

Reclaiming Energy's Footprint: Restoring Land after Coal, Oil, & Gas Development



What to Consider?



Water



Soil



Wildlife



Mine Waste



Air Pollution



Land Use & Vegetation

In the United States, fossil fuels provide 85% of the energy used in the U.S. Energy production from coal, oil and natural gas is a multibillion dollar industry that employs thousands of Americans, and pays tens of millions of dollars in taxes to local, state, and federal coffers every day. However, the extraction processes do cause major disturbances to the land and environment. **Reclamation** is the process of restoring land that has been used in coal, gas or oil development to beneficial uses. Land reclamation ensures that the impacts to the environment will be held to a minimum and that land will be returned to a condition where its productivity and capabilities are similar to those which existed prior to mining or drilling.

Before 1970, most surface mining operators did not have to restore the land, but simply mined the coal and moved to another location to start another mine, leaving behind land unfit for any reasonable use. **The Surface Mining Control and Reclamation Act of 1977 (SMCRA)** is the primary federal law in the United States that sets a standard for minimizing the environmental effects of coal mining and to ensure the coal mined lands are reclaimed. Most states with coal mining have federally approved programs with laws similar to SMCRA.

Although the process of reclamation occurs once mining or drilling is completed, the preparation and planning of reclamation activities occur prior to the process being started.

Before

- Pre-exploration resource evaluations completed
- Permits submitted and approved
- Remove and save soil resources

After

- Land is reshaped to approved topography
- Subsoil and topsoil are re-spread
- Land is seeded, and sometimes mulched and fertilized
- Successful revegetation must be tested and confirmed

Since 1978, more than 2.6 million acres of mined lands have been restored to other beneficial uses, as well as more than 100,000 acres of abandoned coal mines which were created prior to the enactment of SMCRA.

Challenges to reclamation:

- Promptly stabilizing topsoil after replacement
- Soil compaction, especially in the subsoil
- Weakly developed soils
- Settling features can develop after lands are re-claimed
- Invasion of undesirable species (weeds)
- Unique plant communities
- Long-term treatment of acid mine drainage in some regions
- Challenging environmental conditions: climate, weather, topography
- Seed of native plant species

Uses for Reclaimed Lands



Cropland



Rangeland



Recreation



Fish & Wildlife Habitat



Native Grassland

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