Input Temp

The EnergyPLAN model 13.0

Electricity demand (GWh/year):		Flexible demand	0.00
Fixed demand	751.66	Fixed imp/exp.	0.25
Electric heating + HP	0.11	Transportation	0.08
Electric cooling	0.00	Total	752.10

District heating (GWh/year)	Gr.1	Gr.2	Gr.3	Sum
District heating demand	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00

Wind	55196	kW	84.12	GWh/year	0.00	Grid
Offshore Wind	12	kW	0.11	GWh/year	0.00	stabili-
Offshore Wind	95108	kW	160.02	GWh/year	0.00	sation
River Hydro	0	kW	0	GWh/year	0.00	share
Hydro Power	0	kW	0	GWh/year		
Geothermal/Nuclear	0	kW	0	GWh/year		

	Capacities kW-e	Capacities kJ/s	Efficiencies elec.	Efficiencies Ther	Efficiencies COP
Group 2:					
CHP	0	0	0.40	0.00	
Heat Pump	0	0			3.00
Boiler		0		0.00	
Group 3:					
CHP	0	0	0.00	0.00	
Heat Pump	0	0			3.00
Boiler		0		0.00	
Condensing	0		0.00		

Heatstorage:	gr.2:	0 MWh	gr.3:	0 MWh
Fixed Boiler:	gr.2:	0.0 Per cent	gr.3:	0.0 Per cent

Electricity prod. from	CSHP	Waste (GWh/year)
Gr.1:	0.00	0.00
Gr.2:	0.00	0.00
Gr.3:	0.00	0.00

Regulation Strategy:	Technical regulation no. 1	
CEEP regulation	000000000	
Minimum Stabilisation share	0.00	
Stabilisation share of CHP	0.00	
Minimum CHP gr 3 load	0	kW
Minimum PP	0	kW
Heat Pump maximum share	1.00	
Maximum import/export	0	kW

Distr. Name :	V3_SRI_PUN_2025.txt	
Addition factor	0.00	EUR/MWh
Multiplication factor	2.00	
Dependency factor	0.00	EUR/MWh pr. MW
Average Market Price	67	EUR/MWh
Gas Storage	0	MWh
Syngas capacity	0	kW
Biogas max to grid	0	kW

Fuel Price level:

	Capacities kW-e	Storage MWh	Efficiencies elec.	Ther.
Hydro Pump:	674393	1349	0.94	
Hydro Turbine:	674393		0.94	
Electrol. Gr.2:	0	0	0.00	0.00
Electrol. Gr.3:	0	0	0.00	0.00
Electrol. trans.:	32673	241	0.67	
Ely. MicroCHP:	58098	784	0.67	
CAES fuel ratio:		0.000		

(GWh/year)	Coal	Oil	Ngas	Biomass
Transport	0.00	0.97	0.22	0.00
Household	0.00	0.00	5.17	1.04
Industry	0.00	0.00	0.00	0.00
Various	0.00	0.00	0.00	0.00

Output

	District Heating										Electricity																	Exchange	
	Demand	Production								Balance	Consumption						Production							Balance					Payment	
	Distr. heating kW	Solar kW	Waste+ CSHP kW	DHP kW	CHP kW	HP kW	ELT kW	Boiler kW	EH kW	kW	Elec. demand MW	Flex.& Transp. kW	HP kW	Elec-trolyser kW	EH kW	Hydro Pump kW	Tur-bine kW	RES MW	Hy-dro kW	Geo-thermal kW	Waste+ CSHP kW	CHP MW	PP kW	Stab-Load %	Imp kW	Exp MW	CEEP MW	EEP kW	Imp 1000 EUR	Exp
January	0	0	0	0	0	0	0	0	0	0	86	9	0	72749	0	6770	5948	36	0	0	0	101	0	200	23171	1	1	0	2	0
February	0	0	0	0	0	0	0	0	0	0	81	9	0	58525	0	2597	3642	26	0	0	0	85	0	200	28489	1	1	0	2	0
March	0	0	0	0	0	0	0	0	0	0	81	9	0	63942	0	8933	8336	34	0	0	0	106	0	200	10540	4	4	0	1	0
April	0	0	0	0	0	0	0	0	0	0	90	9	0	64152	0	8727	7711	32	0	0	0	103	0	200	20828	1	1	0	1	0
May	0	0	0	0	0	0	0	0	0	0	81	9	0	66350	0	6536	5775	29	0	0	0	103	0	200	17487	2	2	0	1	0
June	0	0	0	0	0	0	0	0	0	0	83	9	0	57133	0	4600	4015	24	0	0	0	96	0	200	21826	1	1	0	1	0
July	0	0	0	0	0	0	0	0	0	0	87	9	0	59548	0	4039	3617	30	0	0	0	94	0	200	24205	0	0	0	1	0
August	0	0	0	0	0	0	0	0	0	0	89	9	0	64324	0	2288	2022	19	0	0	0	107	0	200	27538	0	0	0	2	0
September	0	0	0	0	0	0	0	0	0	0	91	9	0	59371	0	1811	1600	22	0	0	0	95	0	200	33779	0	0	0	2	0
October	0	0	0	0	0	0	0	0	0	0	83	9	0	66535	0	3874	3042	32	0	0	0	93	0	200	26643	1	1	0	2	0
November	0	0	0	0	0	0	0	0	0	0	87	9	0	67173	0	5837	4193	25	0	0	0	111	0	200	21760	1	1	0	2	0
December	0	0	0	0	0	0	0	0	0	0	87	9	0	64551	0	4779	3867	26	0	0	0	110	0	200	20291	4	4	0	1	0
Average	0	0	0	0	0	0	0	0	0	0	86	9	0	63743	0	5077	4486	28	0	0	0	100	0	200	23000	1	1	0	Average price	
Maximum	0	0	0	0	0	0	0	0	0	0	110	27	0	89505	0	108232	65977	141	0	0	0	120	0	200	94795	104	104	0	(EUR/MWh)	
Minimum	0	0	0	0	0	0	0	0	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	200	0	0	0	0	66	72
GWh/year	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	752	0.08	0.00	559.92	0.00	44.60	39.41	244	0.00	0.00	0.00	883	0.00		202.03	12	12	0.00	13266	0 EUR865

FUEL BALANCE (GWh/year):	DHP	CHP2	CHP3	Boiler2	Boiler3	PP	Geo/Nu.	Hydro	Waste	CAES Elc.ly.	BioCon-version	Electro-Fuel	Wind	Offsh.	Offsh.	Hydro	Solar.Th.	Transp.	household	Industry Various	Total	Imp/Exp Corrected Imp/Exp	Net	CO2 emission (kt): Total	Net
Coal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	0.00	0.00	0.00	0.00
Oil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.97	-	-	0.97	7.19	8.16	0.26	2.18
N.Gas	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.22	3763.85	-	3764.07	164.94	3929.01	760.19	793.50
Biomass	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.04	-	1.04	200.57	201.61	0.00	0.00
Renewable	-	-	-	-	-	-	-	-	-	-	-	-	84.12	0.11	160.02	-	0.69	-	-	-	244.94	0.00	244.94	0.00	0.00
H2 etc.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	88.19	286.95	-	0.00	0.00	0.00	0.00	0.00
Biofuel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	0.00	0.00	0.00	0.00
Nuclear/CCS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00	0.00	0.00	0.00	0.00
Total	-	-	-	-	-	-	-	-	-	-	-	-	84.12	0.11	160.02	-	0.69	89.38	4051.85	-	4011.02	372.69	4383.71	760.44	795.68

Output specifications Temp

The EnergyPLAN model 13.0

District Heating Production

	Gr.1				Gr.2										Gr.3										RES specification				
	District heating kW	Solar kW	CSHP kW	DHP kW	District heating kW	Solar kW	CSHP kW	CHP kW	HP kW	ELT kW	Boiler kW	EH kW	Stor-age kW	Ba-lance kW	District heating kW	Solar kW	CSHP kW	CHP kW	HP kW	ELT kW	Boiler kW	EH kW	Stor-age kW	Ba-lance kW	RES1 Wind MW	RES2 Offshor MW	RES3 Offshor MW	RES 4-7 ind MW	Total MW
January	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	28	0	36
February	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	18	0	26
March	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	24	0	34
April	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	20	0	32
May	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	18	0	29
June	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	13	0	24
July	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	0	17	0	30
August	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0	7	0	19
September	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	12	0	22
October	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	23	0	32
November	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	18	0	25
December	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	20	0	26
Average	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	18	0	28
Maximum	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	55	0	95	0	141
Minimum	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total for the whole year GWh/year	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	84	0	160	0	244

Own use of heat from industrial CHP: 0.00 GWh/year

ANNUAL COSTS (1000 EUR)	
Total Fuel ex Ngas exchange =	193
Uranium =	0
Coal =	0
FuelOil =	0
Gasoil/Diesel=	55
Petrol/JP =	98
Gas handling =	0
Biomass =	40
Food income =	0
Waste =	0
Total Ngas Exchange costs =	100275
Marginal operation costs =	0
Total Electricity exchange =	13248
Import =	13266
Export =	-865
Bottleneck =	865
Fixed imp/ex=	-17
Total CO2 emission costs =	41825
Total variable costs =	155541
Fixed operation costs =	24749
Annual Investment costs =	100052
TOTAL ANNUAL COSTS =	280342

NATURAL GAS EXCHANGE

	DHP & Boilers kW	CHP2 CHP3 kW	PP CAES kW	Indi-vidual kW	Trans port kW	Indu. Var. kW	Demand Sum kW	Bio-gas kW	Syn-gas kW	CO2Hy gas kW	SynHy gas kW	SynHy gas kW	Stor-age kW	Sum kW	Im-port kW	Ex-port kW
January	0	0	0	432638	25	0	432662	0	0	0	0	0	0	432662	432662	0
February	0	0	0	363117	25	0	363142	0	0	0	0	0	0	363142	363142	0
March	0	0	0	450895	25	0	450920	0	0	0	0	0	0	450920	450920	0
April	0	0	0	440837	25	0	440862	0	0	0	0	0	0	440862	440862	0
May	0	0	0	440763	25	0	440788	0	0	0	0	0	0	440788	440788	0
June	0	0	0	408859	25	0	408884	0	0	0	0	0	0	408884	408884	0
July	0	0	0	398985	25	0	399010	0	0	0	0	0	0	399010	399010	0
August	0	0	0	456500	25	0	456525	0	0	0	0	0	0	456525	456525	0
September	0	0	0	403972	25	0	403996	0	0	0	0	0	0	403996	403996	0
October	0	0	0	398474	25	0	398499	0	0	0	0	0	0	398499	398499	0
November	0	0	0	473031	25	0	473055	0	0	0	0	0	0	473055	473055	0
December	0	0	0	469999	25	0	470023	0	0	0	0	0	0	470023	470023	0
Average	0	0	0	428490	25	0	428514	0	0	0	0	0	0	428514	428514	0
Maximum	0	0	0	508348	25	0	508373	0	0	0	0	0	0	508373	508373	0
Minimum	0	0	0	89341	25	0	89366	0	0	0	0	0	0	89366	89366	0
Total for the whole year GWh/year	0.00	0.00	0.00	3763.85	0.22	0.00	3764.07	0.00	0.00	0.00	0.00	0.00	0.00	3764.07	3764.07	0.00

RES Share: 6.1 Percent of Primary Energy 32.5 Percent of Electricity 244.3 GWh electricity from RES

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