

EPCA Phase III

Questions and Answers

Q: What is the EPCA inventory?

A: Section 604 of the Energy Policy and Conservation Act (EPCA) of 2000, as amended by Section 364 of the Energy Policy Act of 2005, required an inventory of all onshore Federal lands to identify:

- “the United States Geological Survey estimates of the oil and gas resources underlying these lands; and,
- “the extent and nature of any restrictions or impediments to the development of the resources...”

EPCA required the Secretary of the Interior, in consultation with the Secretaries of Agriculture and Energy, to provide the inventory to Congress. The Secretary of the Interior designated the Bureau of Land Management (BLM) to lead the effort. That inventory, now referred to as EPCA Phase I, was released in January 2003. Phase II was released in November 2006. The current inventory supersedes both of these.

Q: What methodology was used for determining the oil and gas *resources* for these inventories?

A: The inventories used the U.S. Geological Survey’s (USGS) resource estimates from its 2002 National Oil and Gas Assessment. The USGS used a peer-reviewed methodology with a decades-long track record of providing the government standard for oil and gas resource estimation. The methodology, including the statistical analysis, was reviewed by the American Association of Petroleum Geologists.

Q: How was the Phase I inventory different from earlier inventories, such as the *DOE Greater Green River Basin study*?

A: The Department of Energy’s Greater Green River Basin study, completed in response to the 1999 National Petroleum Council study of natural gas in the Rocky Mountain Region, examined in detail the restrictions to Federal natural gas exploration and development within the Greater Green River Basin of Wyoming and Colorado. The EPCA Phase I analysis included four additional areas, focused on **both oil and natural gas**, including those resources under split estate lands, and incorporated further analysis of agency experts on the impacts of various land use restrictions.

Q: How is the Phase III inventory different from the other phases?

A: The Phase III Inventory examined in detail six geological provinces in addition to the twelve included in the Phase II Inventory. These six provinces were Central Alaska (Yukon Flats portion); Southern Alaska; Eastern Oregon-Washington; the Ventura Basin in California; the Eastern Great Basin in Idaho, Nevada, Utah and Arizona; and the Williston Basin in Montana, North Dakota and South Dakota.

As with the Phase II study, Phase III included an analysis of the impact of conditions of approval on applications for permits to drill. It also included the addition of reserves growth, which is subject to access constraints since it often results from drilling new wells in or near existing fields.

Q: What were the basins inventoried in Phases I and II?

A: The original report, titled *Scientific Inventory of Onshore Federal Lands' Oil and Gas Resources and Reserves and the Extent and Nature of Restrictions or Impediments to Their Development*, addressed five study areas in the West that contain the majority of the oil and natural gas resources under public ownership in the onshore United States (outside of Alaska):

- the Paradox/San Juan Basins (Colorado, New Mexico, and Utah);
- the Uinta-Piceance Basin (Colorado and Utah);
- the Greater Green River Basin (Colorado and Wyoming);
- the Powder River Basin (Montana and Wyoming); and,
- the Montana Thrust Belt (Montana).

These five basins were reanalyzed and six additional basins were added to create the cumulative Phase II report. Six additional geographic areas that have Federal oil and natural gas development potential were included in Phase II:

- Northern Alaska (NPR-A and ANWR 1002 only);
- Wyoming Thrust Belt (in Wyoming, Utah and Idaho);
- Denver Basin (in Colorado, Wyoming, Nebraska and South Dakota);
- Florida Peninsula;
- Black Warrior Basin (in Mississippi and Alabama); and,
- Appalachian Basin (in Tennessee, Kentucky, West Virginia, Virginia, Maryland, Ohio, Pennsylvania, New Jersey and New York).

Q: Are lands in the Roan Plateau and the Northeast NPRA included in the EPCA report?

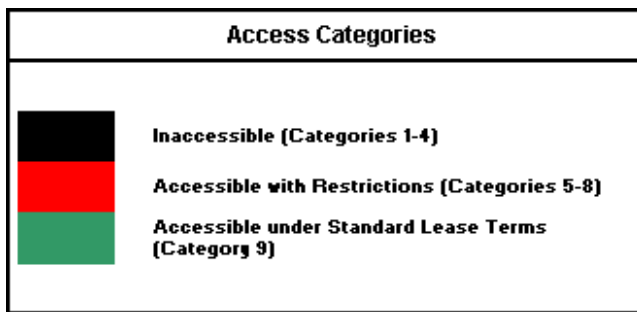
A: Yes, both of these areas are included. These lands are not currently open to leasing. They were categorized in the report as "no leasing, pending land use planning or NEPA compliance" (see category 3 below).

Q: What are the findings of the Phase III Inventory?

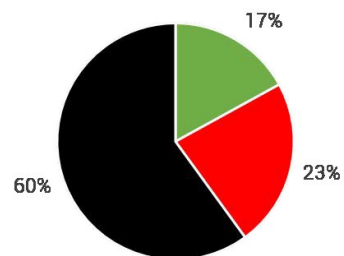
A: Among other things, Phase III found that:

- Federal lands with potential for oil or natural gas resources, including split-estate minerals, totaled 279.0 million acres.
- Undeveloped oil resources under these Federal lands totaled 30.5 billion barrels, comprising 24.2 billion barrels of undiscovered technically recoverable resources and 6.3 billion barrels of reserves growth;
- Undeveloped gas resources under these Federal lands totaled 231.0 trillion cubic feet, comprising 214.1 trillion cubic feet of undiscovered technically recoverable resources and 16.9 trillion cubic feet of reserves growth;
- Total proved reserves under these Federal lands totaled 5.3 billion barrels of oil and 68.8 trillion cubic feet of natural gas;
- Approximately 60 percent (165.9 million acres) of the Federal land is inaccessible. Based on resource estimates, these lands contained about 62 percent of the oil (19.0 billion barrels) and 41 percent of the natural gas (94.5 trillion cubic feet);
- Approximately 23 percent (65.2 million acres) of the Federal land was accessible with restrictions on oil and gas operations beyond standard stipulations. Based on resource estimates, these lands contained 30 percent of the oil (9.3 billion barrels) and 49 percent of the gas (112.9 trillion cubic feet); and,
- Approximately 17 percent of the Federal land in these areas (48.0 million acres) was accessible under standard lease terms. Based on resource estimates, these lands contained 8 percent of the oil (2.3 billion barrels) and 10 percent of the gas (23.6 trillion cubic feet).

Phase III Inventory Results - Onshore Federal Lands and Resources

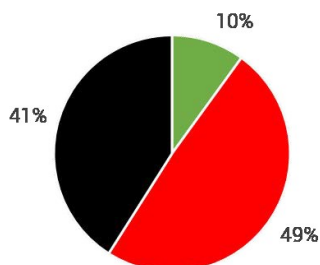


Acreage (279 million acres)*



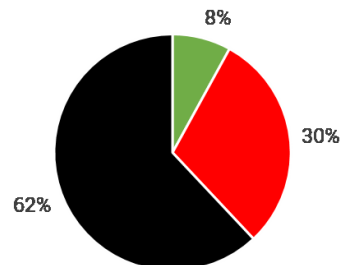
*Federal land and lands overlaying Federal mineral estate

Natural Gas (231 TCF)*



*Federal natural gas and non-Federal natural gas underlying Federal land

Oil (31 BBbl)*



*Federal liquids (oil and NGLs) and non-Federal liquids underlying Federal land

Q: What accounts for the different results between Phases II and III?

A: The major differences from Phase II results are primarily due to:

- The temporary closure of NPR-A Northeast and South, which caused a decrease in overall oil and natural gas and surface accessibility; and,
- The inclusion of Central and Southern Alaska and the Eastern Great Basin, which caused a further decrease in overall surface accessibility.

Q: How do the Phase III study areas compare among each other?

A: When examined regionally, the largest amount of onshore Federal oil and gas resources were found in the Western Region (206.4 quadrillion BTU equivalent). Alaska was second (195.7 quadrillion BTU), followed by the Eastern Region, a distant third in rank (5.7 quadrillion BTU). Other findings are as follows:

- The study area with the largest amount of onshore Federal oil and gas resources was Northern Alaska, which contained 17.8 billion barrels of oil and 79.6 trillion cubic feet of natural gas. About 75 percent of the oil and 66 percent of the natural were inaccessible; the remainder was accessible with additional restrictions (primarily because of the requirement for drilling only during the winter). Virtually none were accessible under standard lease terms; and,
- The study area with the largest amount of Federal land is the Eastern Great Basin, which contains 54.6 million acres. About 51 percent of the land was inaccessible and 21 percent was accessible with additional restrictions. About 28 percent was accessible under standard lease terms.

Q: How much undiscovered oil and gas were estimated to exist in the United States?

A: Based on Department of the Interior estimates:

- Offshore and onshore, the nation's undiscovered oil and natural gas resources totaled approximately 139 billion barrels (Bbbls) and 1,056 trillion cubic feet (TCF), respectively;
- The Outer Continental Shelf contained approximately 62 percent of the nation's undiscovered oil resources and 40 percent of the natural gas resources;
- Nonfederal onshore lands and state waters made up about 21 percent of the total undiscovered oil and 40 percent of the natural gas; and,
- Federal onshore lands contained 17 percent of the oil and 20 percent of the nation's undiscovered natural gas resources.

Q: What are "standard lease terms"?

A: All onshore Federal oil and gas leases contain terms and conditions as specified on the standard lease form (BLM Form 3100-11). Some of these terms and conditions govern land use and resource development to a certain extent. Environmental and other considerations, which are identified during the land use planning process, determine the need for additional terms and conditions, or lease stipulations. For example, a lease may contain a stipulation that prohibits surface disturbance during certain time periods for wildlife.

Such stipulations on land use and timing may constrain exploration and development of oil and natural gas on Federal lands. **Leasing, Standard Lease Terms (SLTs) areas (Category 9)** are lands that can be leased and where no additional stipulations are added to the standard lease form. Standard lease terms, however, still dictate that the lessee must comply with many environmental standards and other requirements

Q: What does “Accessible with Restrictions” mean?

A: “Accessible with Restrictions” is a combination of Categories 5-8:

- 5. Leasing, Cumulative Timing Limitations (TLs) on drilling of >9 Months**
- 6. Leasing, Cumulative Timing Limitations (TLs) on drilling of >6 to ≤9 Months**
- 7. Leasing, Cumulative Timing Limitations (TLs) on drilling of >3 to ≤6 Months** are lands that can be leased, but stipulations and/or COAs limit the time of the year when oil and gas exploration and drilling can take place. Timing limitation stipulations prohibit surface use during specified time intervals to protect identified resources such as sage grouse habitat or elk calving areas.
- 8. Leasing, Controlled Surface Use (CSU)** are lands where stipulations and/or COAs control the surface location of natural gas and oil exploration and development activities by excluding them from portions of the lease. For example, a CSU stipulation could require an operator to develop a specialized mitigation plan based on the presence of moderately steep slopes. This category also includes the minimal areas that have timing limitations of less than three months.

Q: What do the “Inaccessible” categories include?

A: “Inaccessible” is a combination of Categories 1-4:

- 1. No Leasing (Statutory/Executive Order) (NLS)** are lands (e.g. national parks, monuments, and wilderness areas) that cannot be leased due to Congressional or Presidential action.
- 2. No Leasing (Administrative) (NLA)** are lands that are withheld from leasing based on discretionary decisions made by the Federal land management agency. NLA areas can include endangered species habitat and historical sites.
- 3. No Leasing (Administrative), Pending Land Use Planning or NEPA Compliance (NLA/LUP)** are lands that have not yet undergone or are currently undergoing land use planning or NEPA analysis, and that are generally not available for leasing. In the cases where there is no land use plan in effect, non-Federal mineral estate underlying Federal land is categorized as NLA/LUP to reflect the fact that access to mineral estate can be allowed through the NEPA process.
- 4. Leasing, No Surface Occupancy (NSO) (Net NSO for Oil & Gas Resources)** are lands that can be leased but ground-disturbing oil and natural gas exploration and development activities are prohibited. These stipulations protect identified resources such as special status plant species habitat. Their surface areas are mapped according to land use plans. However, at least some of the resources can be accessed by directional drilling from nearby lands where surface occupancy is allowed. This is accounted for by creating an extended drilling zone (EDZ) that reduces the size of the NSO area. The area removed is placed in the most restrictive resource access category (5 through 9) that would otherwise apply in the absence of the NSO stipulation. Within the EDZ area the underlying resource is considered accessible even though the surface above it cannot be occupied by drilling equipment. After the EDZ is removed, the NSO area that remains is referred to as “Net NSO” (NNSO) and the resources under it are therefore considered inaccessible.

Q: What are undiscovered technically recoverable resources?

A: They are resources postulated from geologic information and theory to exist outside of known oil and gas accumulations and that are producible using current recovery technology but without reference to economic profitability.

Q: What is reserves growth?

A: It is the increase in known petroleum volume that commonly occurs as oil and gas accumulations are developed and produced. The increase can be due to additional drilling within or near existing fields, or technological progress resulting in more complete recovery of oil and gas from existing wells. This additional drilling is subject to the same access restrictions as exploration for undiscovered resources.

Q: What are proved reserves?

A: They are the quantities of crude oil, natural gas, or natural gas liquids that geological and engineering data demonstrate with reasonable certainty (defined as 90 percent or more probable) to be recoverable in future years from known reservoirs under existing economic and operating conditions. Proved reserves have already been drilled and are therefore accessible and not subject to the access restrictions studied in the Phase III inventory.

Q: What data sources were used for generating the Phase III Inventory?

A: The data used for the Inventory included:

- Federal Land Ownership (from the BLM's LR-2000 database and agency GIS and hardcopy maps);
- Federal Land Accessibility (from land use plans, environmental documents, and drilling permit conditions of approval); and
- Oil and Natural Gas Resources, including:
 - Undiscovered technically recoverable resources from the U.S. Geological Survey; and,
 - Reserves growth from the Energy Information Administration.

Q: How will the results of this inventory be used?

A: The information contained in the EPCA report will help Congress and national policymakers make more informed decisions during the land use planning process. For example, it will help ensure that any constraints in place or proposed are the most appropriate and effective for managing all the resources of the area and not posing barriers to oil and gas production unless it is absolutely necessary for the preservation of other resources present on the land. The integration of EPCA inventory results into the BLM's planning process will also provide information for land management decisions and planning to take into consideration the need for energy-related infrastructure such as pipelines, power lines, and roadways as well as supporting Rights-of-Way.