

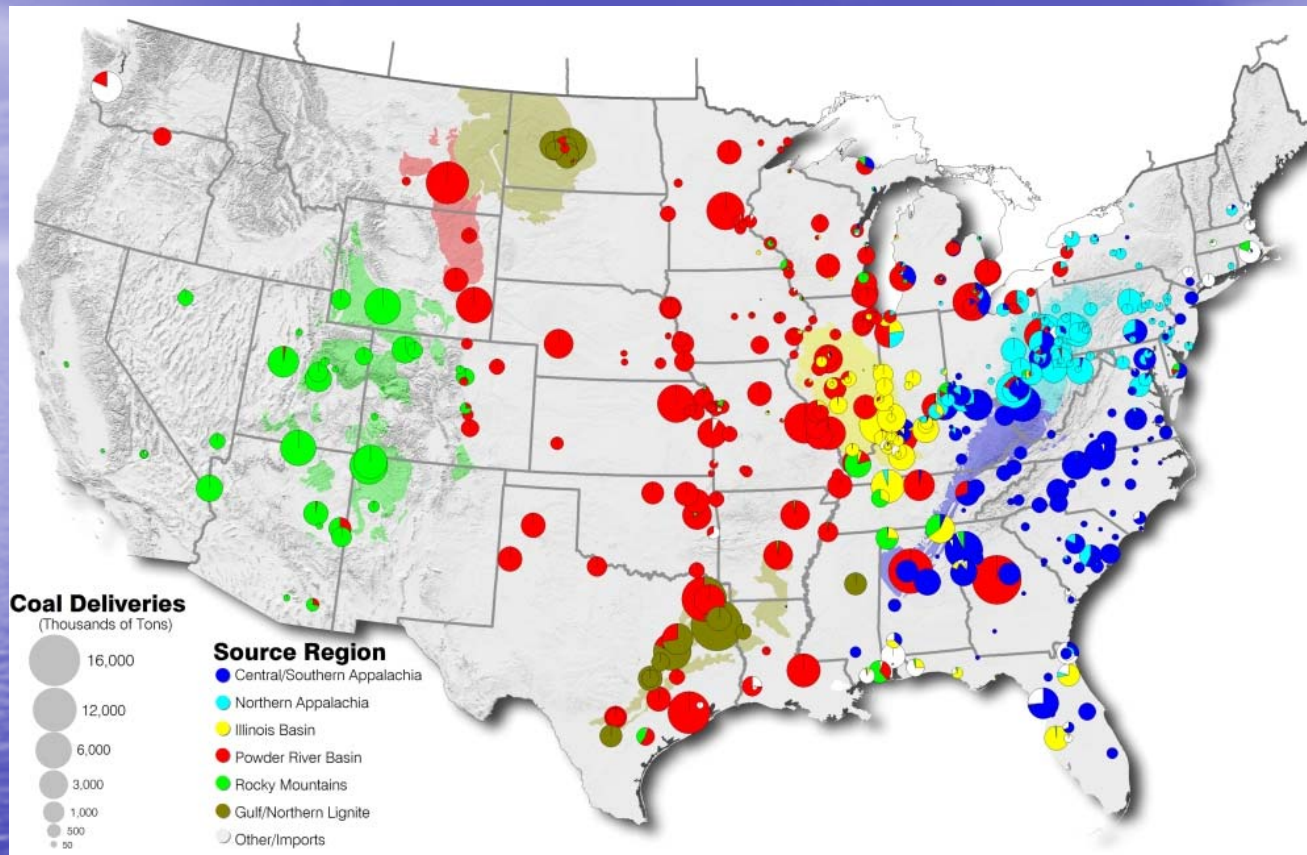
US Coal Cost and Supply:

Tracking Your State's Coal

*New York Coal Finance Workshop
January 10-11, 2012*

*Leslie Glustrom
Clean Energy Action
Boulder, Colorado*

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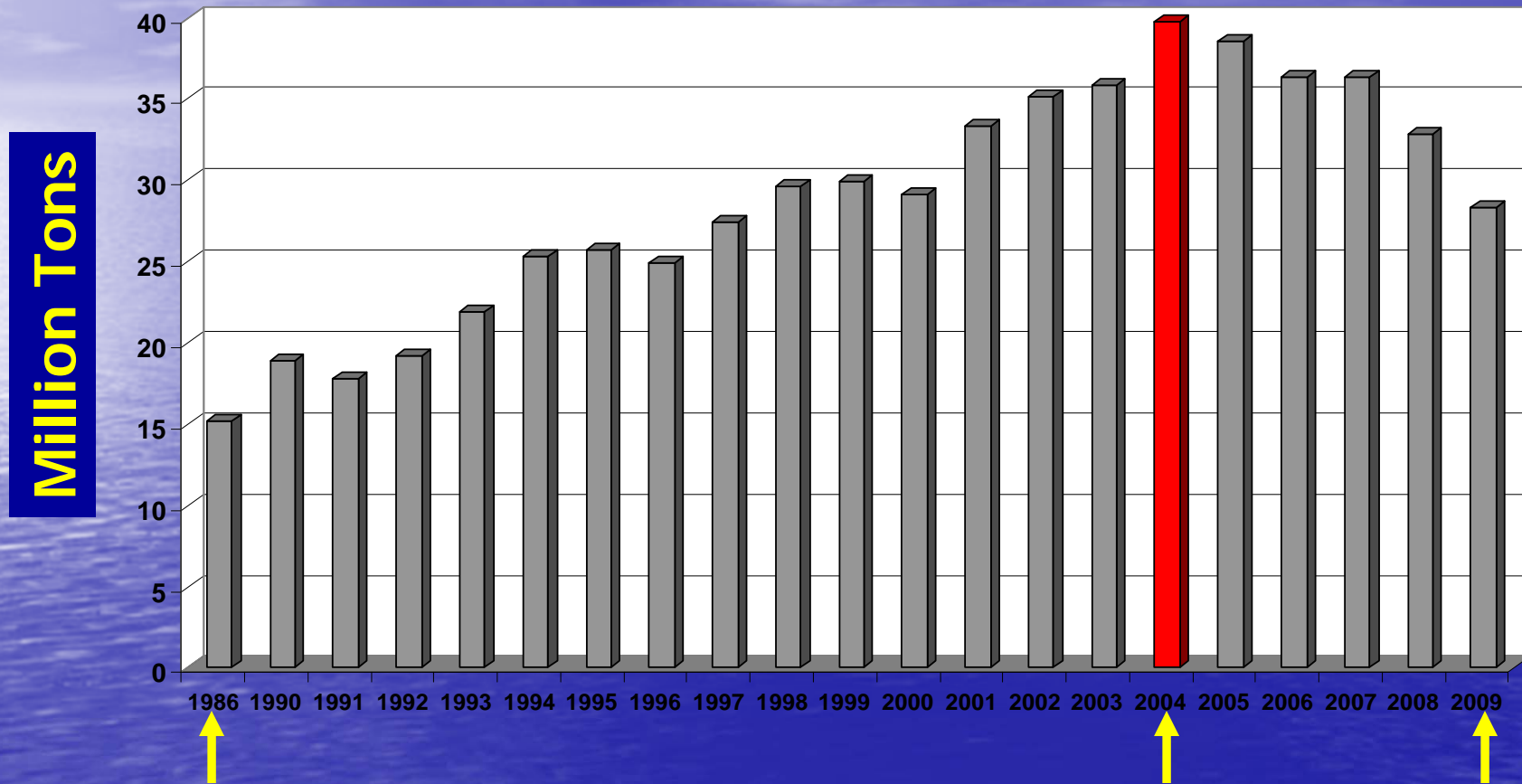


**2005 Coal Deliveries to Power Plants
by Region—Graphic by Ventyx**
Red = Powder River Basin

Coal and Natural Gas Contract and Price Information

"EIA 423"

Colorado Coal Production 1986-2009



1986
15.3
Million Tons

Data from EIA Coal Reports, Table 2
<http://www.eia.doe.gov/fuelcoal.html>

2004
39.8
Million Tons

2009
28.3
Million Tons

Aerial View of Powder River Basin Coal Mines

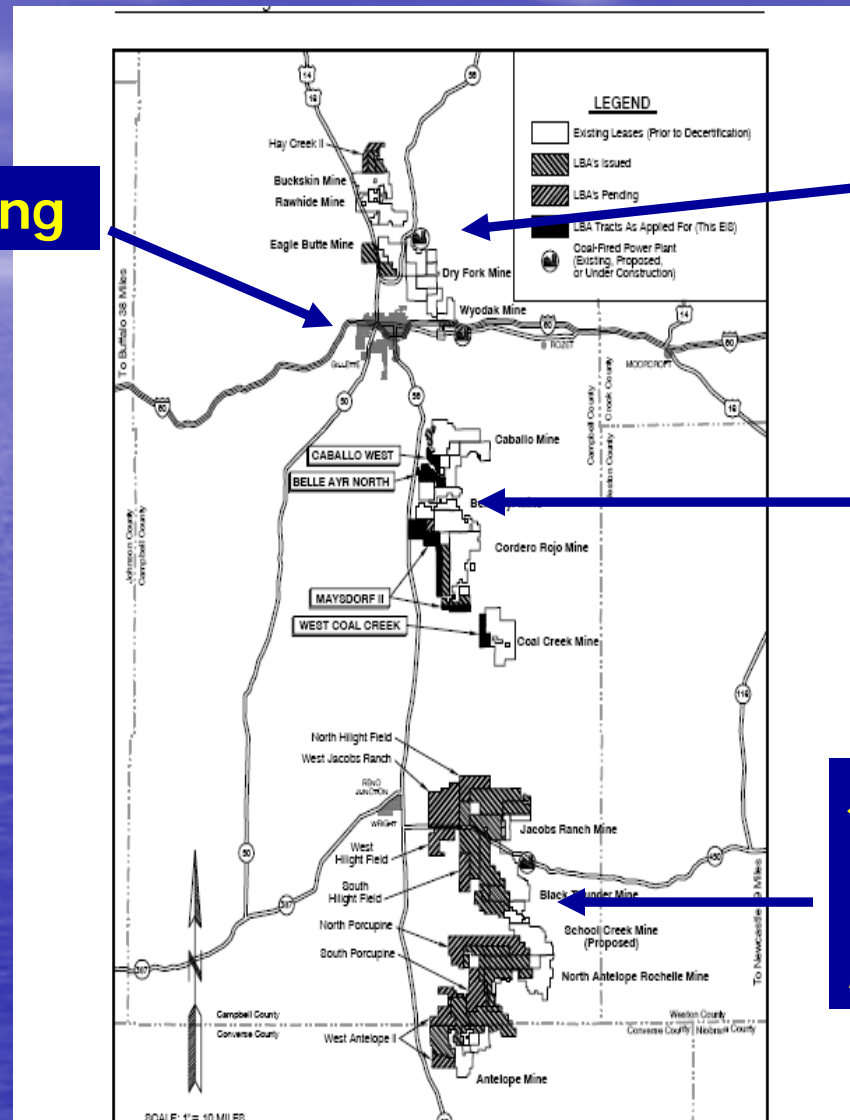


Eagle Butte Coal Mine

Source: Google Maps

Thirteen Major Coal Mines in the Powder River Basin, Wyoming

Gillette, Wyoming



**Bucksin
Rawhide
Eagle Butte
Dry Fork
Wyodak**

**Caballo
Belle Ayr
Cordero Rojo
Coal Creek**

**Jacobs Ranch
Black Thunder
N Antelope/ Rochelle
Antelope**

Source: Draft EIS South Gillette Area Coal Lease Applications Sept 2008
Bureau of Land Management, Casper, Wyoming Field Office

Powder River Basin Mines Wyoming

North Antelope/Rochelle Mine

Remaining Life: *About 8 Years*

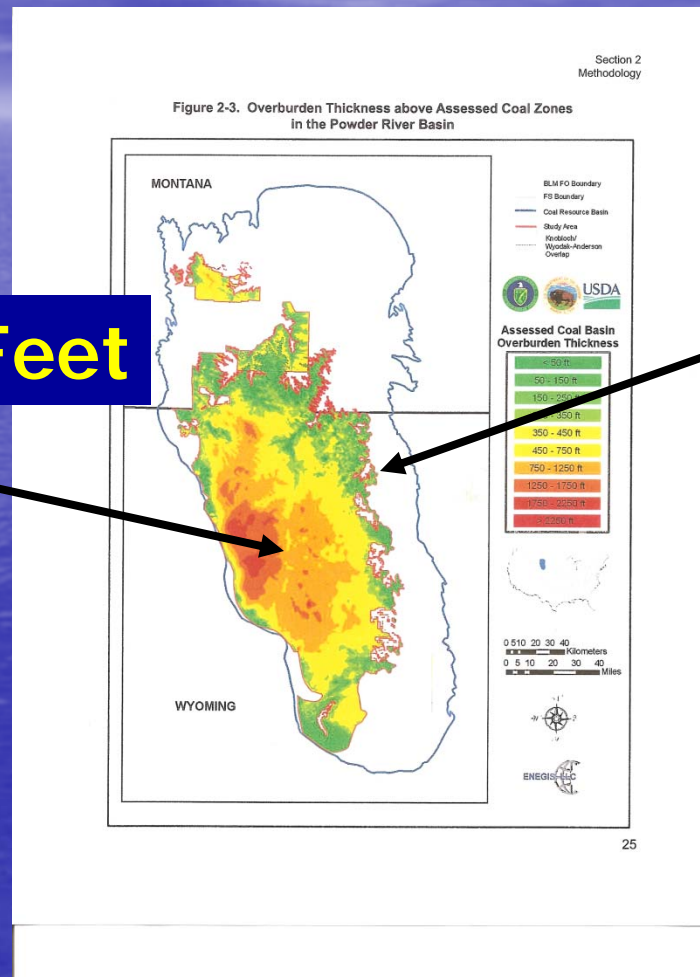
Life Extension: *10 Years*

Current Overburden: *211 Feet*

Expansion O-burden: *340+ Feet*

Source: Environmental Impact Statements PRB Coal Mines
Bureau of Land Management, Casper Wyoming Field Office

Overburden Above Coal in the Powder River Basin (Wyoming and Montana)



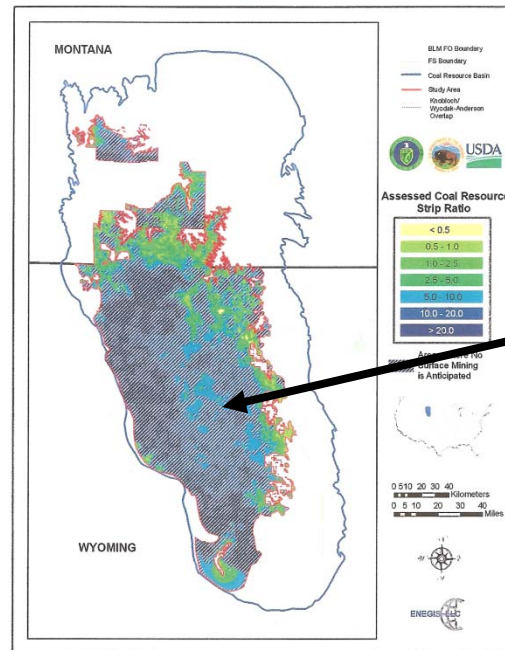
750->2250 Feet

50-200 Feet

Source: US DOE, DOI and DOA Inventory of Federal Coal Resources August 2007

70% of the Coal In the Powder River Basin is Not Surface Accessible

Figure 2-6. Resources beyond Conventional Surface Mining Technology in the Powder River Basin



Blue Hatched Areas = Areas Where Surface Mining Is Not Anticipated...

Source: US DOE, DOI and DOA Inventory of Federal Coal Resources August 2007

Percentage of Economically Recoverable Coal Powder River Basin USGS 2008

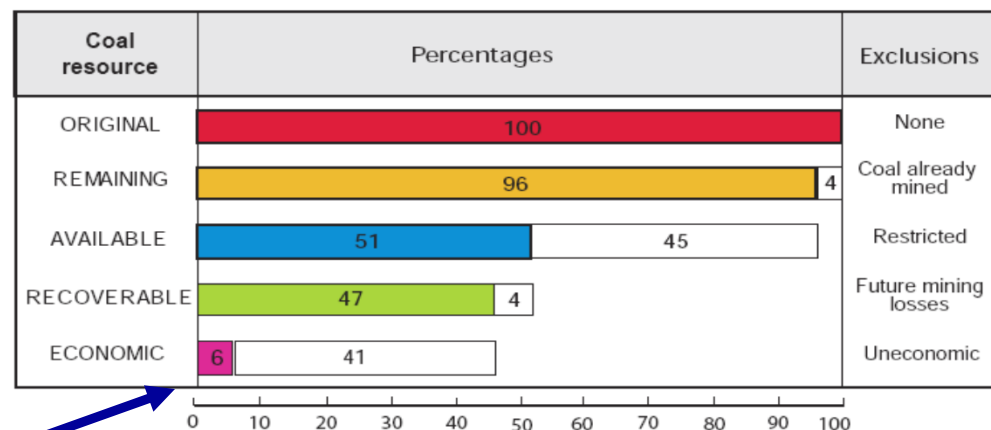


Figure 68. Bar graph showing Gillette coalfield coal resource analysis results for the six coal beds from figure 67, reported as percentages of original resources (at sales price of \$10.47 as of January, 2007). Percent of remaining resources are shown in colored bars; excluded resources from the previous category are shown in white bars.

**6%
Economically
Recoverable**

Source: USGS 2008-1202 Figure 68

Powder River Basin Mines Wyoming

Black Thunder Mine

Remaining Life: *About 7 Years*

Life Extension: *About 10 Years*

Current Overburden: *282 Feet*

Expansion O-burden: *400+ Feet**

**For the West Hilight Major Expansion*

Source: Environmental Impact Statements PRB Coal Mines
Bureau of Land Management, Casper Wyoming Field Office

**Repowering the U.S.
Is An
Imperative,
Not a Choice**

The Sweet Imperative....

Variable but Renewable Resources for the 21st Century

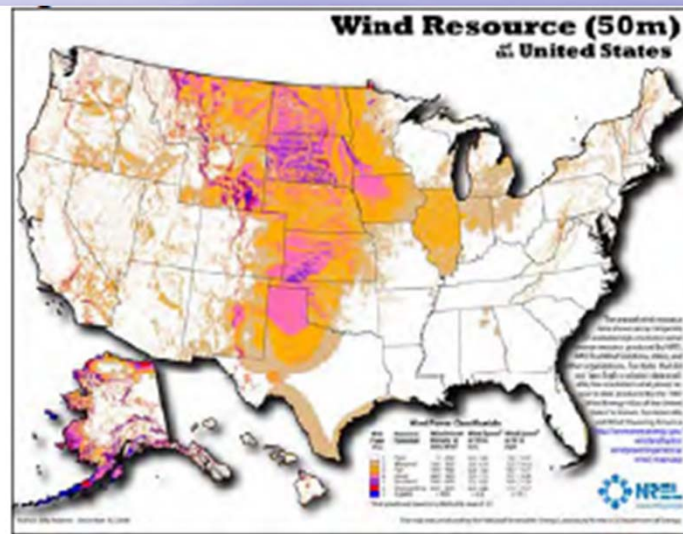


Figure 13

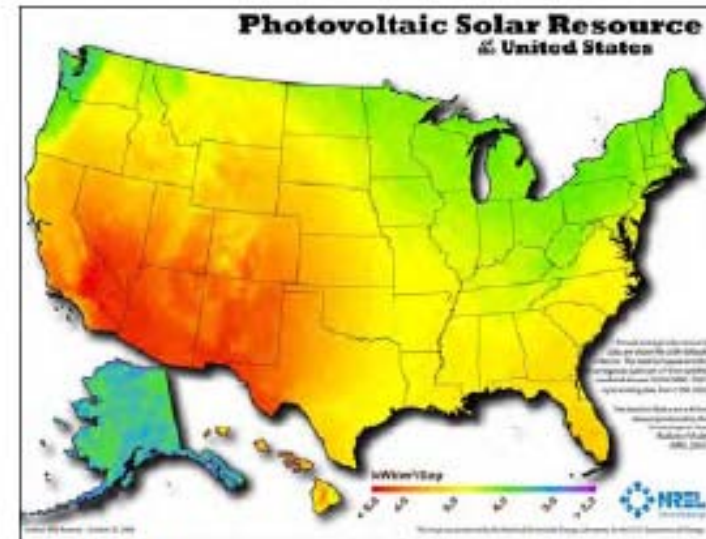
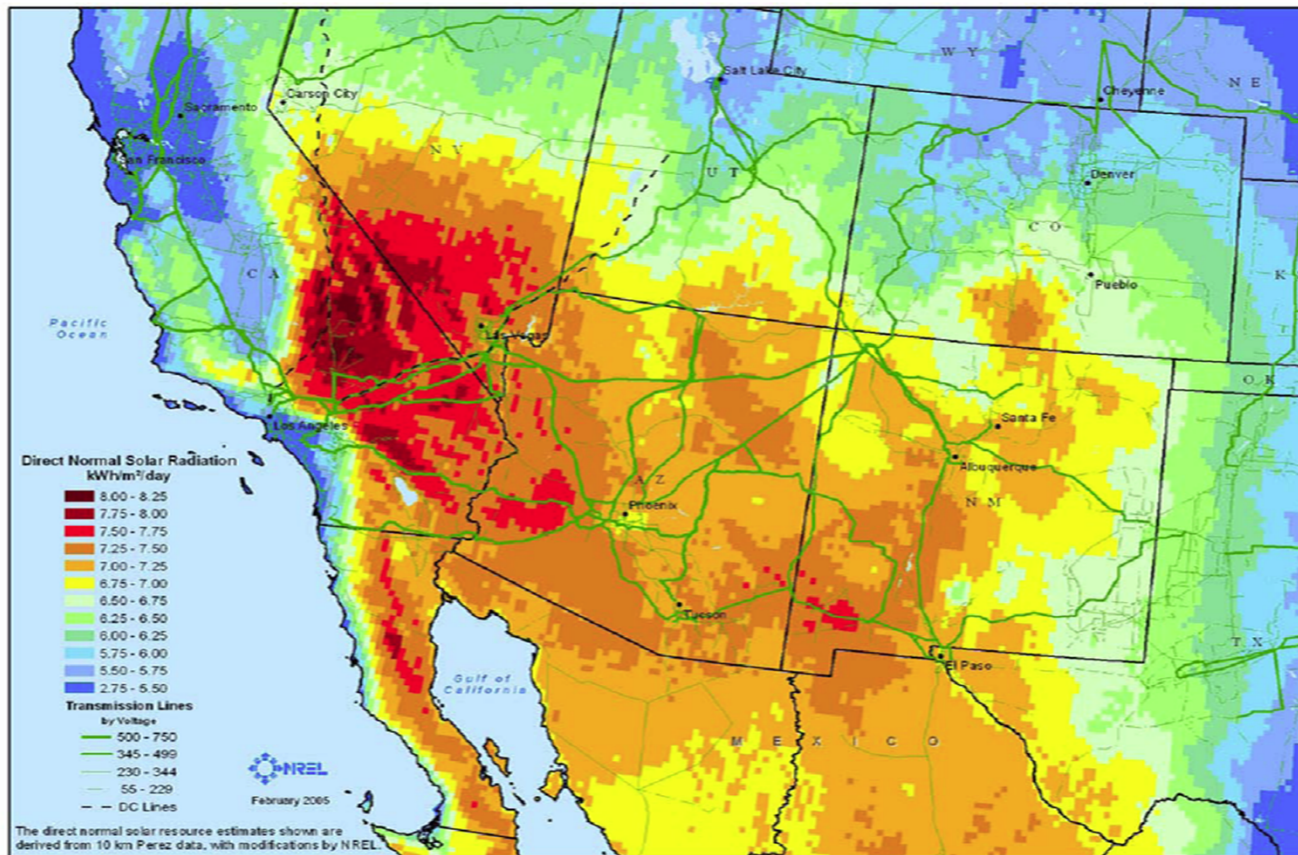


Figure 12

Our Only Real Choice.....



Solar Resource of the Southwestern United States

(Measured in kwh/meter²/day)

Source: The National Renewable Energy Lab