



Electricity demand (TWh/year): Flexible demand0,00						Capacities						Efficiencies						Regulation StrategyTechnical regulation no. 1						Fuel Price level: Basic											
Fixed demand		7,95	Fixed imp/exp.		0,00	Group 2:		MW-e	MJ/s	elec.	Ther	CEEP regulation		000000000		Minimum Stabilisation share		0,98		Elec. Storage		MW-e		GWh		Elec.		Ther.							
Electric heating + HP		2,93	Transportation		0,06	CHP		0	1500	0,40	0,50	Stabilisation share of CHP		0,00		Minimum CHP gr 3 load		0 MW		Charge 1:		0		0		0,80		Discharge 1:							
Electric cooling		0,22	Total		11,16	Heat Pump		0	0	0	3,00	Minimum PP		0 MW		Heat Pump maximum share		1,00		Charge 2:		420		3		0,80		Discharge 2:							
District heating (TWh/year)						Gr.1	Gr.2	Gr.3	Sum		Boiler		0,90		Maximum import/export		2100 MW		Electrolysers:		0		0		0,80		0,00		Rockbed Storage:						
District heating demand		1,13	0,00		0,50	1,63		Group 3:		CHP		443		82		0,21		0,47		CAES fuel ratio:		0,000		(TWh/year)		Coal		Oil		Ngas		Biomass			
Solar Thermal		0,00	0,00		0,00	0,00		CHP		Heat Pump		0		0		0		3,00		Transport		0,00		13,43		0,01		0,00		Household					
Industrial CHP (CSHP)		0,00	0,00		0,00	0,00		Boiler		Condensing		1058		0,29		Distr. lavex_market_price_2020.txt		Addition factor		0,00		EUR/MWh		Multiplication factor		1,00		Dependency factor		0,00		EUR/MWh pr. MW		Average Market Price	
Demand after solar and CSHP		1,13	0,00		0,50	1,63		Heatstorage: gr.2: 0 GWh		gr.30 GWh		Fixed Boiler: gr.2:0,0 Per cent		gr.0,0 Per cent		Average Market Price		39		EUR/MWh		Gas Storage		0		GWh		Syngas capacity		0		MW		Biogas max to grid	
Wind		87 MW	0,16 TWh/year		0,00	Grid		Electricity prod. from		CSHP		Waste (TWh/year)		Gr.1:		0,00		0,00		Gr.2:		0,00		0,00		Gr.3:		0,00		0,00		0,00		0,00	
Photo Voltaic		35 MW	0,08 TWh/year		0,00	stabilisation		Gr.1:		0,00		0,00		Gr.2:		0,00		0,00		Gr.3:		0,00		0,00		0,00		0,00		0,00		0,00			
River Hydro		172 MW	0,44 TWh/year		0,00	sation		Gr.1:		0,00		0,00		Gr.2:		0,00		0,00		Gr.3:		0,00		0,00		0,00		0,00		0,00		0,00			
River Hydro		0 MW	0 TWh/year		0,00	share		Gr.1:		0,00		0,00		Gr.2:		0,00		0,00		Gr.3:		0,00		0,00		0,00		0,00		0,00		0,00			
Hydro Power		1685 MW	4,28 TWh/year		0,00	share		Gr.1:		0,00		0,00		Gr.2:		0,00		0,00		Gr.3:		0,00		0,00		0,00		0,00		0,00		0,00			
Geothermal/Nuclear		0 MW	0 TWh/year		0,00	share		Gr.1:		0,00		0,00		Gr.2:		0,00		0,00		Gr.3:		0,00		0,00		0,00		0,00		0,00		0,00			

Output

	District Heating										Electricity																Exchange			
	Demand	Production									Consumption					Production						Balance					Payment Imp Exp Million EUR			
	Distr.	Waste	CSHP	DHP	CHP	HP	ELT	Boiler	EH	Ba- lance	Elec.	Flex.&	Elec- trolyser	EH	Hydro Pump	Tur- bine	RES	Hy- dro	Geo- thermal	Waste	CSHP	CHP	PP	Stab- Load %	Imp MW	Exp MW			CEEP MW	EEP MW
	heating										demand	Transp															HP	MW		
MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
January	391	0	0	271	81	0	0	0	0	39	795	7	4	0	701	0	0	100	488	0	0	435	484	140	0	0	0	0	0	0
February	307	0	0	213	75	0	0	0	0	18	822	7	3	0	550	0	0	84	487	0	0	407	404	144	0	0	0	0	0	0
March	283	0	0	197	72	0	0	0	0	14	761	7	3	0	508	0	0	108	482	0	0	389	297	146	2	0	0	0	0	0
April	190	0	0	132	53	0	0	0	0	5	806	7	2	0	341	0	0	61	486	0	0	288	321	155	0	0	0	0	0	0
May	114	0	0	79	35	0	0	0	0	0	874	7	1	0	204	0	0	50	487	0	0	187	360	159	1	0	0	0	0	0
June	70	0	0	49	21	0	0	0	0	0	1010	7	1	0	126	0	0	59	488	0	0	116	481	156	0	0	0	0	0	0
July	48	0	0	33	15	0	0	0	0	0	1121	7	1	0	86	0	0	62	488	0	0	79	585	152	1	0	0	0	0	0
August	41	0	0	28	12	0	0	0	0	0	1079	7	0	0	73	0	0	58	488	0	0	67	547	155	0	0	0	0	0	0
September	62	0	0	43	19	0	0	0	0	0	1058	7	1	0	111	0	0	67	488	0	0	102	520	153	0	0	0	0	0	0
October	147	0	0	102	45	0	0	0	0	0	984	7	2	0	263	0	0	81	488	0	0	241	447	149	0	0	0	0	0	0
November	256	0	0	178	67	0	0	0	0	11	917	7	3	0	459	0	0	85	487	0	0	361	452	145	0	0	0	0	0	0
December	315	0	0	219	76	0	0	0	0	20	924	7	4	0	565	0	0	109	487	0	0	412	491	140	0	0	0	0	0	0
Average	185	0	0	129	48	0	0	0	0	9	930	7	2	0	332	0	0	77	487	0	0	257	449	150	0	0	0	0	0	Average price
Maximum	610	0	0	424	82	0	0	0	0	104	1577	13	7	0	1094	0	0	233	488	0	0	443	982	210	345	0	0	0	0	(EUR/MWh)
Minimum	9	0	0	6	3	0	0	0	0	0	65	0	0	0	17	0	0	0	307	0	0	15	0	124	0	0	0	0	0	43
TWh/year	1,63	0,00	0,00	1,13	0,42	0,00	0,00	0,00	0,00	0,08	8,17	0,06	0,02	0,00	2,91	0,00	0,00	0,68	4,28	0,00	0,00	2,25	3,95	Posljedica non-market analize					0	0

FUEL BALANCE (TWh/year):	Waste/ CAES BioCon-Electro-											PV and		Wind off		Industry				Imp/Exp Corrected		CO2 emission (Mt):		
	DHP	CHP2	CHP3	Boiler2	Boiler3	PP	Geo/Nu.Hydro	HTL	Elc.ly.	version	Fuel	Wind	CSP	Wave	Hydro	Solar.Tr	Transp.househ.	Various	Total	Imp/Exp	Net	Total	Net	
Coal	0,54	-	0,84	-	-	13,55	-	-	-	-	-	-	-	-	-	-	-	1,15	8,29	24,37	0,01	24,38	10,09	10,09
Oil	0,01	-	-	-	-	0,00	-	-	-	-	-	-	-	-	-	-	13,43	0,41	3,18	17,04	0,00	17,04	4,45	4,45
N.Gas	0,40	-	-	-	-	0,00	-	-	-	-	-	-	-	-	-	-	0,82	0,71	1,99	3,92	0,00	3,92	0,91	1,10
Biomass	0,31	-	0,04	-	-	0,00	-	-	-	-	-	-	-	-	-	-	13,47	0,59	14,41	0,00	14,41	0,00	0,00	
Renewable	Minimalne razlike						-	4,28	-	-	-	0,16	0,08	-	4,71	LPG+ gas		-	4,95	0,00	4,95	0,00	0,00	
H2 etc.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0,00	0,00	0,00	0,00	0,00	
Biofuel	-	-	0,00	-	-	-	-	-	-	-	-	-	-	Hydro dammed + mHE,				-	0,00	0,00	0,00	0,00		
Nuclear/CCS	-	-	-	-	Radi manje proizvodnje						-	-	-	nè racuна duplo (4.28 i 4.71)				-	0,00	0,00	0,00	0,00		
Total	1,25	-	0,88	-	-	13,55	-	4,28	-	-	-	0,16	0,08	-	4,71	-	14,25	15,74	14,06	64,69	0,01	64,70	15,46	15,64



District Heating Production																																	
Gr.1					Gr.2										Gr.3										RES specification								
District heating	Solar	CSHP	DHP		District heating	Solar	CSHP	CHP	HP	ELT	Boiler	EH	Storage	Balance	District heating	Solar	CSHP	CHP	HP	ELT	Boiler	EH	Storage	Balance	RES1 Wind	RES2 Photo	RES3 River	RES4-7-8	Total				
MW	MW	MW	MW		MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW				
January	271	0	0	271	0	0	0	0	0	0	0	0	0	0	119	0	0	81	0	0	0	0	0	39	18	7	75	0	100				
February	213	0	0	213	0	0	0	0	0	0	0	0	0	0	94	0	0	75	0	0	0	0	0	18	23	8	54	0	84				
March	197	0	0	197	0	0	0	0	0	0	0	0	0	0	86	0	0	72	0	0	0	0	0	14	29	8	71	0	108				
April	132	0	0	132	0	0	0	0	0	0	0	0	0	0	58	0	0	53	0	0	0	0	0	5	19	11	31	0	61				
May	79	0	0	79	0	0	0	0	0	0	0	0	0	0	35	0	0	35	0	0	0	0	0	0	0	21	10	20	0	50			
June	49	0	0	49	0	0	0	0	0	0	0	0	0	0	21	0	0	21	0	0	0	0	0	0	0	12	12	35	0	59			
July	33	0	0	33	0	0	0	0	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	0	10	13	38	0	62			
August	28	0	0	28	0	0	0	0	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	0	12	12	34	0	58			
September	43	0	0	43	0	0	0	0	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	0	0	15	10	42	0	67			
October	102	0	0	102	0	0	0	0	0	0	0	0	0	0	45	0	0	45	0	0	0	0	0	0	0	16	8	57	0	81			
November	178	0	0	178	0	0	0	0	0	0	0	0	0	0	78	0	0	67	0	0	0	0	0	11	17	7	61	0	85				
December	219	0	0	219	0	0	0	0	0	0	0	0	0	0	96	0	0	76	0	0	0	0	0	20	27	3	79	0	109				
Average	129	0	0	129	0	0	0	0	0	0	0	0	0	0	56	0	0	48	0	0	0	0	0	9	18	9	50	0	77				
Maximum	424	0	0	424	0	0	0	0	0	0	0	0	0	0	186	0	0	82	0	0	0	0	0	104	87	35	172	0	233				
Minimum	6	0	0	6	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0			
Total for the whole year																																	
TWh/year	1,13	0,00	0,00	1,13	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,50	0,00	0,00	0,42	0,00	0,00	0,00	0,00	0,08	Citav iznos treba podesiti na 0.5					0,16	0,08	0,44	0,00	0,68

Own use of heat from industrial CH0,00 TWh/year

ANNUAL COSTS (Million EUR)			NATURAL GAS EXCHANGE															
Total Fuel ex Ngas exchange = 1939			DHP & Boilers	CHP2 CHP3	PP CAES	Individual	Transport	Indu. Var.	Demand Sum	Bio-gas	Syn-gas	CO2Hy gas	SynHy gas	SynHy gas	Storage	Sum	Import	Export
			MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW	MW
Uranium =	0																	
Coal =	247	January	95	0	0	171	1	239	507	0	0	0	0	0	0	507	507	0
FuelOil =	121	February	75	0	0	134	1	259	470	0	0	0	0	0	0	470	470	0
Gasoil/Diesel=	891	March	69	0	0	124	1	242	437	0	0	0	0	0	0	437	437	0
Petrol/JP =	157	April	46	0	0	83	1	193	324	0	0	0	0	0	0	324	324	0
Gas handling =	29	May	28	0	0	50	1	172	251	0	0	0	0	0	0	251	251	0
Biomass =	494	June	17	0	0	31	1	139	189	0	0	0	0	0	0	189	189	0
Food income =	0	July	12	0	0	21	1	159	193	0	0	0	0	0	0	193	193	0
Waste =	0	August	10	0	0	18	1	112	141	0	0	0	0	0	0	141	141	0
Total Ngas Exchange costs =	63	September	15	0	0	27	1	156	200	0	0	0	0	0	0	200	200	0
Marginal operation costs =	349	October	36	0	0	64	1	383	485	0	0	0	0	0	0	485	485	0
Total Electricity exchange =	0	November	62	0	0	112	1	267	443	0	0	0	0	0	0	443	443	0
Import =	0	December	77	0	0	138	1	391	608	0	0	0	0	0	0	608	608	0
Export =	0	Average	45	0	0	81	1	226	354	0	0	0	0	0	0	354	354	0
Bottleneck =	0	Maximum	149	0	3	268	1	739	872	0	0	0	0	0	0	872	872	0
Fixed imp/ex=	0	Minimum	2	0	0	4	1	0	9	0	0	0	0	0	0	9	9	0
Total CO2 emission costs =	0	Total for the whole year																
		TWh/year	0,40	0,00	0,00	0,71	0,01	1,99	3,11	0,00	0,00	0,00	0,00	0,00	0,00	3,11	3,11	0,00
Total variable costs =		2351																
Fixed operation costs =		33910																
Annual Investment costs =		57902																
TOTAL ANNUAL COSTS =		94163																

RES Share: 29,9 Percent of Primary Energy 46,3 Percent of Electricity

5,1 TWh electricity from RES

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