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Deji has over 23 years of diverse experience and more than nine years with Ryder Scott, he has been responsible for evaluating petroleum reserves, field performance, and economics with various engineering techniques. His area of expertise is in project management and economics, integrated oil and gas field development, planning, budgeting, and reservoir management.

Deji received a B.S. in Chemical Engineering from University of Lagos, an M.S. in Petroleum Engineering from Texas A&M University, and a Master in Business Administration from Rice University. He is a licensed Professional Engineer in the state of Texas.

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19TH ANNUAL RYDER SCOTT RESERVES CONFERENCE

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SEC FILINGS AND THE EVOLUTION OF COMMENT LETTERS

By: Deji Adeyeye, P.E. – Vice President

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OUTLINE OF THE PRESENTATION

- Background on the role of the SEC
- Demystifying the SEC review process
- Touch on some of the fundamental issues underlying disclosure requirements regarding reserves
- Provide some recent statistics on the focus of SEC comment letters related to reserves

OUTLINE OF THE PRESENTATION

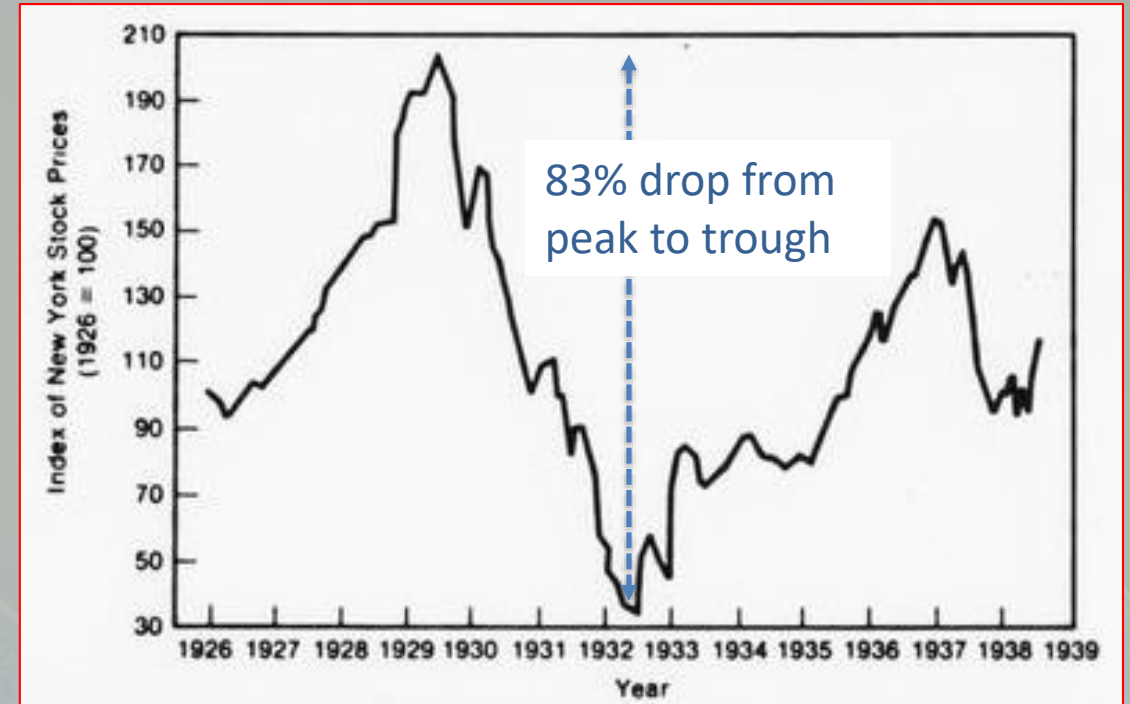
- **Background on the role of the SEC**
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WHY ARE RESERVES IMPORTANT TO THE SEC?

The Securities Act of 1933

Often referred to as the “truth in securities” law. It had two main objectives:

- Required that investors receive financial and other significant information concerning securities being offered for public sale
- Prohibited deceit, misrepresentations, and other fraud in the sale of securities



Sources: [SEC.gov](https://www.sec.gov) | [The Laws That Govern the Securities Industry](#)
[Great Depression Stock Market Crash - Bing images](#)

THE FORMATION OF THE SEC

The Exchange Act of 1934

- With this Act, Congress created the Securities and Exchange Commission (SEC);
- The Act identifies and prohibits certain types of conduct in the markets
- The Act also empowered the SEC to require periodic reporting of information by companies with publicly traded securities



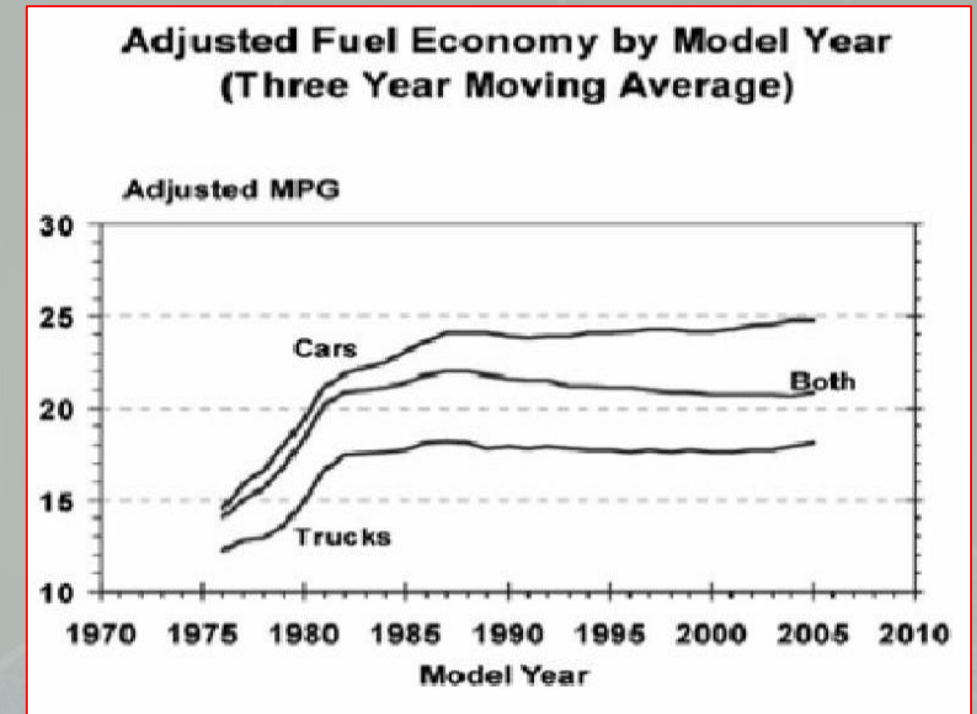
The new Securities and Exchange Commission (SEC), July 2, 1934. In the middle of those seated is Joseph P. Kennedy, whom President Roosevelt appointed to head the SEC. Seated to his left and right, respectively, are Ferdinand Pecora and James M. Landis. Standing are George C. Matthews, left, and Robert E. Healy. (@BETTMANN/CORBIS)

Sources: [SEC.gov](https://www.sec.gov) | [The Laws That Govern the Securities Industry securities and exchange commission 1934 - Bing images](#)

WHAT HAPPENED DURING THE EARLY 70'S OIL CRISIS?

The Energy Policy and Conservation Act (EPCA) of 1975

- EPCA is the United States Act of Congress that responded to the 1973 oil crisis by creating a comprehensive approach to federal energy policy.
- Primary goals of EPCA are to increase energy production and supply, reduce energy demand, provide energy efficiency, and give the executive branch additional powers to respond to disruptions in energy supply.
- EPCA directed the SEC “to take such steps as may be necessary to assure the ***development and observance of accounting practices*** to be followed in the preparation of accounts by persons engaged, in whole or in part, in the ***production of crude oil or natural gas*** in the United States.”

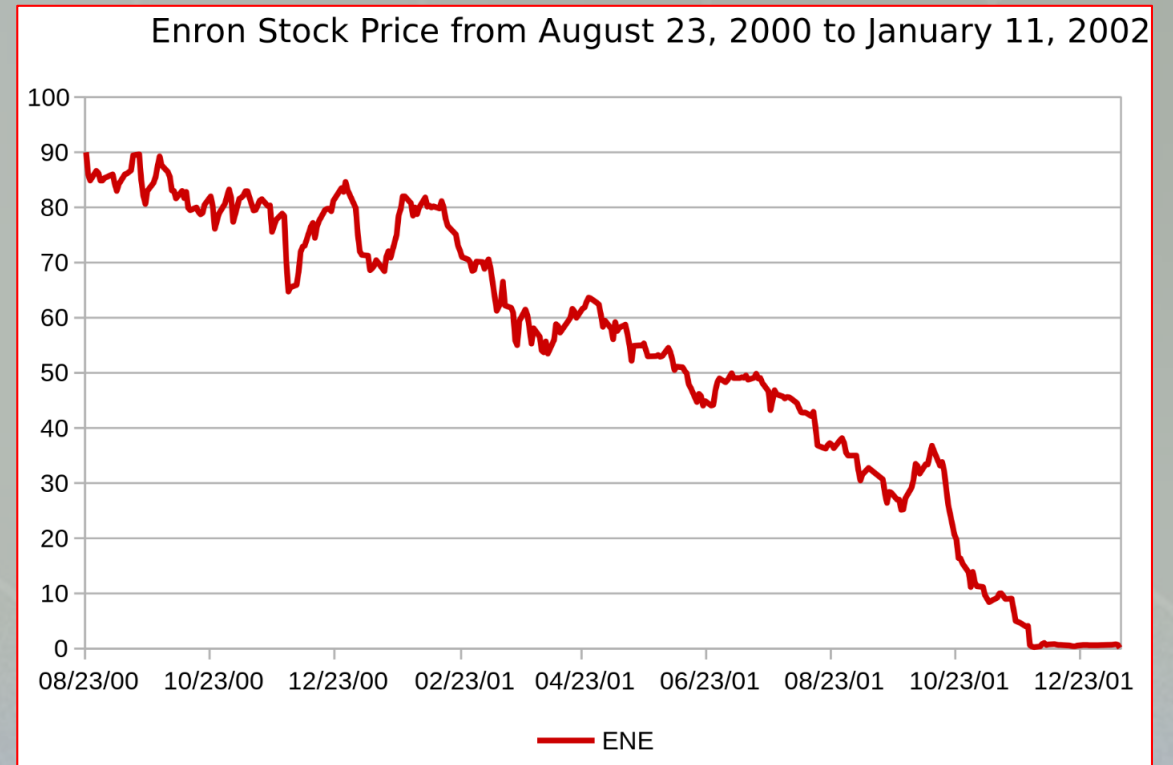


Sources: [Energy Policy and Conservation Act – Wikipedia](#)
[The Energy Policy and Conservation Act - Bing images](#)

EPCA ... UNTIL ENRON ET AL. CHANGED THE SCRIPTS

The Sarbanes-Oxley (SOX) Act of 2002

- SOX is a US federal law that was passed to protect investors and improve corporate disclosure and auditing
- SOX banned company loans to corporate executives and provided protection to whistleblowers
- Mandated the *SEC to review the periodic filings* of all public companies on a regular basis
- ***In no event*** shall an issuer required to file reports under section 13(a) or 15(d) of the Securities Exchange Act of 1934 be reviewed under this section ***less frequently than once every 3 years.***

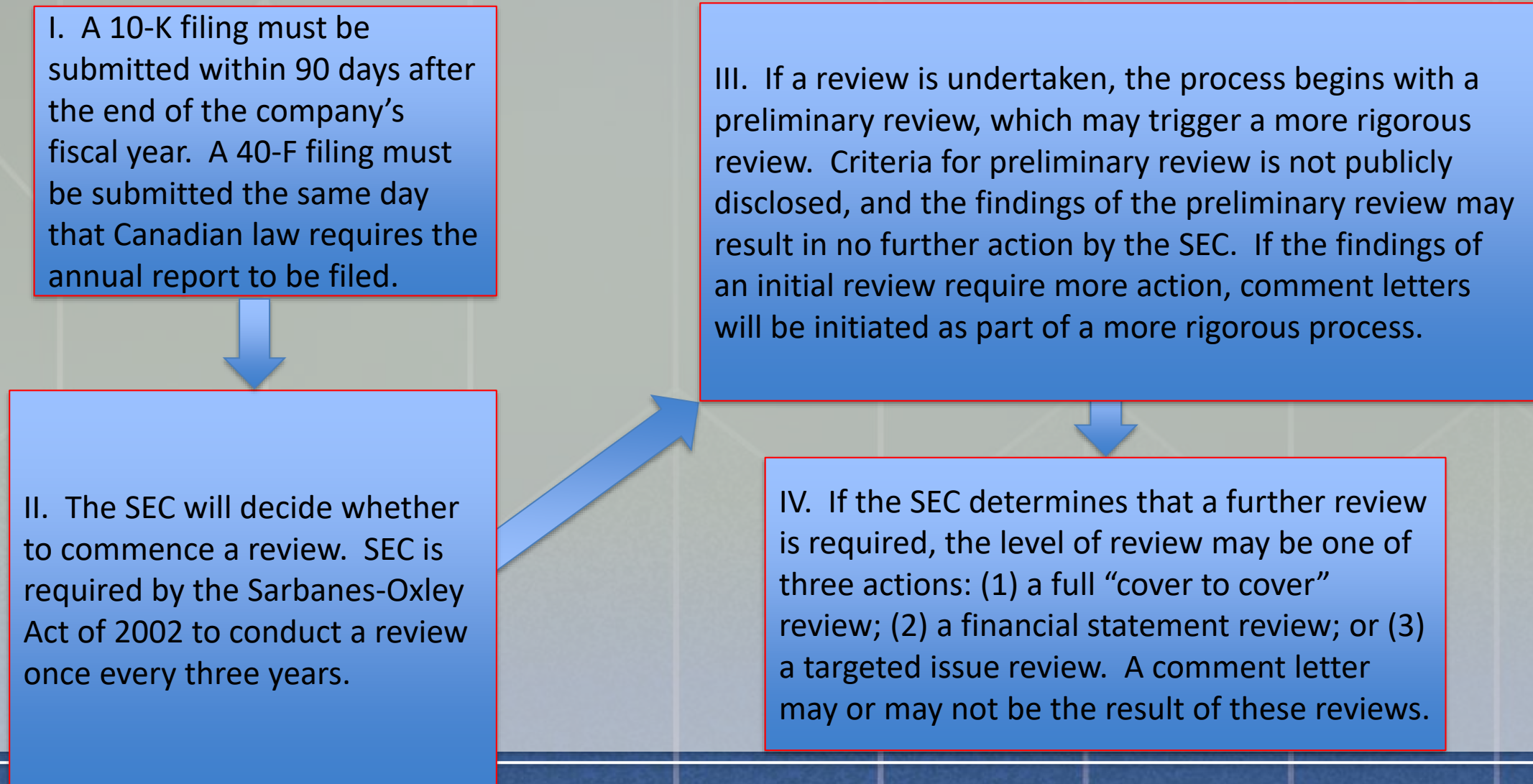


Sources: [EnronStockPriceAugust2000toJanuary2001 - Enron - Wikipedia](#)
[Sarbanes-Oxley Act of 2002, Public Law 107-204 | U.S. Department of Labor \(dol.gov\)](#)

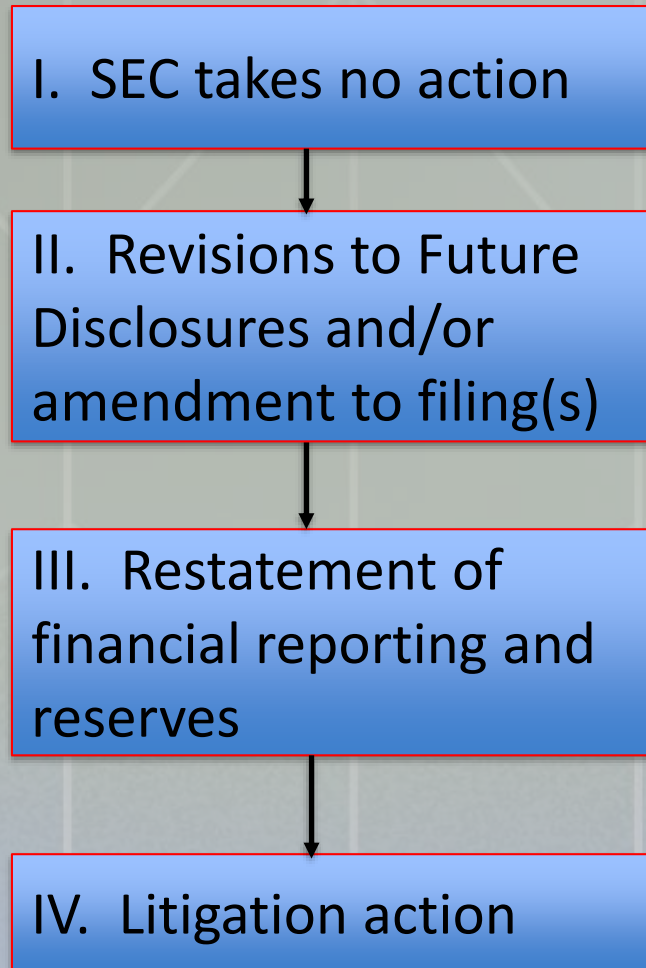
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FLOW CHART OF SEC REVIEW PROCESS



POSSIBLE OUTCOMES OF THE REVIEW PROCESS



UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

SECURITIES AND EXCHANGE COMMISSION, :
Plaintiff, :
v. : **COMPLAINT**
El Paso Corporation, El Paso CGP Company LLC, :
El Paso Exploration & Production Co., :
Rodney D. Erskine, Randy L. Bartley, :
Steven L. Hochstein, John D. Perry :
and Bryan T. Simmons, Defendants. :

Plaintiff Securities and Exchange Commission alleges as follows:

SUMMARY

1. Between 1998 and 2003, El Paso Corporation's ("El Paso's") oil and gas production subsidiaries, El Paso CGP Company LLC ("CGP") and El Paso Exploration and Production Co. ("EPPH"), materially overstated their proved oil and gas reserves under the Securities and Exchange Commission's ("Commission's") rules. In September 2004, El Paso restated its financial statements for the period from year end 1999 through September 30, 2003.

Source: <https://www.sec.gov/litigation/complaints/2008/comp20642.pdf>

OUTLINE OF THE PRESENTATION

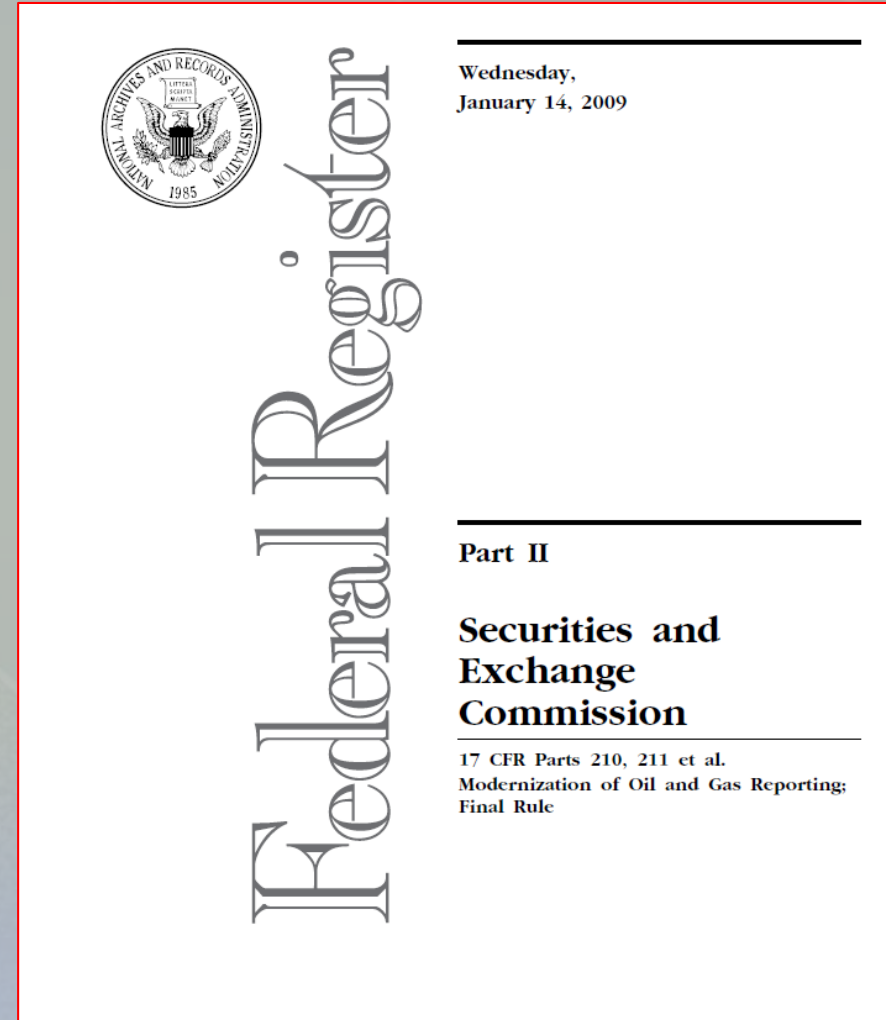
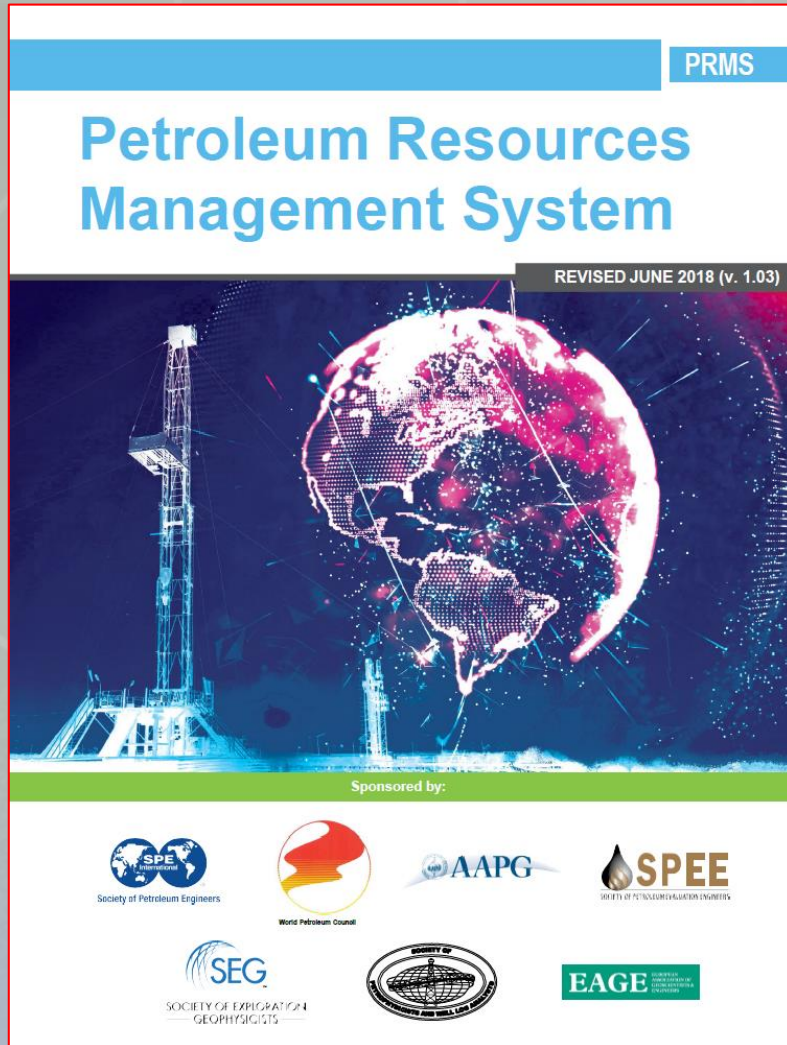
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POINTS FOR CONSIDERATION

- If you are not filing under the SEC, does this presentation have any value to you?
- Who oversees the use of PRMS?
- Are the questions posed by the SEC appropriate to ask of a PRMS reserves report?
- Is the definition of proved reserves the same?



SPE-PRMS VS. SEC



DEFINITION OF PROVED: SEC

SEC

(22) Proved oil and gas reserves are those quantities of oil and gas, which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be economically producible—from a given date forward, from known reservoirs, and under existing economic conditions, operating methods, and government regulations—prior to the time at which contracts providing the right to operate expire, unless evidence indicates that renewal is reasonably certain, regardless of whether deterministic or probabilistic methods are used for the estimation. The project to extract the hydrocarbons must have commenced or the operator must be reasonably certain that it will commence the project within a reasonable time.

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(1) Lifting the oil and gas to the surface; and

(2) Gathering, treating, and field processing (as in the case of processing gas to extract liquid hydrocarbons); and

(D) Extraction of saleable hydrocarbons, in the solid, liquid, or gaseous state, from oil sands, shale, coalbeds, or other nonrenewable natural resources which are intended to be upgraded into synthetic oil or gas, and activities undertaken with a view to such extraction.

Instruction 1 to paragraph (a)(16)(i): The oil and gas production function shall be regarded as ending at a "terminal point", which is the outlet valve on the lease or field storage tank. If unusual physical or operational circumstances exist, it may be appropriate to regard the terminal point for the production function as:

a. The first point at which oil, gas, or gas liquids, natural or synthetic, are delivered to a main pipeline, a common carrier, a refinery, or a marine terminal; and

b. In the case of natural resources that are intended to be upgraded into synthetic oil or gas, if those natural resources are delivered to a purchaser prior to upgrading, the first point at which the natural resources are delivered to a main pipeline, a common carrier, a refinery, or a marine terminal, or a facility which upgrades such natural resources into synthetic oil or gas.

Instruction 2 to paragraph (a)(16)(i): For purposes of this paragraph (a)(16), the term *saleable hydrocarbons* means hydrocarbons that are saleable in the state in which the hydrocarbons are delivered.

(ii) Oil and gas producing activities do not include:

(A) Transporting, refining, or marketing oil and gas;

(B) Processing of produced oil, gas or natural resources that can be upgraded into synthetic oil or gas by a registrant that does not have the legal right to produce or a revenue interest in such production;

(C) Activities relating to the production of natural resources other than oil, gas, or natural resources from which synthetic oil and gas can be extracted; or

(D) Production of geothermal steam.

(17) *Possible reserves.* Possible reserves are those additional reserves that are less certain to be recovered than probable reserves.

(i) When deterministic methods are used, the total quantities ultimately recovered from a project have a low probability of exceeding proved plus probable plus possible reserves. When probabilistic methods are used, there should be at least a 10% probability that the total quantities ultimately recovered will equal or exceed the proved plus probable plus possible reserves estimates.

(ii) Possible reserves may be assigned to areas of a reservoir adjacent to probable reserves where data control and interpretations of available data are progressively less certain. Frequently, this will be in areas where geoscience and engineering data are unable to define clearly the area and vertical limits of commercial production from the reservoir by a defined project.

(iii) Possible reserves also include incremental quantities associated with a greater percentage recovery of the hydrocarbons in place than the recovery quantities assumed for probable reserves.

(iv) The proved plus probable and proved plus probable plus possible reserves estimates must be based on reasonable alternative technical and commercial interpretations within the reservoir or subject project that are clearly documented, including comparisons to results in successful similar projects.

(v) Possible reserves may be assigned where geoscience and engineering data identify directly adjacent portions of a reservoir within the same accumulation that may be separated from proved areas by faults with displacement less than formation thickness or other geological discontinuities and that have not been penetrated by a wellbore, and the registrant believes that such adjacent portions are in communication with the known (proved) reservoir. Possible reserves may be assigned to areas that are structurally higher or lower than the proved area if these areas are in communication with the proved reservoir.

(vi) Pursuant to paragraph (a)(22)(iii) of this section, where direct observation has defined a highest known oil (HKO) elevation and the potential exists for an associated gas cap, proved oil reserves should be assigned in the structurally higher portions of the reservoir above the HKO only if the higher contact can be established with reasonable certainty through reliable technology. Portions of the reservoir that do not meet this reasonable certainty criterion may be assigned as probable and possible oil or gas based on reservoir fluid properties and pressure gradient interpretations.

(18) *Probable reserves.* Probable reserves are those additional reserves that are less certain to be recovered than proved reserves but which, together with proved reserves, are as likely as not to be recovered.

(i) When deterministic methods are used, it is as likely as not that actual remaining quantities recovered will exceed the sum of estimated proved plus probable reserves. When probabilistic methods are used, there should be at least a 50% probability that the actual quantities recovered will equal or exceed the proved plus probable reserves estimates.

(ii) Probable reserves may be assigned to areas of a reservoir adjacent to proved reserves where data control or interpretations of available data are less certain, even if the interpreted reservoir continuity of structure or productivity does not meet the reasonable certainty criterion. Probable reserves may be assigned to areas that are structurally higher than the proved area if these areas are in communication with the proved reservoir.

(iii) Probable reserves estimates also include potential incremental quantities associated with a greater percentage recovery of the hydrocarbons in place than assumed for proved reserves.

(iv) See also guidelines in paragraphs (a)(17)(iv) and (a)(17)(vi) of this section.

(19) *Probabilistic estimate.* The method of estimation of reserves or resources is called probabilistic when the full range of values that could reasonably occur for each unknown parameter (from the geoscience and engineering data) is used to generate a full range of possible outcomes and their associated probabilities of occurrence.

(22) *Proved oil and gas reserves.* Proved oil and gas reserves are those quantities of oil and gas, which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be economically producible—from a given date forward, from known reservoirs, and under existing economic conditions, operating methods, and government regulations—prior to the time at which contracts providing the right to operate expire, unless evidence indicates that renewal is reasonably certain, regardless of whether deterministic or probabilistic methods are used for the estimation. The project to extract the hydrocarbons must have commenced or the operator must be reasonably certain that it will commence the project within a reasonable time.

(i) The area of the reservoir considered as proved includes:

(A) The area identified by drilling and limited by fluid contacts, if any, and

(B) Adjacent undrilled portions of the reservoir that can, with reasonable certainty, be judged to be continuous

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with it and to contain economically producible oil or gas on the basis of available geoscience and engineering data.

(ii) In the absence of data on fluid contacts, proved quantities in a reservoir are limited by the lowest known hydrocarbons (LKH) as seen in a well penetration unless geoscience, engineering, or performance data and reliable technology establishes a lower contact with reasonable certainty.

(iii) Where direct observation from well penetrations has defined a highest known oil (HKO) elevation and the potential exists for an associated gas cap, proved oil reserves may be assigned in the structurally higher portions of the reservoir only if geoscience, engineering, or performance data and reliable technology establish the higher contact with reasonable certainty.

(iv) Reserves which can be produced economically through application of improved recovery techniques (including, but not limited to, fluid injection) are included in the proved classification when:

(A) Successful testing by a pilot project in an area of the reservoir with properties no more favorable than in the reservoir as a whole, the operation of an installed program in the reservoir or an analogous reservoir, or other evidence using reliable technology establishes the reasonable certainty of the engineering analysis on which the project or program was based; and

(B) The project has been approved for development by all necessary parties and entities, including governmental entities.

(v) Existing economic conditions include prices and costs at which economic producibility from a reservoir is to be determined. The price shall be the average price during the 12-month period prior to the ending date of the period covered by the report, determined as an unweighted arithmetic average of the first-day-of-the-month price for each month within such period, unless prices are defined by contractual arrangements, excluding escalations based upon future conditions.

(24) *Reasonable certainty.* If deterministic methods are used, reasonable certainty means a high degree of confidence that the quantities will be recovered. If probabilistic methods are used, there should be at least a 90% probability that the quantities actually recovered will equal or exceed the estimate. A high degree of confidence exists if the quantity is much more likely to be achieved than not, and, as changes due to increased availability of geoscience (geological, geophysical, and geochemical), engineering, and economic data are made to estimated ultimate recovery (EUR) with time, reasonably certain EUR is much more likely to increase or remain constant than to decrease.

(25) *Reliable technology.* Reliable technology is a grouping of one or more technologies (including computational methods) that has been field tested and has been demonstrated to provide reasonably certain results with consistency and repeatability in the formation being evaluated or in an analogous formation.

(26) *Reserves.* Reserves are estimated remaining quantities of oil and gas and related substances anticipated to be economically producible, as of a given date, by application of development projects to known accumulations. In addition, there must exist, or there must be a reasonable expectation that there will exist, the legal right to produce or a revenue interest in the production, installed means of delivering oil and gas or related substances to market, and all permits and financing required to implement the project.

Note to paragraph (a)(26): Reserves should not be assigned to adjacent reservoirs isolated by major, potentially sealing, faults until those reservoirs are penetrated and evaluated as economically producible. Reserves should not be assigned to areas that are clearly separated from a known accumulation by a non-productive reservoir (*i.e.*, absence of reservoir, structurally low reservoir, or negative test results). Such areas may contain prospective resources (*i.e.*, potentially recoverable resources from undiscovered accumulations).

(28) *Resources.* Resources are quantities of oil and gas estimated to exist in naturally occurring accumulations. A portion of the resources may be estimated to be recoverable, and another portion may be considered to be unrecoverable. Resources include both discovered and undiscovered accumulations.

(30) *Stratigraphic test well.* A stratigraphic test well is a drilling effort, geologically directed, to obtain information pertaining to a specific geologic condition. Such wells customarily are drilled without the intent of being completed for hydrocarbon production. The classification also includes tests identified as core tests and all types of expendable holes related to hydrocarbon exploration. Stratigraphic tests are classified as "exploratory type" if not drilled in a known area or "development type" if drilled in a known area.

(31) *Undeveloped oil and gas reserves.* Undeveloped oil and gas reserves are reserves of any category that are expected to be recovered from new wells on undrilled acreage, or from existing wells where a relatively major expenditure is required for recompletion.

(i) Reserves on undrilled acreage shall be limited to those directly offsetting development spacing areas that are reasonably certain of production when drilled, unless evidence using reliable technology exists that establishes reasonable certainty of economic producibility at greater distances.

(ii) Undrilled locations can be classified as having undeveloped reserves only if a development plan has been adopted indicating that they are scheduled to be drilled within five years, unless the specific circumstances, justify a longer time.

(iii) Under no circumstances shall estimates for undeveloped reserves be attributable to any acreage for which an application of fluid injection or other improved recovery technique is contemplated, unless such techniques have been proved effective by actual projects in the same reservoir or an analogous reservoir, as defined in paragraph (a)(2) of this section, or by other evidence using reliable technology establishing reasonable certainty.

* * * * *

(c) * * *

(8) For purposes of this paragraph (c), the term "current price" shall mean the average price during the 12-month period prior to the ending date of the period covered by the report, determined as an unweighted arithmetic average of the first-day-of-the-month price for each month within such period, unless prices are defined by contractual arrangements, excluding escalations based upon future conditions.

* * * * *

PART 211—INTERPRETATIONS RELATING TO FINANCIAL REPORTING MATTERS

■ 3. Amend Part 211, subpart A, by adding "Modernization of Oil and Gas Reporting." Release No. FR-78 and the release date of December 31, 2008, to the list of interpretive releases.

DEFINITION OF PROVED: SPE-PRMS

SPE-PRMS

2.2.2: Proved Reserves are those quantities of petroleum, which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be commercially recoverable, from a given date forward, from known reservoirs and under defined economic conditions, operating methods, and government regulations. If deterministic methods are used, the term reasonable certainty is intended to express a high degree of confidence that the quantities will be recovered. If probabilistic methods are used, there should be at least a 90% probability that the quantities actually recovered will equal or exceed the estimate.

2.2.2.3 For Contingent Resources, the general cumulative terms low/best/high estimates are used to estimate the resulting 1C/2C/3C quantities, respectively. The terms C1, C2, and C3 are defined for incremental quantities of Contingent Resources.

2.2.2.4 For Prospective Resources, the general cumulative terms low/best/high estimates also apply and are used to estimate the resulting 1U/2U/3U quantities. No specific terms are defined for incremental quantities within Prospective Resources.

2.2.2.5 Quantities in different classes and sub-classes cannot be aggregated without considering the varying degrees of technical uncertainty and commercial likelihood involved with the classification(s) and without considering the degree of dependency between them (see Section 4.2.1, Aggregating Resources Classes).

2.2.2.6 Without new technical information, there should be no change in the distribution of technically recoverable resources and the categorization boundaries when conditions are satisfied to reclassify a project from Contingent Resources to Reserves.

2.2.2.7 All evaluations require application of a consistent set of forecast conditions, including assumed future costs and prices, for both classification of projects and categorization of estimated quantities recovered by each project (see Section 3.1, Assessment of Commerciality).

2.2.2.8 Tables 1, 2, and 3 present category definitions and provide guidelines designed to promote consistency in resources assessments. The following summarize the definitions for each Reserves category in terms of both the deterministic incremental method and the [deterministic scenario method](#), and also provides the criteria if probabilistic methods are applied. For all methods (incremental, scenario, or probabilistic), low, best and high estimate technical forecasts are prepared at an [effective date](#) (unless justified otherwise), then tested to validate the commercial criteria, and truncated as applicable for determination of Reserves quantities.

- A. **Proved Reserves** are those quantities of Petroleum that, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be commercially recoverable from known reservoirs and under defined technical and commercial conditions. If [deterministic methods](#) are used, the term "reasonable certainty" is intended to express a high degree of confidence that the quantities will be recovered. If probabilistic methods are used, there should be at least a 90% probability that the quantities actually recovered will equal or exceed the estimate.
- B. **Probable Reserves** are those additional Reserves which analysis of geoscience and engineering data indicate are less likely to be recovered than Proved Reserves but more certain to be recovered than [Possible Reserves](#). It is equally likely that actual remaining quantities recovered will be greater than or less than the sum of the estimated Proved plus Probable Reserves (2P). In this context, when probabilistic methods are used, there should be at least a 50% probability that the actual quantities recovered will equal or exceed the 2P estimate.
- C. **Possible Reserves** are those additional Reserves that analysis of geoscience and engineering data suggest are less likely to be recoverable than Probable Reserves. The total quantities ultimately recovered from the project have a low probability to exceed the sum of Proved plus Probable plus Possible (3P) Reserves, which is equivalent to the high-estimate scenario. When probabilistic methods are used, there should be at least a 10% probability that the actual quantities recovered will equal or exceed the 3P estimate. Possible Reserves that are located outside of the 2P area (not upside quantities to the 2P scenario) may exist only when the commercial and technical maturity criteria have been met (that incorporate the Possible development scope). Stand-alone Possible Reserves must reference a commercial 2P project (e.g., a lease adjacent to the

DEFINITION OF PROVED COMPARISON

SPE-PRMS

2.2.2: Proved Reserves are those quantities of petroleum, which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be commercially recoverable, from a given date forward, from known reservoirs and under defined economic conditions, operating methods, and government regulations. If deterministic methods are used, the term reasonable certainty is intended to express a high degree of confidence that the quantities will be recovered. If probabilistic methods are used, there should be at least a 90% probability that the quantities actually recovered will equal or exceed the estimate.

SEC

(22) Proved oil and gas reserves are those quantities of oil and gas, which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be economically producible—from a given date forward, from known reservoirs, and under existing economic conditions, operating methods, and government regulations— prior to the time at which contracts providing the right to operate expire, unless evidence indicates that renewal is reasonably certain, regardless of whether deterministic or probabilistic methods are used for the estimation. The project to extract the hydrocarbons must have commenced or the operator must be reasonably certain that it will commence the project within a reasonable time.

HIGH DEGREE OF CONFIDENCE

SPE-PRMS

Appendix A: If deterministic methods are used, the term “reasonable certainty” is intended to express a high degree of confidence that the quantities will be recovered.

2.2.2: If probabilistic methods are used, there should be at least a 90% probability that the quantities actually recovered will equal or exceed the estimate.

SEC

(24) *Reasonable certainty.* If deterministic methods are used, reasonable certainty means a high degree of confidence that the quantities will be recovered. If probabilistic methods are used, there should be at least a 90% probability that the quantities actually recovered will equal or exceed the estimate. A high degree of confidence exists if the quantity is much more likely to be achieved than not, and, as changes due to increased availability of geoscience (geological, geophysical, and geochemical), engineering, and economic data are made to estimated ultimate recovery (EUR) with time, reasonably certain EUR is much more likely to increase or remain constant than to decrease.

HOW ABOUT CANADIAN FILERS?

There are definition differences between the SEC and COGEH:

- SEC doesn't recognize the contingent or prospective resources classifications. COGEH does recognize these additional classifications of resources.*
- COGEH requires a 1P and 2P range of estimates for each reserve category with the Proved + Probable considered to be the most likely outcome and the Proved equal to something less than the most likely.*
- COGEH accepts escalated price and cost parameters while the SEC accepts flat price and cost parameters, with the exception of fixed contracts, as the required pricing scenario. The SEC will allow for an additional alternative case using escalated prices and costs.*
- COGEH and the SEC limit development to the 5-year rule for Proved. COGEH will allow a 10-year rule in the Probable Undeveloped category where the company has large inventories of locations in unconventional resource plays.*
- The SEC and COGEH require a development plan budget sign-off by the company however under COGEH the company does not have to necessarily have access to the capital required for development*
- COGEH requires substantially more documentation in a very detailed report whereas the SEC reports require the detailed work notes be kept with the evaluator*
- COGEH reserves disclosure requirements are spelled out in Form NI 51-101F1*
- NI 51-101 is more comparable to SPE-PRMS*

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- Background on the role of the SEC
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- Touch on some of the fundamental issues underlying disclosure requirements regarding reserves
- **Provide some recent statistics on the focus of SEC comment letters related to reserves**

WHAT COMMENT LETTERS ARE WE FOCUSING ON?

- Comment letters sent to oil and gas filers (SIC* = 1311 and 2911) between November 2021 and December 2022.
- Comments respond to many types of SEC filings, predominately 10-K and 20F forms for years ending 12/31/2021 and 12/31/2022, along with other filings.

Before Screening		After Screening
31	Companies	30
53	Letters	52
269	Reserves Related Comments	183

* Standard Industrial Classification: [SEC.gov | Division of Corporation Finance: Standard Industrial Classification \(SIC\) Code List](https://www.secdatabase.com/SEC.gov/Division%20of%20Corporation%20Finance/Standard%20Industrial%20Classification%20(SIC)%20Code%20List)

SIC Code 1311 Industry Title = Crude Petroleum and Natural Gas

SIC Code 2911 Industry Title = Petroleum Refining

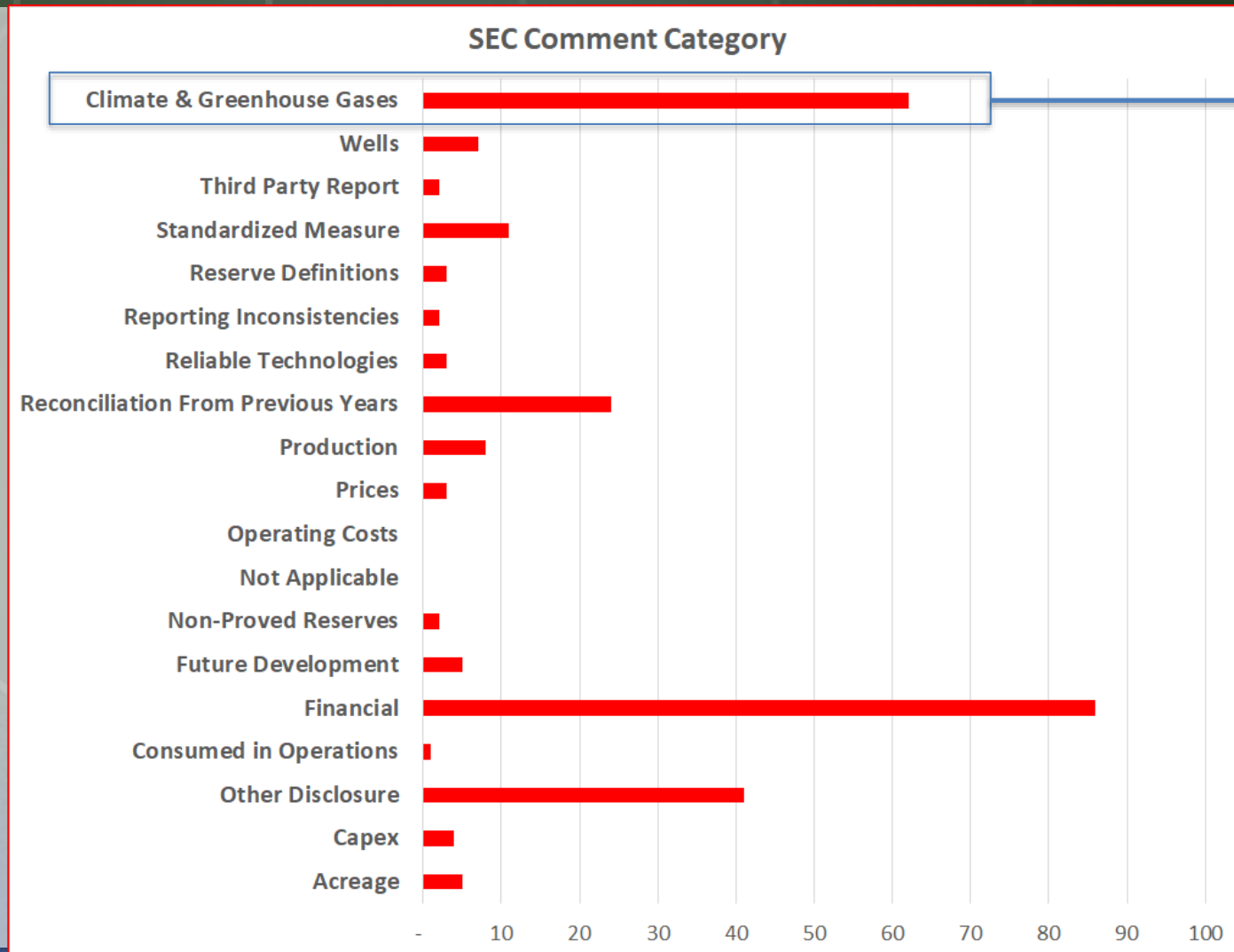
... MORE GRANULARITY

More US
transactions
by China
Petroleum

Row Labels	Count of Primary Category
Acreage	5
Capex	4
Climate & Greenhouse Gases	62
Consumed in Operations	1
Financial	86
Future Development	5
Non-Proved Reserves	2
Other Disclosure	41
Prices	3
Production	8
Reconciliation From Previous Years	24
Reliable Technologies	3
Reporting Inconsistencies	2
Reserve Definitions	3
Standardized Measure	11
Third Party Report	2
Wells	7
Grand Total	269

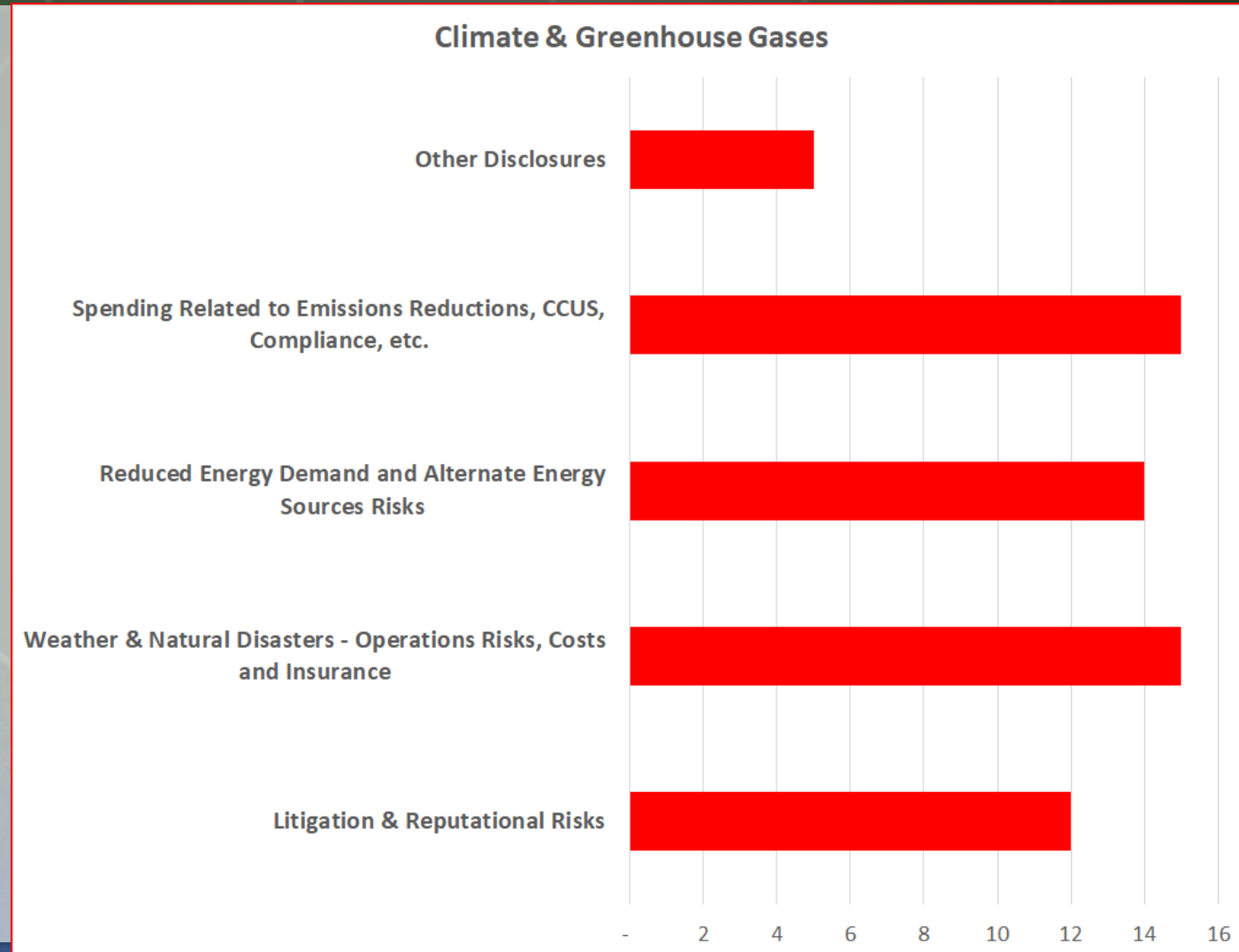
Row Labels	Count of letters	Row Labels	Count of comments
BP	2	BP	20
CAMBERENERGY	1	Camber Energy	4
CENTENNIALRESOURCEDEVELOPMENT	1	Centennial Resource Development	2
CHEVRON	2	Chevron	2
CHINAPETROLEUM	4	China Petroleum	40
COJAXOIL	2	CoJax Oil and Gas	7
CONTINENTALRESOURCES	2	Continental Resources	7
CVRENERGY	2	CVR Energy	11
DIAMONDBACKENERGY	2	Diamondback Energy	14
EARTSTHONEENERGY	1	Earthstone Energy Inc	3
EOGRESOURCES	2	EOG Resources, Inc.	9
EPSILONENERGY	1	Epsilon Energy Ltd.	9
FALCONMINERALS	2	Falcon Minerals Corporation	13
GULFPORTENERGY	1	Gulfport Energy Corporation	15
KOSMOSENERGY	2	Kosmos Energy Ltd.	15
MARATHONOIL	2	Marathon Oil Corporation	7
MURPHYOIL	2	Murphy Oil Corporation	12
PBFENERGY	2	PBF Energy Inc.	7
PHILLIPS66	1	Phillips 66	2
PHXMINERALS	2	PHX Minerals Inc.	3
PORTAGEBIOTECH	1	Portage Biotech Inc.	1
RANGEROIL	1	Ranger Oil Corp	4
SANDRIDGEENERGY	1	Sandridge Energy, Inc.	7
SILVERBOWRESOURCES	2	SILVERBOW RESOURCES, INC.	8
SMENERGY	2	SM Energy Company	6
SOUTHWESTENERGY	2	Southwestern Energy Company	7
SUNOCO	1	Sunoco LP	2
TALOSENERGY	2	Talos Energy Inc.	13
VERTEXENERGY	1	Vertex Energy Inc.	6
VIKINGENERGY	3	Viking Energy Group, Inc.	12
WHITINGPETROLEUM	1	Whiting Petroleum Corporation	1
Grand Total	53	Grand Total	269

FACTOR ANALYSIS OF THE SEC COMMENT LETTERS



Climate and Greenhouse Gases are now under focus

FACTOR ANALYSIS OF CLIMATE AND GREENHOUSE GAS LETTERS



SEC PROPOSED STANDARDIZED CLIMATE-RELATED DISCLOSURES

- February 2010; the SEC provided guidance related to climate change disclosure.¹
- May 2020; the SEC Investor Advisory Committee approved recommendations to begin updating reporting requirements for issuers to include decision-making material pertaining to environmental, social, and governance (ESG) factors.²
- A press release in March 2021 announced the SEC Division of Examinations with an enhanced focus on climate-related risks.³
- **March 2022; the SEC proposed rules to enhance and standardize climate-related disclosures for investors.**⁴

Sources: ¹ <https://www.sec.gov/rules/interp/2010/33-9106.pdf>

² <https://www.sec.gov/news/public-statement/lee-climate-change-disclosures>

³ <https://www.sec.gov/news/press-release/2021-39>

⁴ <https://www.sec.gov/news/press-release/2022-46>

CLIMATE AND GREEN HOUSE GAS – EXAMPLE COMMENT LETTER

“We note from your response to prior comment 6 that your compliance with climate-related laws and regulations can increase your exposure to litigation. Please tell us how you considered providing disclosure addressing the risks associated with the possibility of climate change related litigation, including litigation not solely related to compliance with climate-related laws and regulations, and its potential impact.” – **SEC Staff**

Takeaway Point: *A third party report from a trusted source can help to address these kinds of comments from the SEC.*

THIRD PARTY REPORTING



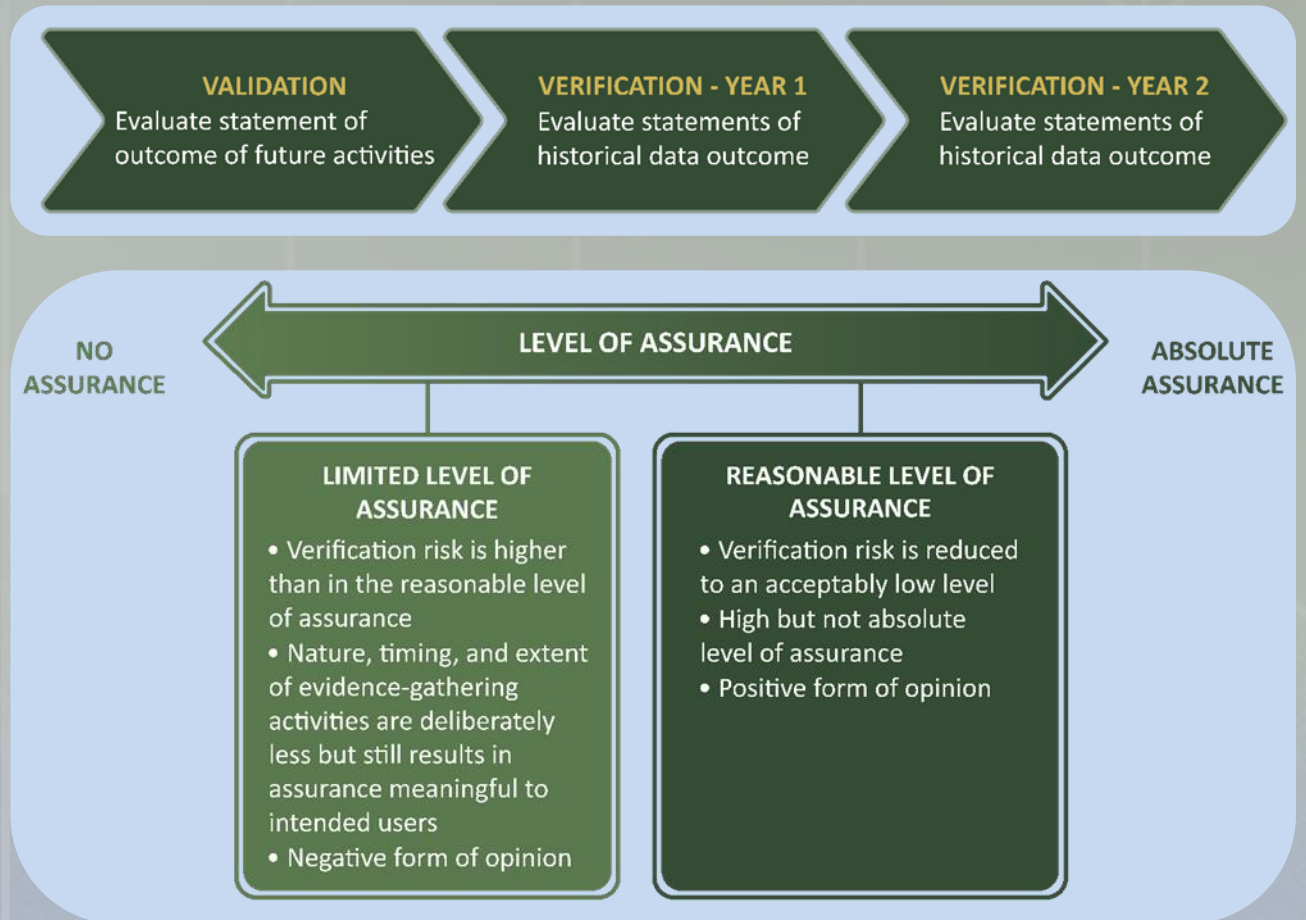
Greenhouse Gas Verification & Validation Manual

Modeled after ISO 14064-3:2019

1100 Louisiana Street, Suite 4600
Houston, TX 77002-5294

GHG VV Manual Version March 2022
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CLIMATE AND GREEN HOUSE GAS – COMPANY RESPONSE

In considering disclosures of the risk of climate-related litigation, we considered the merits of litigation that has already been brought and the likelihood of additional litigation that could reasonably be expected to have a material adverse effect on the Company. Given the expectation of continued legal, political and shareholder pressure on companies, including us, relating to climate-related matters, we intend to include the following additional Risk Factor under the subheading “Regulatory and Environmental, Climate and Weather Risks” in our future filings:

Continuing political and social concerns about the issues of climate change may result in changes to our business and significant expenditures, including litigation-related expenses.

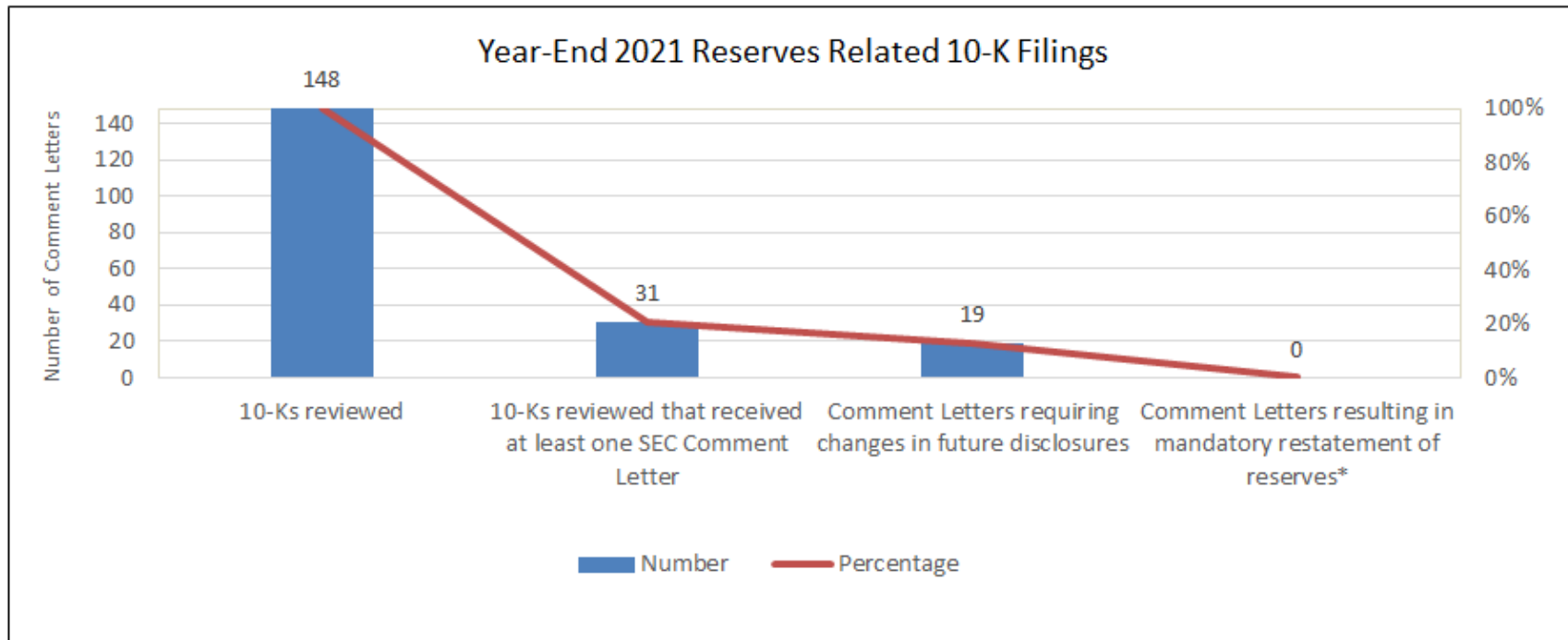
CLIMATE AND GREEN HOUSE GAS – COMPANY RESPONSE CONTD.

*“Increasing attention to global climate change has resulted in increased investor attention and an increased risk of public and private litigation, which could increase our costs or otherwise adversely affect our business. For example, shareholder activism has recently been increasing in our industry, and shareholders may attempt to effect changes to our business or governance, whether by shareholder proposals, public campaigns, proxy solicitations or otherwise. Additionally, **cities, counties, and other governmental entities in several states in the U.S. began filing lawsuits against energy companies in 2017**, including [Company] lawsuits seek damages allegedly associated with climate change, and the plaintiffs are seeking unspecified damages and abatement under various tort theories. Similar lawsuits may be filed in other jurisdictions. We believe these lawsuits are an inappropriate vehicle to address the challenges associated with climate change and will vigorously defend against them for lacking factual and legal merit. **The ultimate outcome and impact to us of any such litigation cannot be predicted with certainty, and we could incur substantial legal costs associated with defending these and similar lawsuits in the future.** Additionally, any of these risks could result in unexpected costs, negative sentiments about our company, disruptions in our operations, increases to our operating expenses and reduced demand for our products, which in turn could have an adverse effect on our business, financial condition and results of operations.” – Company Response*

Takeaway Point: *There is risk of litigation and uncertainty due to the impact of climate change on business operations*

OUTCOME OF THE REVIEW OF RECENT 10-K FILINGS

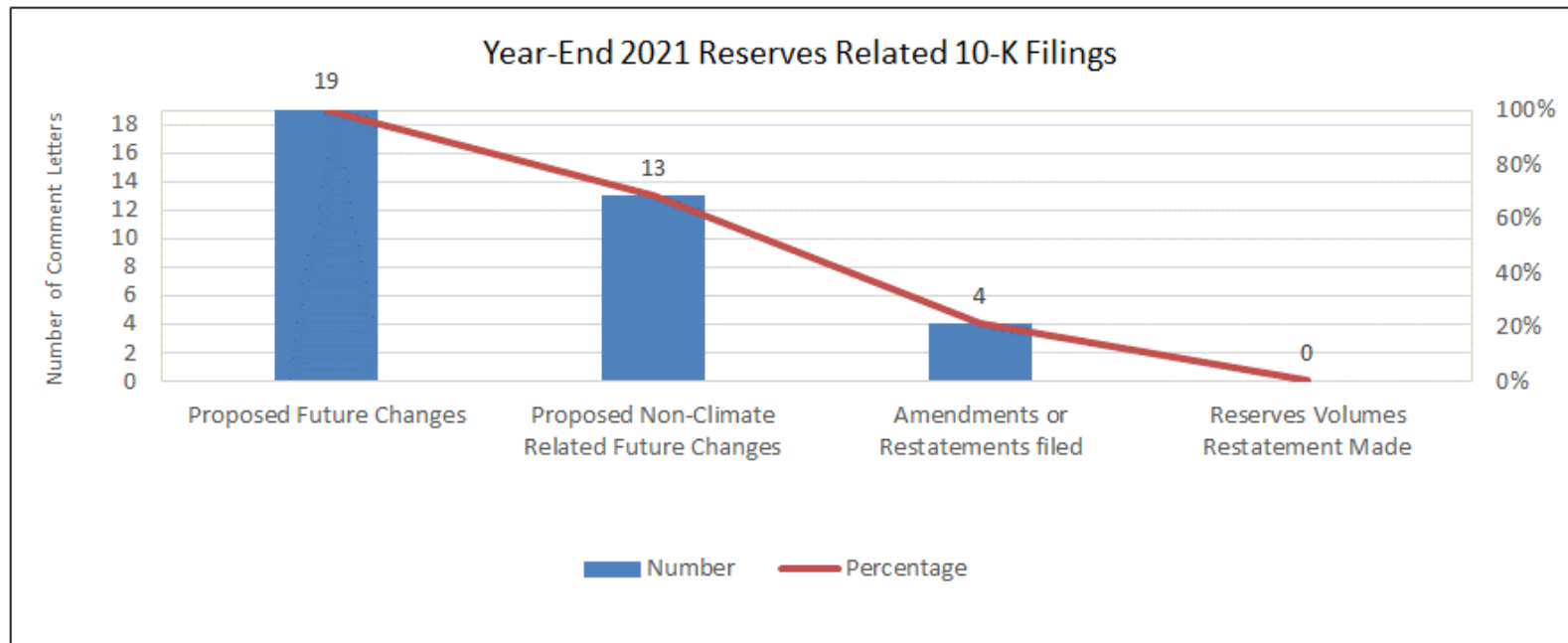
	Number	Percentage
10-Ks reviewed	148	100%
10-Ks reviewed that received at least one SEC Comment Letter	31	21%
Comment Letters requiring changes in future disclosures	19	13%
Comment Letters resulting in mandatory restatement of reserves*	0	0%



**Includes only those items that have changed total reserves volumes and not restatement of reserves related items (SMOG, text disclosures, etc.)*

COMMENT LETTERS WITH FUTURE DISCLOSURES

	Number	Percentage
Proposed Future Changes	19	100%
Proposed Non-Climate Related Future Changes	13	68%
Amendments or Restatements filed	4	21%
Reserves Volumes Restatement Made	0	0%



**There are numerous companies that have proposed future changes to climate related risk factors within future filings.*

These have not been included within "Comment Letters requiring changes in future disclosures"

***Includes only those items that have changed total reserves volumes and not restatement of reserves related items (SMOG, text disclosures, etc.)*

SARBANES-OXLEY (2002) ... 2023+, “EVOLVING” EMISSION STANDARDS

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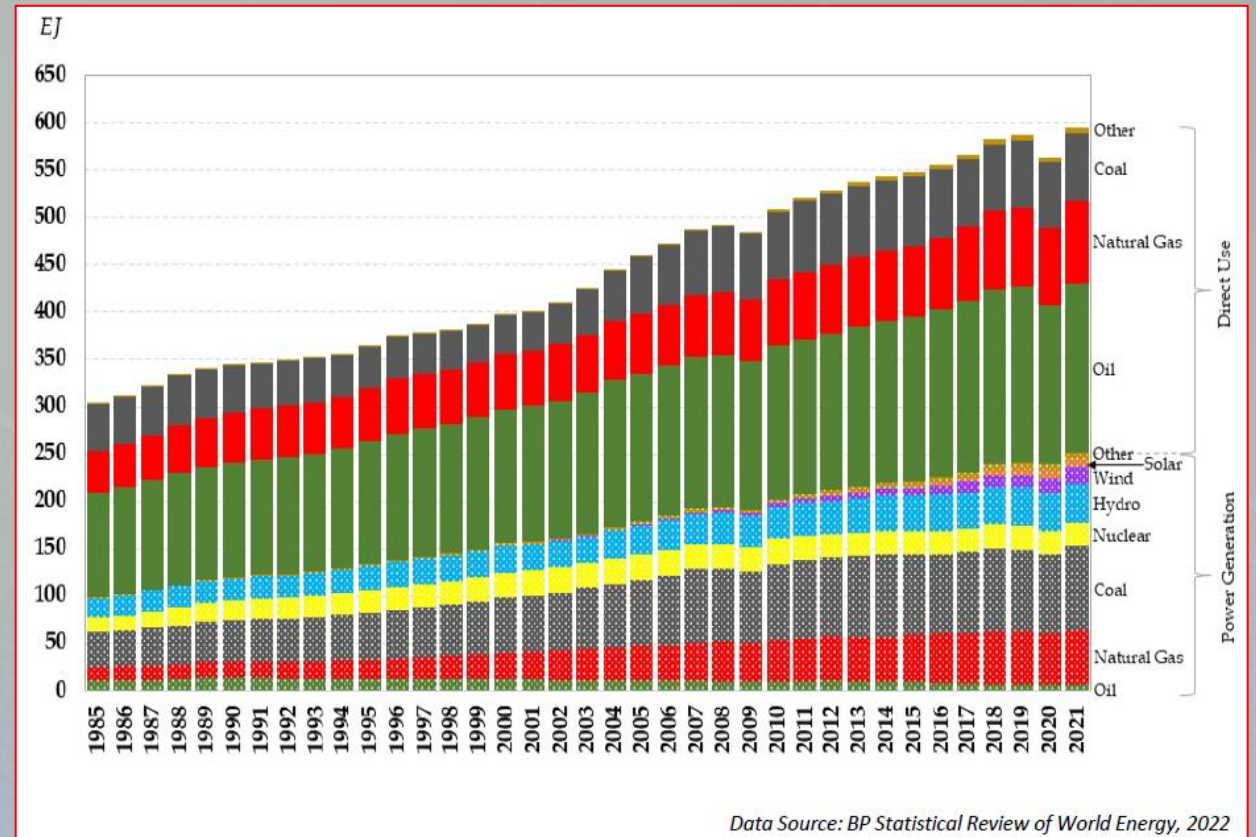
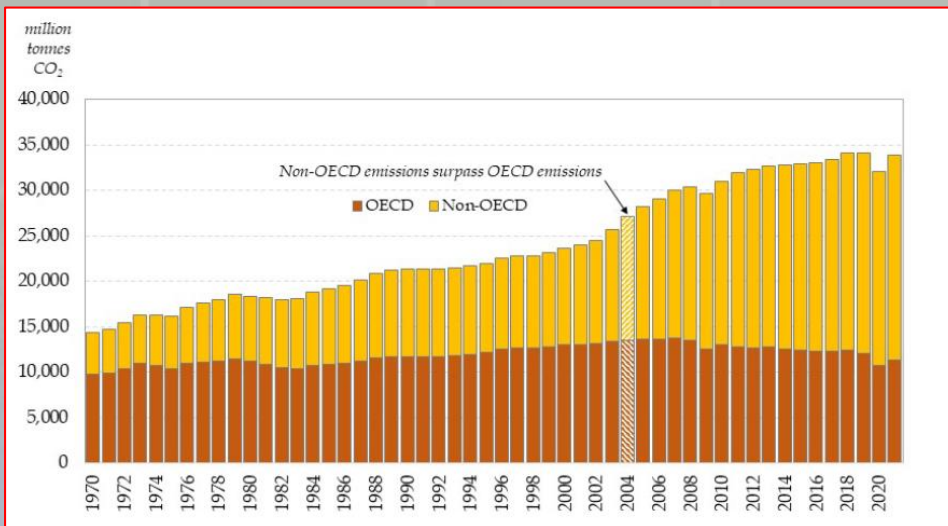
Basic Information

Actions and Notices

Implementation

EPA Proposes New Source Performance Standards Updates, Emissions Guidelines to Reduce Methane and Other Harmful Pollution from the Oil and Natural Gas Industry

Source: <https://www.epa.gov/controlling-air-pollution-oil-and-natural-gas-industry/epa-proposes-new-source-performance>



CONCLUSIONS

- Environmental impact of Climate Change and Greenhouse Gases is becoming increasingly important to the SEC.
- Comment Letters are not to be scared of. They allow us to understand the thinking of SEC staff, and they seldom result in litigation action by the SEC.
- Comprehensive filing disclosures on significant changes are usually enough to satisfy the SEC's inquiries.

Thanks to Ryder Scott, Dan Olds, Miles Palke, Andrew Wright, Anthony DiNoia, and the Conference Attendees.