Heat losses according to EN13941-1

Project Name: ***Muiderberg***

PlanEnergi

Inputs		
Forward Winter	75	°C
Forward S/A	73	°C
Forward Summer	70	°C
Return	40	°C
Ambient	8	°C
Series	2	-
Winter	60	days/yr
Spring/Autumn	185	days/yr
Summer	120	days/yr

Variables			
Depth	0.8	m	*From top of pipe cover*
λ soil	1.2	W/mK	
λ ins,m	0.024	W/mK	*Main trace, avg over lifetime*
λ ins,s	0.022	W/mK	*Service pipe, avg over lifetime*

Project	
By	NV
QC/KS	
Date	09/01/26

INPUTS
OUTPUTS

Executive summary	
Losses in MWh/year	*Single Pipes*
Losses Main Trace	1,415
Losses Service Pipe	791
Losses Total	**2,206**
Winter	497
Spring/Autumn	1,045
Summer	663
Heat Demand	14,444 GJ
Heat Losses (relative)	15.3%

SINGLE PIPES

Pipe Configuration *Isoplus Steel Pipes*

	Steel pipes				Series 1		Series 2		Series 3		
Trace	**dn**	**Supplier**	**do**	**t**	**Dc**	**tc**	**Dc**	**tc**	**Dc**	**tc**	**gap**
m			*mm*	*mm*	*mm*	*mm*	*mm*	*mm*	*mm*	*mm*	*m*
0	STIK 20	Isoplus	20	2.5	90	1.5	90	1.5	125	90	0.1
11,330	STIK 26	Isoplus	26	3	90	1.5	90	1.5	125	90	0.1
0	DN20	Isoplus	26.9	2.6	90	3	110	3	125	3	0.1
0	DN25	Isoplus	33.7	3.2	90	3	110	3	125	3	0.15
0	DN32	Isoplus	42.4	3.2	110	3	125	3	140	3	0.15
6,463	DN40	Isoplus	48.3	3.2	110	3	125	3	140	3	0.15
1,269	DN50	Isoplus	60.3	3.2	125	3	140	3	160	3	0.15
1,275	DN65	Isoplus	76.1	3.2	140	3	160	3	180	3	0.15
248	DN80	Isoplus	88.9	3.2	160	3	180	3	200	3.2	0.15
657	DN100	Isoplus	114.3	3.6	200	3.2	225	3.4	250	3.6	0.25
175	DN125	Isoplus	139.7	3.6	225	3.4	250	3.6	280	3.9	0.25
604	DN150	Isoplus	168.3	4	250	3.6	280	3.9	315	4.1	0.25
1,899	DN200	Isoplus	219.1	4.5	315	4.1	355	4.5	400	4.8	0.25
0	DN250	Isoplus	273	5	400	4.8	450	5.2	500	5.6	0.25
0	DN300	Isoplus	323.9	5.6	450	5.2	500	5.6	560	6	0.25
0	DN350	Isoplus	355.6	5.6	500	5.6	560	6	630	6.6	0.3
0	DN400	Isoplus	406.4	6.3	560	6	630	6.6	710	7.2	0.3
12,590											

Losses

Winter			Spring/Autumn			Summer			Avg
qloss	**Qloss**	**Qtot**	**qloss**	**Qloss**	**Qtot**	**qloss**	**Qloss**	**Qtot**	**Qtot**
W/m	*kW*	*MWh/y*	*W/m*	*kW*	*MWh/y*	*W/m*	*kW*	*MWh/y*	*MWh/m*yr*
9.2	0	0	6.2	0	0	6.1	0	0	0.0584
11.0	124	179	7.4	84	375	7.3	82	238	0.0698
9.8	0	0	6.6	0	0	6.5	0	0	0.0623
11.5	0	0	7.8	0	0	7.6	0	0	0.0734
12.6	0	0	8.5	0	0	8.3	0	0	0.0800
14.1	91	131	9.6	62	276	9.4	61	175	0.0900
15.8	20	29	10.8	14	61	10.5	13	38	0.1008
17.7	23	32	12.1	15	69	11.8	15	43	0.1133
18.6	5	7	12.7	3	14	12.4	3	9	0.1192
19.5	13	18	13.3	9	39	13.0	9	25	0.1247
22.4	4	6	15.3	3	12	15.0	3	8	0.1434
25.3	15	22	17.3	10	46	16.9	10	29	0.1622
26.8	51	73	18.4	35	155	17.9	34	98	0.1717
26.2	0	0	18.0	0	0	17.6	0	0	0.1681
29.8	0	0	20.5	0	0	20.0	0	0	0.1915
28.8	0	0	19.8	0	0	19.3	0	0	0.1849
29.9	0	0	20.5	0	0	20.1	0	0	0.1918
0.0	0	0	0.0	0	0	0.0	0	0	0.0000
0.0	0	0	0.0	0	0	0.0	0	0	0.0000
Total	345	497		235	1,045		230	663	

Total losses	*2,206*	MWh/y
Service pipe	*791*	MWh/y
Main trace	*1,415*	MWh/y

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