Input B_H_REFv1.7-1.5_demand_tab_supply_el_demand_changed.t› The EnergyPLAN model 16.1

Electricity demand (TWh/year):		Flexible demand	0,00
Fixed demand	8,22	Fixed imp/exp.	3,72
Electric heating + HP	2,93	Transportation	0,06
Electric cooling	0,22	Total	15,15

District heating (TWh/year)	Gr.1	Gr.2	Gr.3	Sum
District heating demand	1,13	0,00	0,50	1,63
Solar Thermal	0,00	0,00	0,00	0,00
Industrial CHP (CSHP)	0,00	0,00	0,00	0,00
Demand after solar and CSHP	1,13	0,00	0,50	1,63

Wind	87	MW	0,16	TWh/year	0,00	Grid
Photo Voltaic	35	MW	0,08	TWh/year	0,00	stabili-
River Hydro	172	MW	0,44	TWh/year	0,00	sation
River Hydro	0	MW	0	TWh/year	0,00	share
Hydro Power	2105	MW	4,21	TWh/year		
Geothermal/Nuclear	0	MW	0	TWh/year		

	Capacities MW-e	Capacities MJ/s	Efficiencies elec.	Efficiencies Ther	COP
Group 2:					
CHP	0	1500	0,40	0,50	
Heat Pump	0	0			3,00
Boiler		0		0,90	
Group 3:					
CHP	1017	82	0,21	0,47	
Heat Pump	0	0			3,00
Boiler		0		0,90	
Condensing	1099		0,29		

Heatstorage:	gr.2: 0	GWh	gr.30	GWh
Fixed Boiler:	gr.2:0,0	Per cent	gr.0,0	Per cent

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	

Regulation Strate	Technical regulation no. 1	
CEEP regulation	000000000	
Minimum Stabilisation share	0,00	
Stabilisation share of CHP	0,00	
Minimum CHP gr 3 load	0	MW
Minimum PP	0	MW
Heat Pump maximum share	1,00	
Maximum import/export	2500	MW

Distr. Name :	Hour_nordpool.txt	
Addition factor	0,00	EUR/MWh
Multiplication factor	2,00	
Dependency factor	0,00	EUR/MWh pr. MW
Average Market Price	227	EUR/MWh
Gas Storage	0	GWh
Syngas capacity	0	MW
Biogas max to grid	0	MW

Fuel Price level: Basic

Elec. Storage	Capacities MW-e	Storage GWh	Efficiencies Elec.	Ther.
Charge 1:	0	0	0,80	
Discharge 1:	0		0,90	
Charge 2:	0	0	0,80	
Discharge 2:	0		0,90	
Electrolysers:	0	0	0,80	0,00
Rockbed Storage:	0	0	1,00	
CAES fuel ratio:		0,000		

(TWh/year)	Coal	Oil	Ngas	Biomass
Transport	0,00	13,43	0,01	0,00
Household	1,15	0,41	0,71	13,47
Industry	2,47	1,32	0,89	0,20
Various	5,83	1,87	1,07	0,39

Output WARNING!!: (6) Negative Eldemand

	District Heating										Electricity																Exchange	
	Demand	Production								Balance	Consumption						Production							Balance					Payment	
	Distr. heating	Solar	Waste CSHP	DHP	CHP	HP	ELT	Boiler	EH		Elec. demand	Flex.& Transp	HP	Elec-trolyser	EH	Hydro Pump	Tur-bine	RES	Hy-dro	Geo-thermal	Waste CSHP	CHP	PP	Stab-Load	Imp	Exp	CEEP	EEP	Imp	Exp
	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	Million EUR	
January	391	0	0	271	81	0	0	0	0	39	904	7	4	0	701	0	0	100	486	0	0	999	657	100	46	0	0	0	11	0
February	307	0	0	213	75	0	0	0	0	18	944	7	3	0	550	0	0	84	480	0	0	935	443	100	6	0	0	0	1	0
March	283	0	0	197	72	0	0	0	0	14	762	7	3	0	508	0	0	108	471	0	0	894	447	100	8	0	0	0	1	0
April	190	0	0	132	53	0	0	0	0	5	839	7	2	0	341	0	0	61	468	0	0	661	289	100	1	0	0	0	0	0
May	114	0	0	79	35	0	0	0	0	0	927	7	1	0	204	0	0	50	453	0	0	430	398	100	3	7	0	7	0	1
June	70	0	0	49	21	0	0	0	0	0	1023	7	1	0	126	0	0	59	484	0	0	267	478	100	0	0	0	0	0	0
July	48	0	0	33	15	0	0	0	0	0	1130	7	1	0	86	0	0	62	493	0	0	182	833	100	0	0	0	0	0	0
August	41	0	0	28	12	0	0	0	0	0	1072	7	0	0	73	0	0	58	495	0	0	153	954	100	1	0	0	0	0	0
September	62	0	0	43	19	0	0	0	0	0	1027	7	1	0	111	0	0	67	486	0	0	234	673	100	0	0	0	0	0	0
October	147	0	0	102	45	0	0	0	0	0	994	7	2	0	263	0	0	81	485	0	0	553	503	100	2	0	0	0	0	0
November	256	0	0	178	67	0	0	0	0	11	949	7	3	0	459	0	0	85	487	0	0	829	609	100	4	0	0	0	1	0
December	315	0	0	219	76	0	0	0	0	20	955	7	4	0	565	0	0	109	459	0	0	945	569	100	26	1	0	1	5	0
Average	185	0	0	129	48	0	0	0	0	9	961	7	2	0	332	0	0	77	479	0	0	589	572	100	8	1	0	1	Average price	
Maximum	610	0	0	424	82	0	0	0	0	104	3235	13	7	0	1094	0	0	233	506	0	0	1017	1933	100	1162	519	0	519	(EUR/MWh)	
Minimum	9	0	0	6	3	0	0	0	0	0	0	0	0	0	17	0	0	0	0	0	0	35	0	100	0	0	0	0	282	222
TWh/year	1,63	0,00	0,00	1,13	0,42	0,00	0,00	0,00	0,00	0,08	8,44	0,06	0,02	0,00	2,91	0,00	0,00	0,68	4,21	0,00	0,00	5,18	5,03		0,07	0,01	0,00	0,01	20	1

FUEL BALANCE (TWh/year):	DHP	CHP2	CHP3	Boiler2	Boiler3	PP	Geo/Nu.	Hydro	Waste/ HTL	CAES Elc.ly.	BioCon-version	Electro-Fuel	Wind	PV and Wind off CSP	Wave	Hydro	Solar.Th	Transp.	household	Industry Various	Total	Imp/Exp Corrected Imp/Exp	Net	CO2 emission (Mt): Total	Net
Coal	0,38	-	0,84	-	-	18,69	-	-	-	-	-	-	-	-	-	-	-	-	1,15	8,29	29,35	0,22	29,58	10,04	10,12
Oil	0,38	-	-	-	-	0,05	-	-	-	-	-	-	-	-	-	-	-	13,43	0,41	3,18	17,45	0,00	17,45	4,65	4,65
N.Gas	0,28	-	-	-	-	0,02	-	-	-	-	-	-	-	-	-	-	-	0,82	0,71	1,99	3,82	0,00	3,82	0,79	0,95
Biomass	0,22	-	0,04	-	-	0,01	-	-	-	-	-	-	-	-	-	-	-	-	13,47	0,59	14,33	0,00	14,33	0,00	0,00
Renewable	-	-	-	-	-	-	-	4,21	-	-	-	-	0,16	0,08	-	4,64	-	-	-	-	4,88	0,00	4,88	0,00	0,00
H2 etc.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0,00	0,00	0,00	0,00	0,00
Biofuel	-	-	0,00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0,00	0,00	0,00	0,00	0,00
Nuclear/CCS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0,00	0,00	0,00	0,00	0,00
Total	1,25	-	0,88	-	-	18,77	-	4,21	-	-	-	-	0,16	0,08	-	4,64	-	14,25	15,74	14,06	69,84	0,22	70,06	15,48	15,72

District Heating Production

	Gr.1				Gr.2										Gr.3										RES specification				
	District heating MW	Solar MW	CSHP MW	DHP MW	District heating MW	Solar MW	CSHP MW	CHP MW	HP MW	ELT MW	Boiler MW	EH MW	Stor-age MW	Ba-lance MW	District heating MW	Solar MW	CSHP MW	CHP MW	HP MW	ELT MW	Boiler MW	EH MW	Stor-age MW	Ba-lance MW	RES1 Wind MW	RES2 Photo MW	RES3 River MW	RES 4-7 MW	Total 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	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	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	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	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	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	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
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	0,50	0,00	0,00	0,42	0,00	0,00	0,00	0,00		0,08	0,16	0,08	0,44	0,00	0,68

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

ANNUAL COSTS (Million EUR)

Total Fuel ex Ngas exchange =	0
Uranium =	0
Coal =	0
FuelOil =	0
Gasoil/Diesel=	0
Petrol/JP =	0
Gas handling =	0
Biomass =	0
Food income =	0
Waste =	0
Total Ngas Exchange costs =	0
Marginal operation costs =	0
Total Electricity exchange =	-847
Import =	20
Export =	-1
Bottleneck =	0
Fixed imp/ex=	-866
Total CO2 emission costs =	0
Total variable costs =	-847
Fixed operation costs =	0
Annual Investment costs =	0
TOTAL ANNUAL COSTS =	-847

NATURAL GAS EXCHANGE

	DHP & Boilers MW	CHP2 CHP3 MW	PP CAES MW	Indi-vidual MW	Trans port MW	Indu. Var. MW	Demand Sum MW	Bio-gas MW	Syn-gas MW	CO2Hy gas MW	SynHy gas MW	SynHy gas MW	Stor-age MW	Sum MW	Im-port MW	Ex-port MW
January	67	0	7	171	1	239	486	0	0	0	0	0	0	486	486	0
February	53	0	4	134	1	259	452	0	0	0	0	0	0	452	452	0
March	49	0	4	124	1	242	420	0	0	0	0	0	0	420	420	0
April	33	0	1	83	1	193	311	0	0	0	0	0	0	311	311	0
May	20	0	0	50	1	172	244	0	0	0	0	0	0	244	244	0
June	12	0	0	31	1	139	184	0	0	0	0	0	0	184	184	0
July	8	0	1	21	1	159	190	0	0	0	0	0	0	190	190	0
August	7	0	1	18	1	112	140	0	0	0	0	0	0	140	140	0
September	11	0	1	27	1	156	196	0	0	0	0	0	0	196	196	0
October	25	0	1	64	1	383	476	0	0	0	0	0	0	476	476	0
November	44	0	5	112	1	267	429	0	0	0	0	0	0	429	429	0
December	54	0	6	138	1	391	591	0	0	0	0	0	0	591	591	0
Average	32	0	3	81	1	226	343	0	0	0	0	0	0	343	343	0
Maximum	105	0	11	268	1	739	864	0	0	0	0	0	0	864	864	0
Minimum	2	0	0	4	1	0	8	0	0	0	0	0	0	8	8	0
Total for the whole year TWh/year	0,28	0,00	0,02	0,71	0,01	1,99	3,02	0,00	0,00	0,00	0,00	0,00	0,00	3,02	3,02	0,00

RES Share: 27,5 Percent of Primary Energy 45,9 Percent of Electricity 5,1 TWh electricity from RES