



Alarko Energy Group

Presentation By:

Adnan Yagmur, Altek Alarko A.S.
adnan.yagmur@altek.alarko.com.tr
Tel: +90 (212) 252 31 54

For further information:

<http://www.altek.alarko.com.tr>
info@altek.alarko.com.tr



Alarko Center, Istanbul-Turkey



Energy Group

Our Company has:

Started the investment facility in 1989 for HASANLAR Hydroelectric Power Plant and started to operate in May 1991.

Started the investment facility in 1994 for BERDAN Hydroelectric Power Plant and started to operate in December 1996.

Started the investment facility in 1996 for TOHMA Hydroelectric Power Plant and started to operate in December 1998.

In 2001, The biggest shareholders of ALTEK ALARKO A.Ş. has sold 50 % stake of the company to French company” Societe Nationale D’Electricite et DeThermique (LA SNET)” and an equal share strategic partnership has been formed. 65% of LA SNET belongs to ENDESA, the Spanish energy giant but the German energy company “EON” has recently initiated the merger process of Endesa-France (LA SNET).



Energy Group

Under this partnership, the investment of KIRKLARELI 82 MW NATURAL GAS FIRED COMBINED CYCLE POWER PLANT was started in 2001 and now the power plant, having the temporary acceptance at the end of 2005, has been operating in the free market by Energy Law 4628.

Altek Alarko, is one of the first Turkish companies operating under BOT model, and expects to grow with the synergy of its strategic partnership with LA SNET in the long terms.



Energy Group

NEW HYDROELECTRICAL POWER PLANTS:

**- KARAKUZ 86,85 MW_e HYDRO ELECTRIC
POWER PLANT**



NEW THERMAL POWER PLANTS :

1. LIGNITE FIRED THERMAL POWER PLANT

Installed Power	: 175 MW_e
Location	: Seyitömer-Kütahya
Coal Supplier	: Turkish Coal authority (TKI) (Contract for 30 years of operation)
Total Annual Net Generation	: 1,100 GWh per year



2. IMPORTED HARD COAL FIRED THERMAL POWER PLANTS AT ÇANAKKALE DISTRICT :

The 2 new projects are under development. The license formalities are carried on with EMRA and other State authorities.

2.1 Location: Canakkale- Ezine

Installed Capacity	: 1x 500 MW _e
Estimated Commercial Operation Year	: End of 2012
Total Annual Net Generation (License)	: 3,018 GWh



Energy Group



2.2 Location: Canakkale- Karabiga

Installed Capacity : 2x 600 MW_e

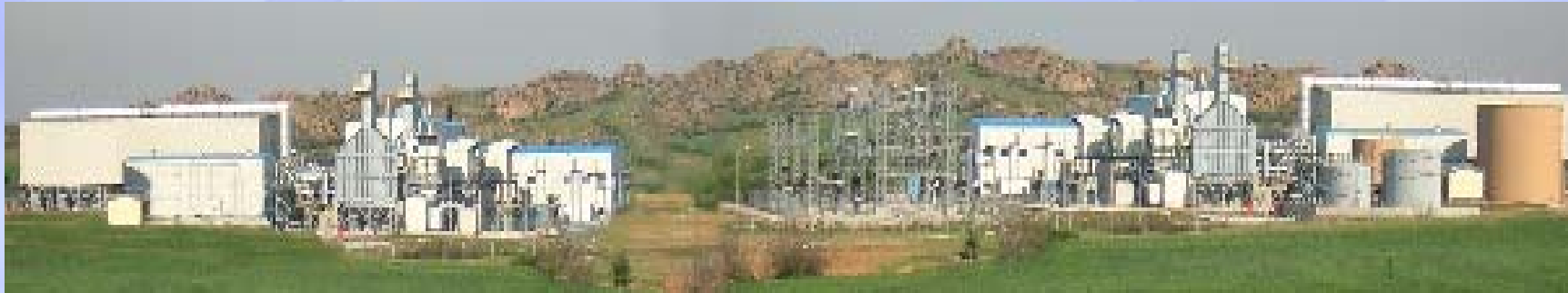
Estimated Commercial Operation Year : End of 2012

Total Annual Net Generation (License) : 7,312 GWh

The land is owned by Alarko.



3. NEW COMBINED CYCLE GAS FIRED POWER PLANT:



The Project will be the similar to the existing Kirklareli CCPP.

The amendment of exisiting license formalities are carried on with EMRA and other State authorities.

Installed Power : 82 MW_e (ISO conditions)

Location : Kirklareli (nearby our existing Kirklareli CCPP)

Estimated Commercial Operation Year : mid of 2009

Total Annual Net Generation (License) : 567 GWh



4. NEW COMBINED CYCLE GAS FIRED POWER PLANTS

4.1 SAMSUN DISTRICT:

The project is under development.

The license formalities are carried on with EMRA and other State authorities.

Installed Power : 485 MW_e (ISO conditions)

Location : Samsun

Estimated Commercial Operation Year : mid of 2011

Total Annual Net Generation (License) : 3.276 GWh



4.2 CANAKKALE-KARABIGA DISTRICT:

The project is under development.

The license formalities are carried on with EMRA and other State authorities.

Installed Power : 485 MW_e (ISO conditions)

Location : Samsun

Estimated Commercial Operation Year : mid of 2011

Total Annual Net Generation (License) : 3.276 GWh



SUMMARY OF ALL EXISTING AND FUTURE POWER GENERATION PLANTS :

- **TOTAL INSTALLED POWER PROJECTED IN NEXT 5
YEARS : Mw_e 3,127**
- **TOTAL ANNUAL NET GENERATION PROJECTED AFTER
NEXT 5 YEARS : 21,000 GWh per year**



REALISTIC PROJECTIONS FOR POWER SUPPLY & DEMAND OF TURKEY FOR 2008-2017 BY ALARKO ENERGY GROUP



Total Generation By Plant Type in 2007 (GWh)

Thermal	154.978
Hydraulic	35.827
Wind	357
Total Generation	191.163
Total Consumption	189.450

Installed Capacity in 2007 (MW)

Thermal	27.235
Hydraulic	13.395
Wind	147
Total	40.777



CUMULATIVE INSTALLED CAPACITY(MW)

CAPACITY PROJECTION

HIGH SCENARIO

YEARS	2008	2009	2010	2011	2012	2013	2014	2015	2016
THERMAL	28,101	28,939	31,039	34,029	36,749	39,464	42,544	46,059	48,074
HYDRAULIC	14,302	15,899	18,209	20,044	21,814	23,412	24,970	26,415	27,898
WIND & OTHER	1,113	1,328	1,453	1,578	1,703	1,828	1,953	2,078	2,203
TOTAL	43,516	46,166	50,701	55,651	60,266	64,704	69,467	74,552	78,175
PEAK DEMAND (TEIAS)	32,275	34,954	37,855	40,997	44,359	47,908	51,692	55,724	59,904

LOW SCENARIO

YEARS	2008	2009	2010	2011	2012	2013	2014	2015	2016
THERMAL	28,101	28,239	28,239	29,639	31,474	33,594	35,809	38,169	40,209
HYDRAULIC	14,302	15,899	17,666	18,770	19,605	20,722	21,210	21,814	23,412
WIND & OTHER	1,113	1,328	1,453	1,578	1,703	1,828	1,953	2,078	2,203
TOTAL	43,516	45,466	47,358	49,987	52,782	56,144	58,972	62,061	65,824
PEAK DEMAND	31,151	33,114	35,200	37,417	39,775	42,280	44,944	47,820	50,929



TEIAS HIGH SCENARIO GENERATION PROJECTION (GWh)

GENERATION PROJECTION

HIGH SCENARIO

PROJECT GENERATION CAPACITY

YEARS	2008	2009	2010	2011	2012	2013	2014	2015	2016
THERMAL	189,792	196,595	212,283	232,047	251,209	269,406	288,962	314,018	329,083
HYDRAULIC	48,663	52,161	60,921	69,556	77,630	84,260	89,601	93,948	98,146
WIND & OTHER	3,740	4,570	5,098	5,448	5,798	6,148	6,498	6,848	7,198
TOTAL	242,195	253,326	278,302	307,051	334,637	359,814	385,061	414,815	434,427

RELIABLE GENERATION CAPACITY

YEARS	2008	2009	2010	2011	2012	2013	2014	2015	2016
THERMAL	166,217	178,248	197,989	218,560	237,315	255,326	276,118	300,724	315,789
HYDRAULIC	38,102	40,339	45,199	49,470	54,212	58,167	60,947	62,995	65,037
WIND & OTHER	2,904	3,467	3,757	3,932	4,107	4,282	4,457	4,632	4,807
TOTAL	207,223	222,054	246,945	271,963	295,634	317,776	341,522	368,351	385,633
DEMAND (HIGH)	203,787	220,701	239,019	258,858	280,084	302,491	326,388	351,846	378,234



TEIAS LOW SCENARIO GENERATION PROJECTION (GWh)

GENERATION PROJECTION

LOW SCENARIO

PROJECT GENERATION CAPACITY

YEARS	2008	2009	2010	2011	2012	2013	2014	2015	2016
THERMAL	189.792	191.681	192.627	201.678	214.813	228.971	242.330	259.658	275.071
HYDRAULIC	48.663	52.161	58.520	63.970	68.991	73.805	75.143	77.506	82.818
WIND & OTHER	3.740	4.570	5.098	5.448	5.798	6.148	6.498	6.848	7.198
TOTAL	242.195	248.412	256.245	271.096	289.602	308.924	323.971	344.013	365.087

RELIABLE GENERATION CAPACITY

YEARS	2008	2009	2010	2011	2012	2013	2014	2015	2016
THERMAL	166.217	173.334	178.333	188.191	200.919	214.891	229.486	246.364	261.777
HYDRAULIC	38.102	40.339	44.095	47.100	49.680	52.237	52.284	53.842	56.724
WIND & OTHER	2.904	3.467	3.757	3.932	4.107	4.282	4.457	4.632	4.807
TOTAL	207.223	217.140	226.185	239.224	254.706	271.411	286.227	304.838	323.308
DEMAND (LOW)	196.689	209.081	222.253	236.255	251.139	266.961	283.779	301.941	321.567



New Power Plant Planning & Evaluation Study by Alarko Energy Group		
Details of Plants Considered in the Study	Project Count (#)	Capacity (MW)
Projects Licensed by EMRA and Under Construction	157	8.149
Thermal Plant Projects	24	2.704
Natural Gas	13	255
Lignite	3	684
Fuel Oil	1	20
Imported Coal	3	737
Domestic Hard Coal	2	706
Domestic Coal	1	165
Asphaltite	1	138
Hydraulic Plant Projects	99	4.166
Other Plant Projects	34	1.278
Wind	32	1.226
Jeothermal	2	52
Project License Applications Under Evaluation by EMRA	412	24.455
Thermal Projects Under Evaluation by EMRA	27	13.111
Natural Gas	11	4.266
Lignite	4	3.185
Fuel Oil	4	109
Imported Coal	8	5.550
Hydro-Power Projects Under Evaluation by EMRA	314	7.422
Wind & Other Projects Under Evaluation by EMRA	71	3.923
Wind	70	3.913
Jeothermal	1	10



SUMMARY OF NEW PROJECTS 2008-2017 REVIEWED BY ALARKO ENERGY GROUP

New Power Plant Planning & Evaluation Study by Alarko Energy Group		
Details of Plants Considered in the Study	Project Count (#)	Capacity (MW)
Hydro-Power Projects Under Construction by DSI	16	1.899
Other HEPP Projects (1) (DSI water usage tender date announced)	58	1.966
Other HEPP Projects (2) (Under bilateral contracts or expected to be tendered by DSI)	17	4.552
Other Wind Projects (New Wind Project License Applications to EMRA (Nov. 2007))	118	6.659
Nuclear Projects	3	4.800
Alarko Energy Group	7	3.014
Imported Coal	2	1700
Natural Gas	3	1052
Hydro	1	86,85
Lignite	1	175
TOTAL	788	55.495



ADDITIONS TO INSTALLED CAPACITY(MW)

	End-2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PLANT TYPE	Current	Additional									
THERMAL	27,235	114	291	1,199	5,060	7,273	2,750	2,055	0	0	0
HYDRAULIC	13,395	783	1,515	640	1,371	2,259	2,420	8,376	2,731	0	0
WIND & Other	147	276	410	502	1,440	0	1,295	0	1,278	0	0
NEW WIND	0	0	0	0	0	1,433	2,376	1,542	1,308	0	0
NUCLEAR	0	0	0	0	0	0	0	0	4,800	0	0
TOTAL	40,777	1,173	2,216	2,341	7,870	10,966	8,841	11,972	10,117	0	0

	End-2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PLANT TYPE	Cumulative										
THERMAL	27,235	27,349	27,640	28,839	33,899	41,173	43,923	45,977	45,977	45,977	45,977
HYDRAULIC	13,395	14,178	15,693	16,333	17,703	19,962	22,382	30,759	33,489	33,489	33,489
WIND & OTHER	147	423	833	1,335	2,774	2,774	4,069	4,069	5,347	5,347	5,347
NEW WIND	0	0	0	0	0	1,433	3,809	5,351	6,659	6,659	6,659
NUCLEAR	0	0	0	0	0	0	0	0	4,800	4,800	4,800
TOTAL	40,777	41,950	44,166	46,506	54,377	65,342	74,183	86,155	96,273	96,273	96,273



ADDITIONS TO INSTALLED CAPACITY(MW)

Excluding New Wind Applications & Nuclear Projects

	End-2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PLANT TYPE	Current	Additional									
THERMAL	27,235	114	291	1,199	5,060	7,273	2,750	2,055	0	0	0
HYDRAULIC	13,395	783	1,515	640	1,371	2,259	2,420	8,376	2,731	0	0
WIND & Other	147	276	410	502	1,440	0	1,295	0	1,278	0	0
NEW WIND	0	0	0	0	0	0	0	0	0	0	0
NUCLEAR	0	0	0	0	0	0	0	0	0	0	0
TOTAL	40,777	1,173	2,216	2,341	7,870	9,533	6,465	10,431	4,009	0	0

	End-2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PLANT TYPE	Cumulative										
THERMAL	27,235	27,349	27,640	28,839	33,899	41,173	43,923	45,977	45,977	45,977	45,977
HYDRAULIC	13,395	14,178	15,693	16,333	17,703	19,962	22,382	30,759	33,489	33,489	33,489
WIND & OTHER	147	423	833	1,335	2,774	2,774	4,069	4,069	5,347	5,347	5,347
NEW WIND	0	0	0	0	0	0	0	0	0	0	0
NUCLEAR	0	0	0	0	0	0	0	0	0	0	0
TOTAL	40,777	41,950	44,166	46,506	54,377	63,909	70,374	80,805	84,814	84,814	84,814



ADDITIONS TO INSTALLED CAPACITY(MW)

	End-2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PLANT TYPE	Current	Additional									
THERMAL	27,235	95	158	153	3,344	4,503	3,330	2,331	1,425	655	0
HYDRAULIC	13,395	393	320	1,393	667	1,132	1,469	1,560	4,904	6,726	1,531
WIND & OTHER	147	140	137	410	256	1,685	0	0	1,295	1,278	0
NEW WIND	0	0	0	0	0	0	0	1,433	2,376	1,542	1,308
NUCLEAR	0	0	0	0	0	0	0	0	0	4,800	0
TOTAL	40,777	627	614	1,956	4,267	7,320	4,798	5,324	9,999	15,001	2,839

YEARS	End-2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PLANT TYPE	Cumulative										
THERMAL	27,235	27,330	27,487	27,640	30,984	35,487	38,816	41,148	42,573	43,227	43,227
HYDRAULIC	13,395	13,788	14,108	15,501	16,168	17,300	18,769	20,329	25,232	31,959	33,489
WIND & OTHER	147	287	423	833	1,089	2,774	2,774	2,774	4,069	5,347	5,347
NEW WIND	0	0	0	0	0	0	0	1,433	3,809	5,351	6,659
NUCLEAR	0	0	0	0	0	0	0	0	0	4,800	4,800
TOTAL	40,777	41,404	42,018	43,974	48,241	55,561	60,360	65,684	75,683	90,684	93,523



ADDITIONS TO INSTALLED CAPACITY(MW)

Excluding New Wind Applications & Nuclear Projects

	End-2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PLANT TYPE	Current	Additional									
THERMAL	27,235	95	158	153	3,344	4,503	3,330	2,331	1,425	655	0
HYDRAULIC	13,395	393	320	1,393	667	1,132	1,469	1,560	4,904	6,726	1,531
WIND & OTHER	147	140	137	410	256	1,685	0	0	1,295	1,278	0
NEW WIND	0	0	0	0	0	0	0	0	0	0	0
NUCLEAR	0	0	0	0	0	0	0	0	0	0	0
TOTAL	40,777	627	614	1,956	4,267	7,320	4,798	3,891	7,623	8,659	1,531

YEARS	End-2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PLANT TYPE	Cumulative										
THERMAL	27,235	27,330	27,487	27,640	30,984	35,487	38,816	41,148	42,573	43,227	43,227
HYDRAULIC	13,395	13,788	14,108	15,501	16,168	17,300	18,769	20,329	25,232	31,959	33,489
WIND & OTHER	147	287	423	833	1,089	2,774	2,774	2,774	4,069	5,347	5,347
NEW WIND	0	0	0	0	0	0	0	0	0	0	0
NUCLEAR	0	0	0	0	0	0	0	0	0	0	0
TOTAL	40,777	41,404	42,018	43,974	48,241	55,561	60,360	64,251	71,874	80,533	82,064



PROJECT GENERATION PROJECTION vs. TEIAS HIGH SCENARIO DEMAND FORECAST (GWh)

	End-2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PLANT TYPE	Current	Additional									
THERMAL	154,978	859	2,249	9,153	36,811	49,955	18,575	13,354	0	0	0
HYDRAULIC	35,827	2,657	5,345	2,398	5,339	8,996	9,637	33,211	10,873	0	0
WIND & OTHER	357	1,063	1,230	1,505	4,319	0	3,927	0	3,835	0	0
NEW WIND	0	0	0	0	0	4,299	7,128	4,625	3,925	0	0
NUCLEAR	0	0	0	0	0	0	0	0	37,843	0	0
TOTAL	191,163	4,579	8,823	13,057	46,468	63,250	39,266	51,190	56,476	0	0

YEARS	End-2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PLANT TYPE	Cumulative										
THERMAL	154,978	155,837	158,086	167,240	204,050	254,005	272,580	285,934	285,934	285,934	285,934
HYDRAULIC	35,827	38,484	43,829	46,227	51,566	60,562	70,199	103,410	114,283	114,283	114,283
WIND & OTHER	357	1,420	2,650	4,155	8,474	8,474	12,401	12,401	16,236	16,236	16,236
NEW WIND	0	0	0	0	0	4,299	11,427	16,052	19,976	19,976	19,976
NUCLEAR	0	0	0	0	0	0	0	0	37,843	37,843	37,843
TOTAL	191,163	195,742	204,565	217,621	264,090	327,340	366,606	417,796	474,272	474,272	474,272



PROJECT GENERATION PROJECTION vs. TEIAS HIGH SCENARIO DEMAND FORECAST (GWh)

Excluding New Wind Applications & Nuclear Projects

	End-2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PLANT TYPE	Current	Additional									
THERMAL	154,978	859	2,249	9,153	36,811	49,955	18,575	13,354	0	0	0
HYDRAULIC	35,827	2,657	5,345	2,398	5,339	8,996	9,637	33,211	10,873	0	0
WIND & OTHER	357	1,063	1,230	1,505	4,319	0	3,927	0	3,835	0	0
NEW WIND	0	0	0	0	0	0	0	0	0	0	0
NUCLEAR	0	0	0	0	0	0	0	0	0	0	0
TOTAL	191,163	4,579	8,823	13,057	46,468	58,951	32,138	46,565	14,708	0	0

YEARS	End-2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PLANT TYPE	Cumulative										
THERMAL	154,978	155,837	158,086	167,240	204,050	254,005	272,580	285,934	285,934	285,934	285,934
HYDRAULIC	35,827	38,484	43,829	46,227	51,566	60,562	70,199	103,410	114,283	114,283	114,283
WIND & OTHER	357	1,420	2,650	4,155	8,474	8,474	12,401	12,401	16,236	16,236	16,236
NEW WIND	0	0	0	0	0	0	0	0	0	0	0
NUCLEAR	0	0	0	0	0	0	0	0	0	0	0
TOTAL	191,163	195,742	204,565	217,621	264,090	323,041	355,179	401,744	416,452	416,452	416,452



RELIABLE GENERATION PROJECTION vs. TEIAS HIGH SCENARIO DEMAND FORECAST (GWh)

	End-2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PLANT TYPE	Current	Additional									
THERMAL	154,978	737	2,186	8,395	35,173	47,332	17,206	12,336	0	0	0
HYDRAULIC	35,827	2,129	4,119	1,740	3,791	6,144	6,581	22,777	7,425	0	0
WIND & OTHER	357	954	1,077	1,319	3,783	0	3,444	0	3,359	0	0
NEW WIND	0	0	0	0	0	3,766	6,244	4,051	3,438	0	0
NUCLEAR	0	0	0	0	0	0	0	0	37,843	0	0
TOTAL	191,163	3,820	7,382	11,454	42,747	57,241	33,475	39,164	52,066	0	0

YEARS	End-2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PLANT TYPE	Cumulative										
THERMAL	154,978	155,716	157,901	166,297	201,470	248,802	266,007	278,343	278,343	278,343	278,343
HYDRAULIC	35,827	37,956	42,075	43,815	47,606	53,749	60,330	83,107	90,532	90,532	90,532
WIND & OTHER	357	1,311	2,388	3,707	7,490	7,490	10,934	10,934	14,294	14,294	14,294
NEW WIND	0	0	0	0	0	3,766	10,010	14,061	17,499	17,499	17,499
NUCLEAR	0	0	0	0	0	0	0	0	37,843	37,843	37,843
TOTAL	191,163	194,983	202,365	213,819	256,566	313,807	347,282	386,446	438,511	438,511	438,511



RELIABLE GENERATION PROJECTION vs. TEIAS HIGH SCENARIO DEMAND FORECAST (GWh)

Excluding New Wind Applications & Nuclear Projects

	End-2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PLANT TYPE	Current	Additional									
THERMAL	154,978	737	2,186	8,395	35,173	47,332	17,206	12,336	0	0	0
HYDRAULIC	35,827	2,129	4,119	1,740	3,791	6,144	6,581	22,777	7,425	0	0
WIND & OTHER	357	954	1,077	1,319	3,783	0	3,444	0	3,359	0	0
NEW WIND	0	0	0	0	0	0	0	0	0	0	0
NUCLEAR	0	0	0	0	0	0	0	0	0	0	0
TOTAL	191,163	3,820	7,382	11,454	42,747	53,475	27,230	35,113	10,784	0	0

YEARS	End-2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PLANT TYPE	Cumulative										
THERMAL	154,978	155,716	157,901	166,297	201,470	248,802	266,007	278,343	278,343	278,343	278,343
HYDRAULIC	35,827	37,956	42,075	43,815	47,606	53,749	60,330	83,107	90,532	90,532	90,532
WIND & OTHER	357	1,311	2,388	3,707	7,490	7,490	10,934	10,934	14,294	14,294	14,294
NEW WIND	0	0	0	0	0	0	0	0	0	0	0
NUCLEAR	0	0	0	0	0	0	0	0	0	0	0
TOTAL	191,163	194,983	202,365	213,819	256,566	310,041	337,272	372,385	383,169	383,169	383,169



PROJECT GENERATION PROJECTION vs. TEIAS LOW SCENARIO DEMAND FORECAST (GWh)

	End-2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PLANT TYPE	Current	Additional									
THERMAL	154.978	710	1.207	1.191	24.653	31.183	23.804	16.103	9.975	4.254	0
HYDRAULIC	35.827	1.319	1.114	4.957	2.457	4.358	5.835	6.153	19.527	26.641	6.094
WIND & OTHER	357	450	612	1.230	768	5.056	0	0	3.927	3.835	0
NEW WIND	0	0	0	0	0	0	0	4.299	7.128	4.625	3.925
NUCLEAR	0	0	0	0	0	0	0	0	0	37.843	0
TOTAL	191.163	2.480	2.934	7.377	27.878	40.598	29.639	26.555	40.556	77.197	10.019

YEARS	End-2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PLANT TYPE	Cumulative										
THERMAL	154.978	155.688	156.896	158.086	182.740	213.923	237.726	253.830	263.805	268.059	268.059
HYDRAULIC	35.827	37.147	38.261	43.218	45.675	50.034	55.868	62.021	81.547	108.188	114.283
WIND & OTHER	357	808	1.420	2.650	3.418	8.474	8.474	8.474	12.401	16.236	16.236
NEW WIND	0	0	0	0	0	0	0	4.299	11.427	16.052	19.976
NUCLEAR	0	0	0	0	0	0	0	0	0	37.843	37.843
TOTAL	191.163	193.643	196.577	203.954	231.833	272.430	302.069	328.624	369.180	446.377	456.397



PROJECT GENERATION PROJECTION vs. TEIAS LOW SCENARIO DEMAND FORECAST (GWh)

Excluding New Wind Applications & Nuclear Projects

	End-2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PLANT TYPE	Current	Additional									
THERMAL	154.978	710	1.207	1.191	24.653	31.183	23.804	16.103	9.975	4.254	0
HYDRAULIC	35.827	1.319	1.114	4.957	2.457	4.358	5.835	6.153	19.527	26.641	6.094
WIND & OTHER	357	450	612	1.230	768	5.056	0	0	3.927	3.835	0
NEW WIND	0	0	0	0	0	0	0	0	0	0	0
NUCLEAR	0	0	0	0	0	0	0	0	0	0	0
TOTAL	191.163	2.480	2.934	7.377	27.878	40.598	29.639	22.256	33.428	34.730	6.094

YEARS	End-2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PLANT TYPE	Cumulative										
THERMAL	154.978	155.688	156.896	158.086	182.740	213.923	237.726	253.830	263.805	268.059	268.059
HYDRAULIC	35.827	37.147	38.261	43.218	45.675	50.034	55.868	62.021	81.547	108.188	114.283
WIND & OTHER	357	808	1.420	2.650	3.418	8.474	8.474	8.474	12.401	16.236	16.236
NEW WIND	0	0	0	0	0	0	0	0	0	0	0
NUCLEAR	0	0	0	0	0	0	0	0	0	0	0
TOTAL	191.163	193.643	196.577	203.954	231.833	272.430	302.069	324.325	357.753	392.483	398.577



RELIABLE GENERATION PROJECTION vs. TEIAS LOW SCENARIO DEMAND FORECAST (GWh)

	End-2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PLANT TYPE	Current	Additional									
THERMAL	154.978	594	1.184	1.145	23.595	29.879	22.323	14.940	9.263	3.930	0
HYDRAULIC	35.827	1.069	870	3.788	1.877	3.078	3.994	4.242	13.334	18.290	4.162
WIND & OTHER	357	398	556	1.077	673	4.429	0	0	3.444	3.359	0
NEW WIND	0	0	0	0	0	0	0	3.766	6.244	4.051	3.438
NUCLEAR	0	0	0	0	0	0	0	0	0	37.843	0
TOTAL	191.163	2.061	2.610	6.010	26.146	37.387	26.317	22.947	32.285	67.474	7.600

YEARS	End-2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PLANT TYPE	Cumulative										
THERMAL	154.978	155.572	156.757	157.901	181.497	211.376	233.700	248.639	257.902	261.831	261.831
HYDRAULIC	35.827	36.896	37.766	41.554	43.431	46.510	50.504	54.745	68.080	86.370	90.532
WIND & OTHER	357	755	1.311	2.388	3.061	7.490	7.490	7.490	10.934	14.294	14.294
NEW WIND	0	0	0	0	0	0	0	3.766	10.010	14.061	17.499
NUCLEAR	0	0	0	0	0	0	0	0	0	37.843	37.843
TOTAL	191.163	193.224	195.834	201.844	227.989	265.376	291.694	314.641	346.926	414.400	422.000



RELIABLE GENERATION PROJECTION vs. TEIAS LOW SCENARIO DEMAND FORECAST (GWh)

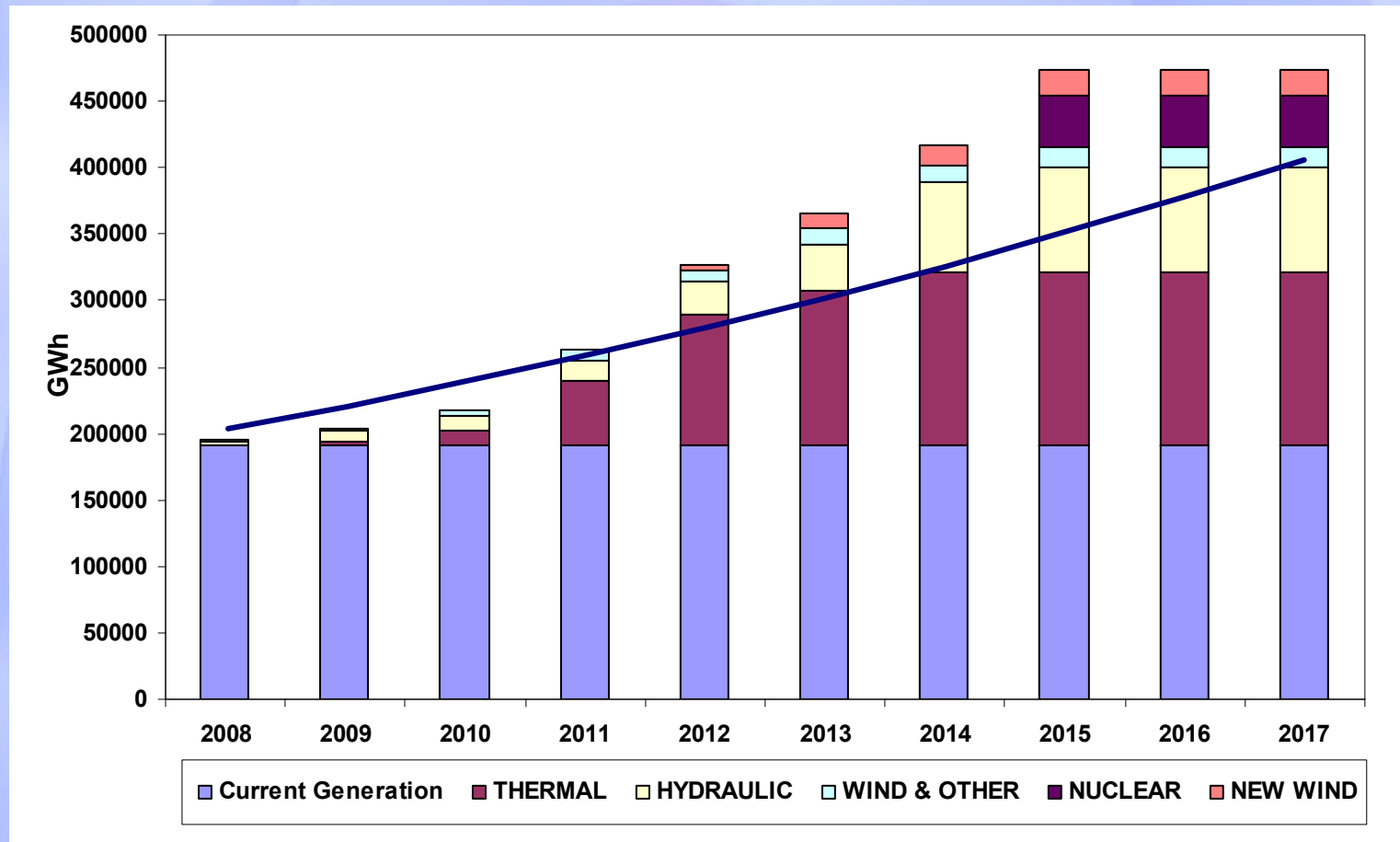
Excluding New Wind Applications & Nuclear Projects

	End-2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PLANT TYPE	Current	Additional									
THERMAL	154.978	594	1.184	1.145	23.595	29.879	22.323	14.940	9.263	3.930	0
HYDRAULIC	35.827	1.069	870	3.788	1.877	3.078	3.994	4.242	13.334	18.290	4.162
WIND & OTHER	357	398	556	1.077	673	4.429	0	0	3.444	3.359	0
NEW WIND	0	0	0	0	0	0	0	0	0	0	0
NUCLEAR	0	0	0	0	0	0	0	0	0	0	0
TOTAL	191.163	2.061	2.610	6.010	26.146	37.387	26.317	19.181	26.041	25.580	4.162

YEARS	End-2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
PLANT TYPE	Cumulative										
THERMAL	154.978	155.572	156.757	157.901	181.497	211.376	233.700	248.639	257.902	261.831	261.831
HYDRAULIC	35.827	36.896	37.766	41.554	43.431	46.510	50.504	54.745	68.080	86.370	90.532
WIND & OTHER	357	755	1.311	2.388	3.061	7.490	7.490	7.490	10.934	14.294	14.294
NEW WIND	0	0	0	0	0	0	0	0	0	0	0
NUCLEAR	0	0	0	0	0	0	0	0	0	0	0
TOTAL	191.163	193.224	195.834	201.844	227.989	265.376	291.694	310.875	336.916	362.495	366.657



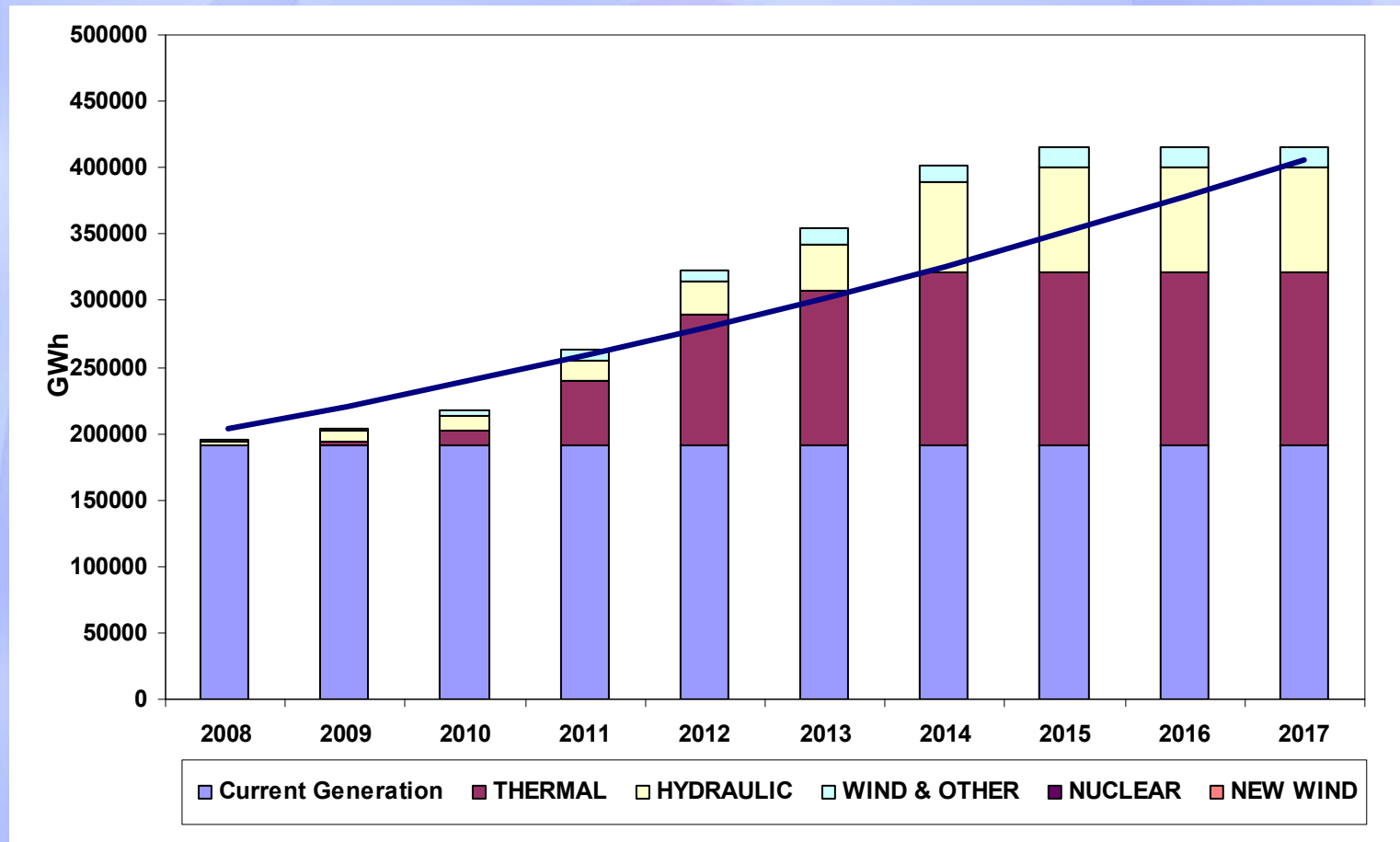
PROJECT GENERATION PROJECTION vs. TEIAS HIGH SCENARIO DEMAND FORECAST (GWh)





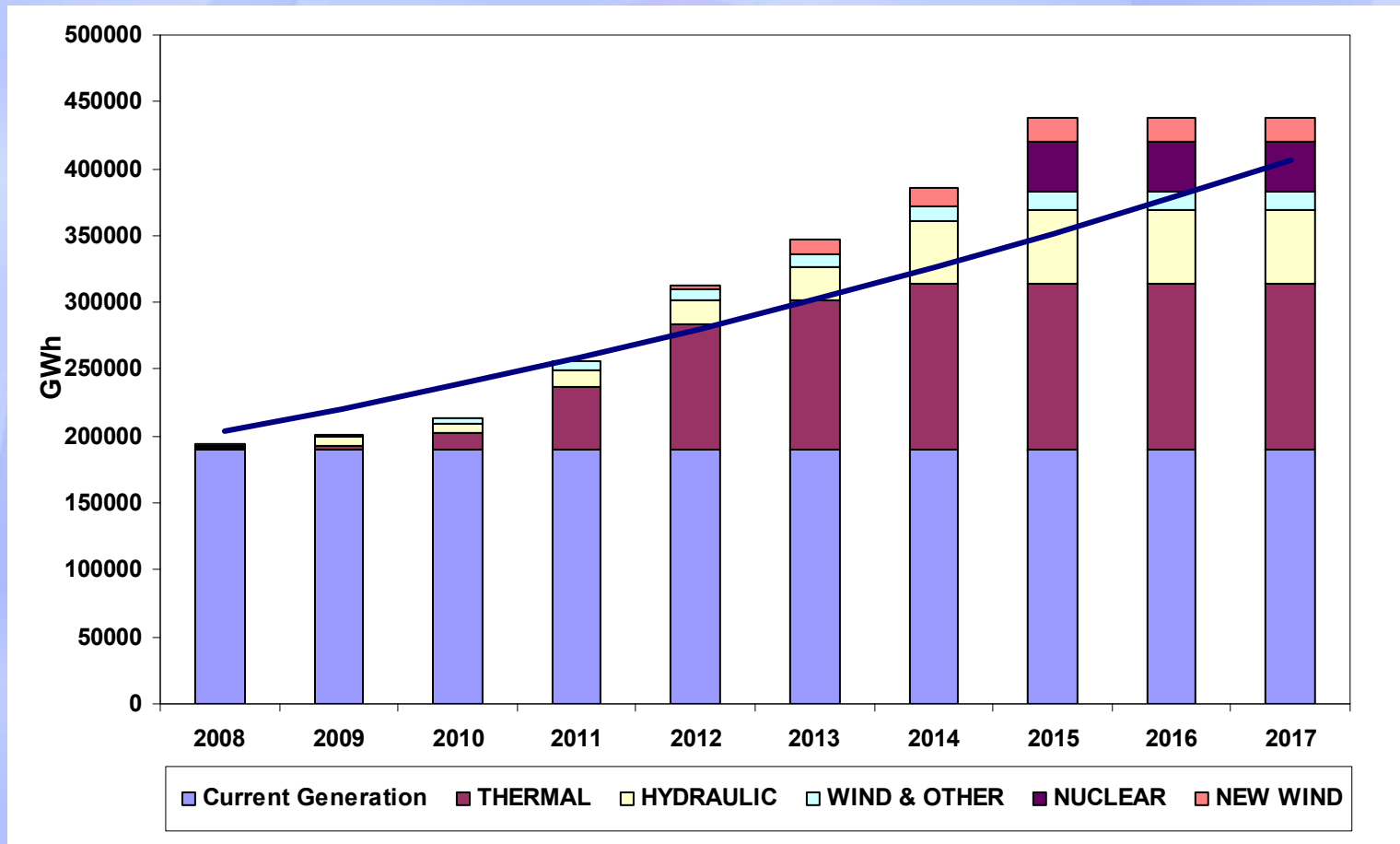
PROJECT GENERATION PROJECTION vs. TEIAS HIGH SCENARIO DEMAND FORECAST (GWh)

Excluding New Wind Applications & Nuclear Projects





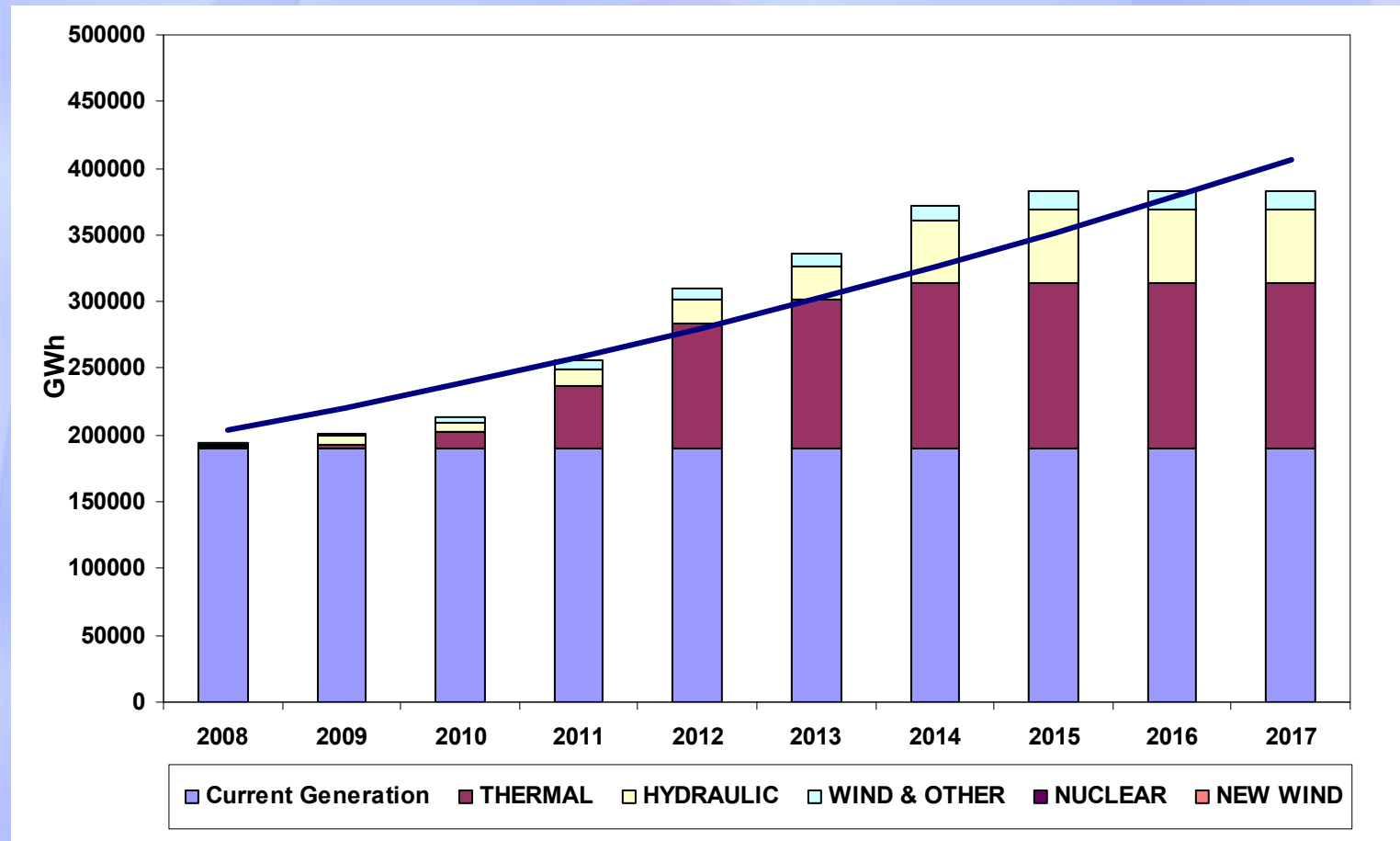
RELIABLE GENERATION PROJECTION vs. TEIAS HIGH SCENARIO DEMAND FORECAST (GWh)





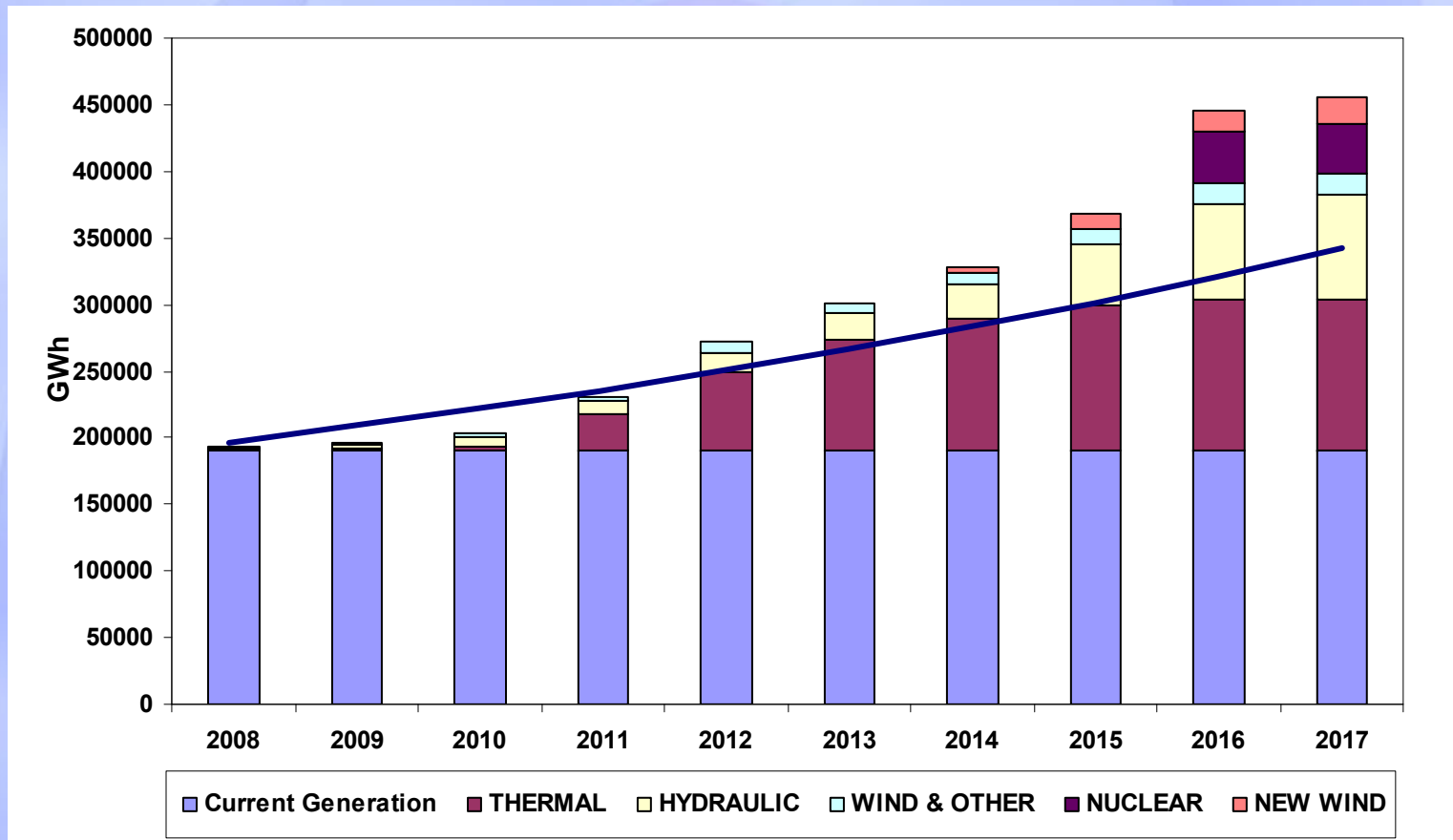
RELIABLE GENERATION PROJECTION vs. TEIAS HIGH SCENARIO DEMAND FORECAST (GWh)

Excluding New Wind Applications & Nuclear Projects





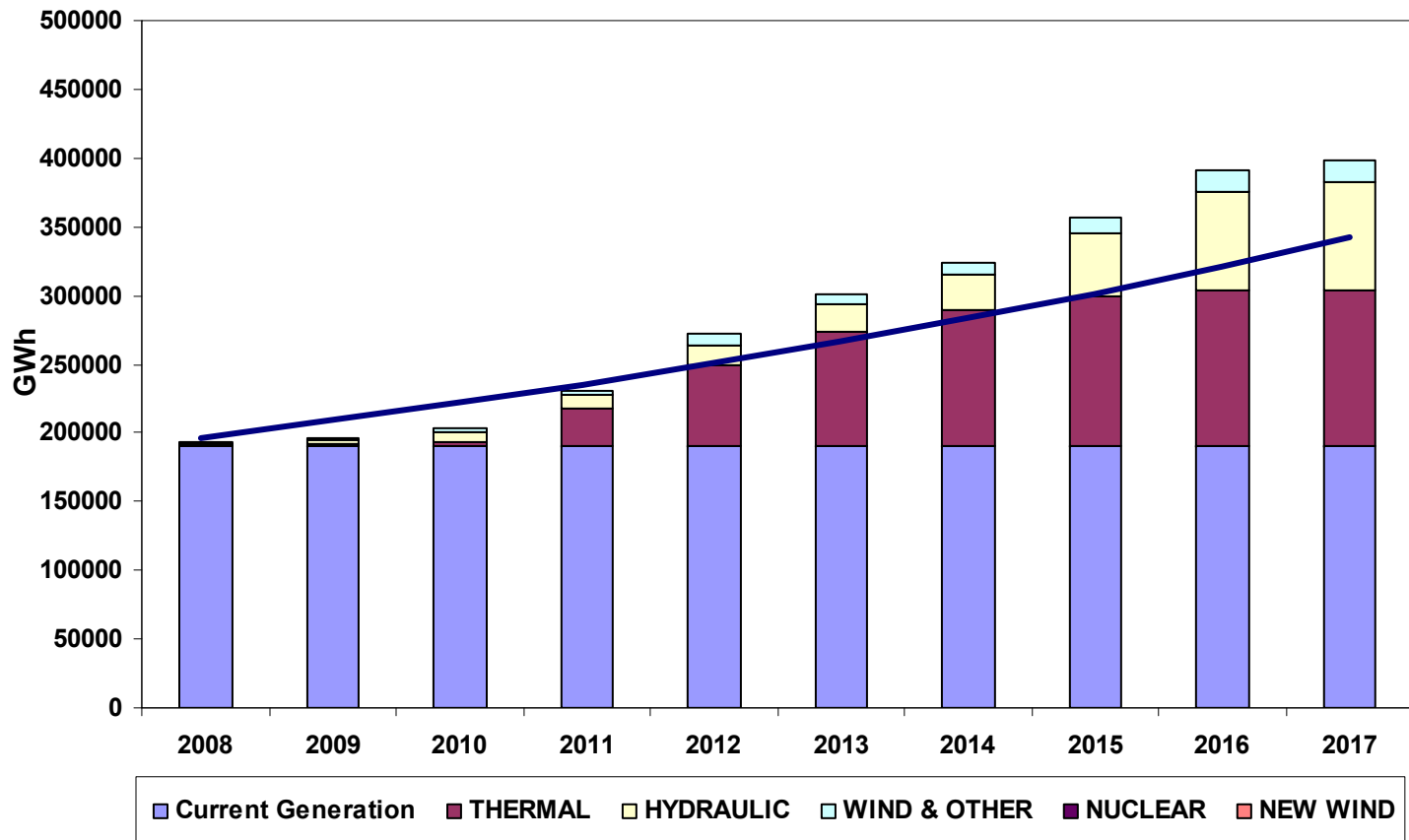
PROJECT GENERATION PROJECTION vs. TEIAS LOW SCENARIO DEMAND FORECAST (GWh)





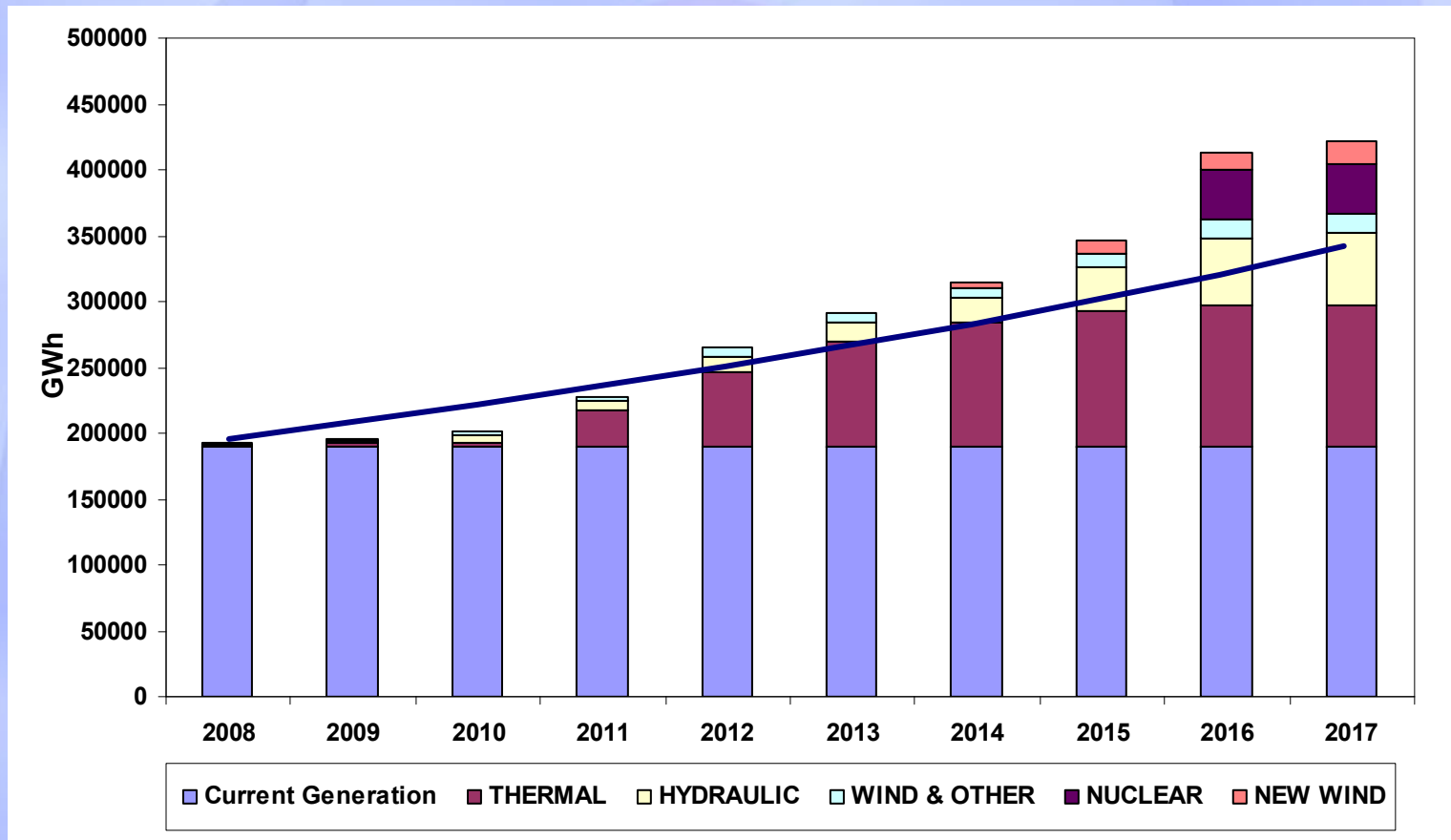
PROJECT GENERATION PROJECTION vs. TEIAS LOW SCENARIO DEMAND FORECAST (GWh)

Excluding New Wind Applications & Nuclear Projects





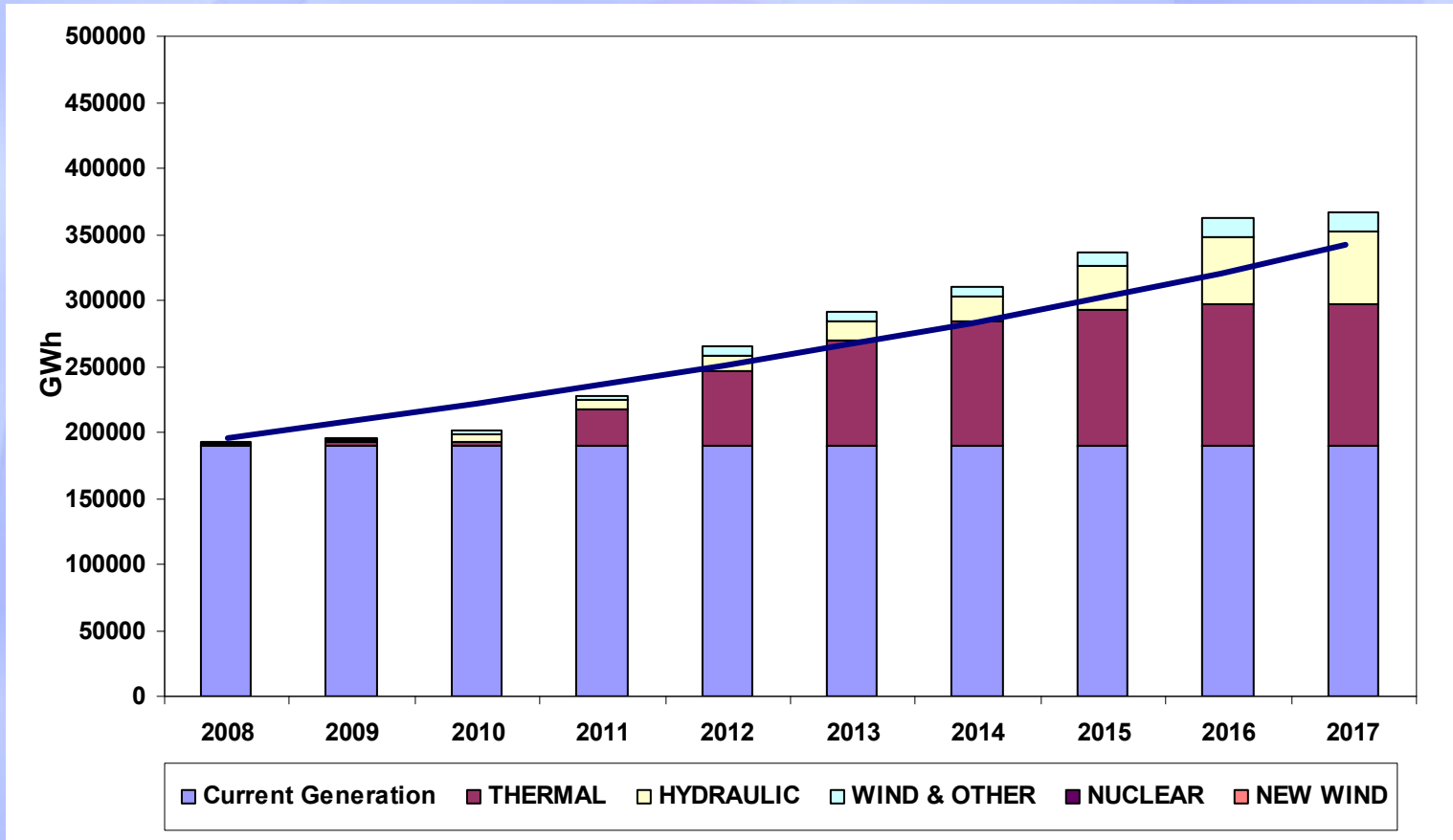
RELIABLE GENERATION PROJECTION vs. TEIAS LOW SCENARIO DEMAND FORECAST (GWh)





RELIABLE GENERATION PROJECTION vs. TEIAS LOW SCENARIO DEMAND FORECAST (GWh)

Excluding New Wind Applications & Nuclear Projects





RESULTS

Capacity Projection:

TEIAS High Scenario in 2016: 78,175 MW

Alarko Optimistic Scenario in 2016 : 84,814 MW
(Excl. new Wind farms and Nuclear)

TEIAS Low Scenario in 2016: 65,824 MW

Alarko Pessimistic Scenario in 2016 : 80,533 MW
(Excl. new Wind farms and Nuclear)



RESULTS

Project Generation:

Alarko Optimistic Scenario: High Demand will not be met during 2008-2009-2010 and may be met in 2011 by Wind farms under license evaluation by EMRA.

Alarko Pessimistic Scenario: Low Demand will not be met during 2008-2009-2010-2011 and may be met in 2012 by HEPP's to be completed.

Reliable Generation:

Alarko Optimistic Scenario: High Demand remains over the generation during 2008-2009-2010-2011.

Alarko Pessimistic Scenario: Low Demand remains over the generation during 2008-2009-2010-2011.



MAJOR ISSUES

-Insufficient Capacities of 154/380 kV Overhead Transmission Lines and Transformer Sub-stations of the State Utility, which owns and operates the National Grid by Energy Law no.4628.

-Long distance connection points to the National Grid causing unacceptable lengths (100-200 km) of Overhead Transmission Lines required by the State Utility from the Investors of the power projects.

-Requirement of new, detailed and reliable planning for the power supply and demand of Turkey over the next 20-30 years by State Utility, in coordination with EMRA and Private Power Investors.

-Numerous numbers of Permits and Approvals to be obtained from Local State Departments of almost all Ministries in accordance with several laws and legislations.



MAJOR ISSUES

-Long-lead time consuming formalities and review procedures of local authorities and of the Ministry of Environment and Forestry for Environmental Impact Reports by laws and legislations and the frequent changes in legislations.

-Resistance and/or stoppage of the Ministry of Environment and Forestry for the permits and approvals for the rentals and/or allowances of the forest areas (or so-called) for all power projects.

-Resistance and/or refusal of the applying the incentive laws including law No. 5084 for 51 districts for the rentals and/or allowances of the site areas of all power projects by the Ministry of Finance due to the wrong interpretation of the Energy Law No. 4628.

-Long lead time consuming formalities for the land acquisition process of the privately owned lands on the routing of the OTL's, when performed by private investors under the name of the State Utility.



PROPOSED RESOLUTIONS

-Urgent investments for the new and high capacity 154/380 kV Overhead Transmission Lines and Transformer Sub-stations by the State Utility.

-Reasonable lengths of OTL's and short distance connection points requirements by the State Utility from the Investors of the power projects.

-Performing the new and correct planning for power supply and demand of Turkey over the next 20-30 years by the State Utility, in coordination with EMRA and Private Power Investors in early 2008.

-Coordination under one authorized State Department of all Permits and Approvals to be obtained from Local State Departments of almost all Ministries in accordance with several laws and legislations.



PROPOSED RESOLUTIONS

-Shortening the long lead time consuming formalities and review procedures of local authorities and of the Ministry of Environment and Forestry for Environmental Impact Reports.

-Changing the Energy Law to overcome the resistance and/or stoppage of the Ministry of Environment and Forestry for the permits and approvals for the rentals and/or allowances of the (so-called) forest areas for all power projects.

-Changing the Energy Law and law No. 5084 to overcome resistance and/or refusal of the applying the incentive laws including law No. 5084 for 51 districts for the rentals and/or allowances of the site areas of all power projects by the Ministry of Finance due to the wrong interpretation of Article no. 15 of the Energy Law No. 4628.

-The State Utility should undertake the land acquisition process of the privately-owned lands on the routing of the OTL's but the costs are to be borne by the private investors after the formalities are completed by the utility against bank guarantees to be raised by them to the utility



THANK YOU FOR YOUR ATTENTION