

## Total Generation - MW increment from 2012

Year 2030 - Normal forecast

Generation type	Gen Name Plate	Gen Heavy Summer			Gen Off Peak				
Gw	4474	895			3579				
Gs	1799								
(PV)	450	293			0				
(w/storage)	1349	1282			0				
Gc	923	923			923				
Total	7196	3392			4502				
<b>ERZ Allocations</b>									
		<b>Gc</b>	<b>Renew</b>		<b>Gc</b>	<b>Renew</b>		<b>Gc</b>	<b>Renew</b>
ERZ1	1403	240	1403	473	240	233	1171	240	931
ERZ2	1673	286	1673	564	286	277	1396	286	1110
ERZ3	2105	360	2105	709	360	349	1756	360	1396
ERZ4	1799	0	1799	1574	0	1574	0	0	0
ERZ5	216	37	179	73	37	36	180	37	143
Total	7196	923	7159	3392	923	2469	4502	923	3579
<b>Summer Peak Load</b>	13139				<b>50% peak</b>			6570	
<b>2012 Peak Load</b>	10214				<b>Gen Req'd</b>			7621	
<b>Net Increase</b>	2925				<b>Renew wind</b>			3579	
<b>New Generation Req'd</b>	3393				<b>Req'd Gc</b>			4042	
<b>Total generation Req'd</b>	15241				<b>new Gc</b>			923	
					<b>delta Gc</b>			-3119	

Gw - wind generation

Gs - solar generation

Gc - conventional generation

**Table 6**

## Total Generation - MW increment from 2012

### Year 2030 - 3% Forecast

Generation type	Gen Name Plate	Gen Heavy Summer			Gen Off Peak					
Gw	5902	1180			4722					
Gs	2374									
(PV)	594	386			0					
(w/storage)	1781	1692			0					
Gc	4987	4987			4987					
<b>Total</b>	<b>13264</b>	<b>8245</b>			<b>9709</b>					
<b>ERZ Allocations</b>										
		Gc Renew			Gc Renew			Gc Renew		
ERZ1	2831	1297	1535	1604	1297	307	2524	1297	1228	
ERZ2	3376	1546	1830	1912	1546	366	3010	1546	1464	
ERZ3	4247	1945	2302	2405	1945	460	3786	1945	1841	
ERZ4	2374	0	2374	2078	0	2078	0	0	0	
ERZ5	436	199	236	247	199	47	388	199	189	
<b>Total</b>	<b>13263</b>	<b>4987</b>	<b>8276</b>	<b>8245</b>	<b>4987</b>	<b>3258</b>	<b>9709</b>	<b>4987</b>	<b>4722</b>	
<b>Summer Peak Load</b>	17478				<b>50% Peak</b>			8739		
<b>2012 peak load</b>	10370				<b>Gen Req'd</b>			10137		
<b>Net Increase</b>	7108				<b>Renew Wind</b>			4772		
<b>New Generation Req'd</b>	8245				<b>Req'd Gc</b>			5365		
<b>Total Generation Req'd</b>	20274				<b>new Gc</b>			4987		
					<b>delta Gc</b>			-378		

Gw - wind generation

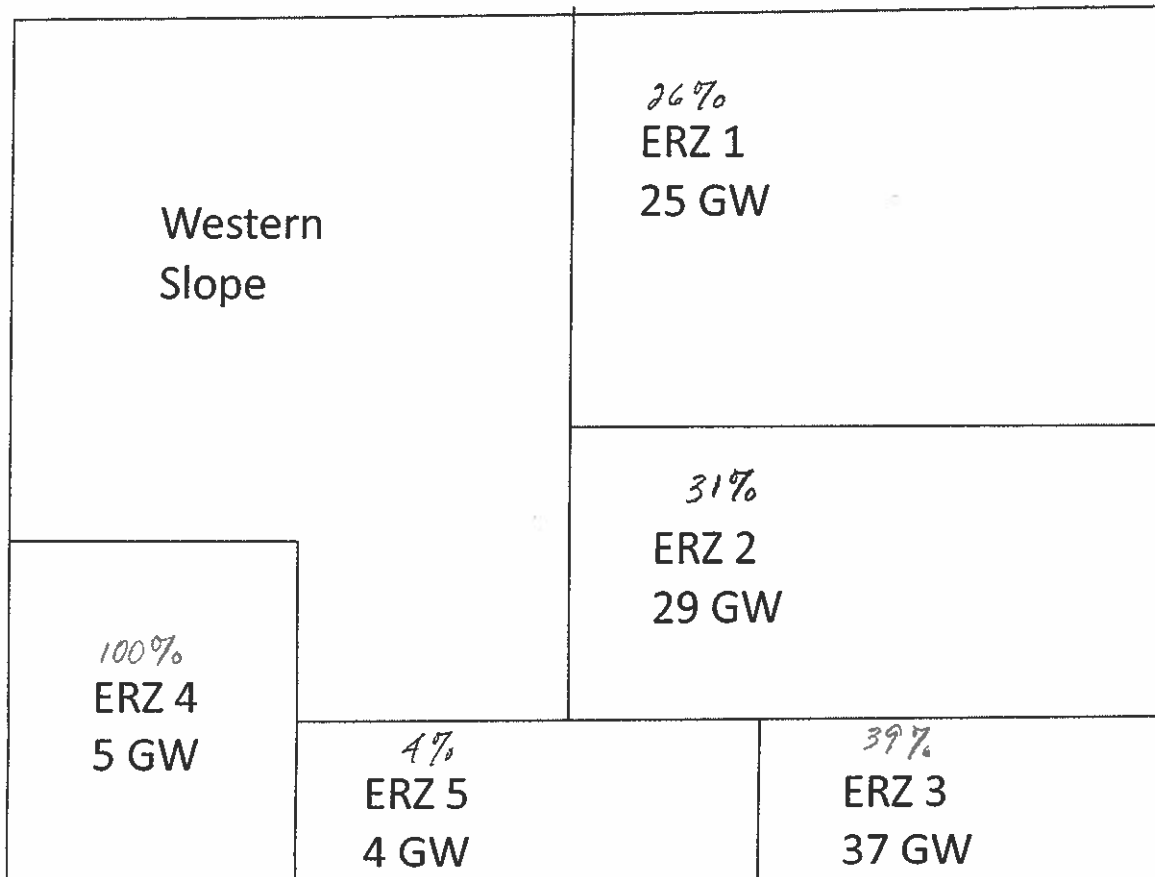
Gs - solar generation

Gc - conventional generation

**Table 7**

Figure A

# STATE OF COLORADO ERZ'S



## Colorado Demand and Energy Forecast - Long Term Planning

Year	Utility	2012			2020			2030		
		MW Demand	GWh Energy	Renew 30% Energy	MW Demand	GWh Energy	Renew 30% Energy	MW Demand	GWh Energy	Renew30% Energy
	Black Hills	406	2255	677	481	2708	812	591	3381	1014
	PSCo	6350	33984	10195	7225	38761	11628	7850	43483	13045
	IREA	250	1245	374	250	1245	374	250	1245	374
	CSU	834	4635	1391	901	5036	1511	1072	5579	1674
	PRPA	668	3279	984	792	3780	1134	976	4551	1365
	T-S	1706	9928	2978	2004	11777	3533	2400	14263	4279
	Total	10214	55326	16598	11653	63307	18992	13139	72502	21751
Demand Change 2012-2030	2925									
Energy Change 2012-2030	17176									
30% Energy	5153									

Table 1

## Colorado Demand and Energy Forecast - Long Term Planning

Load growth @ 3%

Year	2012			2020			2030		
	MW Demand	GWh Energy	Renew 30% Energy	MW Demand	GWh Energy	Renew 30% Energy	MW Demand	GWh Energy	Renew30% Energy
Black Hills	410	2299	690	519	2910	873	697	3908	1172
PSCo	6464	35107	10532	8189	44476	13343	11005	59770	17931
IREA	250	1245	374	250	1245	374	250	1245	374
CSU	847	4674	1402	1073	5922	1777	1442	7958	2387
PRPA	674	3247	974	854	4115	1234	1147	5526	1658
T-S	1725	10124	3037	2185	12824	3847	2937	17238	5171
Total	10370	56697	17009	13070	71491	21447	17478	95645	28694
Demand Change 2012-2030	7108								
Energy Change 2012-2030	38948								
30% Energy	11684								

Table 2

**Colorado Demand and Energy Forecast - Long Term Planning  
Normal Forecast**

Year	2012			2020			2030			2040		
	MW Demand	GWh Energy	Renew 30% Energy	MW Demand	GWh Energy	Renew 30% Energy	MW Demand	GWh Energy	Renew30% Energy	MW Demand	GWh Energy	Renew30% Energy
Black Hills	406	2255	677	481	2708	812	591	3381	1014	694	4007	1202
PSCo	6350	33984	10195	7225	38761	11628	7850	43483	13045	8683	48760	14628
IREA	250	1245	374	250	1245	374	250	1245	374	250	1245	374
CSU	834	4635	1391	901	5036	1511	1072	5579	1674	1204	6103	1831
PRPA	668	3279	984	792	3780	1134	976	4551	1365	1147	5258	1577
T-S	1706	9928	2978	2004	11777	3533	2400	14263	4279	2786	16671	5001
<b>Total</b>	<b>10214</b>	<b>55326</b>	<b>16598</b>	<b>11653</b>	<b>63307</b>	<b>18992</b>	<b>13139</b>	<b>72502</b>	<b>21751</b>	<b>14764</b>	<b>82044</b>	<b>24613</b>
<b>Demand Change</b>												
2012-2030	2925											
2012-2040	4550											
<b>Energy Change</b>												
2012-2030	17176											
30% Energy	5153											
2012-2040	26718											
30% Energy	8015											

**Table 3**

**Colorado Demand and Energy Forecast - Long Term Planning**

Forecast - Load growth @ 3%

Year Utility	2012			2020			2030			2040		
	MW Demand	GWh Energy	Renew 30% Energy	MW Demand	GWh Energy	Renew 30% Energy	MW Demand	GWh Energy	Renew30% Energy	MW Demand	GWh Energy	Renew30% Energy
Black Hills	410	2299	690	519	2910	873	697	3908	1172	856	4802	1440
PSCo	6464	35107	10532	8189	44476	13343	11005	59770	17931	13528	73472	22042
IREA	250	1245	374	250	1245	374	250	1245	374	250	1245	374
CSU	847	4674	1402	1073	5922	1777	1442	7958	2387	1773	9782	2935
PRPA	674	3247	974	854	4115	1234	1147	5526	1658	1410	6792	2038
T-S	1725	10124	3037	2185	12824	3847	2937	17238	5171	3610	21190	6357
<b>Total</b>	<b>10370</b>	<b>56697</b>	<b>17009</b>	<b>13070</b>	<b>71491</b>	<b>21447</b>	<b>17478</b>	<b>95645</b>	<b>28694</b>	<b>21427</b>	<b>117283</b>	<b>35185</b>

**Demand Change**

2012-2030 7108  
 2012-2040 11057

**Energy Change**

2012-2030 38948  
 30% Energy 11684  
  
 2012-2040 60586  
 30% Energy 18176

Table 4

**Total Generation - increment from 2012**

**Normal forecast**

Year	Name	Heavy	Off Peak	Name	Heavy	Off Peak
	Plate	Summer	2030	Plate	Summer	2040
Gw	4474	895	3579	5063	1013	4050
Gs	1799			2036		
(PV)	450	293	0	509	331	0
(w/storage)	1349	1282	0	1527	1451	0
Gc	923	923	923	2483	2483	2483
Total	7196	3392	4502	9582	5277	6533

**3% Forecast**

Year	Name	Heavy	Off Peak	Name	Heavy	Off Peak
	Plate	Summer	2030	Plate	Summer	2040
Gw	5902	1180	4722	7237	1447	5790
Gs	2374			2911		
(PV)	594	386	0	728	473	0
(w/storage)	1781	1692	0	2183	2074	0
Gc	4987	4987	4987	8759	8759	8759
Total	13264	8245	9709	18907	12753	14549

**ERZ Allocations - normal forecast**

ERZ1	1403	473	1171	1962	909	1699
ERZ2	1673	564	1396	2339	1084	2025
ERZ3	2105	709	1756	2943	1363	2548
ERZ4	1799	1574	0	2036	1782	0
ERZ5	216	73	180	302	140	261
Total	7196	3392	4502	9582	5277	6533

**ERZ Allocations - 3% forecast**

ERZ1	2831	1604	2524	4159	2654	3783
ERZ2	3376	1912	3010	4959	3164	4510
ERZ3	4247	2405	3786	6238	3980	5674
ERZ4	2375	2078	0	2911	2547	0
ERZ5	436	247	388	640	408	582
Total	13264	8245	9709	18907	12753	14549

Gw - wind generation

Gs - solar generation

Gc - conventional generation

**Table 5**