



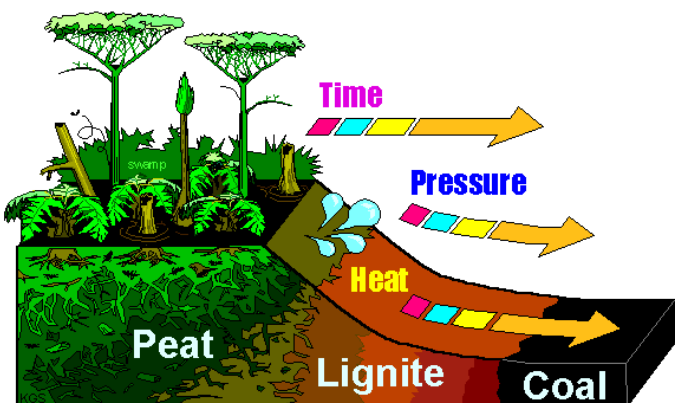
COAL RESERVES

CCTR Basic Facts File # 9

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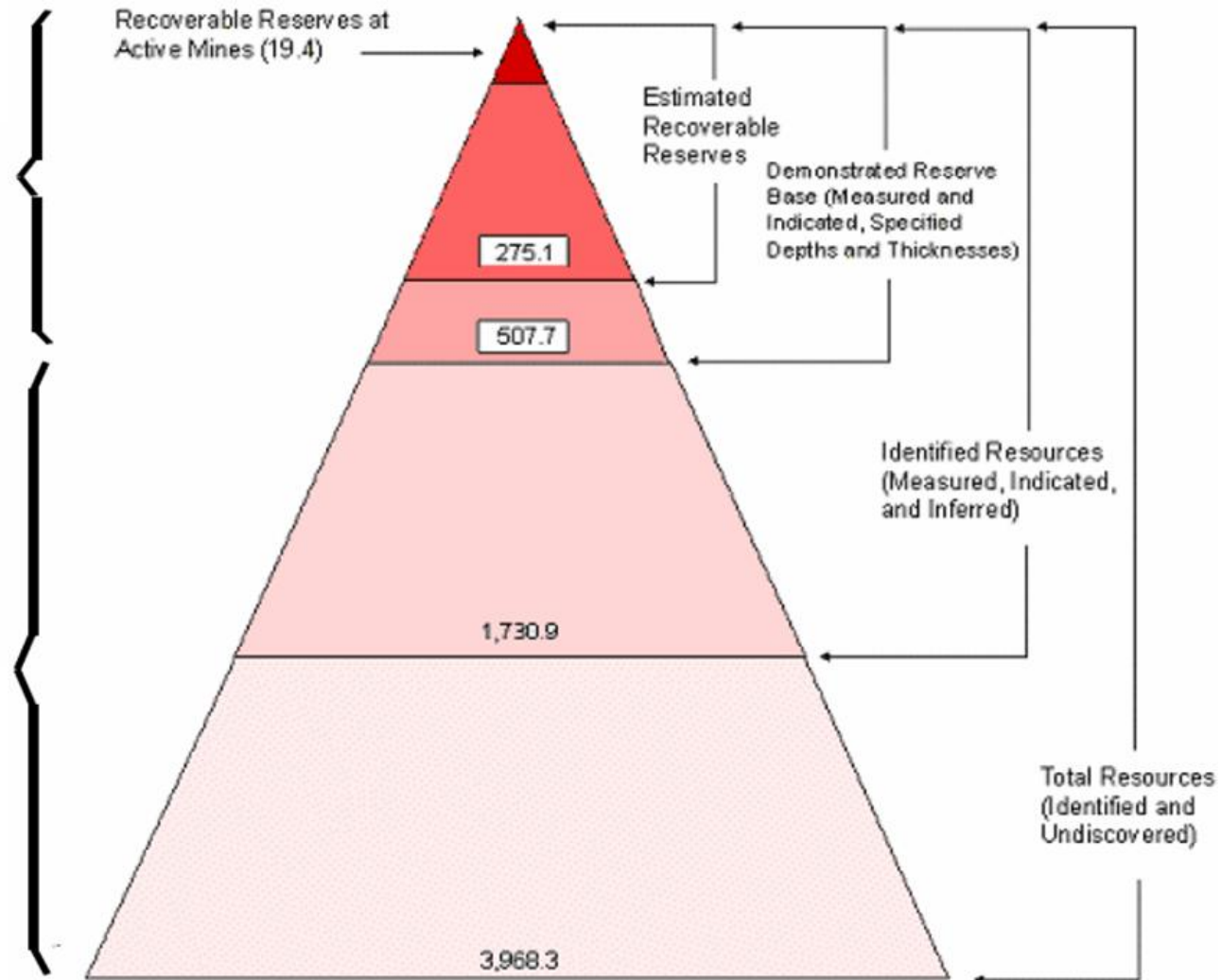


		Indiana Stratigraphy	
		McLeansboro Gp.	
Carbondale Group	Dugger Fm.	Mattoon Fm.	
		Bond Fm.	
		Patoka Fm.	
		Shelburn Fm.	
	Petersburg Fm.	Danville (VII) Hymera (VI) Herrin Bucktown (Vb)	●
		Springfield (V)	●
	Linton Fm.	Houchin Creek	●
		Survant (IV)	●
		Colchester (IIIa) Seelyville (III)	●
	Raccoon Creek Group	Staunton Fm.	Unnamed Staunton Fm coals
Brazil Fm.		Minshall /Buffaloville	●
		Upper Block Lower Block	●
Mansfield Fm.	Mariah Hill Blue Creek Pinnick St. Meinrad French Lick		



Delineation of U.S. Coal Reserves & Resources (Billion Tons)

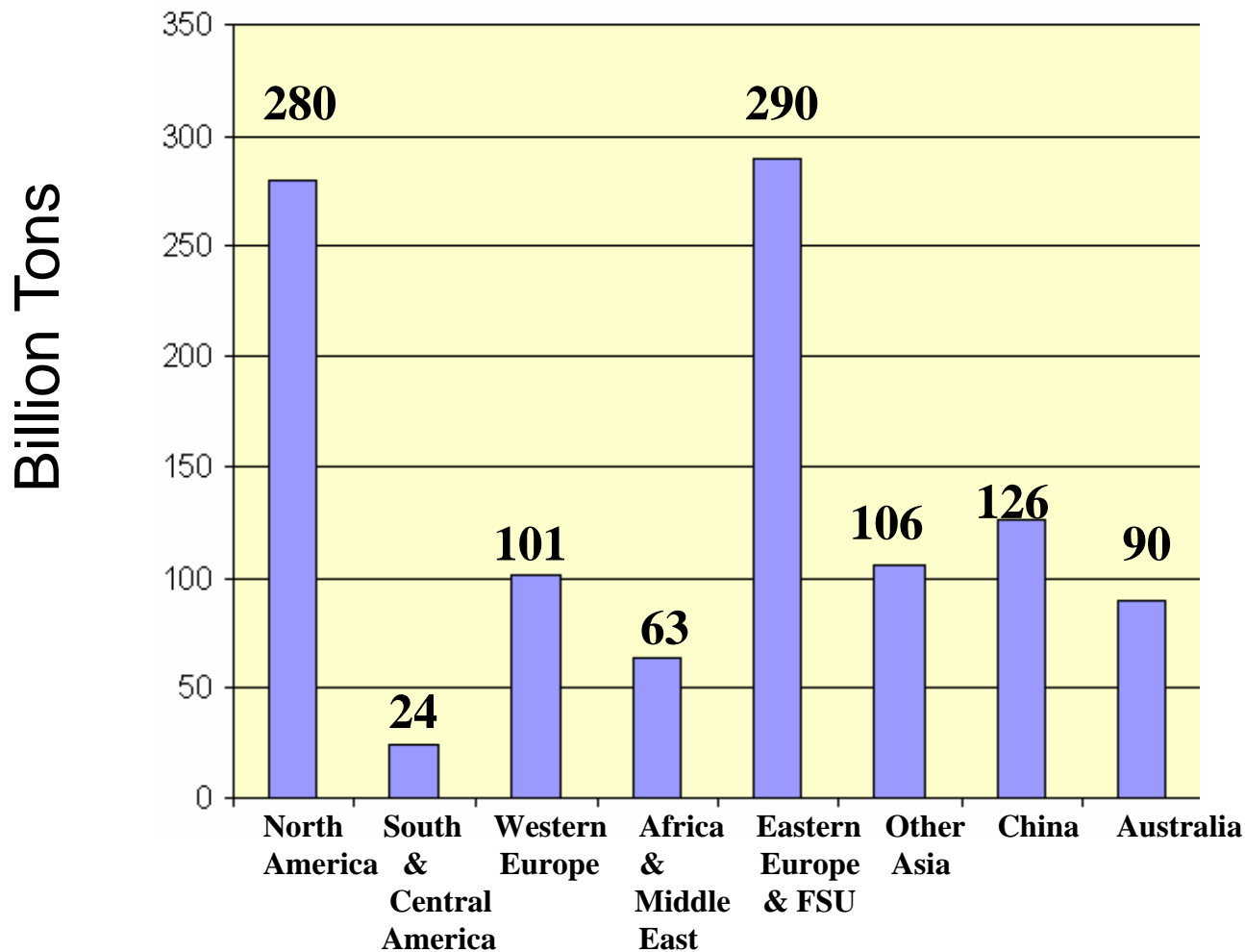
- RESERVES** – quantities of coal anticipated to be commercially recoverable from known accumulations from a given date forward under defined conditions
- RESOURCES** – quantities of coal estimated, as of a given date, to be potentially recoverable from known accumulations, but which are not currently considered commercially recoverable





World Estimated Recoverable Coal Reserves

2002 Data from EIA, DOE

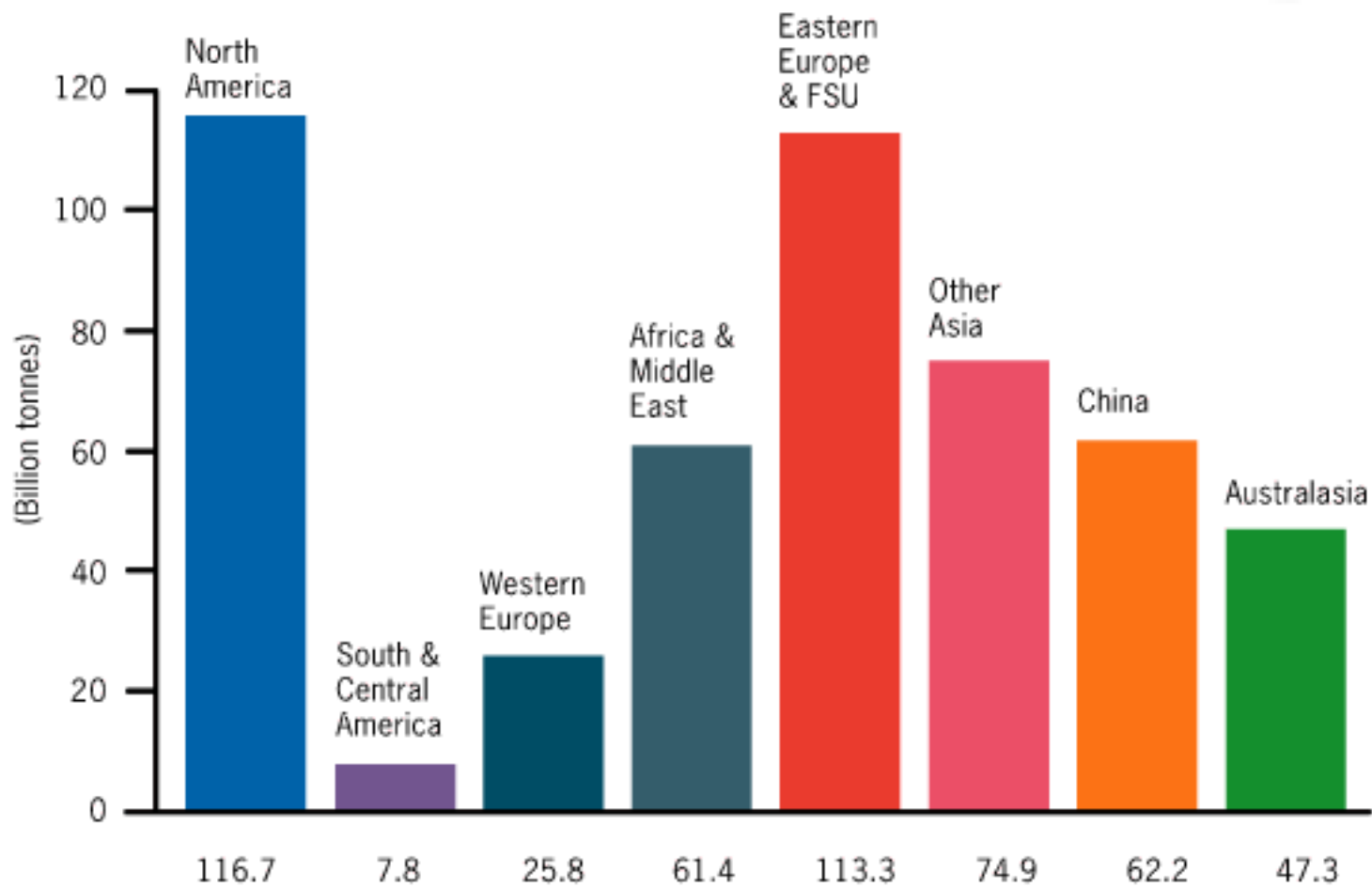


Note: All Tons are short Tons



World Coal Reserves

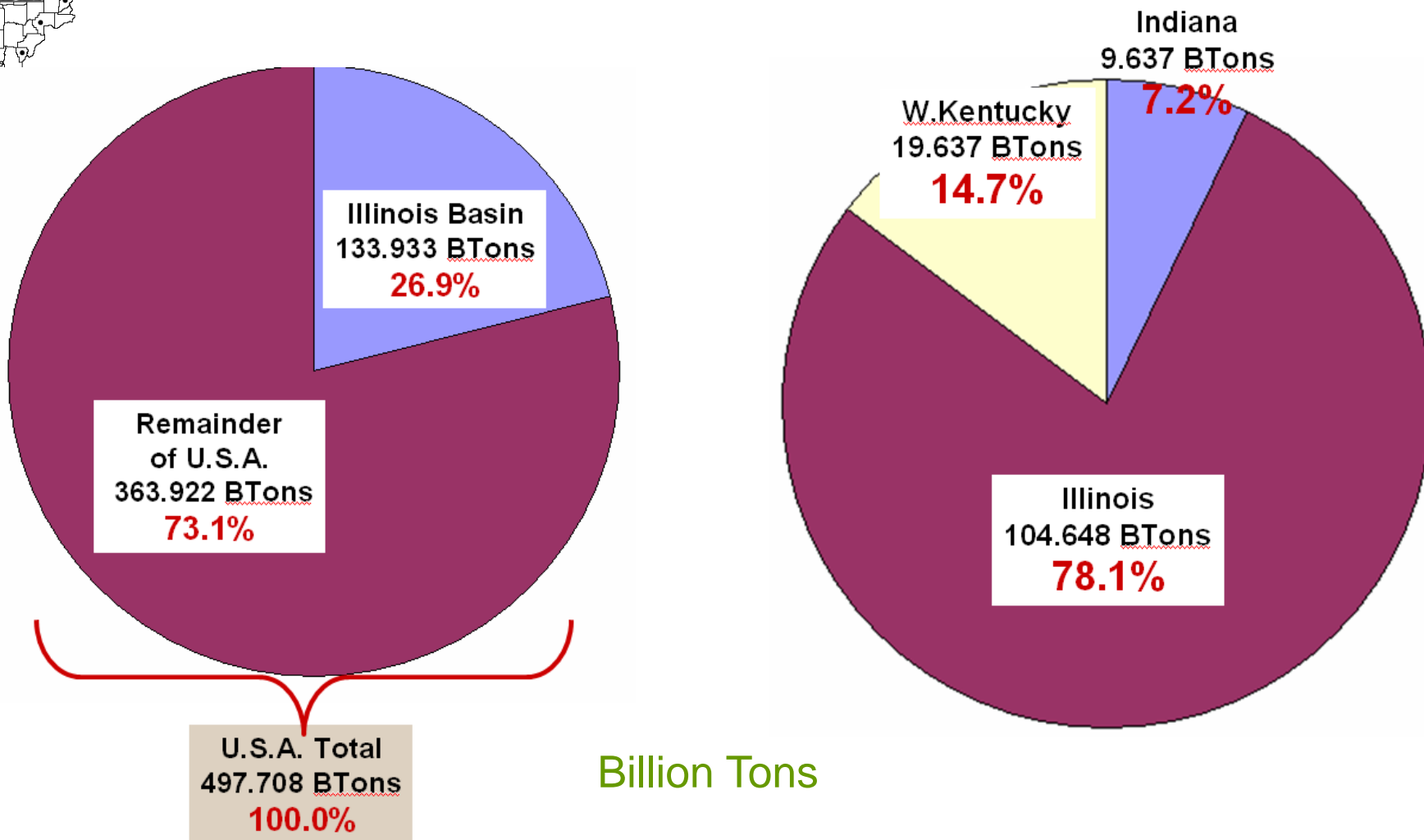
Data from World Coal Institute



Source: World Coal Institute, http://www.ehbennett.co.uk/second_level_pages/ff2.htm



Illinois Basin Demonstrated Reserve Coal Base, 2002



Source: <http://www.eia.doe.gov/cneaf/coal/page/acr/acr.pdf>



Illinois Basin Coal Reserves

2002 EIA Data (Billion Tons)

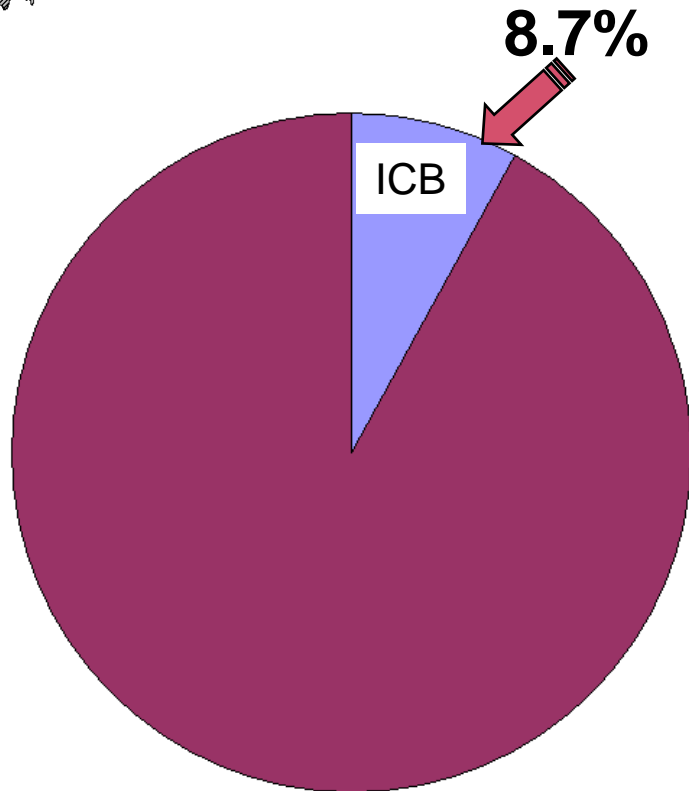
	Estimated Recoverable	Demonstrated Reserve Base
Indiana	4.134	9.637
Illinois	38.061	104.648
W. Kentucky	9.082	19.637
IL Coal Basin	51.277	133.922
US Total	269.457	497.708

Note: The Illinois Coal Basin (ICB) includes the states of Illinois, Indiana and Kentucky but only the western part of Kentucky is in the ICB. The Kentucky reserves value shown above is only for Western Kentucky



Illinois Coal Basin & USA

Recoverable Coal Reserves at Producing Mines



From 2005 EIA Data:

Illinois Basin coal reserves
at producing mines = **1,514 MTons**

USA total coal reserves
at producing mines = **18,944 MTons**

USA total coal consumption in 2005
was **1,125.5 MTons** which was a
1.6% increase on 2004 consumption

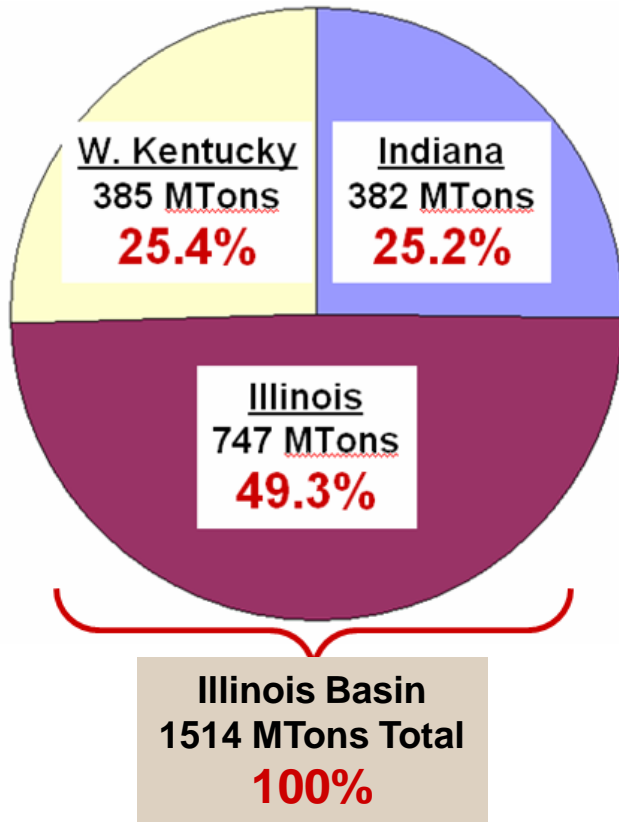
Source: <http://www.eia.doe.gov/cneaf/coal/page/acr/table14.html>

Source: <http://www.eia.doe.gov/cneaf/coal/page/acr/table26.html>

Note: MTons is Mega or Million short Tons



Indiana & The Illinois Coal Basin (ICB) Recoverable Coal Reserves at Producing Mines



2005 EIA Data shows **382 MTons** (Million Tons) of recoverable coal reserves at Indiana's producing mines. At a current state **production rate of 35 MTons/year** these reserves from Indiana's producing mines **will last 11 years**

Note: The Illinois Coal Basin (ICB) includes the states of Illinois, Indiana and Kentucky but only the western part of Kentucky is in the ICB. The Kentucky reserves value shown above is only for Western Kentucky



2002 Recoverable Coal Reserves at Producing Mines, Estimated Recoverable Reserves, & Demonstrated Reserve Base, MTONs

Coal-Resource State	Underground - Minable Coal			Surface - Minable Coal			Total		
	Recoverable Reserves at Producing Mines	Estimated Recoverable Reserves	Demonstrated Reserve Base	Recoverable Reserves at Producing Mines	Estimated Recoverable Reserves	Demonstrated Reserve Base	Recoverable Reserves at Producing Mines	Estimated Recoverable Reserves	Demonstrated Reserve Base
Alabama.....	344	553	1,097	21	2,295	3,221	366	2,848	4,318
Alaska.....	-	2,745	5,423	W	548	692	W	3,293	6,115
Arizona.....	-	-	-	W	30	38	W	30	38
Arkansas.....	-	127	272	W	101	144	W	228	417
Colorado.....	429	6,120	11,661	199	3,752	4,769	629	9,872	16,430
Georgia.....	-	1	2	-	1	2	-	2	4
Idaho.....	-	2	4	-	-	-	-	2	4
Illinois.....	873	27,978	88,077	27	10,083	16,570	900	38,061	104,648
Indiana.....	223	3,645	8,801	158	488	835	381	4,134	9,637
Iowa.....	-	807	1,732	-	320	457	-	1,127	2,189
Kansas.....	-	-	-	W	681	973	W	681	973
Kentucky Total.....	812	7,636	17,484	198	7,577	13,130	1,010	15,213	30,614
Eastern.....	535	833	1,491	168	5,298	9,486	703	6,131	10,977
Western.....	277	6,803	15,993	30	2,279	3,644	307	9,082	19,637
Louisiana.....	-	-	-	W	323	437	W	323	437
Maryland.....	W	327	597	W	49	72	65	376	669
Michigan.....	-	55	123	-	3	5	-	59	128
Mississippi.....	-	-	-	W	-	-	W	-	-
Missouri.....	-	689	1,479	W	3,159	4,512	W	3,848	5,991
Montana.....	-	35,923	70,958	1,115	39,145	48,418	1,115	75,067	119,377
New Mexico.....	W	2,860	6,199	W	4,121	6,051	1,385	6,981	12,249
North Carolina.....	-	5	11	-	-	-	-	5	11
North Dakota.....	-	-	-	1,211	6,993	9,166	1,211	6,993	9,166
Ohio.....	214	7,757	17,631	141	3,789	5,788	356	11,546	23,419
Oklahoma.....	W	575	1,233	W	230	328	18	804	1,562
Oregon.....	-	7	15	-	2	3	-	9	17
Pennsylvania Total.....	468	10,880	23,541	108	1,074	4,297	576	11,954	27,838
Anthracite.....	2	340	3,845	24	420	3,359	26	761	7,204
Bituminous.....	466	10,540	19,696	84	654	938	550	11,194	20,634
South Dakota.....	-	-	-	-	277	366	-	277	366
Tennessee.....	5	283	516	10	184	271	16	467	787
Texas.....	-	-	-	673	9,668	12,559	673	9,668	12,559
Utah.....	W	2,582	5,267	W	212	268	356	2,794	5,534
Virginia.....	220	700	1,247	41	386	603	261	1,086	1,850
Washington.....	-	674	1,332	W	18	23	W	693	1,356
West Virginia Total.....	1,074	15,863	29,722	359	2,518	3,991	1,433	18,381	33,713
Northern.....	436	NA	NA	15	NA	NA	451	NA	NA
Southern.....	638	NA	NA	345	NA	NA	982	NA	NA
Wyoming.....	-	22,950	42,501	6,673	19,688	22,790	6,673	42,638	65,291
U.S. Total.....	5,231	151,744	336,928	12,985	117,713	160,780	18,216	269,457	497,708

Source: <http://www.eia.doe.gov/cneaf/coal/page/acr/acr.pdf>



2002 Indiana Coal Reserves

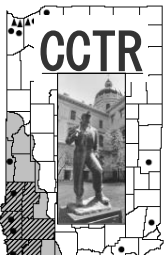
EIA Data - MTons

Recoverable Reserves at Producing Mines	Estimated Recoverable Reserves	Demonstrated Reserve Base
382	4134	9637



At Indiana's current mining rate of 35 MTons/year:

382 MTons will last 11 years
4134 MTons 118 years
9637 MTons 275 years



Indiana Coal Resources EIA Data Source

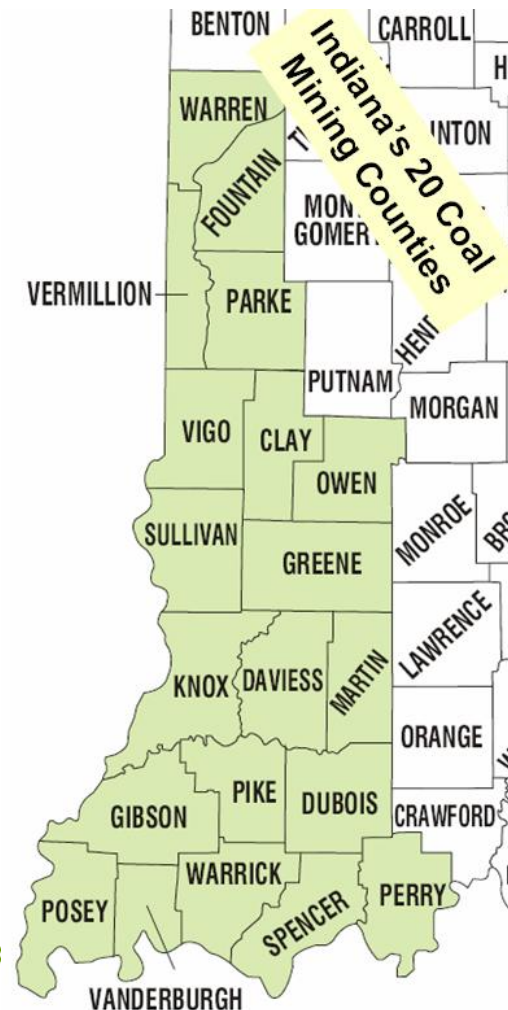
Indiana Coal

0.382 BTons Recoverable
Reserves at Active mines

4.1 BTons Estimated
Recoverable Reserves

9.6 BTons Demonstrated
Reserve Base

60.0 BTons Total Resources

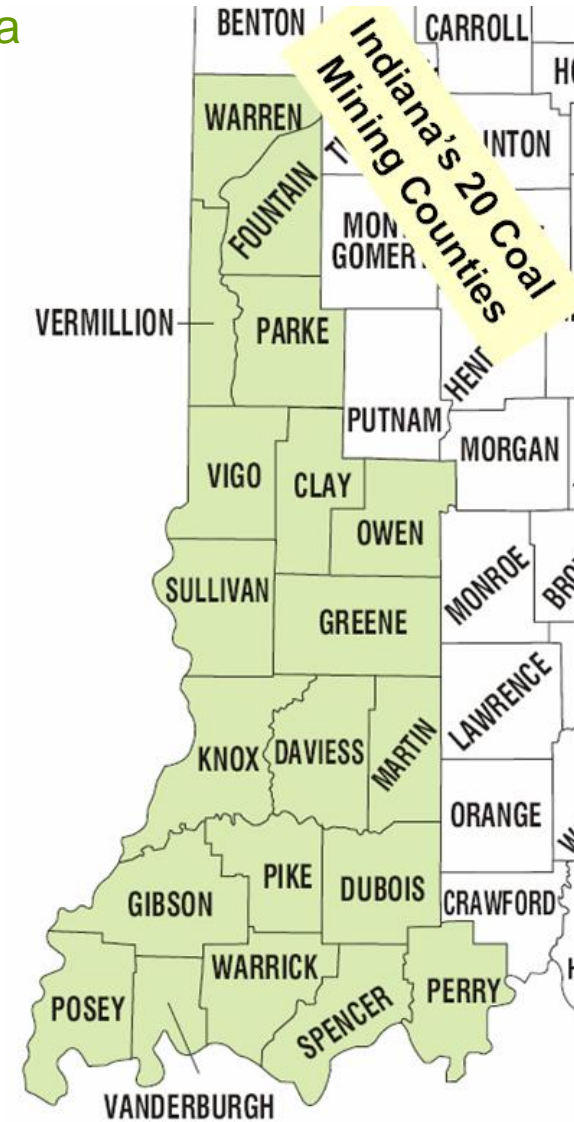
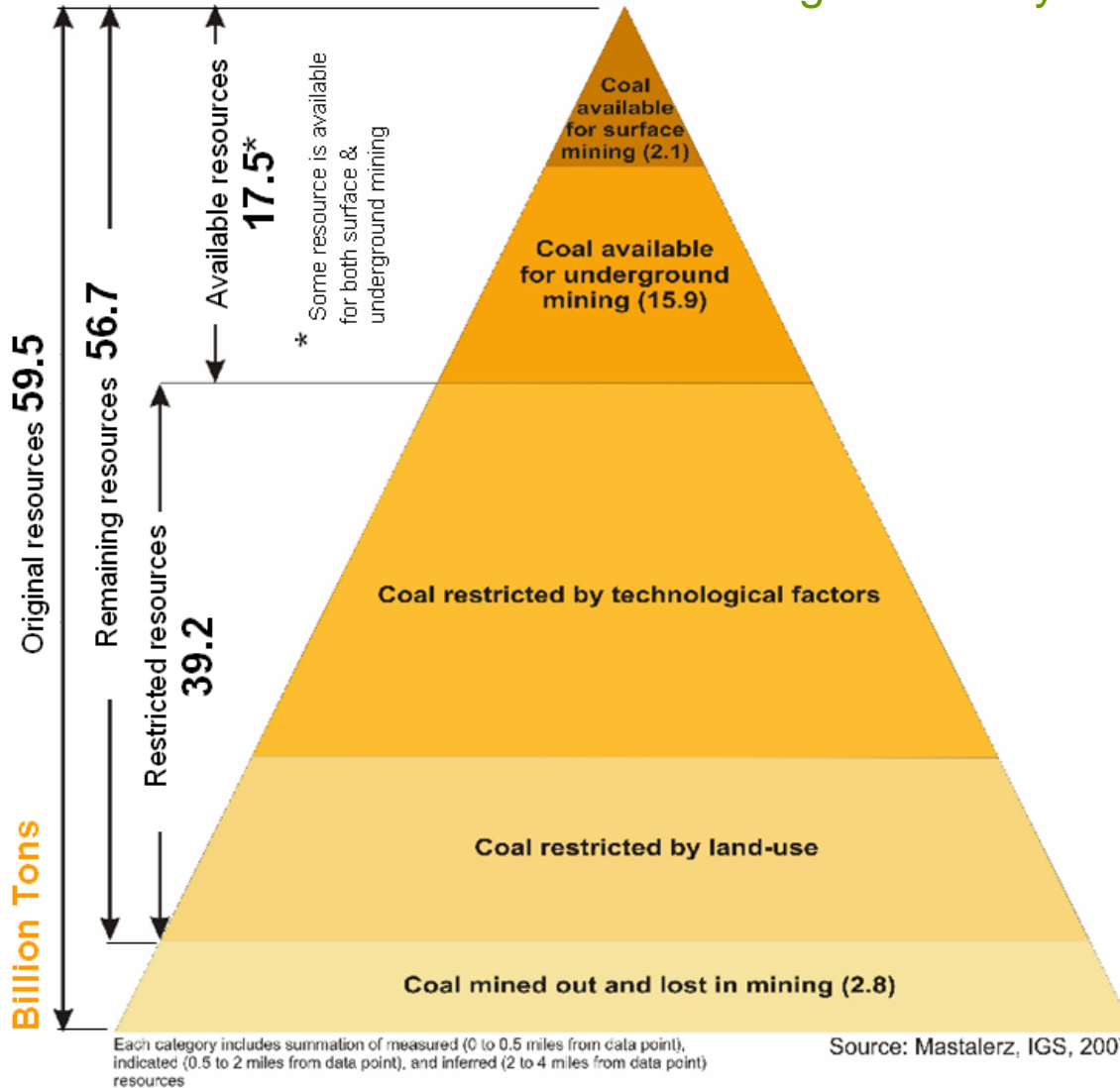


Indiana is one of the top 10 coal producing states in the USA



Delineation of Indiana Coal Resources Using USGS Availability System

2007 Indiana Geological Survey Data





Indiana's Coal Resources by Coal Bed

(Indiana Geological Survey Data)

Summary of Available and Restricted Reserves for Economic Coal Beds in Indiana (BTons)

Coal Bed	Original	Mined - out	(A) Remaining	(B) Re- <u>stricted</u>	Net Available = (A) - (B)	Available for surface mining	Demon- <u>strated</u>	Available for Under- ground mining	Demon- <u>strated</u>
Danville	6.55	0.36	6.19	5.33	0.86	0.35	0.25	0.52	0.3
<u>Hymera</u>	5.53	0.55	4.98	4.10	0.88	0.15		0.81	
Springfield	13.31	1.31	12.00	4.65	7.35	0.82	0.6	6.94	4.0
<u>Houchin Creek</u>	5.92	0.0022	5.92	5.56	0.36	0.18		0.17	
<u>Survant</u>	8.47	0.31	8.17	6.86	1.31	0.22		1.10	
Colchester	5.14	0.001	5.14	4.95	0.19	0.11		0.10	
<u>Seelyville</u>	14.61	0.33	14.28	7.68	6.60	0.30	0.06	6.30	0.7
	59.53	2.8632	56.68	39.13	17.55	2.13		15.94	

Note: units are Billion short tons;

Source: IGS, September 2006



Indiana's Resources at the Danville & Springfield Coal Beds

(Indiana Geological Survey Data)

COAL BED	Original Billion Short Tons	Available Billion Short Tons
Danville	6.55	0.83
Springfield	13.31	7.35
Indiana TOTAL	59.53	17.54
D & S, % of total	33.4%	46.6%

About one third to one half Indiana's total coal reserves are to be found in the Danville & Springfield coal beds

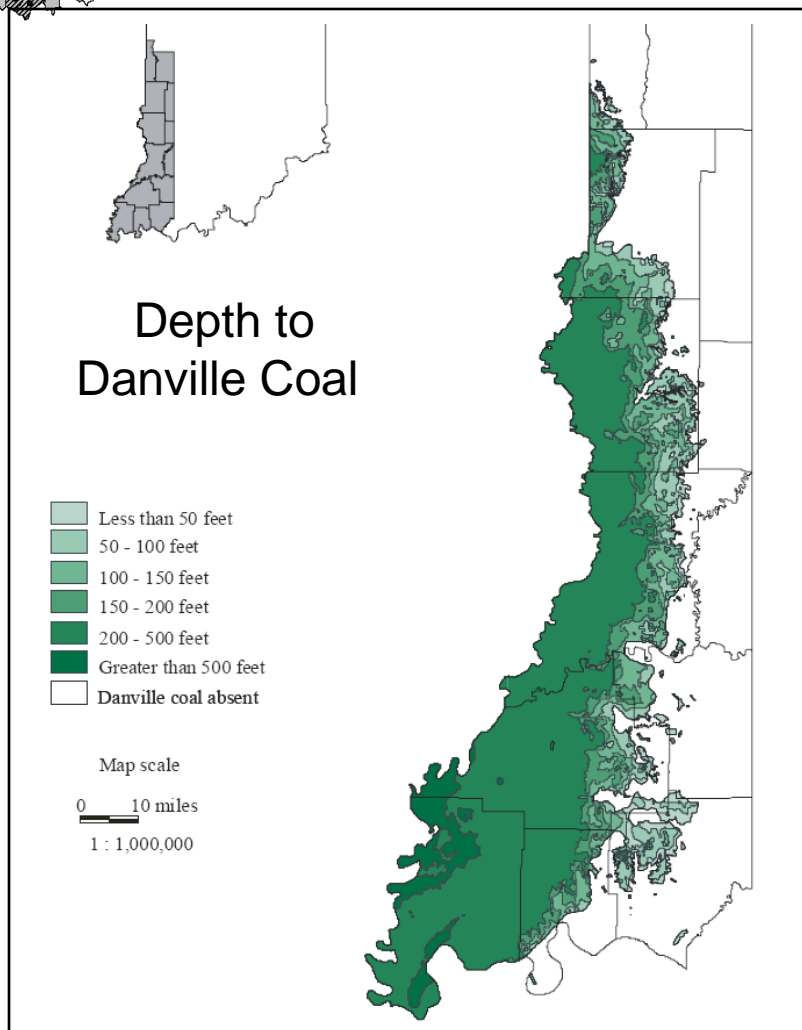
McLeansboro Gp.		
	Mattoon Fm.	
	Bond Fm.	
	Patoka Fm.	
	Shelburn Fm.	
Carbondale Group	Dugger Fm.	Danville (VII) ●
		Hymera (VI) ●
		Herrin
		Bucktown (Vb)
	Springfield (V) ●	
Petersburg Fm.	Houchin Creek ●	
	Survant (IV) ●	
Linton Fm.	Colchester (IIIa) ●	
	Seelyville (III) ●	
	Staunton Fm.	Unnamed Staunton Fm coals
Raccoon Creek Group	Brazil Fm.	Minshall /Buffaloville ●
		Upper Block ●
		Lower Block ●
Mansfield Fm.	Mariah Hill	
	Blue Creek	
	Pinnick	
	St. Meinrad	
	French Lick	

Indiana Stratigraphy





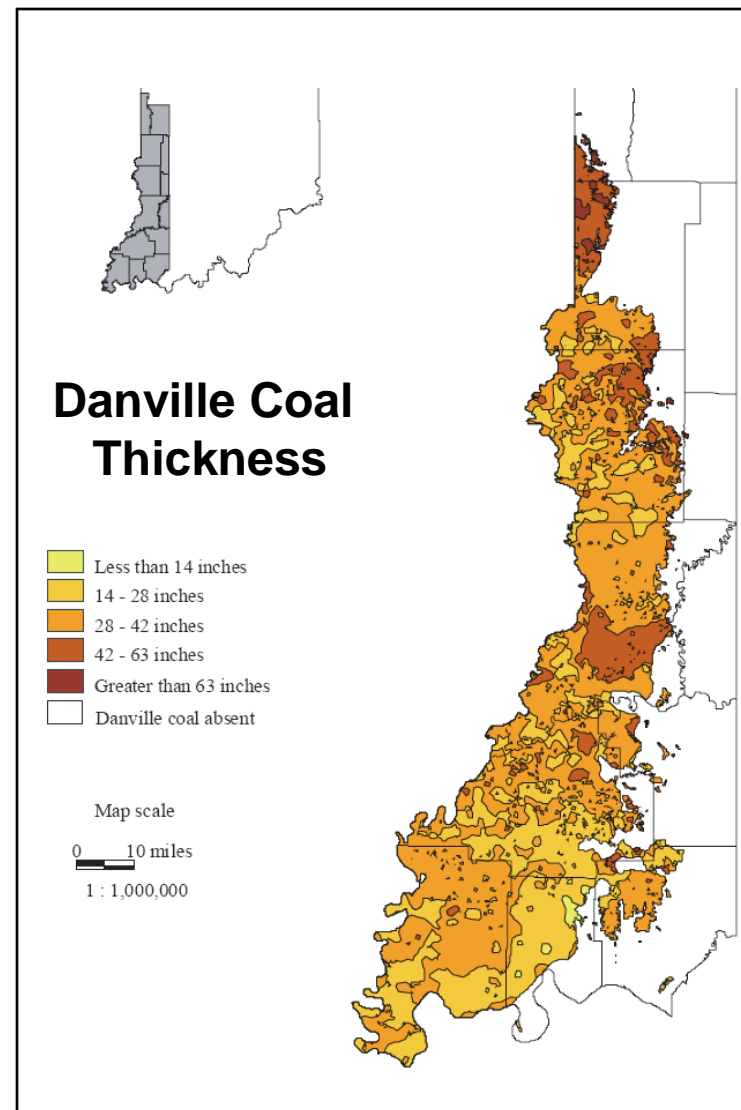
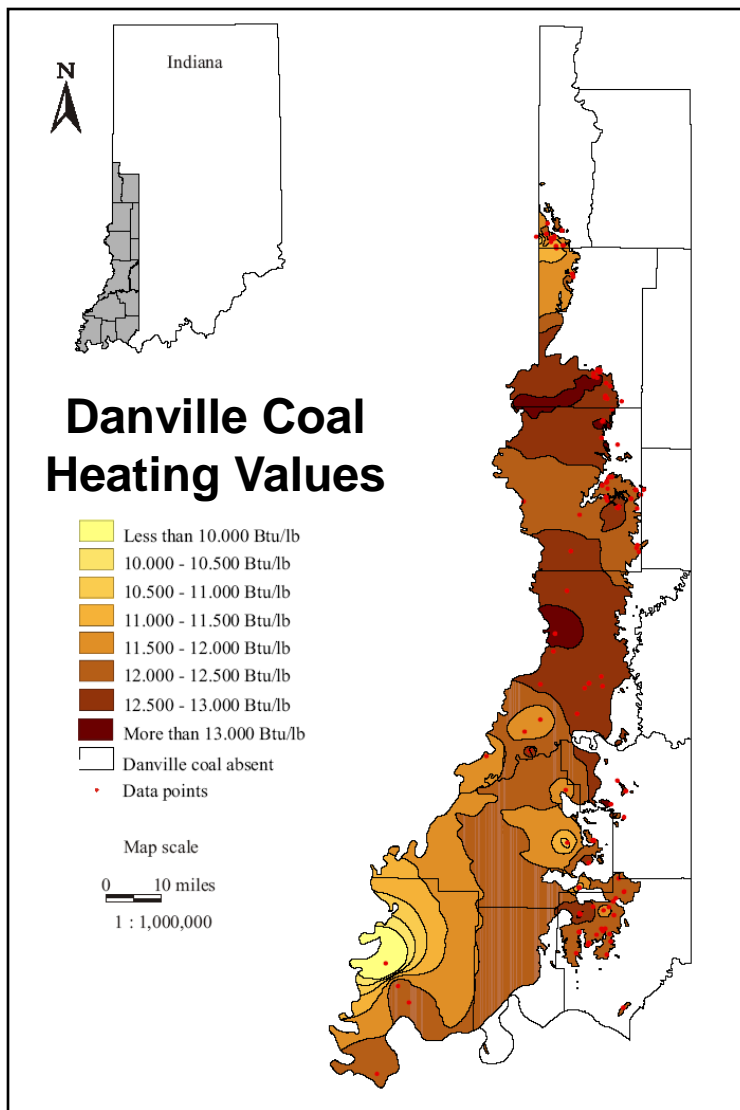
Indiana's Danville Coal Bed Resources by County



County	Mining Type	Original Million Tons	Available Million Tons
Daviess	Surface	0.17	0.00
	Underground	-	-
Gibson	Surface	341.66	43.91
	Underground	1,109.89	36.35
Greene	Surface	3.21	0.69
	Underground	-	-
Knox	Surface	503.39	51.63
	Underground	1,284.63	228.35
Pike	Surface	122.10	9.75
	Underground	86.45	0.00
Posey	Surface	2.82	0.00
	Underground	1,217.34	0.00
Sullivan	Surface	663.51	78.95
	Underground	1,014.54	108.11
Vanderburgh	Surface	99.51	0.07
	Underground	286.65	0.00
Vermillion	Surface	83.71	12.03
	Underground	26.99	11.70
Vigo	Surface	578.83	98.75
	Underground	475.72	137.82
Warwick	Surface	237.37	53.97
	Underground	29.50	0.00
TOTAL	Surface	2,636.27	349.75
	Underground	5,531.72	522.32

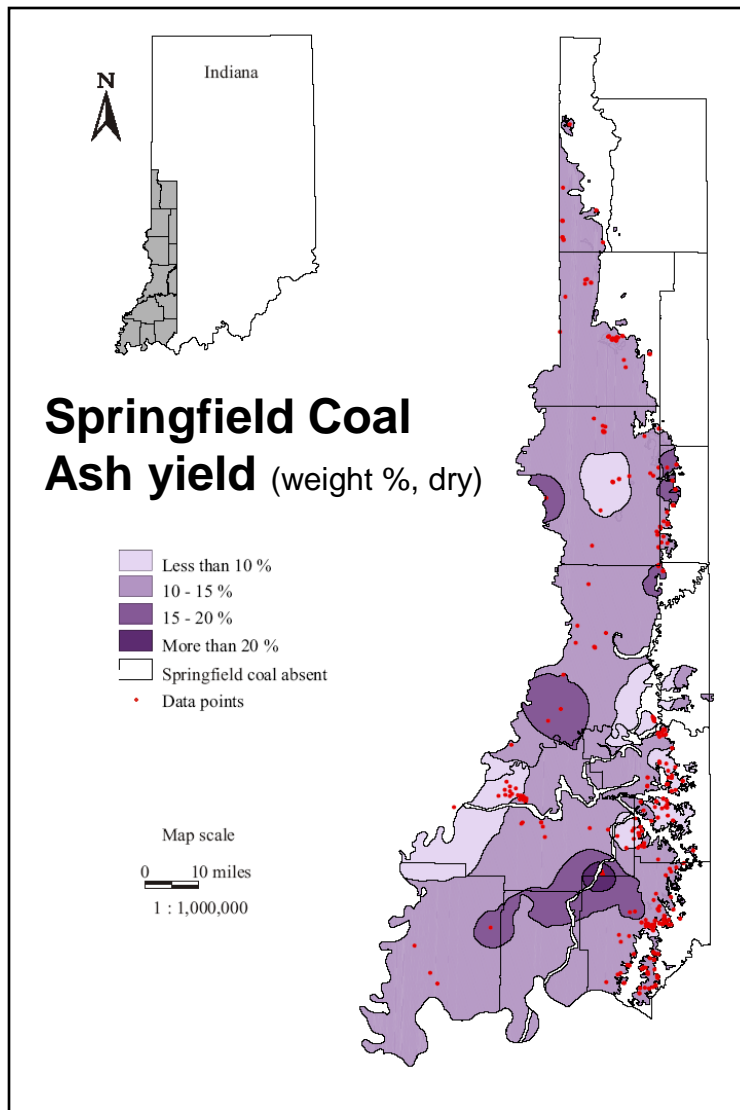


Indiana's Danville Coal Bed





Indiana's Springfield Coal Bed Resources by County

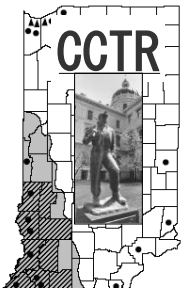


County	Mining Type	Original Million Tons	Available Million Tons
Davies	Surface	108.18	16.59
	Underground	1.64	0.00
Gibson	Surface	347.80	95.53
	Underground	2,546.33	1,930.91
Greene	Surface	169.85	70.17
	Underground	18.03	5.68
Knox	Surface	373.82	55.49
	Underground	2,072.48	1,072.42
Pike	Surface	770.73	160.68
	Underground	434.62	175.11
Posey	Surface	-	-
	Underground	1,998.05	1,527.61
Sullivan	Surface	457.87	72.64
	Underground	1,693.47	741.72
Vanderburgh	Surface	160.81	0.00
	Underground	964.43	516.07
Vermillion	Surface	293.59	5.23
	Underground	315.03	21.12
Vigo	Surface	400.92	48.30
	Underground	916.97	335.26
Warwick	Surface	1,030.91	295.48
	Underground	733.81	608.78
TOTAL	Surface	4,114.48	820.11
	Underground	11,694.86	6,934.68



Coal Reserves at Indiana's Danville & Springfield Coal Beds by County

County	Mining Type	<u>DANVILLE</u>	<u>SPRINGFIELD</u>	D + S
Daviess	Surface	0.00	16.59	16.59
	Underground	-	0.00	0.00
Gibson	Surface	43.91	95.53	139.44
	Underground	36.35	1,930.91	<u>1,967.26</u>
Greene	Surface	0.69	70.17	70.86
	Underground	-	5.68	5.68
Knox	Surface	51.63	55.49	107.12
	Underground	228.35	1,072.42	<u>1,300.77</u>
Pike	Surface	9.75	160.68	170.43
	Underground	0.00	175.11	175.11
Posey	Surface	0.00	-	0.00
	Underground	0.00	1,527.61	<u>1,527.61</u>
Sullivan	Surface	78.95	72.64	151.59
	Underground	108.11	741.72	849.83
Vanderburgh	Surface	0.07	0.00	0.07
	Underground	0.00	516.07	516.07
Vermillion	Surface	12.03	5.23	17.26
	Underground	11.70	21.12	32.82
Vigo	Surface	98.75	48.30	147.05
	Underground	137.82	335.26	473.08
Warwick	Surface	53.97	295.48	349.45
	Underground	0.00	608.78	608.78
TOTAL	Surface	349.75	820.11	1,169.86
	Underground	522.32	6,934.68	7,457.00

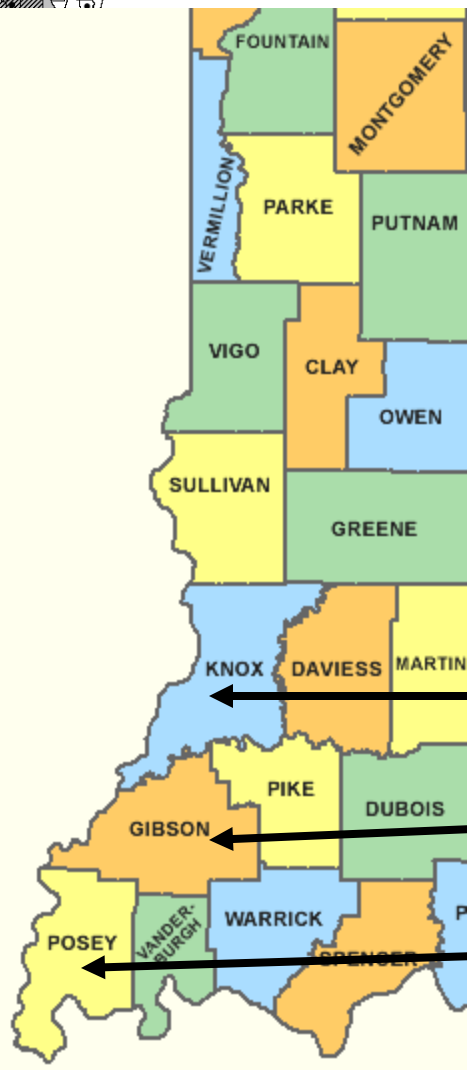


Summary

Coal Reserves in Indiana

Mining 35 MTons/year Indiana's estimated recoverable reserves will last for 118 years & the demonstrated reserve base for 275 years

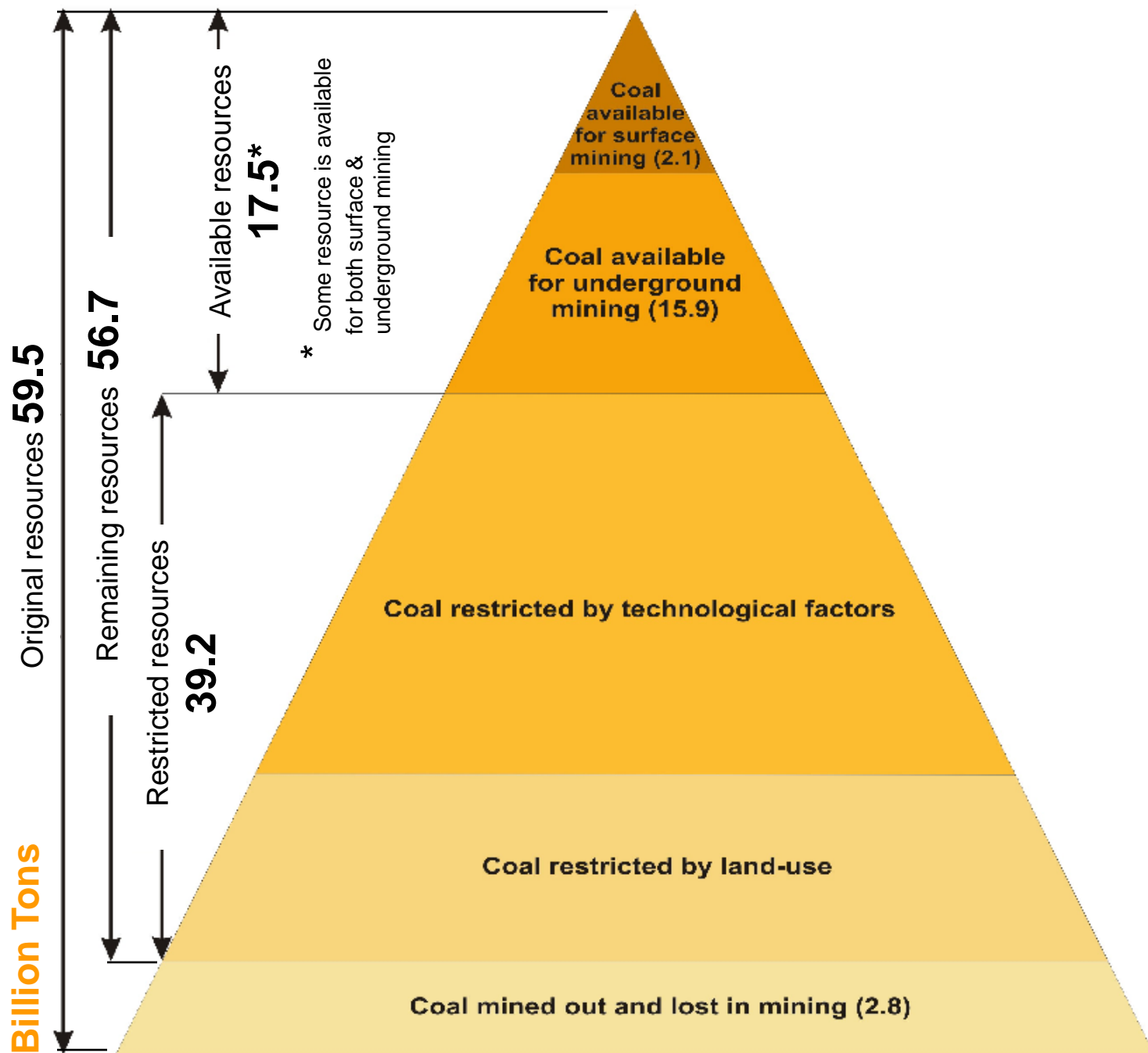
Indiana's greatest availability of coal reserves are in the Danville & Springfield Coal Beds located in **Knox, Gibson & Posey** counties



Knox 1,407 Million Tons

Gibson 2,107 Million Tons

Posey 1,528 Million Tons



Each category includes summation of measured (0 to 0.5 miles from data point), indicated (0.5 to 2 miles from data point), and inferred (2 to 4 miles from data point) resources

Source: Mastalerz, IGS, 2007