

EPCA Phase II: Q's and A's

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...”

That inventory, now referred to as EPCA Phase I, was released in January 2003. The current inventory supersedes the EPCA Phase I report.

Q: How is the Phase II inventory different from EPCA Phase I?

A: The Phase II study differs in (1) **the way that constraints were assessed**, reflecting changes required by Congress in the Energy Policy Act of 2005; and (2) **geographic scope**, adding 6 study areas to the original Phase I basins for a cumulative analysis of 11 study areas.

The Phase II study includes an analysis of the impact of conditions of approval on applications for permits to drill. It also includes the addition of reserves growth, which is subject to access constraints since it often results from drilling new wells in or near existing fields. Proved reserves, which were classified as accessible under standard lease terms in the Phase I study, have been removed because they have already been drilled and are no longer subject to access constraints.

The geographic scope has also expanded. The Phase II study areas include geologic provinces ranging from Northern Alaska to Southern Florida. The inclusion of Northern Alaska causes a large decrease in overall accessibility, especially for oil

Q: What are the changes Congress required under the Energy Policy Act of 2005 in how constraints were assessed?

- A:** The major changes include:
- inclusion of “Conditions of Approval on Drilling Permits,” which enlarges primarily the “Accessible with Restrictions” category by reducing the area within the “Accessible under Standard Lease Terms” category
 - exclusion of “Proved Reserves,” which decreases resources within the “Accessible under Standard Lease Terms” category

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, also known as 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 that cannot be leased due to Congressional or Presidential action. Examples include national parks, national monuments, and wilderness areas.
- 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 as described by the 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 then placed in the next 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 the six new study areas?

A: The six additional geographic areas with Federal oil and natural gas development potential are:

- Northern Alaska (National Petroleum Reserve in Alaska [NPR-A] and the Arctic National Wildlife Refuge [ANWR] 1002 area 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)
- Appalachian Basin (in Tennessee, Kentucky, West Virginia, Virginia, Maryland, Ohio, Pennsylvania, New Jersey, and New York).

Q: What were the five basins inventoried in EPCA Phase I?

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 were added to create the cumulative Phase II report.

Q: What data sources were used for generating the Phase II 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
 - undiscovered technically recoverable resources from the U.S. Geological Survey, and
 - reserves growth from the Energy Information Administration

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 II inventory.

Q: How much undiscovered oil and gas is 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 total approximately 133 billion barrels (Bbbls) and 1,040 trillion cubic feet (TCF), respectively.
- The Outer Continental Shelf contains approximately 64 percent of the nation's undiscovered oil resources and 40 percent of the natural gas resources.
- Nonfederal onshore lands and state waters make up about 16 percent of the total undiscovered oil and 35 percent of the natural gas
- Federal onshore lands contain 20 percent of the oil and 25 percent of the nation's undiscovered natural gas resources.

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

A: EPCA Phase II extends the constraints analysis to 76 percent of the Federal onshore oil and gas resources (80 percent of the oil and 73 percent of the gas). Phase II includes Phase I and is therefore cumulative.

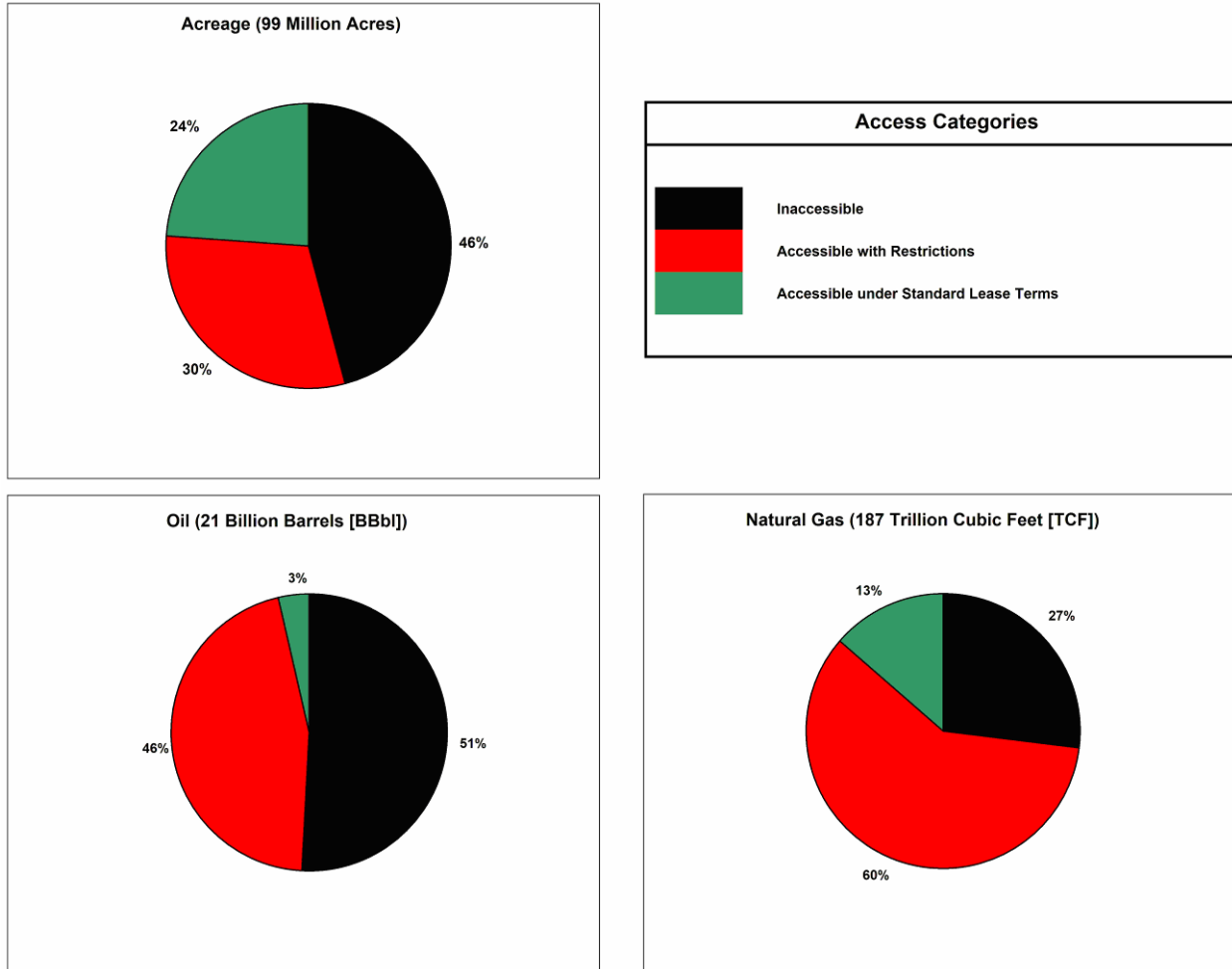
The report inventories 99 million acres of Federal land within 11 study areas, under which there are estimated to be 21 billion barrels of oil and 187 trillion cubic feet of natural gas.

This inventory has determined that 24 percent of the Federal land within the study areas is accessible for oil and gas exploration and development under standard lease terms, 30 percent is accessible with restrictions beyond standard lease terms, and 46 percent is inaccessible (13 percent is inaccessible due to Statute or Executive Order).

Using Geographic Information System analysis, the inventory estimates that 3 percent of the oil under these lands is accessible under standard lease terms, 46 percent is accessible with restrictions beyond standard lease terms, and 51 percent is inaccessible (35 percent is inaccessible due to Statute or Executive Order, almost entirely due to the unavailability of ANWR 1002).

Similarly, for natural gas, 13 percent is accessible under standard lease terms, 60 percent

is accessible with restrictions beyond standard lease terms, and 27 percent is inaccessible (8 percent is inaccessible due to Statute or Executive Order).

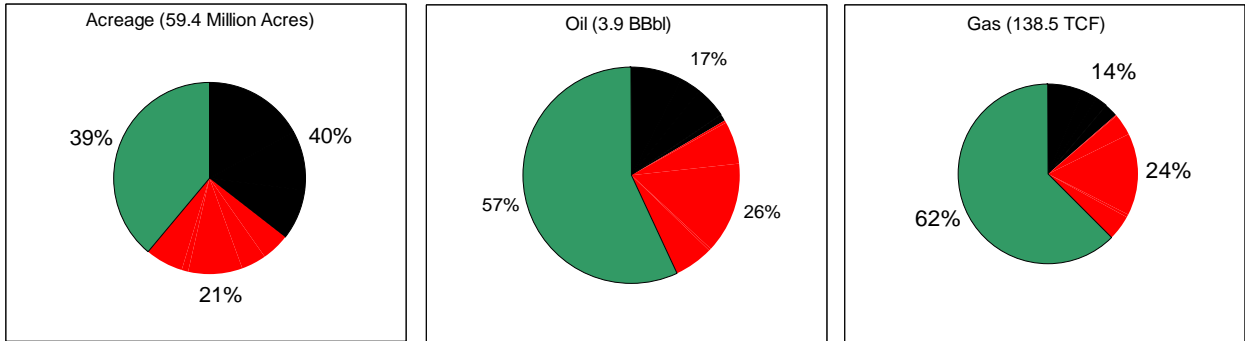


Phase II Inventory Results – Onshore Federal Lands and Resources

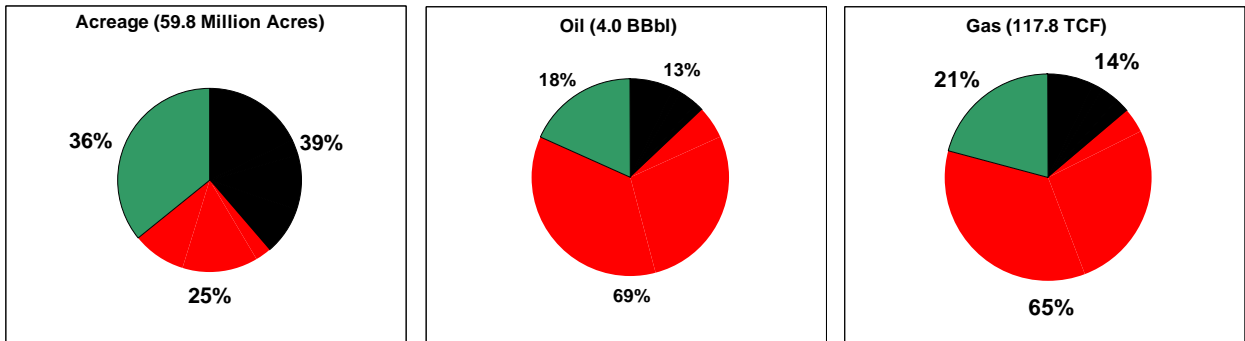
Q: How do the EPCA Phase I areas compare to the same areas in Phase II?

A: When looking at only the five Rocky Mountain study areas that were analyzed in Phase I, the Phase II results differ considerably because of changes in the way constraints were assessed, as required by the Energy Policy Act of 2005. These changes include the removal of proved reserves (which were classified as accessible under standard lease terms) and the analysis of the impact of conditions of approval on applications for permits to drill. In addition, the Phase II report also took reserves growth into

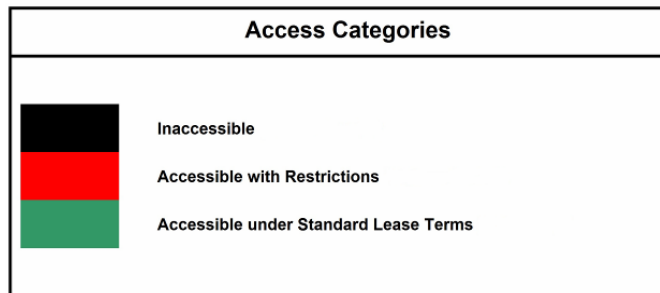
consideration. It should be noted that the differences are not due to additional restrictions placed upon the Federal lands since the release of the Phase I inventory. The pie charts below illustrate these differences.



Phase I Results – Five Rocky Mountain Areas



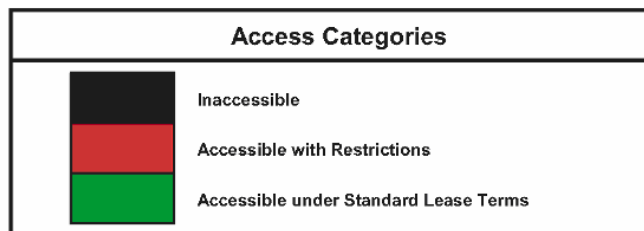
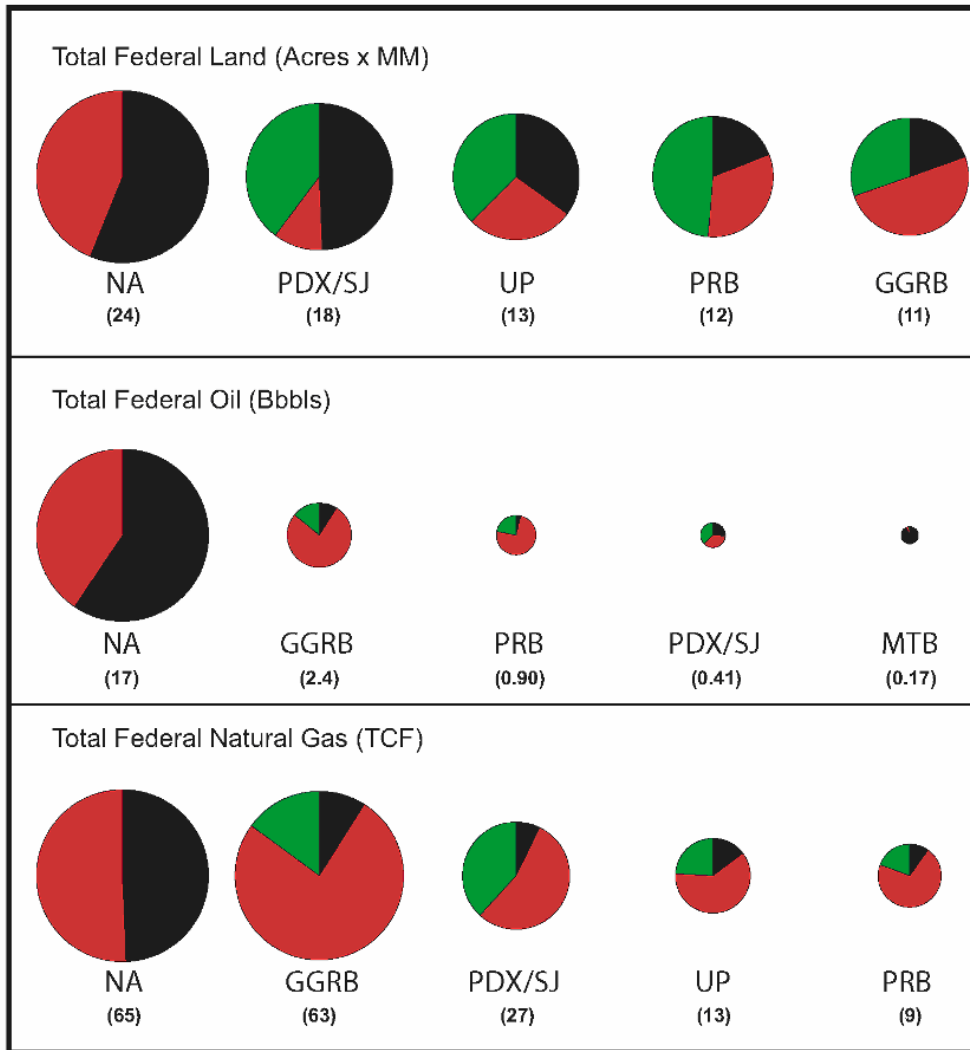
Phase II Results – Same Five Rocky Mountain Areas as Phase I



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

A: The following set of pie charts shows that the Northern Alaska study area is largest in terms of Federal land area, as well as oil and gas resources. It is also highly restricted, largely because of the unavailability of the ANWR 1002 area.

The Greater Green River Basin contains almost as much natural gas as Northern Alaska; about 76 percent of it is available with restrictions beyond standard lease terms.



NA – Northern Alaska
PDX/SJ – Paradox/San Juan Basins
UP – Uinta-Piceance Basin
PRB – Powder River Basin
GGRB – Greater Green River Basin
MTB – Montana Thrust Belt

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.