FH Münster
University of Applied Sciences

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Spreadsheet Energy System Model Generator (SESMG)

GEFÖRDERT VOM

Bundesministerium
für Bildung
und Forschung

FONA
Forschung für Nachhaltigkeit

Eine Initiative des Bundesministeriums
für Bildung und Forschung
RESQ
Ressourceneffiziente
Stadtquartiere

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Structure of SESMG

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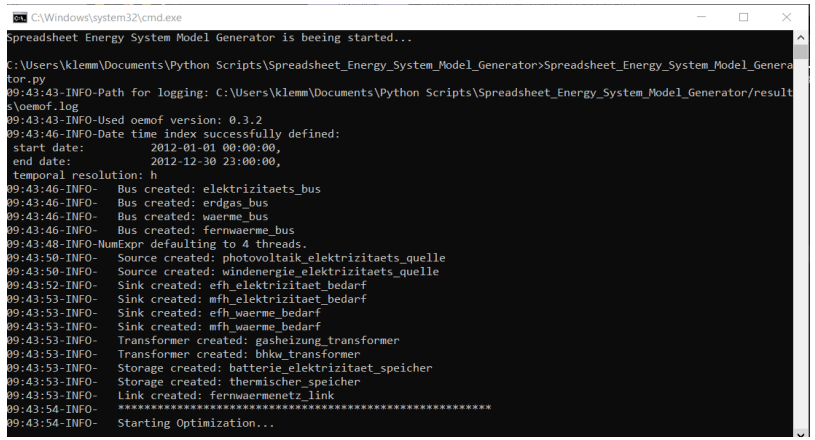
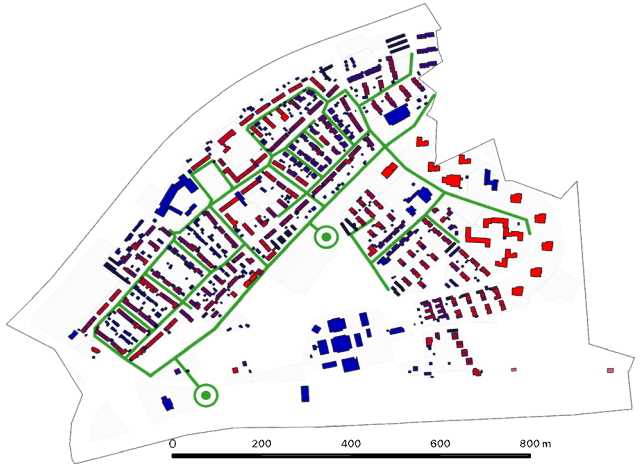
label	act	gc	gas h	batt	cen	year	buil	uni	floo	occ	od	living space	scope
L10002KP5	0	yes	yes	yes	yes	1980	RES	2	1	2	4	135.299714	46.7441265
L10002KpA	0	yes	yes	yes	yes	1954	RES	1	2	3	3	76.93336349	35.0991547
L10002KpC	0	yes	yes	yes	yes	1920	RES	2	1	2	4	47.87647599	28.5488642
L10002KpZ	0	yes	yes	no	yes	1972	RES	2	2	4	8	87.552867	39.0254779
L10002KQG	0	yes	yes	yes	yes	1977	RES	3	1	4	12	164.039924	53.7391669
L10002Kqh	1	yes	yes	yes	yes	1953	RES	1	2	3	3	76.32352498	34.9688269
L10002KqU	0	yes	yes	no	yes	1955	RES	1	2	4	4	105.702795	44.9522886
L10002KrD	1	yes	yes	yes	yes	1954	RES	7	2	2	14	75.89504201	34.8679954
L10002KrH	0	yes	yes	yes	yes	1954	RES	1	2	2	2	139.1033155	49.9273825
L10002Ks1	0	yes	yes	yes	yes	1952	RES	1	2	3	3	76.23859902	34.9384091
L10002Ksa	1	yes	yes	yes	yes	1955	RES	2	2	4	8	137.638673	49.5714849
L10002KsG	0	yes	yes	yes	yes	1953	RES	2	2	1	2	76.56343351	35.0150317
L10002KsI	0	yes	yes	yes	yes	1963	RES	2	2	3	6	88.77494452	41.627747
L10002Ksj	1	yes	yes	yes	yes	1954	RES	2	2	1	2	76.851915	35.0971391
L10002KSk	0	yes	yes	yes	yes	1959	RES	6	2	3	18	76.79338099	35.0685617
L10002Ksq	0	yes	yes	no	yes	1981	RES	4	2	4	16	106.3024165	45.1816893
L10002Ktf	1	yes	yes	no	yes	1956	RES	2	2	4	8	77.00991398	35.1236211





spreadsheet → create energysystem → optimize model → create results

create energysystem → create objects

feedinlib, solph, DHNx, thermal, demandlib

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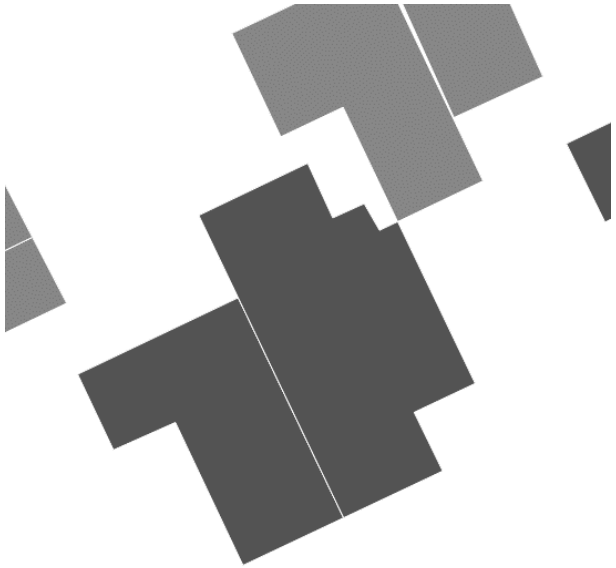
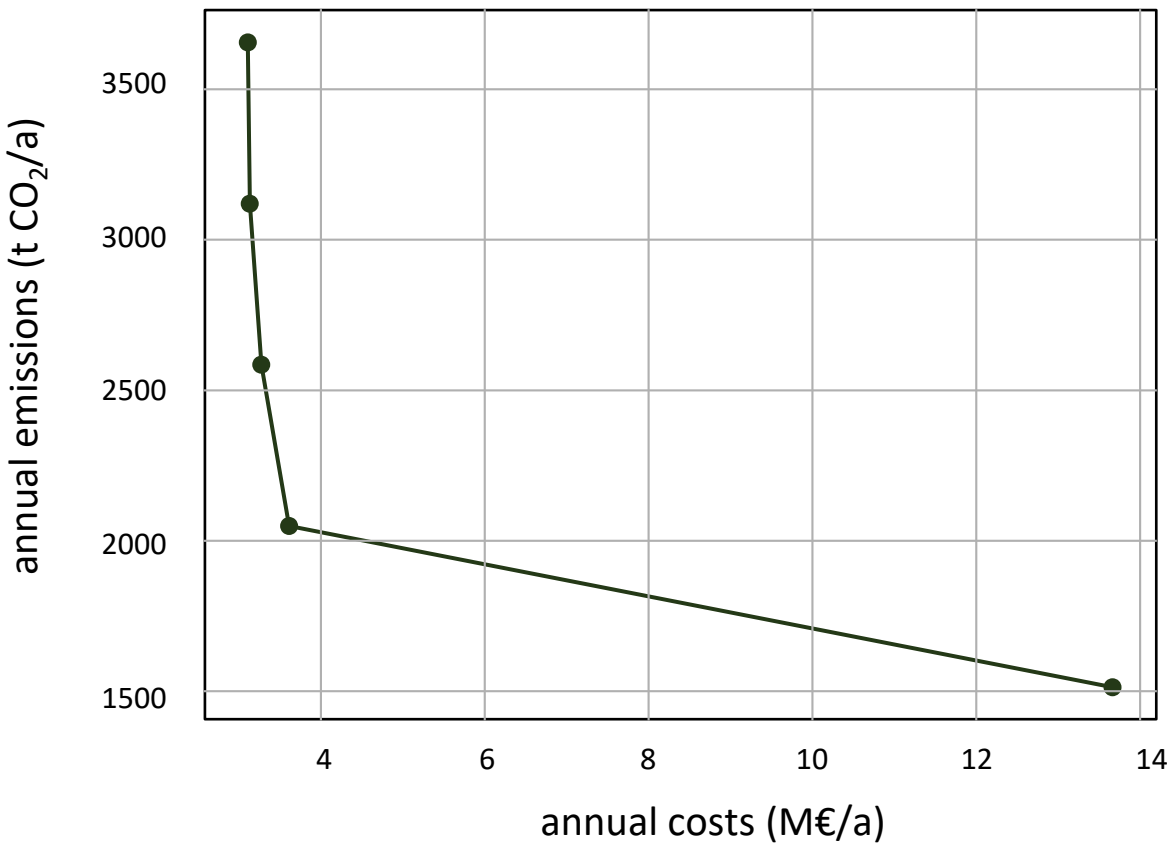
Spreadsheet

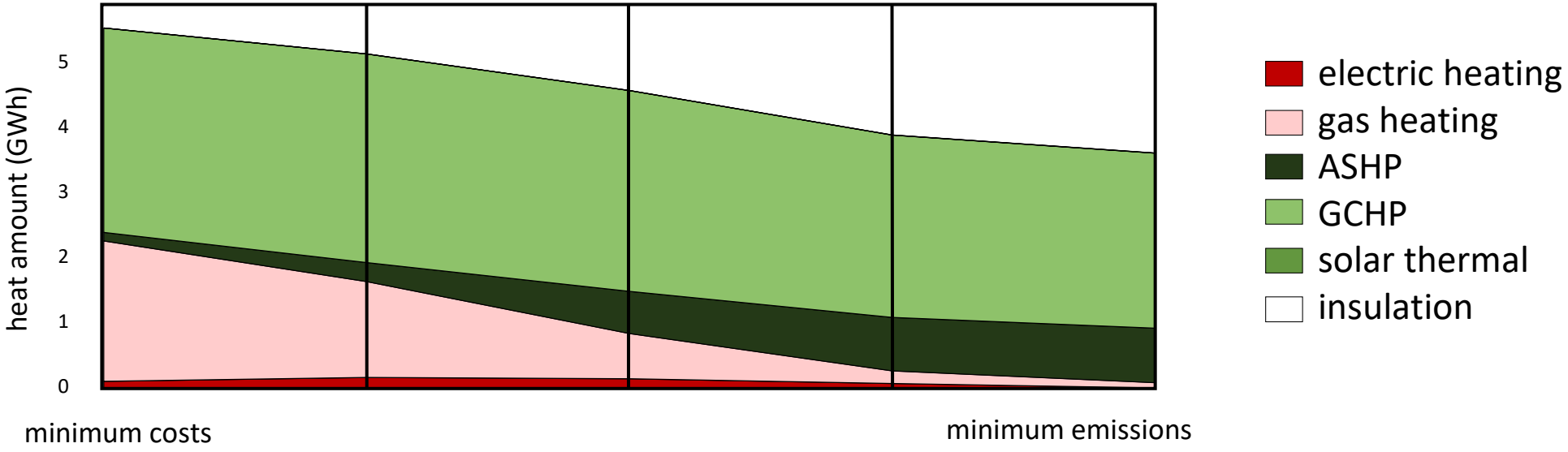


multi-family building 042	
building-specific input data	
building type	multi-family building
building space	300 m²
occupants	6
year of construction	1975
area windows	200 m²
roof type	flat roof
latitude	51,00000
longitude	7,00000
investment alternative	
ground-coupled heat pump	yes
battery storage	yes
solar thermal flat plate	yes
photovoltaics	yes
district heating	no

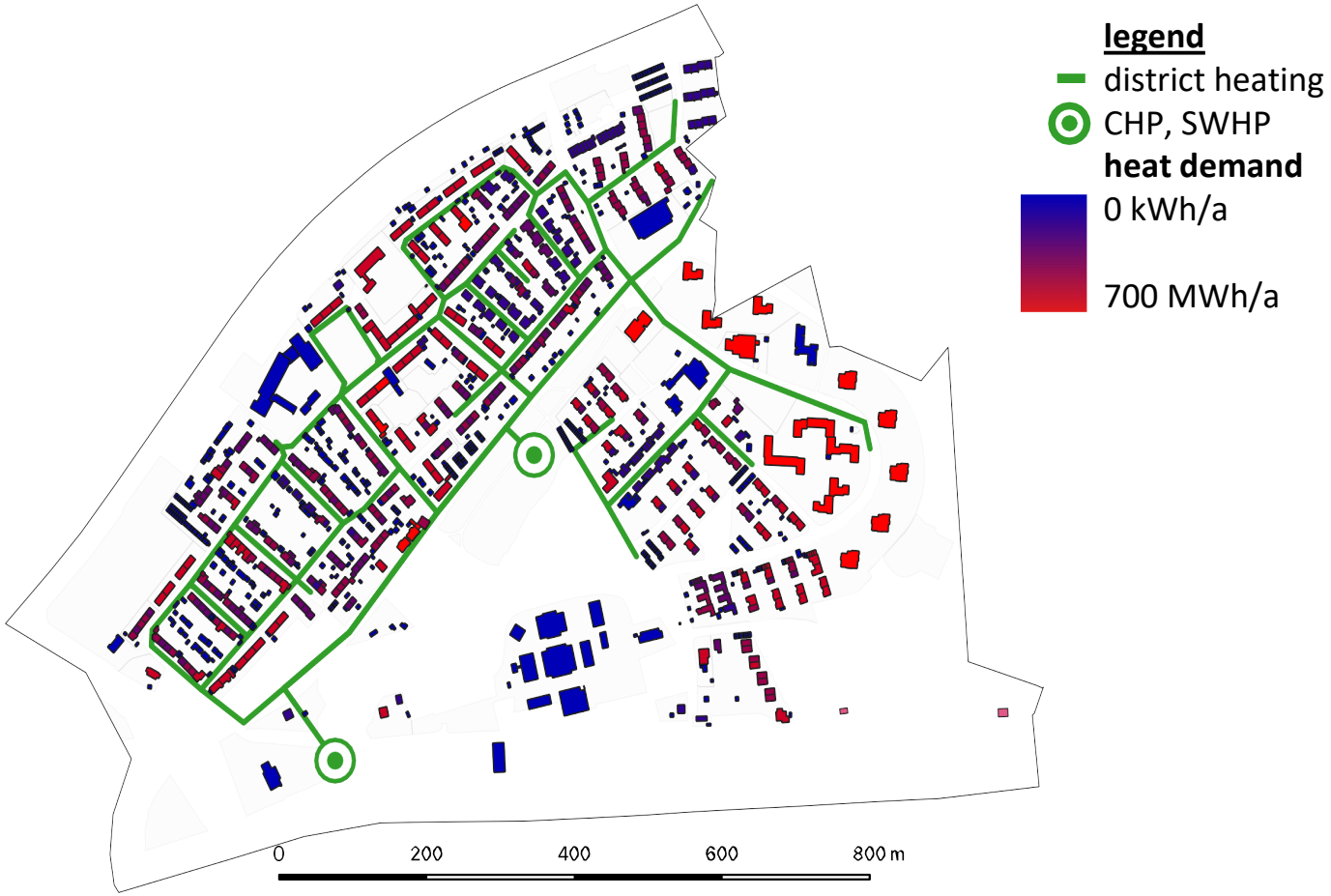
Pareto curve



Technology shift diagram



Heat demand of the district



legend

district heating

CHP, SWHP

heat demand

0 kWh/a

700 MWh/a

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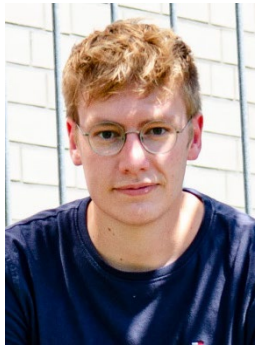
Team SESMG

FH Münster
University of Applied Sciences

Christian Klemm

Gregor Becker



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