

	Type Flag								
TWh		-1	2010	2015	2020	2025	2030	2035	
Coal		1	1847	1581	1656	1680	1766	1807	
Natural Gas		1	970	1132	1184	996	1379	1519	
Oil		1	37	20	17	18	18	18	
Nuclear		1	807	820	865	912	908	875	
Hydro		1	257.08	297.18	302.28	306.75	309.15	311.83	
Biomass		1	37.61	54.58	91.13	116.24	133.11	145.45	
Wind		1	94.95	153.85	154.4	164.84	173.83	194.23	
Solar		1	4.48	20.35	23.87	25.44	28.42	43.96	
Geothermal		1	15.67	18.68	24.41	31.53	39.89	46.54	
Total electrical I		2	3955.00	3942.00	4084.00	4265.0	4426.0	4572.00	
Vehicle Electric		2	5.56	8.33	8.33	11.11	16.67	19.44	
Petroleum		3	24343.0000	24020.00	24054.000	24080.00	24205.0000	24453.0000	
Ethanol		3	2536.0000	2428.00	2407.000	2478.00	2815.0000	3216.0000	
Biodiesel		3	41	130	129	133	151	172	
CNG		3	40.00	60.0	90.0	110.0	140.0	160.00	
Hydrogen		3	0	0	0	0	0	0	
Electric		3	20	30	30	40	60	70	
Total Transport		4	28463478.0	28134740.0	28178918.8	28316914.3	28876110.4	29615106.6	
Coal		5	1719.65	1751.3	1930.65	2078.35	2162.75	2247.15	
Natural Gas		5	17386.4	17935	18209.3	18251.5	18186.2	18209.3	
Oil		5	10559.45	10117.45	10148.1	10233.5	10181.3	10233.5	
Biomass		5	1477.00	1382.00	1466.0	1466.0	1456.0	1614.0	
Total Heat Dem		6	32834237.5	32900966.3	33501577.8	33790964.3	33758153.8	34080667.3	
Water-Surface		7	0.7	0.7	0.7	0.7	0.7	0.7	
Water-Ground		7	0.3	0.3	0.3	0.3	0.3	0.3	
Water-Import		7	0	0	0	0	0	0	
Water-Desal		7	0	0	0	0	0	0	
Total Water Der		8	568670	596199.94851	625062.65252	655322.63219	687047.53121	720308.26794	
WW-Trickling		9	0.0167	0.012	0.01	0.005	0.001	0	
WW-Aerated		9	0.412	0.4	0.38	0.36	0.35	0.35	
WW-Adv-NoDeI		9	0.1632	0.1732	0.19	0.2	0.2	0.2	
WW-Adv-DeN		9	0.4083	0.42	0.42	0.43	0.44	0.44	
Wastewater Der		10	44691	46854.54112	49122.821678	51500.912225	53994.128787	56608.044741	

Source Flag	Capacity (MW)	Capacity Factor	Heat Rate	Effici	Year complete	Construction Ti	Ops Mode	Plant Mode	Fuel Mode	Interact Flag
0	-326	0.1994	0.326	2012	0	0	0	0	1	-2
0	-510	0.0783	0.273	2012	0	0	0	0	0	-2
0	-363	0.1485	0.2501	2012	0	0	0	0	1	-2
0	-632	0.4137	0.339	2015	0	0	0	0	0	-2
0	-261	0.4133	0.3376	2015	0	0	0	0	1	-2
0	-420	0.4198	0.3439	2015	0	0	0	0	0	-2
0	-354	0.1991	0.3014	2015	0	0	0	0	1	-2
0	-490.6	0.2511	0.2591	2014	0	0	0	0	0	-2
0	-50	0.5220	0.215	2011	0	0	0	0	1	1
0	-420	0.1424	0.2716	2011	0	0	0	0	1	-2
6	50	0.25	0.97	2012	1	0	0	0	0	-2
6	48	0.25	0.97	2012	2	0	0	0	0	-2
6	89	0.25	0.97	2012	2	0	0	0	0	-2
7	10	0.15	0.97	2012	1	0	0	0	0	-2
6	161	0.25	0.97	2012	2	0	0	0	0	-2
6	139	0.2	0.97	2012	2	0	0	0	0	-2
6	61	0.25	0.97	2012	2	0	0	0	0	-2
1	560	0.5	0.4	2011	3	0	0	0	0	0
7	5.5	0.15	0.97	2011	1	0	0	0	0	-2
4	5	0.5	0.97	2011	2	0	0	0	0	-2
1	98.5	0.5	0.97	2011	3	0	0	0	0	-2

For adjusting requirements, particularly for retirements:
-1 is replacement with class default
-2 is replacement by spreading requirements across class.
Positive is replacement with specific source.

Updated retirements Feb 9th with EIA 860 and eGRID2012 data

Notes	Source Flag	Stage Flag	Default option	Option 1	Option 2	Option 3	Option 4	Start Year	End Year
Coal Mining	0	2	0.7	0.3	0	0	0	2010	2035
Coal plant cooling	0	0	0.1	0.9	0	0	0	2010	2035
NG Plant cooling	1	0	0.1	0.9	0	0	0	2010	2035
Nuclear Plant cooling	3	0	0.1	0.9	0	0	0	2010	2035
Gas drilling	1	2	0.7	0.3	0	0	0	2010	2035
Reg/Adv/No treatment	19	0	0.2	0.18	0.62	0	0	2010	2035
Reg/Adv/No treatment	20	0	0.4	0.2	0.4	0	0	2010	2035
Reg/Adv/No treatment	21	0	0.9	0.1	0	0	0	2010	2035
Reg/Adv/No treatment	22	0	0.9	0.1	0	0	0	2010	2035
Treatment vs. none	19	1	0.38	0.62	0	0	0	2010	2035
Treatment vs. none	20	1	0.6	0.4	0	0	0	2010	2035
Biodiesel Irrigation	11	2	0.15	0	0.85	0	0	2010	2015
Biodiesel Irrigation	11	2	0.25	0	0.75	0	0	2015	2035
Gas drilling	12	2	0.7	0.3	0	0	0	2010	2035
Gas drilling	16	2	0.7	0.3	0	0	0	2010	2035

	Source Flag	% Fuel sourced from region	Current Regional Percentage of Class from Source	Current Regional Capacity (MW, m³/yr)	Fleet Capacity Factor	Regional fleet efficiency	Policy Regional Preference	Natural Regional Preference	Ops Mode 1 Prob	Ops Mode 2 Prob	Ops Mode 3 Prob	Mode 4 Prob	Mode 5 Prob	Plant Mode 1 Prob	Plant Mode 2 Prob	Plant Mode 3 Prob	Mode 4 Prob	Mode 5 Prob	Fuel Mode 1 Prob	Fuel Mode 2 Prob	Fuel Mode 3 Prob	Mode 4 Prob	Mode 5 Prob
Coal	0	0.8	0.44	21636	0.5589	0.3472	1	1	0.6	0.4	0	0	0	0	1	0	0	0	0.7	0.3	0	0	0
Natural Gas	1	0.5	0.15	10875	0.3025	0.4077	1	1	0.6	0.4	0	0	0	0	1	0	0	0	0.8	0.2	0	0	0
Oil	2	0.01	0.004622	3679	0.0155	0.2672	1	1	0.6	0.4	0	0	0	0	1	0	0	0	1	0	0	0	0
Nuclear	3	0	0.33	10015	0.8828	0.3	1	1	0.22	0.78	0	0	0	0	1	0	0	0	1	0	0	0	0
Hydro	4	1	0.025	3240	0.10912	0.97	1	1.7760276	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0
Biomass	5	0.95	0.033	717.4	0.5572	0.277	1	1.5872738	0.6	0.4	0	0	0	0	1	0	0	0	1	0	0	0	0
Wind	6	1	0.02492	748	0.164	0.97	1	0.979676	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0
Solar	7	1	0.00008143	73	0.1355	0.97	1	0.5623929	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0
Geothermal	8	1	0	0.00001	0.30	0.97	1	0.9084462	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0
Petroleum	9	0.01	0.949	255400000	1	0.99	1	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0
Ethanol	10	0.2	0.0393	305480000	1	0.99	1	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0
Biodiesel	11	0.9	0.0121	25570000	1	0.99	1	1	1	0	0	0	0	0	1	0	0	0	0	1	0	0	0
CNG	12	0.5	0.000000341	83000000	1	0.92	1	1	1	0	0	0	0	0	1	0	0	0	0.8	0.2	0	0	0
Hydrogen	13	0.5	0.000000001	282	1	0.97	1	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0
Electric	14	1	0.000000003	8460	0.2	0.99	1	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0
Coal	15	0.8	0.189	27563760	1	0.99	1	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0
Natural Gas	16	0.5	0.581	84733040	1	0.92	1	1	1	0	0	0	0	0	1	0	0	0	0.8	0.2	0	0	0
Oil	17	0.01	0.17	24792800	1	0.99	1	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0
Biomass	18	1	0.057	8312880	1	0.97	1	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0
Water-Surface	19	1	0.937	1616000	0.87	0.97	1	1	0.2	0.18	0.62	0	0	0	0.38	0.62	0	0	0.5	0.4	0.1	0	0
Water-Ground	20	1	0.163	98500	0.95	0.97	1	1	0.4	0.2	0.4	0	0	0	0.6	0.4	0	0	1	0	0	0	0
Water-Import	21	1	0	0.0000001	0.9	0.97	1	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0
Water-Desal	22	1	0	0.0000001	0.9	0.97	1	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0
WW-Trickling	23	1	0.01	20.501	1.08	0.97	1	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0
WW-Aerated	24	1	0.5713	175520.10	0.76	0.97	1	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0
WW-Adv-NoDeN	25	1	0.064	21131.80	0.71	0.97	1	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0
WW-Adv-DeN	26	1	0.3846	119063.50	0.71	0.97	1	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0

Notes	Source/Class	FI Type Flag	Start Year	End Year	Level (%)
Biomass cap	5	2	2012	2035	0.1
Oil Elimination	2	2	2015	2016	0
Solar 1	7	1	2010	2015	0.000203
Solar 2	7	1	2016	2020	0.0025
Solar 3	7	1	2021	2022	0.005
Wind - Type I AES	6	4	2010	2011	0.03
Solar - Type I AES	7	4	2010	2011	0.03
Geothermal - Type I AES	8	4	2010	2011	0.03
Wind - Type I AES	6	4	2011	2012	0.035
Solar - Type I AES	7	4	2011	2012	0.035
Geothermal - Type I AES	8	4	2011	2012	0.035
Wind - Type I AES	6	4	2012	2013	0.04
Solar - Type I AES	7	4	2012	2013	0.04
Geothermal - Type I AES	8	4	2012	2013	0.04
Wind - Type I AES	6	4	2013	2014	0.045
Solar - Type I AES	7	4	2013	2014	0.045
Geothermal - Type I AES	8	4	2013	2014	0.045
Wind - Type I AES	6	4	2014	2015	0.05
Solar - Type I AES	7	4	2014	2015	0.05
Geothermal - Type I AES	8	4	2014	2015	0.05
Wind - Type I AES	6	4	2015	2016	0.055
Solar - Type I AES	7	4	2015	2016	0.055
Geothermal - Type I AES	8	4	2015	2016	0.055
Wind - Type I AES	6	4	2016	2017	0.06
Solar - Type I AES	7	4	2016	2017	0.06
Geothermal - Type I AES	8	4	2016	2017	0.06
Wind - Type I AES	6	4	2017	2018	0.065
Solar - Type I AES	7	4	2017	2018	0.065
Geothermal - Type I AES	8	4	2017	2018	0.065
Wind - Type I AES	6	4	2018	2019	0.07
Solar - Type I AES	7	4	2018	2019	0.07
Geothermal - Type I AES	8	4	2018	2019	0.07
Wind - Type I AES	6	4	2019	2020	0.075
Solar - Type I AES	7	4	2019	2020	0.075
Geothermal - Type I AES	8	4	2019	2020	0.075
Wind - Type I AES	6	4	2020	2021	0.08
Solar - Type I AES	7	4	2020	2021	0.08
Geothermal - Type I AES	8	4	2020	2021	0.08
Wind - Type I AES	6	4	2021	2022	0.085
Solar - Type I AES	7	4	2021	2022	0.085
Geothermal - Type I AES	8	4	2021	2022	0.085
Hydro - Type II AES	4	4	2010	2014	0.062
Biomass - Type II AES	5	4	2010	2014	0.062
Hydro - Type II AES	4	4	2015	2019	0.082
Biomass - Type II AES	5	4	2015	2019	0.082
Hydro - Type II AES	4	4	2020	2021	0.1
Biomass - Type II AES	5	4	2020	2021	0.1