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ADVOCATES

# OIL SHALE ENERGY DEMANDS

Some believe that by 2050, industry could produce 1,500,000 barrels of oil from oil shale per day. The energy demands associated with a far smaller production scenario are staggering.

**FACT:** The BLM projects a 100,000 barrel per day oil shale operation would require ALL of the electricity from a 1,200 Megawatt (MW) power plant.<sup>1</sup> This size power plant would generate enough electricity each year to serve 1.2 million homes.

**FACT:** The largest aluminum smelter in the world is being developed in the United Arab Emirates. It will require a 2,000 MW plant.<sup>2</sup>

**FACT:** According to Colorado water providers, a coal plant large enough to power a 500,000 barrel/day in situ operation would require 56,119 Gigawatt-hours of electricity each year.<sup>3</sup> That is more electricity than the entire state of Colorado now uses.

**FACT:** Producing 1,500,000 barrels of oil shale each day via in situ process would require constructing up to 15 new power plants. Each 1,200 MW coal plant would likely take four years to build and cost approximately \$3 billion.

State	# of Coal Plants (2005 data)	Capacity (2005 data)
Colorado	15	5309 MW
Utah	8	5080 MW
Wyoming	10	6168 MW

**Given these high electricity demands and the challenges associated with producing electricity from coal, industry says it will power oil shale production using natural gas.**

**FACT:** To produce 2,400 MW, a very efficient combined cycle gas power plant would require approximately 135 BILLION cubic feet of natural gas,<sup>4</sup> or about 10% of Colorado's gas production. The fuel bill would be about \$600 million per year.

**FACT:** By comparison, The Tennessee Valley Authority's new 880 MW plant is expected to cost approximately \$820 million and consume 160 million cubic feet of natural gas a day.<sup>5</sup>

Barrels of Oil Shale Produced	Electricity Demands (Coal Plant Size)
100,000 bpd	1200 MW
200,000 bpd	2400 MW
500,000 bpd	6000 MW
1,500,000 bpd	18,000 MW

1 Bureau of Land Management, Oil Shale and Tar Sands Resource Management Plan Amendments to Address Land Use Allocations in Colorado, Utah, and Wyoming and Programmatic Environmental Impact Statement, 2008, page 4-14.

2 <http://www.zawya.com/projects/project.cfm/pid120207062258> (last accessed on December 13, 2010).

3 URS Corporation, draft Energy Development Water Needs Assessment (Phase 1 report), prepared for the Colorado, Yampa and White River Basin Roundtables, Energy Subcommittee, September 2008.

4 There is roughly 1000 Btu per cubic foot of gas. A 2400 MW combined cycle power plant would generate about 18 million MWh per year at an 85% capacity factor. The heat rate might be 7.5 MMBtu/MWh, implying 135 billion cubic feet of gas per year.

5 TVA Announces Preferred Location for Northeast Tenn. Combined-Cycle Gas Plant, August 7, 2009, [http://www.tva.gov/news/releases/julsep09/ne\\_tenn\\_cc.htm](http://www.tva.gov/news/releases/julsep09/ne_tenn_cc.htm) (last accessed on December 6, 2010); Greenville Sun, "Big Natural Built Near Rogersville," August 6, 2009, <http://greenvillesun.com/story/305065> (last accessed on December 6, 2010).