

Samfundsøkonomi, Fjernvarmeforsyning af Strøbe Egede - Valløby

Samfundsøkonomi		Diskonteringsrente 3,5%																						
		Nuværdi	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
			2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	
			70%	72%	74%	77%	79%	81%	83%	86%	88%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	
<b>Tilslutningsprocent</b>																								
<b>Reference: naturgas, olie, elvarme, varmepumpe og andet (træpiller)</b>																								
Re-investeringer	[kr.]	23.116.049																						
Naturgaskedler	[kr.]	4.181.931	1.358.951	1.402.092	1.445.233	1.488.374	1.531.516	1.574.657	1.617.798	1.660.940	1.704.081	1.747.222	1.747.222	1.747.222	1.747.222	1.747.222	1.747.222	1.747.222	1.747.222	1.747.222	1.747.222	1.747.222	1.747.222	
Oliekedler	[kr.]	245.848	245.848	253.653	261.458	269.262	277.067	284.872	292.676	300.481	308.286	316.090	316.090	316.090	316.090	316.090	316.090	316.090	316.090	316.090	316.090	316.090	316.090	
Varmepumper	[kr.]	36.715.949	2.158.464	2.226.987	2.295.509	2.364.032	2.432.555	2.501.077	2.569.600	2.638.123	2.706.645	2.775.168	2.775.168	2.775.168	2.775.168	2.775.168	2.775.168	2.775.168	2.775.168	2.775.168	2.775.168	2.775.168	2.775.168	
Radiatorer/elvarme	[kr.]	2.830.637	166.408	171.691	176.974	182.256	187.539	192.822	198.105	203.388	208.670	213.953	213.953	213.953	213.953	213.953	213.953	213.953	213.953	213.953	213.953	213.953	213.953	
Pillefy	[kr.]	553.173	32.520	33.552	34.585	35.617	36.650	37.682	38.714	39.747	40.779	41.811	41.811	41.811	41.811	41.811	41.811	41.811	41.811	41.811	41.811	41.811	41.811	
Varmebehov	[MWh]	333.094	19.582	20.204	20.825	21.447	22.069	22.690	23.312	23.934	24.555	25.177	25.177	25.177	25.177	25.177	25.177	25.177	25.177	25.177	25.177	25.177	25.177	
<b>Brændselsomkostninger</b>																								
Gas til kedler	[kr.]	107.371.772	3.369.231	3.572.086	3.780.842	3.995.499	4.209.510	4.423.323	4.633.384	4.842.140	5.055.322	11.464.514	11.464.514	11.464.514	11.464.514	11.464.514	11.464.514	11.464.514	11.464.514	11.464.514	11.464.514	11.464.514	11.464.514	
Olie til kedler	[kr.]	24.428.403	1.438.160	1.449.745	1.490.720	1.535.219	1.581.001	1.626.856	1.672.783	1.729.916	1.787.700	1.844.670	1.856.382	1.866.631	1.873.951	1.881.271	1.887.127	1.891.519	1.895.911	1.895.911	1.895.911	1.895.911	1.895.911	
El til varmepumpe	[kr.]	16.704.586	1.150.650	1.173.244	1.177.746	1.181.840	1.184.474	1.186.507	1.188.040	1.189.573	1.191.106	1.192.639	1.194.172	1.195.705	1.197.238	1.198.771	1.199.304	1.199.837	1.200.370	1.200.903	1.201.436	1.201.969	1.202.502	
El til elvarme	[kr.]	24.979.603	1.720.651	1.754.439	1.761.170	1.767.901	1.774.632	1.781.363	1.788.094	1.794.825	1.801.556	1.808.287	1.815.018	1.821.749	1.828.480	1.835.211	1.841.942	1.848.673	1.855.404	1.862.135	1.868.866	1.875.597	1.882.328	
Træpiller til pillefy (andet)	[kr.]	567.066	32.647	33.483	34.319	35.155	35.991	36.827	37.663	38.499	39.335	40.171	41.007	41.843	42.679	43.515	44.351	45.187	46.023	46.859	47.695	48.531	49.367	
<b>Drift og vedligehold</b>																								
D&V - Gaskedler	[kr.]	22.760.418	1.338.044	1.380.521	1.422.999	1.465.476	1.507.954	1.550.432	1.592.909	1.635.387	1.677.864	1.720.342	1.720.342	1.720.342	1.720.342	1.720.342	1.720.342	1.720.342	1.720.342	1.720.342	1.720.342	1.720.342	1.720.342	
D&V - Oliekedler	[kr.]	2.396.755	140.901	145.374	149.847	154.320	158.793	163.266	167.739	172.212	176.685	181.158	181.158	181.158	181.158	181.158	181.158	181.158	181.158	181.158	181.158	181.158	181.158	
D&V - Varmepumper	[kr.]	13.777.469	809.952	835.665	861.378	887.091	912.803	938.516	964.229	989.942	1.015.655	1.041.367	1.041.367	1.041.367	1.041.367	1.041.367	1.041.367	1.041.367	1.041.367	1.041.367	1.041.367	1.041.367	1.041.367	
D&V - Radiatorer/elvarme	[kr.]	443.326	26.062	26.890	27.717	28.544	29.372	30.199	31.027	31.854	32.681	33.509	33.509	33.509	33.509	33.509	33.509	33.509	33.509	33.509	33.509	33.509	33.509	
D&V - Pillefy	[kr.]	897.111	52.740	54.414	56.088	57.762	59.437	61.111	62.785	64.459	66.133	67.808	67.808	67.808	67.808	67.808	67.808	67.808	67.808	67.808	67.808	67.808	67.808	
CO2 omkostninger	[kr.]	28.641.090	2.088.699	2.176.927	2.288.778	2.404.036	2.539.121	2.689.528	2.848.117	3.011.234	3.191.075	3.380.229	3.492.764	3.594.300	3.695.836	3.797.372	3.898.908	3.999.444	4.099.980	4.199.516	4.298.052	4.395.588	4.492.124	
NOx, SO2 og PM 2,5 omkostninger	[kr.]	1.830.588	114.480	115.588	116.852	118.491	120.119	123.503	126.886	130.270	133.654	137.037	137.037	137.037	137.037	137.037	137.037	137.037	137.037	137.037	137.037	137.037	137.037	
Forvridningstab	[kr.]	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Samlede omkostninger	[kr.]	312.195.926	0	16.244.407	16.806.350	17.382.525	17.970.870	18.495.453	18.941.097	19.636.324	20.344.987	21.075.492	28.010.480	28.134.906	25.408.759	25.444.137	25.480.350	25.517.749	25.556.297	25.596.553	25.596.553	25.596.553	25.596.553	
<b>Alternativ: VP</b>																								
Investeringer	[kr.]	363.170.713	188.762.112	5.992.448	5.992.448	5.992.448	5.992.448	5.992.448	5.992.448	5.992.448	5.992.448	5.992.448	5.992.448	0	0	0	188.762.112	5.992.448	5.992.448	5.992.448	5.992.448	5.992.448	5.992.448	
Scrapværdi, varmepumper	[kr.]	-81.219.086	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-161.608.832	
Varmebehov	[MWh]	333.094	19.582	20.204	20.825	21.447	22.069	22.690	23.312	23.934	24.555	25.177	25.177	25.177	25.177	25.177	25.177	25.177	25.177	25.177	25.177	25.177		
<b>Brændselsomkostninger</b>																								
El til varmepumpe	[kr.]	79.608.578	5.700.826	5.701.750	5.691.593	5.479.220	5.038.645	5.180.579	5.322.512	5.464.446	5.606.380	5.748.313	5.748.313	5.748.313	5.748.313	5.748.313	5.748.313	5.748.313	5.748.313	5.748.313	5.748.313	5.748.313	5.748.313	
<b>Drift og vedligehold</b>																								
D&V - individuelle varmepumper	[kr.]	75.304.247	4.427.000	4.567.540	4.708.079	4.848.619	4.989.159	5.129.698	5.270.238	5.410.778	5.551.317	5.691.857	5.691.857	5.691.857	5.691.857	5.691.857	5.691.857	5.691.857	5.691.857	5.691.857	5.691.857	5.691.857	5.691.857	
CO2 omkostninger	[kr.]	845.472	119.181	103.210	81.778	43.261	35.596	37.705	39.928	42.215	44.736	47.388	48.966	50.718	52.588	54.516	56.620	58.899	61.295	61.295	61.295	61.295	61.295	
NOx, SO2 og PM 2,5 omkostninger	[kr.]	503.829	46.544	41.792	37.423	33.982	30.511	31.371	32.230	33.089	33.949	34.808	34.808	34.808	34.808	34.808	34.808	34.808	34.808	34.808	34.808	34.808	34.808	
Forvridningstab	[kr.]	-	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Samlede omkostninger	[kr.]	438.213.753	188.762.112	16.285.999	16.406.739	16.511.321	16.397.530	16.086.359	16.371.801	16.657.357	16.942.976	17.228.830	11.522.367	11.523.944	11.525.697	11.527.567	11.529.495	200.293.711	17.526.326	17.528.721	17.528.721	17.528.721	-144.080.111	
<b>Projekt: fjernvarme</b>																								
Investeringer	[kr.]	70.400.000	70.400.000																					
Varmepumpe	[kr.]	9.600.000	9.600.000																					
Spildevandsvarmepumpe	[kr.]	5.760.000	5.760.000																					
Spids- og reservelastkedel	[kr.]	4.800.000	4.800.000																					
Varmeakkumuleringstank	[kr.]	181.677.960	181.677.960																					
Fjernvarmeledninger	[kr.]	75.702.403	60.975.882	1.935.742	1.935.742	1.935.742	1.935.742	1.935.742	1.935.742	1.935.742	1.935.742	1.935.742	1.935.742	1.935.742	1.935.742	1.935.742	1.935.742	1.935.742	1.935.742	1.935.742	1.935.742	1.935.742		
Kundeninstallationer	[kr.]	53.261.540	42.900.480	1.361.920	1.361.920	1.361.920	1.361.920	1.361.920	1.361.920	1.361.920	1.361.920	1.361.920	1.361.920	1.361.920	1.361.920	1.361.920	1.361.920	1.361.920	1.361.920	1.361.920	1.361.920	1.361.920	1.361.920	
Scrapværdi, forsyningsledning	[kr.]	-44.783.087	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-109.006.776	
Scrapværdi, stikledninger	[kr.]	-24.515.519	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-48.780.706	
Scrapværdi, kundeinstallationer	[kr.]	-6.940.369	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-13.809.869	
Scrapværdi, varmepumpe	[kr.]	-7.076.128	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-14.080.000	
Scrapværdi, varmeakkumuleringstank	[kr.]	-804.105	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-1.600.000	
Scrapværdi, spids- og reservelastkedel	[kr.]	-578.956	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-1.152.000	
Tilslutning til elnet	[kr.]	6.784.000	6.784.000																					
Varmebehov	[MWh]	333.094	19.582	20.204	20.825	21.447	22.069	22.690	23.312	23.934	24.555													