.63%	Operational emissions reduction, 1.88%
Field	
Climate change opportunities discussed, 0.49%	Bloomberg TCFD disclosure score, 0.82%
Conducting scenario analysis, 0.49%	Renewable PPA activity, 1.29%
Zero routine flaring commitment, 0.58%	Sustainable debt activity, 0.63%
Compensation linked to climate change, 0.49%	Digitalization activity, 0.63%
Carbon pricing strategy, 0.49%	Risks of climate change discussed, 0.16%
Climate change integrated into strategy, 0.16%	

Source: BloombergNEF. \*: average weight shown in percent. Weight can vary due to scaling, see [calculations slide](#).

# Calculating the scores

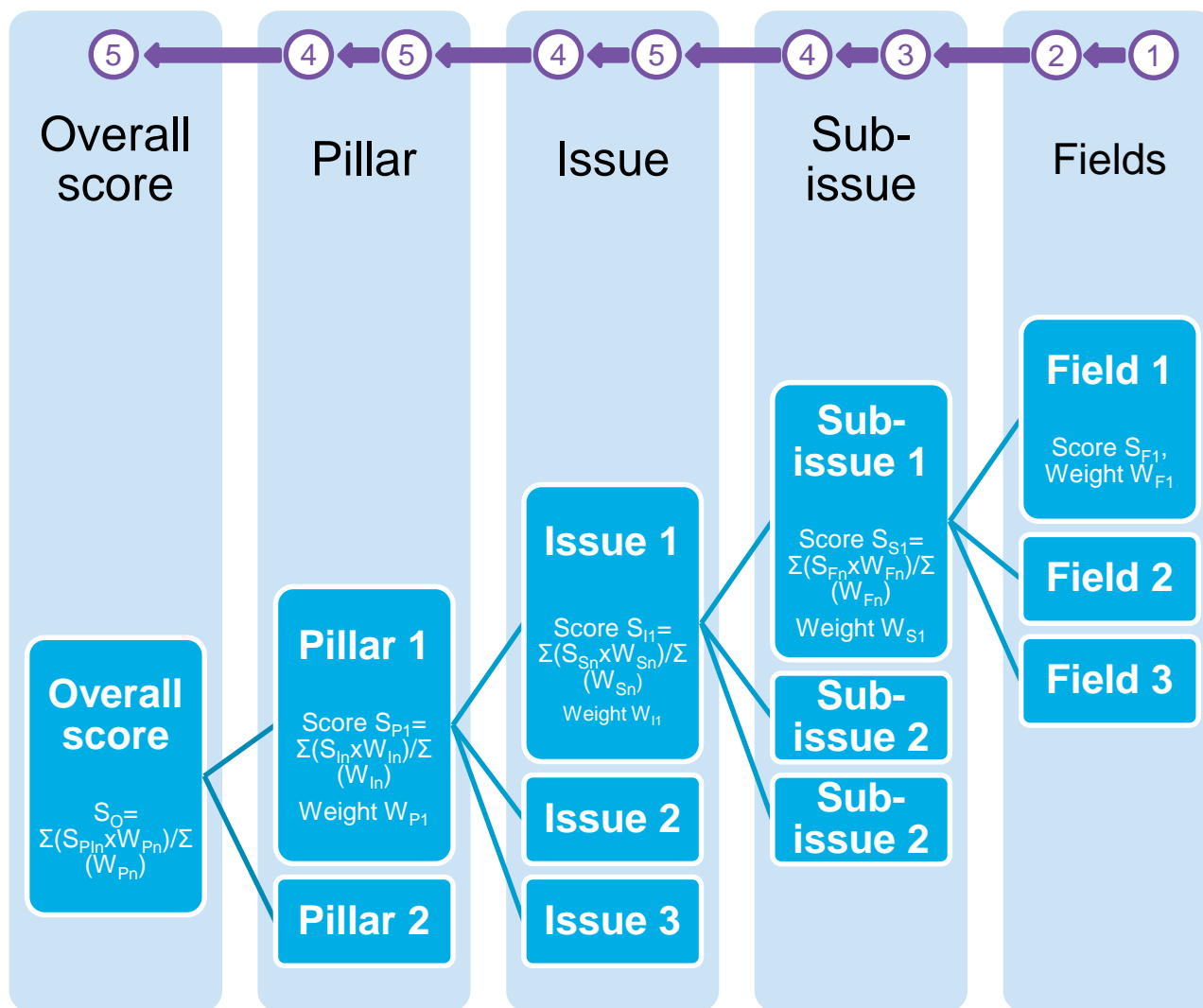
## Mathematical breakdown





Calculating the scores

# Scoring overview: weighted average



- ① Field performance is scored 0, 5 or 10
  - Good (10 points), OK (5) or Poor (0)
  - Scoring is relative, with one-third of companies per category where possible
- ② Each field is weighted 1, 3 or 5
  - High (5), Medium (3) or Low (1) importance
- ③ Sub-issue scores are a weighted average
  - Each field score is multiplied by its weight and divided by the sum of the field weights
- ④ Sub-issues, Issues and Pillars are weighted 1, 3 or 5
  - These are independent of the weights of fields or lower tiers.
- ⑤ The Issue, Pillar and Overall Scores are calculated by weighted average
  - Weighted averaging using the same formula.

Source: BloombergNEF

## Calculating the scores

# Scoring calculations in detail

### Step 1: Assess field data and normalize

Everything starts with field data, which can be binary, ordinal or continuous. Some fields are normalized to account for company size, so that company data are comparable.

e.g.

Field	Value	Normalize
Renewables capacity	204.8	Yes - by revenue
Biofuels capacity	2	No

Renewable capacity field normalized value =  $\frac{204.8}{278,397} = 0.00074 \text{ MW}/\$m$

Biofuels capacity field (ordinal score, no normalization needed)  
Value = 2

### Step 2: Apply thresholds

Once field values are normalized as needed, score thresholds are applied and companies scored by field. For some fields, higher is better, for others, lower.

Any field value greater than or equal to the good threshold will be scored Good (10). Any company that scores less than or equal to the poor threshold will be rated Poor (0). Any company in between will be rated OK (5).

e.g.

Field	Good threshold	Poor threshold
Renewables capacity	0.002	0
Biofuels capacity	2	0

Using the “relative score” principle explained earlier, thresholds are set such that one-third of companies score Good, OK and Poor (non-disclosers excluded). Exceptions to this include binary or categorical data (e.g. early-stage technology where we have determined there are discrete levels of development with meaningful implications for how advanced the company is in its business model for that technology).

### Step 3: Apply weights

Some fields are more important and these are weighted more heavily. The same weights are used for all levels (sub-issue, issue, pillar).

Weight	Value
High	5
Medium	3
Low	1

Field weights can only be compared to other fields within the same sub-issue.

### Step 4: Calculate sub-issue scores, incorporating non-disclosure penalties

Sub-issue scores are calculated on a weighted average basis using the scores and weights of the fields they contain. Selected fields are subject to penalties for non-disclosure (data not provided by company).

e.g. Calculating a sub-issue score for a sub-issue comprised of two fields, A and B

Field A:  
Field score = Good (10)  
Weight = Medium (3)

Field B:  
Field score = N/A  
(data not disclosed)  
Weight = High (5)

Calculating Sub-issue if Field B not penalized for non-disclosure =

$$\frac{\text{Field A score} \times \text{Field A weight} + \text{Field B score (N/A)} \times \text{Field B weight}}{\text{Field A weight}} = \frac{(10 * 3) + (0 * 5)}{(3)} = 10$$

Calculating Sub-issue if Field B penalized for non-disclosure =

$$\frac{(10 * 3) + (0 * 5)}{(3 + 5)} = 3.75$$

### Step 5: Roll up, including scaling factors

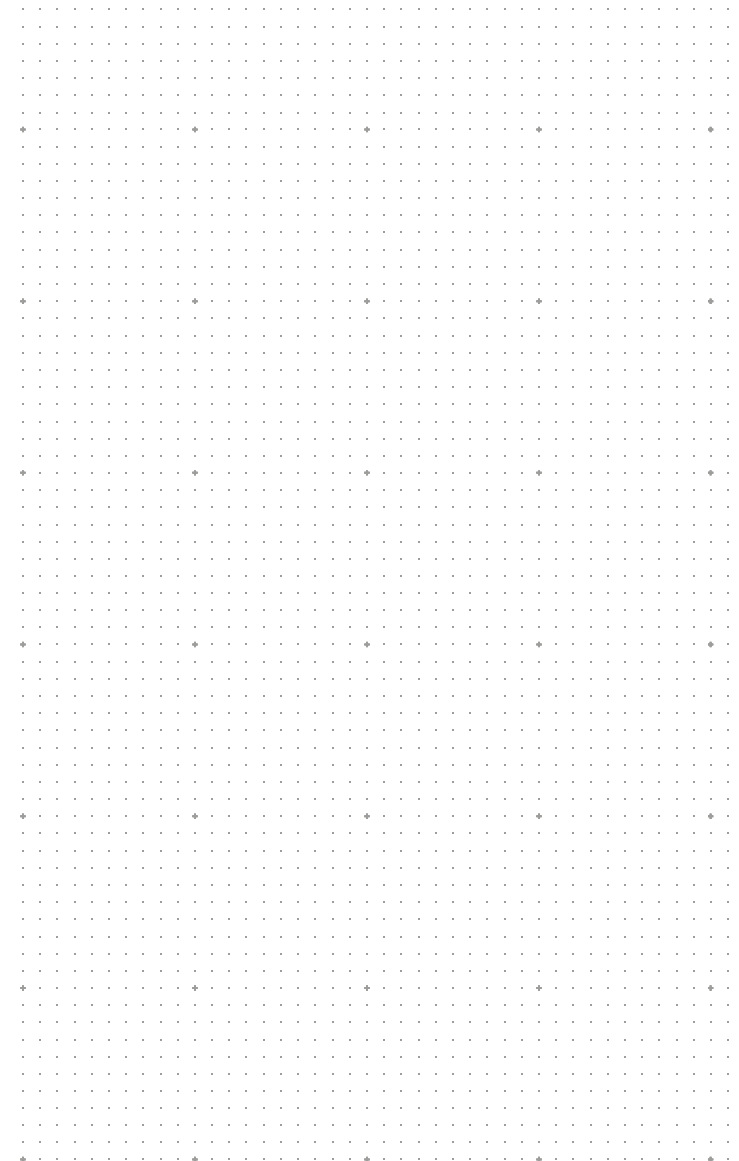
Scores are calculated up for issues, pillars and the overall score using the exact same weighted average calculation. sub-issues and combined according to Step 4 at the Issue and Pillar levels.

Some sub-issue include a company-specific scaling factor that is multiplied with the sub-issue weight. This is mainly used to account for the proportion of the company that is upstream vs downstream for sub-issues such as downstream segment risk.

$$\text{Issue Score} = \frac{\text{Sub-issue A score} \times \text{Sub-issue A weight} \times \text{Sub-issue A scaling factor} + \text{Sub-issue B score} \times \text{Sub-issue B weight} \times \text{Sub-issue B scaling factor}}{\text{Sub-issue A weight} \times \text{Sub-issue A scaling factor} + \text{Sub-issue B weight} \times \text{Sub-issue B scaling factor}} = \frac{(7.8 * 3 * 0.3) + (3.4 * 1 * 0.7)}{(3 * 0.3 + 1 * 0.7)}$$

# Appendix

## Field-level attributes



## Appendix

## Field attributes

Field name	Weight (high, medium, low)	Normalization	Polarity (positive /negative)	Penalty for non-disclosure
Government net-zero target status - BNEF	Medium	No	Positive	No
Climate-ambitious investor holdings share	High	No	Positive	No
Shareholder environmental proposals	Low	No	Positive	No
Renewable energy revenue share	Low	No	Positive	Yes
Level of integration by volume	Medium	No	Positive	Yes
Refining volume share	Medium	No	Positive	Yes
Discounted future net cash flow from reserve production	Medium	Yes – size of reserve	Positive	No
Reserve production ratio - oil	High	No	Negative	Yes
Reserve production ratio - gas	Medium	No	Negative	No
Downstream revenue per barrel	Medium	No	Positive	Yes
E&P spending	High	Yes – oil production	Negative	Yes
2025 refinery additions and expansions - BNEF	Medium	Yes – downstream revenue	Negative	No
Renewable energy capacity - BNEF	High	Yes – revenue	Positive	No
Battery storage capacity - BNEF	Medium	Yes – revenue	Positive	No
EV charging points - BNEF	Medium	No	Positive	No
Biofuels capacity score - BNEF	High	No	Positive	No
2025 petrochemical capacity investment - BNEF	High	Yes – revenue	Positive	No
Clean M&A & VCPE transactions - BNEF	Low	Yes – revenue	Positive	No
CCUS projects score - BNEF	Medium	No	Positive	No
Hydrogen projects score - BNEF	High	No	Positive	No
Zero routine flaring commitment	Medium	No	Positive	No
Renewable PPA activity - BNEF	Medium	No	Positive	No
Digitalization activity - BNEF	Low	No	Positive	No
Sustainable debt activity	Low	No	Positive	No
Bloomberg TCFD disclosure score	High	No	Positive	No
Climate change integrated into strategy	Low	No	Positive	No
Climate change opportunities discussed	Medium	No	Positive	Yes
Risks of climate change discussed	Low	No	Positive	Yes
Conducting scenario analysis	Medium	No	Positive	Yes
Compensation linked to climate change	Medium	No	Positive	No
Carbon pricing strategy	Medium	No	Positive	Yes

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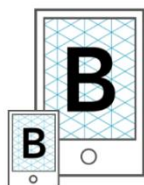
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