

ANEXOS

ANEXO I:
TABLA DE CÁLCULO DE
PRODUCCIÓN MEDIA
CENTRALES
DE AGUA FLUYENTE

	PRODUCCIÓN ESTIMADA (GWh/año)	2000	2001	2002	2003	2004	2005	2006	2007	2008	PROMEDIOS REALES (GWh/año)
CENTRAL AGUILERO	9,7										
AITONA	14,3						0,88	5,99	8,359	8,811	6,01
ALBENTOSA	20	14,841	6,372	19,34	25,565	25,253	16,812	14,18	18,048	21,627	18,00422222
ALCALÁ DEL RÍO	11,58	12,32	24,138	18,368	25,54	22,031	12,785	14,567	10,055	11,58	16,82044444
ALCANADRE I	7										
ALCANADRE II	1,72	6,919	6,291	5,536	7	7,269	6,825	6,464	6,004	6,153	6,494566666
ALFAGÉS	41,61	3,18	3,102	2,893	2,718	2,287	3,309	2,919	2,919	2,836	2,907
ALMADENES	42	36,486	53,251	60,442	SD	62,014	50,597	34,243	36,824	37,451	46,4135
ALÓS	18	4,574	8,203	5,23	10,749	8,706	1,651	2,268	1,535	3,591	5,156333333
ANDIÓN	4,6										
ANGUJANO	16,32	17,761	13,177	6,818	16,638	17,485	15,02	15,719	14,335	14,954	14,65633333
ANGUJANO CUEVAS	8,45	5,708	1,867	5,572	SD	7,854	4,983	6,355	6,583	6,846	5,7235
ANSERALL II	33,92	32,286	29,6	30,088	31,961	SD	15,341	17,949	10,531	24,255	24,001375
ANSERALL III	8,525			6,909	2,359	SD	15,045	11,277	13,128	8,525	9,5405
ANTÓNANA	1,51										
ANZÁNIGO	24,75	44,12	38,648	SD	33,987	44,007	26,314	42,545	38,297	38,061	38,497375
AOIZ A, B, C	14,1	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD
ARATÓRES	0,51										
LA ARBOLEDA	3										
ARENZANA II	1,25										
ARIAS I	17,39	19,984	26,806	17,047	31,776	23,131	10,114	17,566	17,017	17,842	20,36477778
ARIAS II	16,51	19,086	26,372	15,636	28,635	21,958	9,659	15,951	15,867	16,198	18,67022222
ARIÉSTOLAS	29,22	33,551	40,41	32,091	43,323	39,906	24,817	30,352	33,802	30,805	34,22855556
ARLAS (FALCES)	13,2	7,764	7,127	6,052	8,61	9,723	9,61	5,399	6,483	8,931	7,744333333
ARTOZQUI	7,3	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD
AUXILIAR DE CABDELLA	0,58										
AYUNTAMIENTO DE SANGÜESA	1,35										
BADARAN	0,36										
BALAGUER	30,35	27,202	36,472	26,792	45,015	40,873	19,442	17,164	23,045	26,803	29,17866667
BALIÉRA	26,87	21,752	19,499	44,738	54,566	41,415	SD	SD	SD	SD	36,334
BARAZPEA	0,442										
EL BARCO	11,637					5,655	13,016	10,646	10,945	11,637	10,3798
BARBADOS	42,89	51,758	SD	SD	SD	SD	SD	SD	SD	SD	SD
BARROSA	18,89	14,974	22,681	SD	15,364	12,17	15,274	18,381	14,378	16,833	16,256875
EL BATÁN	0,962										
EL BATANEJO	5	SD	0,178	0,493	5,412	2,966	0,142	SD	SD	SD	1,8382
BAUSEN	10,4	4,724	4,587	8,105	6,892	7,3	6,484	3,705	3,701	5,609	5,678555556
BECEITE	0,175										
BENOS	57,65	56,237	165,494	63,233	193,403	149,001	171,952	156,51	136,91	162,087	139,4252222
BERASTI	23										
BERBEGAL	52	6,544	8,383	6,409	6,48	5,883	4,244	5,415	6,824	5,4	6,175777778
BERBÉL	10,69	41,703	37,338	SD	49,393	57,941	48,6	32,802	34,765	47,211	43,719125
BERGANTZU	2,31										
BETOLEGUI	5,75	18,562	12,628	10,382	15,325	13,67	13,213	SD	12,239	17,107	14,14075
BIELSA	4,8	4,479	6,412	SD	6,657	5,447	3,574	5,144	3,382	4,648	4,967875
BIESCAS I	5,01	8,582	10,588	SD	10,199	20,882	9,393	9,923	8,832	8,806	10,900625
BOBADILLA	3,57										
BOCAREDO	0,875										
BOHI	53,49	47,529	57,992	54,956	67,331	57,123	46,423	51,891	44,804	51,864	53,32366667
BOSSOST	76,57	73,281	78,471	89,012	94,778	77,072	73,589	69,165	61,389	65,614	75,819
BUICIO	8	8,608	8,226	7,109	7,109	8,275	3,954	6,563	6,725	5,815	6,931555556
BUITRERAS	10,028	SD	0,503	SD	9,161	13,789	1,586	11,121	6,773	10,028	7,565887143
CABRIANA	21,3	19,935	21,896	16,647	22,069	22,963	22,839	16,685	16,881	16,703	19,62422222
CALANDA CANAL	1,38										
CANTALEAR	2,52										
CANTILLANA	9,649	12,021	20,493	18,063	25,458	24,009	12,213	12,712	9,185	9,649	15,97811111
CAPARROSO	10,224	12,825	10,482	7,267	11,997	11,562	5,522	4,485	6,598	11,479	9,135222222
CÁRCAR	0,65										
CÁRCAR II	5,036										
CARCASTILLO	4										
EL CARPIO	18,098	20,193	33,311	8,356	6,242	29,409	23,924	19,964	12,665	18,098	19,12911111
CASABLANCA	1,08										
CASEDA	3,9										
CASTELLAS	9,47	2,922	4,306	1,276	4,335	3,172	0,061	0,907	1,262	2,363	2,289333333
CASTELL FABIE	2,827	3,076	3,854	SD	4,209	4,969	3,051	2,754	2,873	2,827	3,48026
CASTIELLO DE JACA	2,88	2,014	3,108	SD	2,691	1,926	1,655	1,853	2,116	2,232	2,193375
CÁZULAS	0,846	3,82	5,617	3,923	5,415	4,854	2,792	1,491	0,764	0,846	3,280222222
CENTRAL DEL ÁGUILA	1,78										
CHILLAR I	1,791										
LA CHORRONERA	0,2										
CINCO VILLAS	13										
CIRAT	30	18,465	17,842	25,12	39,488	40	28,508	22,431	20,321	31,408	27,06477778
COPRENTES	100	112,811	98,949	SD	64,686	57,051	70,214	43,613	49,788	33,612	66,3405
EL CORDACHO	37,927	42,704	43,104	35,723	53,299	37,865	8,063	33,679	24,851	37,927	35,22388889
CORDOBILLA	11,617	26,056	21,597	24,03	29,095	20,372	33,905	17,687	12,543	11,617	21,878
CORTIJO	22,45	39,047	36,305	31,975	29,649	23,147	31,964	10,535	16,626	24,447	26,96611111
LA CUEVA	4,96	3,704	3,735	3,425	3,319	3,041	3,738	3,587	3,79	3,141	3,498222222
DILAR	5,753	8,388	17,847	9,839	12,687	11,763	2,933	5,411	4,929	5,753	8,838888889
DOÑA ALDONZA	3,368	8,142	9,22	9,343	11,303	9,909	7,742	6,056	5,033	3,368	7,790666667
DUQUE	8,329	22,244	50,343	21,563	43,52	36,026	4,072	5,587	1,474	8,329	21,462
DURCAL	8,331	10,073	14,311	10,749	14,375	10,265	2,912	6,117	7,663	8,331	9,421777778
ECAY	3,47										
ECHAURI	4,293	4,388	3,416	4,068	3,947	3,941	4,185	3,549	4,026	4,663	4,020333333
EQUILLOR	12,23	14,38	12,108	13,438	16,894	15,8	16,223	11,537	13,308	17,804	14,610222222
E. HARINERA EL CARMEN	1,26										
EL CASTEL (ALAVA)	7,911	7,034	10,024	9,312	9,642	SD	11,001	10,191	9,594	7,911	9,338625
ELCIEGO (HUESCA)	10	9,173	11,181	6,885	16,929	9,867	4,676	7,965	4,771	9,577	9,038222222
EMBIO RIBERA	6,72	3,436	3,186	SD	5,835	6,71	4,252	1,559	1,625	2,375	3,62225
LA ESPERANZA	8,27										
ESPOT	44,84	52,641	63,14	56,87	74,031	66,312	50,214	51,678	35,785	51,68	55,81677778
LOS FAYOS	1,23										
LA FERRETERÍA	0,475										
FLIX	139,26	203,304	167,379	75,129	150,452	176,659	112,465	63,703	63,703	124,98	126,486
FONTSECA	1,2										
GABET	81,72										
GALLIPIENZO	6,7	4,465	2,773	2,946	4,237	2,872	3,364	2,463	1,065	1,182	2,816555556
GALLUR	16										
GARDE	0,88										
GARES	5,8										
GELSA	22,48	17,474	14,407	12,939	16,97	18,414	17,281	15,812	15,056	18,265	16,29088889
GRAUS	6,29										
GURREA	4										
HARINAS VÁZQUEZ	0,55										
HARINERA SAN ANTONIO	1,5										
HIDRO-HUESCA	6,15										
HUOS DE MARTINEZ	0,604										
HUERMEDA	2,6										
HUERTA DEL VERO	0,72										
IBARREA	0,15										
LES ILLES	2,415	3,438	3,644	4,077	2,631	2,039	1,73	1,706	1,008	2,415	2,509777778
IRATI	10,5	13,332	9,051	10,282	9,18	9,936	9,512	SD	9,946	11,735	10,37175
IRIBAS	2										
IRURTZUN	3,8										
ISABA	3,22										
IZBOR	24,967	SD	SD	SD	SD	SD	SD	SD	24,644	24,967	24,8055
JABARRELA	66,47	63,865	82,102	SD	83,46	64,989	44,727	68,659	54,489	62,915	65,65075
JACA	41,8	43,047	54,127	SD	60,894	40,4	27,283	39,006	29,757	42,637	42,143875
JAUJA	3,577	8,35	9,005	8,202	9,409	9,438	13,202	7,147	5,242	3,577	6,174666667
JAVIERRELATRE	41,47	43,657	54,108	SD	13,52	39,159	24,374	45,377	34,6	40,187	36,86025
JUEU	70,32	69,293	SD	SD	SD	SD	SD	SD	SD	SD	SD
LABASTIDA	15,121	12,426	12,534	10,048	12,431	13,83	16,707	10,82	11,122	8,869	12,06522222
LANCIEGO	0,43										
LERIDA	46,54	45,917	59,652	44,003	74,856	64,883</					

	PRODUCCIÓN ESTIMADA (GWh/año)	2000	2001	2002	2003	2004	2005	2006	2007	2008	PROMEDIOS REALES (GWh/año)
CENTRAL											
LOGROÑO	10	9,069	8,871	7,12	10,176	10,547	10,58	7,925	8,29	7,177	6,861666667
LORENTE	3,2										
LUCAS UROQUIO	48	30,466	65,724	34,752	68,87	59,553	25,089	22,524	31,826	26,63	40,60377778
LUGAR DEL RÍO	0,46										
LLESP	48,27	43,161	54,835	44,302	59,167	46,615	35,433	41,966	34,124	41,868	44,60677778
MACHÍN	14	11,291	10,002	5,874	12,186	14,233	11,843	9,359	10,068	10,591	10,60511111
EL MAL PAS	15,92				13,961	9,856	3,865	4,494	4,722	8,418	7,552666667
MARRACOS	31,97	30,203	28,879	SD	28,923	28,686	16,807	24,501	21,135	22,635	25,221125
MENDAVIA	12	12,079	14,177	10,428	2,897	18,038	17,726	13,557	14,259	14,552	13,07922222
MENGBAR	3,75	4,937	7,98	5,439	7,767	7,792	6,253	3,699	2,681	3,75	5,586666667
MENUZA	29,31	44,735	39,761	30,652	48,865	47,767	44,04	40,689	29,862	48,217	41,50977778
MILLER	31	29,248	57,898	26,332	39,716	39,418	18,585	22,833	27,191	27,493	32,07933333
MILLER-ZUMETA	12										
MOLINO DE ALLO	0,4										
MOLINO DE BARAZPEA	0,442										
MOLINO DE MARCILLA	0,45										
MOLINO DE NIEVA	1,48										
MOLINO DE PRADILLO	0,196										
MOLINO DE SUSO	11,996										
MOLINO SAN MIGUEL	0,1										
MOLINOS	26,41	36,967	50,777	31,403	45,899	41,949	18,857	24,265	26,5	40,403	35,22444444
LA MONTANERA	4,93	3,824	4,847	3,653	2,555	3,413	2,001	3,141	3,916	3,013	3,387
MONTENARTRÓ	14										
MONTESQUIU	2,319	3,761	4,239	4,207	5,211	2,789	2,507	2,015	1,152	2,319	3,133333333
MORANA	1,34										
MORCA	0,86										
MORENTÍN	2										
MORENTIN DICASTILLO	2										
MORÉS	2,14										
MURILLO EL FRUTO	23,5	19,733	16,351	12,067	16,913	16,101	10,386	9,425	11,629	19,501	14,67844444
MUZOLA	67,07	4,602	4,765	4,438	4,097	4,097	5,063	4,741	4,96	4,573	4,592888889
Nº1-P.K. 80,90	1,733										
Nº2-P.K. 83,20	0,86										
Nº3-P.K. 84,20	1,427										
Nº4-P.K. 86,80	2,243										
Nº5-P.K. 87,50	0,857										
Nº6-P.K. 88,20	2,265										
Nº7-P.K. 89,10	2,847										
Nº8-P.K. 92,20	2,175										
Nº12-P.K. 98,30	2,514										
Nº13-P.K. 98,80	1,579										
Nº14-P.K. 106,70	3,078										
NACIMIENTO	1,763	2,75	2,551	1,989	4,22	2,408	0,821	SD	2,678	1,763	2,3975
NOFUENTES	0,11										
LAS NORIAS	8,54	11,637	10,053	9,066	11,467	4,658	9,596	9,906	6,676	9,454	9,390333333
NUEVO CASTILLO	5,662	8,585	18,935	12,478	15,727	11,802	1,691	5,617	5,421	8,329	9,842777778
NUEVO CHORRO	7,783	16,245	17,485	20,347	15,76	21,185	14,178	6,304	8,891	7,786	14,24233333
ODINA	18,9										
QUER Y MARCOS	0,62										
OLALDEA	16,5	20,264	14,795	15,822	15,448	15,127	15,257	SD	16,054	17,642	16,301125
OLALDEA 2	3										
LOS ORGANOS	2,831	4,122	4,305	7,734	6,429	6,194	0,689	3,441	3,346	2,831	4,343444444
OROZ BETELU	6,7	SD	SD	SD	SD						
PAMPANEIRA	9,092	18,354	45,724	21,94	38,155	28,859	3,188	6,751	0,091	9,092	19,12822222
PANZARES	6,88	10,096	9,984	4,906	12,833	9,776	9,126	7,436	6,31	6,642	6,567666667
LA FAROINA	25										
PARDONES	2,142	4,295	4,621	5,76	4,908	5,698	4,828	1,367	2,551	2,142	4,018888889
PASTERAL II	0,684	1,029	SD	SD	4,749	SD	0,838	1,051	1,169	0,584	1,57
PEDRUZO	1,5										
PENELLES	0,9										
PEÑADRADA	66,103	94,636	95,203	72,613	108,45	72,646	65,173	93,725	88,733	66,103	84,14244444
PEQUERA	2										
PINA	30	21,69	16,976	18,011	17,516	19,651	20,041	20,34	18,545	24,928	19,74422222
PIRACÉS	2,31	1,053	2,33	2,749	2,532	2,827	0,898	1,781	2,176	1,601	1,989666667
LA PLANA	16,54	19,47	25,421	16,055	22,989	18,035	9,187	11,644	12,554	18,604	17,10655556
PONT DE SUERT	69,22	66,247	59,647	64,404	71,989	66,625	43,233	54,719	48,75	57,587	59,24455556
PONTS	3,8										
POQUEIRA	5,206	11,704	23,746	12,15	18,779	14,808	0,002	3,887	0,89	5,206	10,13022222
PORTET	10,4	3,435	5,07	SD	3,025	3,305	1,761	3,922	0,003	4,5	3,127625
POSADAS	0,08										
POTABILIZADORA DE LOGROÑO	4										
PRADILLO	0,85										
PRULLANS	7,61										
PUNTE MONTANYANA	194,39	184,716	242,977	163,247	243,737	195,189	117,946	141,015	145,637	186,33	180,3104444
PUNTELARRA	12,96	12,551	14,521	7,553	6,174	13,417	14,338	10,87	11,184	8,554	11,24022222
PUEYO	56,23	54,579	73,991	SD	65,101	115,764	47,126	57,147	51,654	50,256	64,45225
PURROY	36,37										
QUEILES I	4,85	4,162	3,629	1,596	4,146	3,549	3,179	0,032	3,975	4,943	3,245666667
QUEILES II	4,45	2,813	1,195	SD	SD	SD	SD	SD	SD	SD	2,004
QUINTANA DE VALDIVIESO	4,5	3,328	3,173	2,33	4,146	3,101	1,928	2,634	2,628	2,434	2,856777778
QUINTANILLA ESCALADA	3,13										
LOS RÁBANOS	2,966	6,191	12,679	SD	12,414	9,207	2,408	1,92	5,147	2,966	6,6255
RACIONEROS	0,234	1,763	2,45	1,289	0,509	2,543	1,292	0,872	0,638	0,234	1,287777778
RECAJO	19,51	2,541	4,145	2,106	2,89	4,011	2,489	1,132	1,943	0,489	1,261222222
LA RECUEJA	5	4,605	3,662	0,303	2,255	1,251	1,863	0,382	0,314	SD	1,828125
LA REGUIJADA	4,3	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD
LA RETORNA	17,33	10,841	5,593	8,591	12,833	9,426	3,399	13,004	12,586	8,851	9,458222222
LA RIBERA	16	9,639	9,566	6,578	11,777	13,753	12,993	9,479	7,653	10,686	10,17755556
RÍO BLANCO	1										
RIVERA I	2,09	0,027	0,121	SD	0,959	0,711	0,959	0,789	0,713	0,822	0,637625
RONDA	0,588	2,108	3,528	1,218	3,937	2,717	SD	0,66	1,023	0,588	1,972375
RUIJA	0,87										
SADABA	18										
SALINAS	12,03	12,396	11,909	SD	12,357	14,092	9,86	10,716	11,754	12,844	11,991
SALT DEL DURAN	0,8										
SALTO DE CABISCOL	7,8	8,392	0,864	11,905	12,005	10,494	8,322	7,981	5,245	7,463	8,074555556
SAN ANTONIO	0,84										
SAN AUGUSTO	3,936	5,01	4,253	3,048	3,122	3,864	2,144	3,726	2,7	3,936	3,536666667
SAN CALIXTO	1,302										
SAN CLODIO	75,8	83,405	70,65	30,478	78,037	64,127	9,988	42,735	33,15	4,63	46,35666667
SAN FAUSTO	3,69	SD	3,066	1,709	SD	SD	1,688	2,12	1,915	0,001	1,749833333
SANGUESINA	0,43										
SAN JOSÉ ELÉCTRICA	1										
SAN MARTÍN	25,128	25,954	25,854	11,987	31,433	13,366	1,012	23,731	18,446	9,253	17,89288889
SAN MATEO	2,83										
SAN MIGUEL	0,816										
SAN PASCUAL	2,168	2,99	2,065	1,853	2,513	2,204	1,123	1,698	1,226	2,168	1,982222222
SAN PEDRO	151	139,067	136,276	84,732	149,367	136,808	74,524	131,528	105,706	105,476	118,1648889
SAN RAMÓN	2,148	1,067	SD	SD	SD	SD	SD	SD	SD	SD	SD
SANTACARA	12	12,046	9,848	7,309	11,368	10,179	7,624	7,391	7,988	12,155	9,545333333
SANTA LUCIA	1,86										
SANTA MARINA I	80,491	23,568	65,601	66,529	99,751	83,293	63,35	93,445	60,891	61,232	73,07333333
SANTA MARINA II	conjunta	suma	suma	suma	suma	suma	suma	suma	suma	suma	suma
SANTIAGO-SIL	50,65	38,936	43,877	28,955	47,771	38,517	23,462	36,481	39,219	32,004	36,68133333
SAN VICENTE DE LA SONSIERRA	7,35	8,715	8,524	7,537	7,117	8,78	8,569	7,355	7,137	5,73	7,718222222
SARRIA (ARTAZU)	13										
SARTAGUDA	25,47	14,831	14,141	9,442	15,024	20,495	18,276	14,433	14,942	15,553	15,23744444
SÁSTAGO I	6,51	12,132	8,03	4,78	9,116	9,483	8,35	6,516	7,058	7,724	8,132111111
SÁSTAGO II	51,17	54,309	66,49	56,036	89,92	93,261	79,59	71,88	71,831	89,833	74,79444444
SENET	51,73	41,539	45,016	43,694	51,482	51,153	36,341	42,707	37,992	36,274	42,91088889

CENTRAL	PRODUCCIÓN ESTIMADA (GWh/año)	2000	2001	2002	2003	2004	2005	2006	2007	2008	PROMEDIOS REALES (GWh/año)
SEQUIROS	61,2	48,911	71,528	47,486	71,88	54,093	55,911	62,707	63,257	77,579	65,926
EL SERRADO	7,73		6,821	5,434	9,126	5,328	3,498	5,93	4,459	6,52	5,8895
SESPLANIS	5,42										
SORT	1,44										
SOSSIS	9,72	18,324	14,467	17,166	20,788	17,916	15,717	15,243	13,088	15,706	16,49055566
TERMENS	45,08	44,263	58,604	41,616	72,997	65,731	29,071	26,276	32,132	41,149	45,75988889
TOBERA	1,3										
TORRECILLA	0,455										
TORROLLÓN	2,03										
TREGURÁ	5,694	5,754	6,371	6,831	11,251	6,889	5,749	5,852	2,895	5,694	6,365111111
TUDELA	23,902	17,767	19,362	16,794	23,574	25,126	24,442	20,315	20,251	23,902	21,28144444
UNARRE	17	5,941	SD	SD	SD	SD					
URDANIZ	0,63										
URROZ-VILLA	0,668										
URZAINQUI	0,119										
VALDENOCEDA	4,25										
VALDESPARTERA	8,36	22,455	25,455	18,33	28,343	26,06	14,995	18,407	20,712	18,344	21,45455556
VALTODANO	2,017	3,366	5,26	3,828	5,247	5,032	3,313	2,545	1,892	2,017	3,611111111
VALVANERA	0,8										
VALLESPÍR	12,5				18,621	9,829	3,054	4,122	4,282	9,386	9,215666667
LA VEGA	1,936	2,669	5,82	4,602	5,862	5,083	4,163	2,764	1,348	1,936	3,805222222
VIANA II	11,97	45,363	45,797	34,741	46,332	51,741	50,3	40,271	37,794	41,732	43,78566667
VIANA III	26,4										
VIELLA	71,19	63,623	66,437	74,09	85,065	70,67	64,911	51,858	54,049	64,708	66,15677778
VILALLER	21,25	17,484	24,28	21,598	43,853	33,812	30,617	38,326	34,271	34,189	30,95888889
VILLAFRANCA	9,481	7,992	14,154	12,374	18,658	17,343	11,949	9,993	7,215	9,481	12,12677778
VILLA LOS ANGELES	15,6	17,064	13,989	11,559	14,941	16,968	15,126	14,388	14,268	19,165	15,27644444
VILLANÚA	36,37	32,552	37,181	SD	46,024	28,801					
VOZMEDIANO 1	2										
VOZMEDIANO 2	1										
XERTA	93,55		SD	20,935	37,468	SD	39,384	34,542	36,429	35,456	34,034
LA ZAIDA	16,43	14,54	12,557	11,805	14,448	15,499	14,27	13,791	13,322	15,677	13,98988889
ZALDU	2										
ZAMUNÓN	9										
ZUDAIRE	8,57	11,848	10,109	12,593	12,805	12,898	12,351	9,657	10,19	14,03	11,83122222

ANEXO II:
TABLA DE CÁLCULO DE
PRODUCCIÓN MEDIA
CENTRALES
MIXTAS

CENTRAL	PRODUCCIÓN ESTIMADA (GWh/año)										PROMEDIOS REALES (GWh/año)
	2000	2001	2002	2003	2004	2005	2006	2007	2008		
AIGUAMOIX	48,31	49,141	144,186	147,674	184,406	153,869	125,748	89,569	116,194	135,268	127,3394444
ALLOZ	6,52	3,685	6,9	1,496	4,369	11,733	9,247	8,401	8,185	9,315	7,036777778
ARGONÉ	51,53	49,09	59,849	54,481	68,151	55,362	46,783	47,429	44,299	44,985	52,269888889
ARTIES	94,79	84,857	4,862	12,074	SD	153,881					
BAÑOS	30,62	23,999	37,599	SD	31,421	58,638	30,363	26,438	31,592	22,304	32,79425
BARAZAR	106,05	87,564	122,014	78,641	132,061	184,13	185,139	137,071	98,039	167,965	130,2904444
BIASCAS II	148,53	119,64	221,211	SD	221,226	156,916					
BOADELLA	0,078	1,272	3,823	3,939	6,441	7,669	2,016	5,349	0,821	0,078	3,489777778
BONO	19,35	16,445	19,74	17,026	21,41	18,391	13,482	17,024	13,876	13,43	16,758222222
CABDELLA	50,43	48,499	74,48	35,379	43,854	56,56	14,483	19,734	36,016	48,598	41,965888889
CALA	8,047	10,647	21,396	14,099	25,101	22,446	2,886	12,751	18,438	8,047	15,090111111
CALDAS	89,95	69,54	100,173	70,539	102,106	86,23	62,877	73,642	62,514	75,956	78,175222222
CANALS	4,527	10,558	22,86	20,611	24,345	21,672	14,586	6,73	7,646	4,527	14,837222222
CANALROYA	17,85	18,67	19,114	SD	22,696	15,718	13,099	16,049	12,249	16,922	16,814625
CARCAVILLA	36,57	30,624	37,139	SD	35,186	36,518	31,167	38,243	29,395	32,527	33,849875
CELÍS	34,984	24,949	30,003	31,057	31,452	35,198	38,413	27,024	33,379	34,984	31,828777778
EL CHORRO	4	3,043	4,401	4,354	5,315	3,81	1,968	3,629	2,873	2,945	3,593111111
CORNATEL	103,625	211,144	243,637	94,61	227,903	179,774	78,545	183,779	188,895	103,625	167,9835556
ERISTE	135,9	119,64	160,168	SD	173,623	124,909	106,705	114,433	94,793	120,966	126,904625
ESCARRA	26,14	23,851	31,759	SD	40,081	52,28	21,128	29,327	18,249	23,669	30,043
ESTERRI	44,96	56,856	64,443	74,416	91,944	71,011	65,278	49,776	52,834	63,317	65,54166667
EUME	190,845	232,578	245,316	111,232	203,952	197,245	178,479	254,312	192,178	190,845	200,6818889
EL GRADO II	86,06	84,202	126,481	58,634	104,265	96,55	49,16	67,654	90,246	73,952	83,4804444
GURIEZO SUPERIOR	1,5	0,713	0,466	0,34	1,002	0,311	0,81	0,59	0,738	0,778	0,638333333
HERRERÍAS	26,374	23,684	26,695	26,861	30,365	34,621	38,575	25,553	32,461	26,374	29,68655556
LAFORTUNADA CINCA	170,1	152,002	152,002	SD	221,184	164,458	116,613	142,946	128,733	156,785	154,340375
LAFORTUNADA CINQUETA	85,95	89,829	114,056	SD	113,401	91,374	63,249	80,079	71,971	83,053	88,3765
LANUZA	94,6	97,18	117,993	SD	127,613	99,198	67,954	110,932	77,791	102,467	100,141
LASARRA	48,7	45,551	67,579	SD	66,179	132,648	51,024	37,254	47,729	58,128	63,2615
LASPUÑA	57,02	55,718	67,43	SD	65,54	59,754	40,841	49,796	46,618	44,292	53,746625
LLADRES	0,94										
LLAVORSÍ	81,01	92,278	101,177	105,286	131,345	102,668	96,762	67,2	53,484	95,825	94,00277778
MAÑERU	8,27	5,732	8,724	2,348	3,138	4,643	9,045	8,77	2,176	8,442	5,890888889
MARMOLEJO	12,842	16,478	27,29	19,389	29,06	26,883	20,02	13,543	8,767	12,842	19,36577778
MILLARES II	200			44,425	201,359	178,742	174,645	110,182	114,374	92,04	130,8238571
MONCADRIL GRUPO AUXILIAR	514										
MONCABRIL GRUPOS 1, 2 Y 3	514										
LAS ONDINAS	86,437	117,448	120,189	93,814	137,936	114,376	85,415	101,069	109,594	86,437	107,3642222
ORELLANA CANAL		4,29	SD	SD	SD	SD					
PASTERAL I	2,314	3,368	3,245	4,225	14,82	19,318	2,732	3,997	3,367	2,314	6,376222222
PEÑA DE BEJO	75,156	48,713	54,8	58,73	66,666	69,511	78,94	57,484	66,744	75,156	64,08266667
EL PICAZO	20	16,799	12,186	10,56	12,46	13,08	18,317	11,134	9,22	4,02	11,975111111
PONT DE REY	103,8	97,814	100,994	121,33	121,371	105,387	102,767	88,795	80,155	96,655	101,6964444
PONTENOVO	167	162,843	184,154	118,528	203,86	153,649	76,244	174,139	146,067	132,766	150,2277778
PORTO	19,545	25,899	29,081	23,81	28,7	17,055	11,866	26,232	13,146	19,545	21,70266667
PRADA	46,289	97,871	215,154	22,354	140,597	71,219	38,218	68,587	81,809	46,289	86,89977778
QUERENO	86,049	128,709	132,204	79,724	135,238	110,432	67,56	119,812	106,251	86,049	107,331
QUINTANA	27,2	35,275	39,486	27,049	30,834	33,093	40,977	29,388	28,427	31,179	32,85644444
RIBESALBES	24	16,407	15,348	21,605	31,124	29,385	20,681	17,817	18,587	26,546	21,933333333
RIOSCUÑO	22,651	25,592	12,413	15,305	10,397	14,631	22,744	29,955	22,74	22,651	19,603111111
ROZADÍO	50,262	37,839	42,353	43,028	46,037	50,929	54,413	39,886	45,797	50,262	45,616
SABINÁNIGO	28,2	28,926	37,24	SD	37,393	27,205	18,716	30,224	23,145	28,006	28,856875
SALIENT	62	40,51	46,621	SD	23,406	91,229	33,733	36,934	32,473	39,885	43,098875
SAN AGUSTÍN	93,564	133,314	169,983	124,501	147,008	100,732	59,009	144,496	80,379	93,564	116,9884444
SAN CRISTÓBAL	51,25	51,166	54,531	37,134	62,17	47,373	23,309	51,148	45,472	38,744	45,67188889
SAN JOSÉ (BARASONA)	80,4	83,939	104,778	84,765	129,95	83,033	54,497	80,244	69,548	80,201	85,66166667
SAN JUAN DE TORÁN	25,64	26,593	22,314	31,379	27,738	25,885	23,404	12,067	12,753	13,921	21,78377778
SAN SEBASTIÁN	29,592	45,555	57,601	41,914	49,141	34,014	18,77	46,636	25,569	29,592	38,75466667
SANT MAURICI	28,731	32,432	32,841	30,574	44,24	35,641	17,904	23,038	19,884	28,731	29,476111111
SEIRA	77,92	83,287	102,155	88,709	121,307	86,594	77,856	84,285	72,1	82,658	88,772333333
SEROS	110,25	99,359	144,904	110,375	161,218	138,088	86,325	70,84	91,615	104,425	111,9054444
SESUÉ	91,35	87,947	110,823	SD	125,409	157,973	85,056	84,907	78,834	91,163	102,764
SOBRADELO	140,18	132,781	134,156	71,543	137,644	100,218	53,929	114,013	94,561	73,33	101,3527778
SOBRÓN	86,75	89,363	105,37	70,107	103,805	84,797	113,044	77,769	72,291	84,697	89,027
SUSQUEDA	73,912	87,157	98,882	99,605	221,843	220,111	72,06	109,035	99,071	73,912	120,1862222
TABESCÁN INFERIOR	67,84										
TABESCÁN SUPERIOR	73,01										
TALARN	104,39	101,989	133,153	105,884	148,534	121,075	67,838	57,035	69,895	89,447	99,42777778
TERMAS PALLARÉS	0,0095										
TORRASA	14,25										
TRESPADERNE	31,11	34,862	48,606	26,155	40,542	37,43	40,233	22,389	6,048	19,342	30,623
URROZ	3										
VALLAT	32	SD	20,423	28,676	44,808	40,033	28,728	27,043	26,72	32,485	31,1145
VILLALBA	40	48,148	63,298	28,92	56,454	32,816	30,16	42,267	45,624	27,37	41,673

ANEXO III:
TABLA DE CÁLCULO DE
PRODUCCIÓN MEDIA
CENTRALES
A PIE DE PRESA

CENTRAL	PRODUCCIÓN ESTIMADA (GWh/año)	2000	2001	2002	2003	2004	2005	2006	2007	2008	PROMEDIOS REALES (GWh/año)
ALDEADÁVILA I	1497,829	1896,566	2651,234	1546,135	2955,126	2122,684	1133,364	1761,701	2325,96	1497,829	
AUXILIAR DE CAMPO	2,55	5,938	5,03	3,98	8,486	6,268	5,235	0,725	1,685	5,98	4,814111111
AZUTÁN	165	123,515	294,016	109,178	236,135	186,272	74,982	117,643	105,093	86,895	148,1921111
LA BAEILLS	15,003	20,427	12,772	12,869	27,958	28,419	8,249	15,291	8,18	15,003	16,57422222
BARCENA	70,943	132,784	188,028	59,76	147,892	104,942	59,032	113,42	123,232	70,943	111,1147778
BASERCA	26,01	22,188	29,844	23,932	35,241	26,179	16,144	23,123	19,633	19,943	24,02522222
BEMBÉZAR	14,585	8,335	22,942	24,095	36,105	19,444	15,067	6,076	13,202	14,585	17,76122222
BOLARQUE I	12,109	19,163	18,536	17,501	16,871	16,376	21,369	10,454	10,64	12,109	15,891
CALANDA PRESA	6,92										
CAMARASA	137,4	137,323	190,08	114,437	238,447	194,619	96,587	80,353	107,257	126,688	142,8656667
CANELLES	117,47	164,131	195,223	138,028	197,951	200,364	146,322	67,066	88,087	89,72	142,988
CASTRO I	575	276,776	345,664	200,949	402,55	287,734	218,014	321,71	376,437	206,766	292,9555556
CASTRO II		316,595	328,616	115,434	442,225	258,506	61,9	216,87	255,538	165,077	240,0845556
CEDILLO	650	514,285	1176,886	380,699	1131,848	636,005	130,897	601,416	517,182	272,777	595,7772222
CERNADILLA	43	48,262	87,373	31,168	72,773	33,08	15,316	20,535	25,019	22,463	39,55433333
CHANDREJA	18,45	19,077	22,071	13,422	23,799	14,337	6,715	18,491	16,823	13,981	16,524
CUARA MARGEN DERECHA	40,208	8,86	SD	SD	41,359	31,311					
CUARA MARGEN IZQUIERDA	40,895	9,526	62,359	44,455	40,895	31,311	57,367	25,91	19,455	40,208	36,83177778
CORTES II	142	130,96	135,602	93,26	140,115	121,586	115,438	74,223	78	63,7	105,876
EMBALSE DEL EBRO	18,7	9,158	15,466	8,012	7,263	8,879	9,563	9,696	4,888	2,98	8,211666667
ENCINAREJO	2,579	3,767	8,18	5,931	5,461	6,35	6,839	3,455	2,011	2,579	4,952555556
ESCALÉS	108,53	110,056	147,539	97,636	158,091	117,893	70,529	76,56	86,918	107,752	108,1082222
EUGUI	6,523	4,886	3,52	3,025	3,875	4,288	4,212	2,438	4,023	5,155	3,935777778
EL GRADO I	64,46	60,125	89,906	46,196	91,702	70,065	21,602	40,194	61,92	52,954	59,40711111
GUADALÁN	2,997	3,739	7,203	5,82	5,402	5,956	5,741	1,069	1,566	2,997	4,388111111
GUADALMELLATO	2,634	0,054	9,958	6,247	14,67	8,521	0,096	SD	0,093	2,634	
GUADALMENA	2,84	0,789	4,88	10,313	0,687	22,211	19,347	11,914	2,269	2,84	8,363333333
GUISTOLAS	5,42	5	5,353	3,591	6,554	4,307	2,487	4,892	4,332	4,395	4,545666667
IRABIA	3,72	5,154	3,693	4,405	4,567	4,448	4,583	3,54	4,145	5,291	4,425111111
IZNAJAR	13,896	50,326	56,665	54,064	65,28	70,214	103,456	29,651	17,01	13,896	51,17355556
JÁNDULA	5,133	5,757	16,988	16,159	12,092	18,322	22,826	9,502	3,748	5,133	12,28077778
JOSÉ MARÍA ORIOL	507,689	852,06	2344,023	638,674	2287,938	1231,647	222,376	1050,544	1070,039	507,689	1133,887778
MANSILLA	13,73	12,272	14,558	4,674	15,189	13,608	5,699	10,099	13,273	8,491	10,87366667
MEDIANO	136,74	181,67	49,124	127,318	255,587	195,406	68,822	124,583	182,682	166,725	150,213
MEQUINENZA	536,52	614,895	707,527	325,634	832,203	912,48	606,02	470,171	636,958	675,686	642,6193333
MONTEFURADO	193	168,275	205,292	106,834	192,57	168,046	100,295	162,305	164,216	123,429	154,5846667
NEGRATÍN	6,933	7,142	7,421	9,678	6,933	4,241	9,072	3,99	4,275	0,014	5,862888889
NTRA. SRA. DEL AGAVANZAL	57	50,483	69,679	38,127	76,372	34,924	22,142	48,343	45,843	25,111	45,66933333
OLIANA	105,83	96,977	118,979	107,258	140,445	121,063	68,722	69,313	60,154	101,723	98,29266667
ORELLANA PRESA	9,696	SD	31,174	5,166	8,871	9,418	10,245	7,473	10,568	9,696	
PUERTO PEÑA	30,928	21,374	90,78	40,284	51,573	31,555	40,523	33,18	33,698	30,928	41,54388889
RIBARROJA	523,75	566,315	653,713	369,676	797,216	752,717	462,522	414,883	558,758	542,534	568,7037778
LA RIBEIRA	13,255	9,178	17,19	12,878	12,48	10,155	9,791	17,244	12,039	13,255	12,69
RICOBAYO (ESLA)	670	369,894	1031,147	329,896	1009,774	453,649	224,508	561,421	667,669	232,766	542,3026667
SALIME	268,204	333,925	375,079	208,846	336,89	271,149	186,047	321,356	242,902	268,204	282,7108889
SAN ESTEBAN	950	997,568	1043,874	577,473	1041,384	793,067	416,774	872,043	782,932	599,124	791,5821111
SAN LORENZO	30,78										
SANTA ANA	32,8	35,094	50,129	35,502	54,521	SD	35,551	23,731	23,851	25,147	
SANTOLEA	7,88										
SAU	53,006	43,307	54,256	58,672	84,498	76,557	44,917	44,419	39,072	53,006	55,41155556
SAUCELLE I	587,137	784,389	960,679	495,016	987,617	850,33	393,685	640,934	852,463	587,137	730,25
SAUCELLE II	93,787	242,851	704,588	106,474	765,869	214,086	30,263	226,427	272,063	93,787	295,1564444
LA SERENA	17,999	37,275	13,107	0,389	31,018	58,753	29,822	18,637	5,619	17,999	23,62433333
SOTONERA	2,14	11,052	19,141	4,67	17,227	9,946	1,513	8,917	12,895	9,69	10,56122222
TERRADETS	57,16	53,334	67,245	59,252	89,515	73,477	43,925	39,378	41,956	60,129	58,69011111
TRANCO DE BEAS	16,895	24,296	20,216	27,69	24,757	26,781	32,117	25,008	15,618	16,895	23,70866667
ULLIVARRI	1,31										
URRÚNAGA	1,01										
URTASUN	1,136										
USOZ	5										
VALPARAISO	50	60,834	107,894	41,927	77,352	39,538	26,185	46,872	50,373	26,722	53,07744444
VILLALCAMPO I	302,592	354,892	203,049	400,871	283,62	212,819	311,501	368,187	214,041	302,592	294,6191111
VILLALCAMPO II	564	266,536	333,562	100,54	443,892	234,754	56,216	197,883	226,176	140,373	222,2146667
YESA	2,13										
ZÚJAR	9,007	9,785	16,481	10,621	12,912	32,514	19,835	11,882	8,586	9,007	14,6247778

ANEXO IV:
TABLA DE CÁLCULO DE
PRODUCCIÓN MEDIA
CENTRALES
REVERSIBLES

CENTRAL	TIPO	2000	2001	2002	2003	2004	2005	2006	2007	2008	PROMEDIO REAL (GWh/año)
AGUAYO	BP	420,367	404,812	506,967	555,16	527,572	597,792	624,43	675,971	459,63	530,301222
ALDEADÁVILA II	BM	421,932	1112,235	148,08	1126,474	300,635	41,303	310,792	308,707	83,568	428,191778
BOLARQUE II	BP	96,756	102,494	119,378	98,692	146,272	170,546	178,81	194,45	102,446	134,427111
CONSO	BM	287,99	407,24	241,977	271,16	250,028	148,667	164,416	319,548	161	250,225111
GABRIEL Y GALÁN	BM	78,344	214,987	108,127	143,1	49,821	43,336	55,752	62,894	56,377	90,3042222
GOBANTES	BM	1,92	2,016	2,25	0,96	3,762	1,104	0,524	0,87	1,105	1,61233333
GUIJO DE GRANADILLA	BM	32,954	88,86	46,252	61,215	22,852	27,218	31,967	25,347	25,703	40,262
GUILLENA	BP	159,397	215,251	194,707	175,732	264,944	216,471	103,488	80,121	128,618	170,969889
IP	BP	62,444	77,488	0	87,27	89,074	47,832	56,737	53,08	49,848	65,471125
MONTAMARA	BM	0	140,235	113,155	203,311	133,542	122,212	118,277	137,075	150,867	139,83425
MORALETS	BM	132,73	323,33	301,473	307,671	321,876	358,422	264,78	173,518	145,852	258,850222
LA MUELA	BM	664,337	573,012	1161,411	750,981	712,947	970,647	668,367	576,758	745,412	758,208
EL PINTADO	BM	15,809	36,097	38,557	61,006	38,351	28,685	14,862	25,856	27,206	31,8254444
PUENTE BIBEY	BM	569,162	889,448	248,895	723,551	571,626	225,351	504,31	682,187	288,589	522,568778
SALLENTE	BM	359,733	441,991	395,956	418,444	419,881	444,145	399,617	321,572	262,261	384,844444
SAN RAFAEL DE NAVALLANA	BM	5,322	11,603	7,83	11,513	13,911	0,89	2,634	4,752	4,252	6,96744444
SANTIAGO JARES	BM	80,036	166,833	26,766	117,184	63,328	36,167	60,445	60,285	42,491	72,615
SOUTELO	BM	135,837	140,784	123,117	121,859	84,62	134,963	103,052	164,13	83,139	121,280111
TAJO DE LA ENCANTADA	BP	300,084	428,486	393,004	354,769	606,751	432,857	362,226	222,727	191,57	368,052667
TANES	BM	157,909	160,215	161,459	157,597	151,968	204,961	172,301	166,026	132,098	162,726
TORREJÓN	BM	204,762	299,227	171,036	295,042	328,618	100,069	150,714	189,855	137,822	208,571667
URDICETO	BM	0,005	1,613	0	1,613	1,359	0,102	0,127	1,225	0,305	0,793625
VALDECANAAS	BM	149,485	687,75	127,83	534,773	455,077	99,648	183,89	290,993	140,65	296,677333
VILLARINO	BM	792,93	2407,365	1235,336	1453,983	1687,02	699,945	638,06	1567,797	967,89	1272,26067

BP: Bombeo puro
BM: Bombeo mixto

ANEXO V:
TABLA DE BARRERAS Y
MEDIDAS CORRECTORAS PARA
LA EXPLOTACIÓN
HIDROELÉCTRICA
(PER 2005-2010)

Barreras	Medidas	Responsable	Coste	Calendario
Incertidumbre sobre el potencial hidroeléctrico pendiente de desarrollar.	Definición, evaluación y cuantificación del potencial hidroeléctrico pendiente de desarrollar, viable técnica y medioambientalmente.	Ministerio de Medio Ambiente	Pdte. de evaluación	2005-2010
Existencia de infraestructuras públicas existentes sin aprovechamiento hidroeléctrico.	Fomento de concursos públicos en infraestructuras del Estado.	Ministerio de Medio Ambiente	Pdte. de evaluación	2005-2010
	Aprovechamiento hidroeléctrico de los caudales ecológicos, sin explotar.			
Centrales hidroeléctricas paradas y abandonadas	Regularización de oficio de situación de dominios de concesiones (expedientes de caducidad).	Ministerio de Medio Ambiente	Pdte. de evaluación	2005-2010
Lentitud otorgamiento autorizaciones CC.AA.	Armonización de procedimientos administrativos en las CC.AA.	CCAA y Ministerio de Industria	Pdte. de evaluación	2005-2010
Falta visión global entre distintos organismos.				
Problemas con Ayuntamientos y Administraciones locales para otorgamiento autorizaciones.	Regulación acuerdos económicos con administraciones locales.	Ministerio de Economía	Pdte. de evaluación	2005-2010
Oposición grupos ecologistas locales por desconocimiento ventajas medioambientales	Campañas de imagen e información para opinión pública.	Todos los agentes	Pdte. de evaluación	2005-2010
Abandono medioambiental de medidas correctoras	Establecimiento de Programas de Vigilancia Ambiental.	Ministerio de Medio Ambiente	Pdte. de evaluación	2005-2010
Falta criterios específicos en medidas correctoras y aspectos medioambientales.	Desarrollo normativa técnica medidas correctoras de centrales hidroeléctricas.	CCAA y Ministerio de Medio Ambiente	Pdte. de evaluación	2005-2010
Importantes demoras en la resolución sobre la Declaración de Impacto Ambiental de nuevos proyectos o ampliaciones.	Armonización criterios medioambientales para ejecución proyectos.	Ministerio de Medio Ambiente	Pdte. de evaluación	2005-2010
Normativa de conexión, acceso a red y condiciones de operación obsoleta (O.M. 5/09/1985).	Nuevo Real Decreto sobre acceso a la red y condiciones de operación.	Ministerio de Industria	Pdte. de evaluación	2006
Penalizaciones por desvíos en la venta al distribuidor a tarifa regulada.	Modificación del R.D. 436/2004, eliminando desvíos para instalaciones acogidas a tarifa regulada.	Ministerio de Industria	Pdte. de evaluación	2005

Figura 14.- Medidas correctoras para las barreras detectadas en el área hidroeléctrica.