



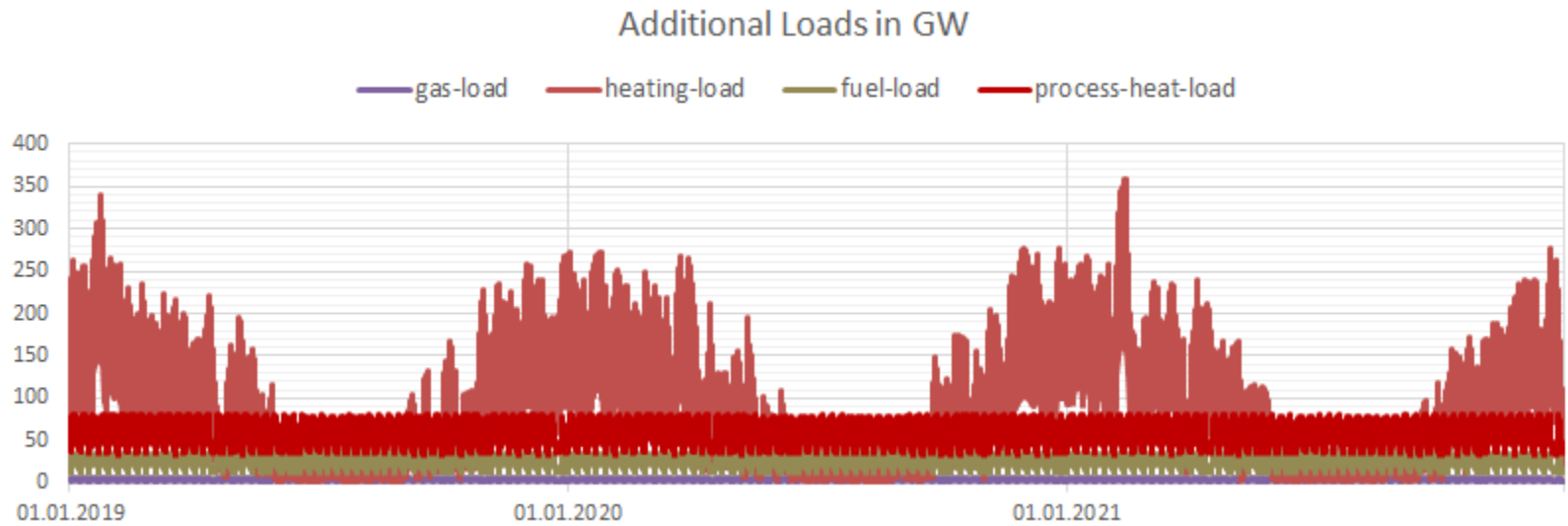
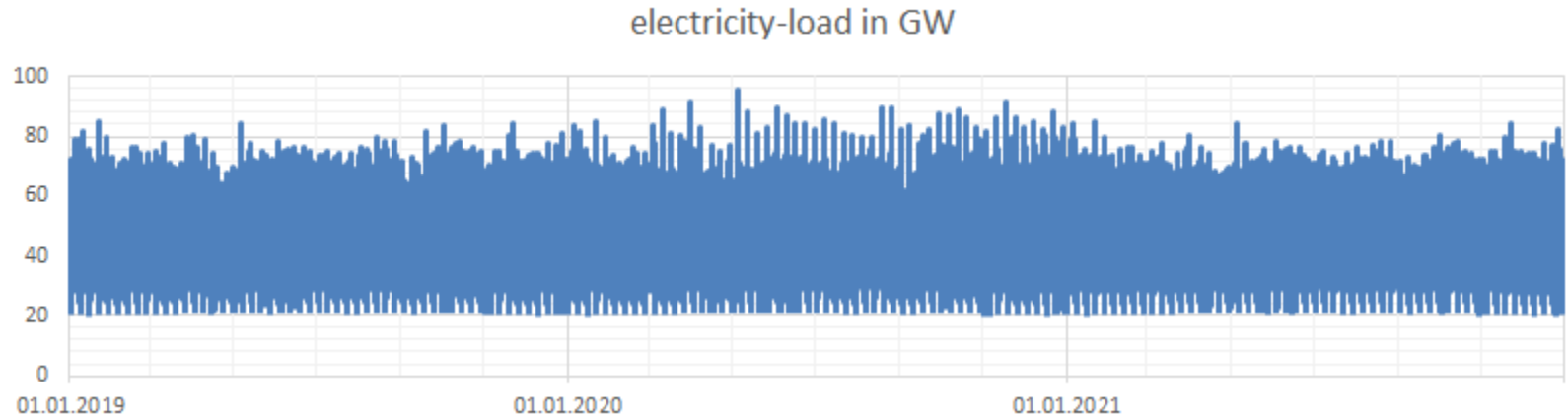
Quelle:

<https://pixabay.com/de/illustrations/erneuerbare-energie-umweltfreundlich-7143345/>

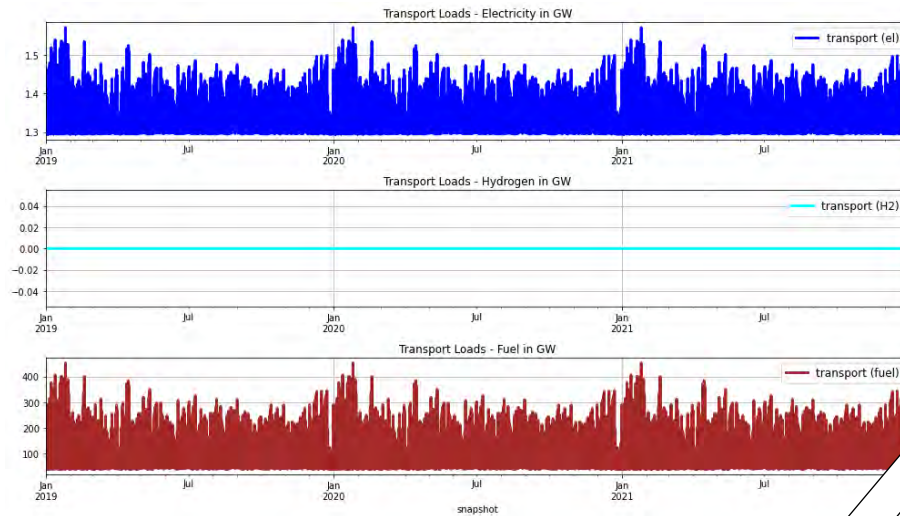
## Ergänzende Diagramme:

# Systemsimulation von Speichern für Dunkelflauten in Deutschland

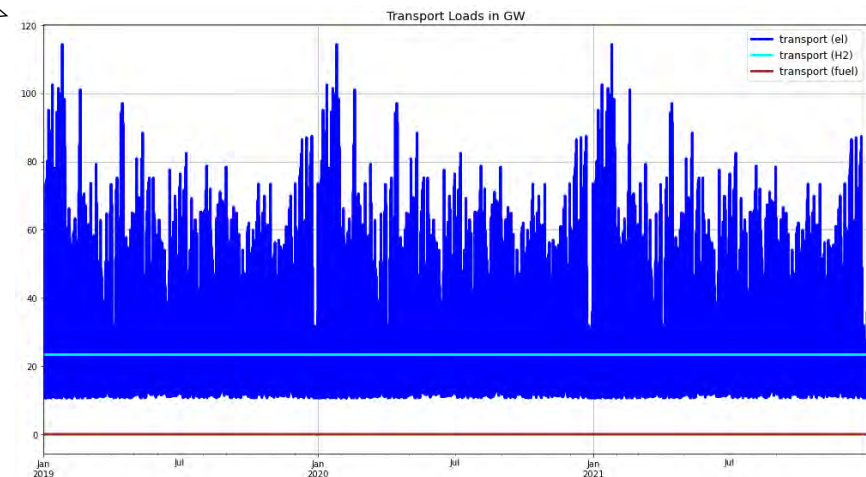
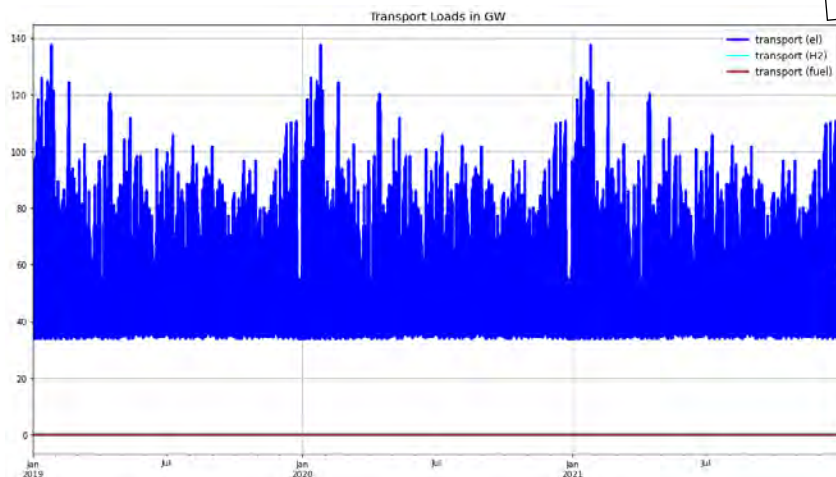
# Lastprofile nach Energieträgern (ohne Transportsektor)



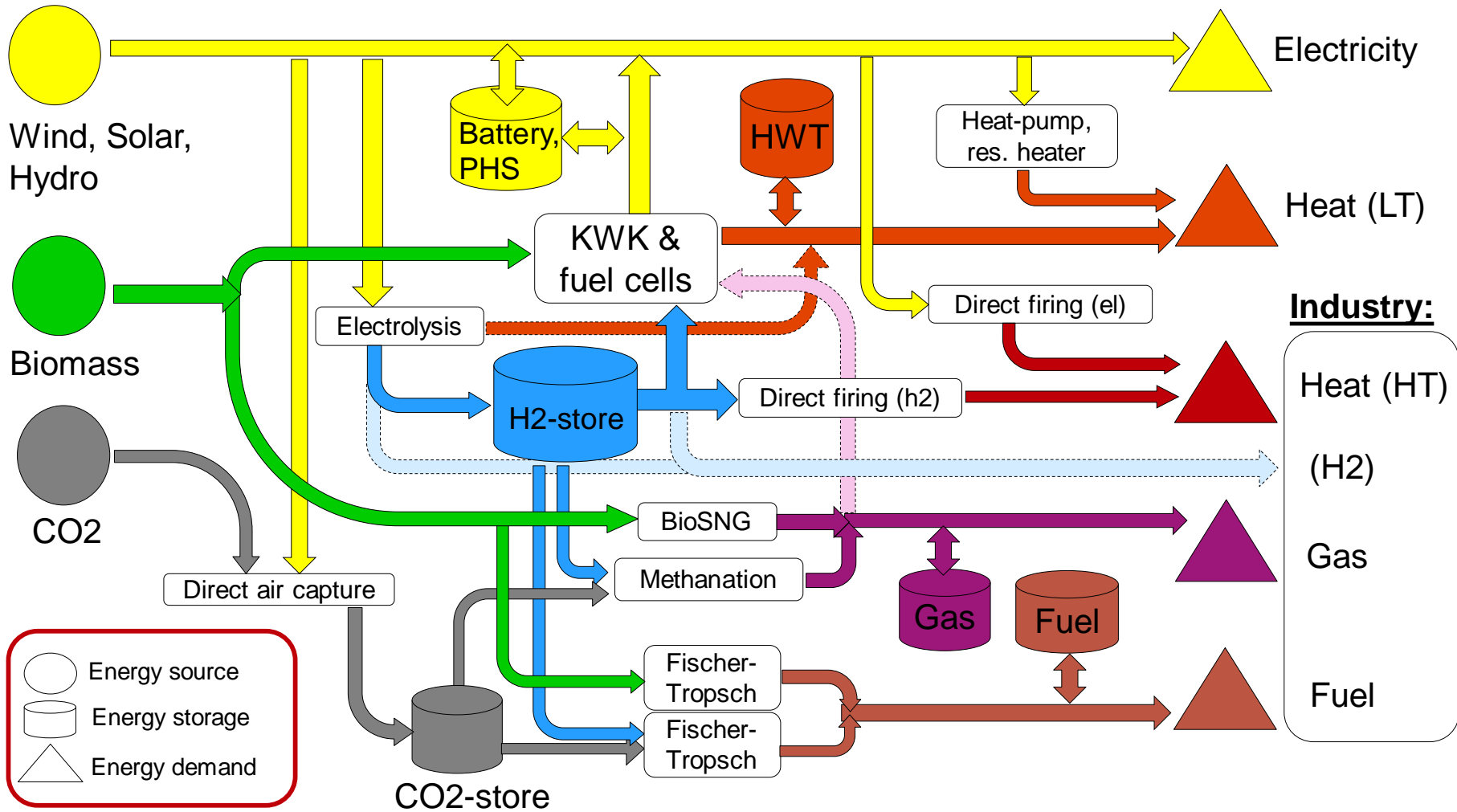
# Lastprofile nach Energieträgern (Transportsektor)



- Szenario-1
- Szenario-2
- Szenario-3



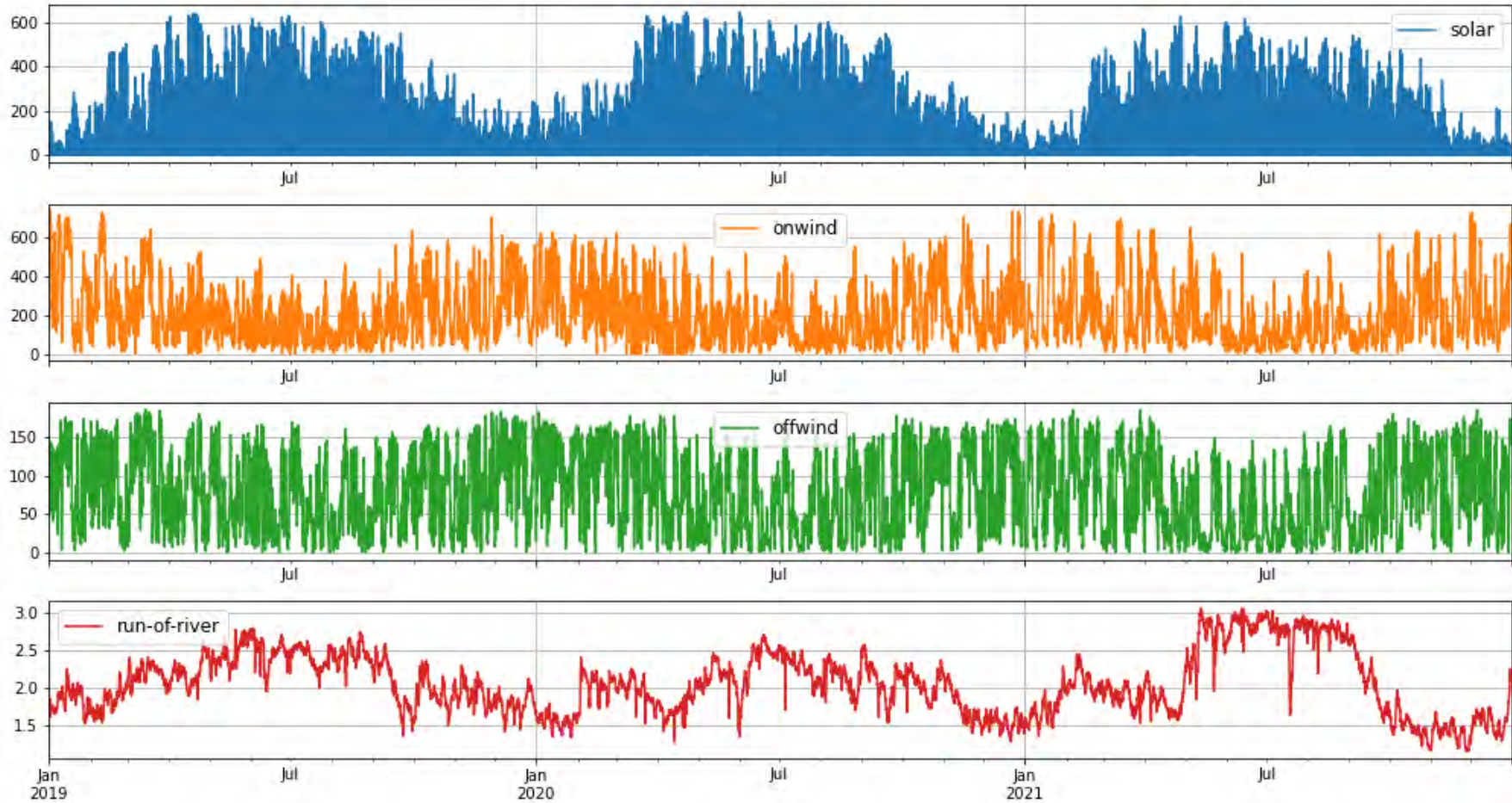
# Skizze zum Netzwerkaufbau



# Prognostizierte Stromerzeugung

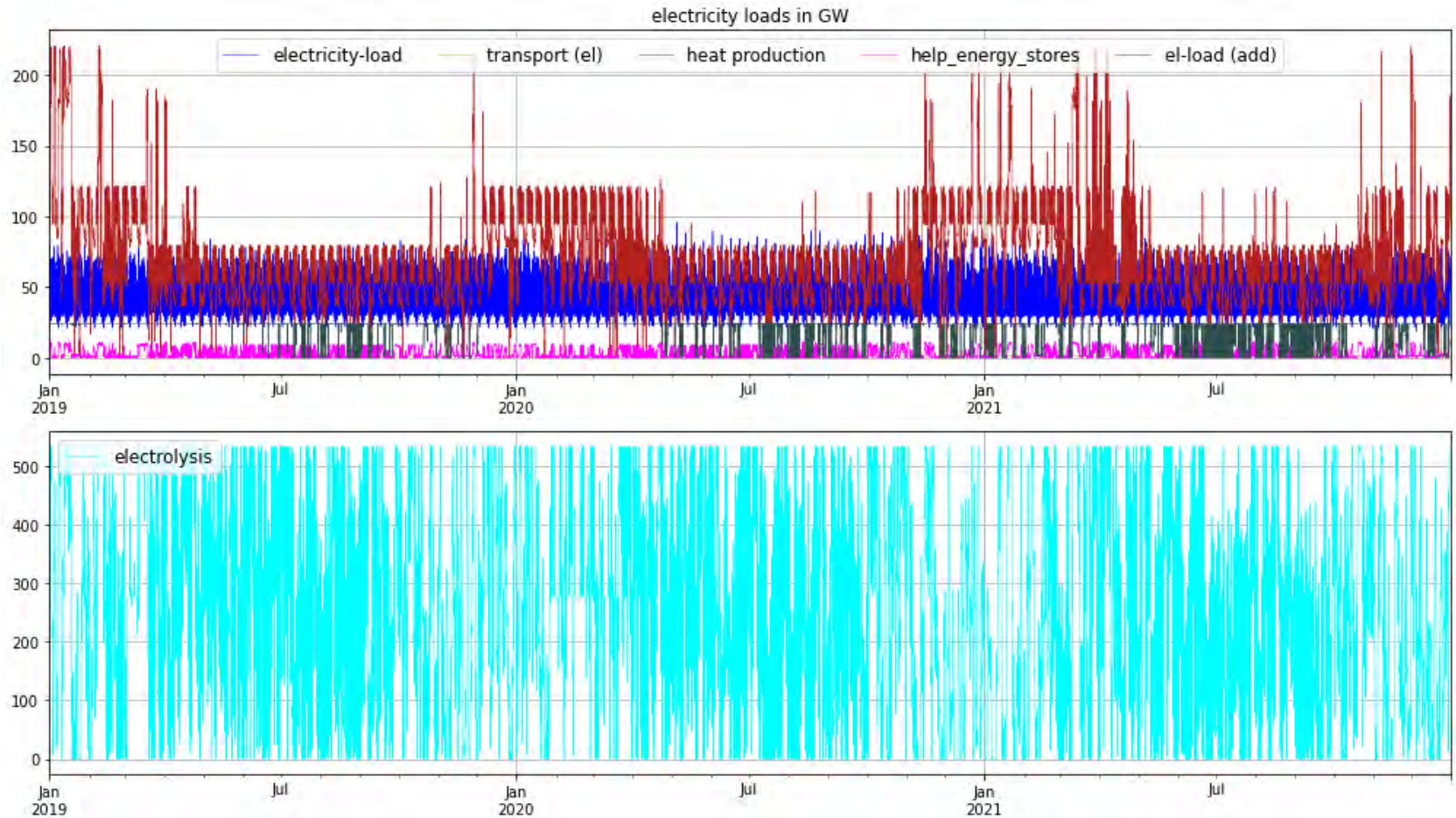
Szenario-1 (Base):

Electricity Generation in GW



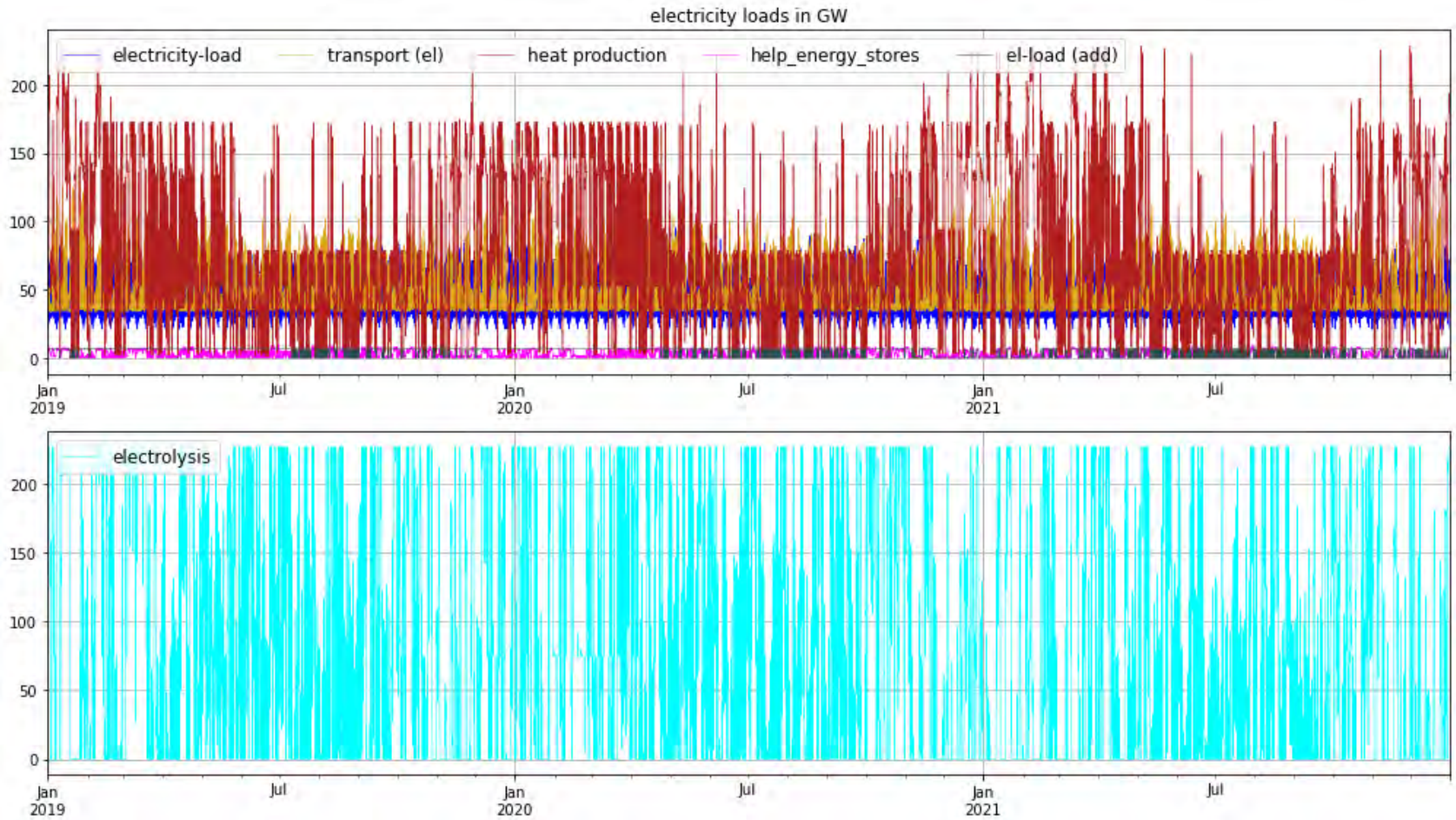
# Stromverbrauch nach Anwendungsgebiet

Szenario-1 (Base):



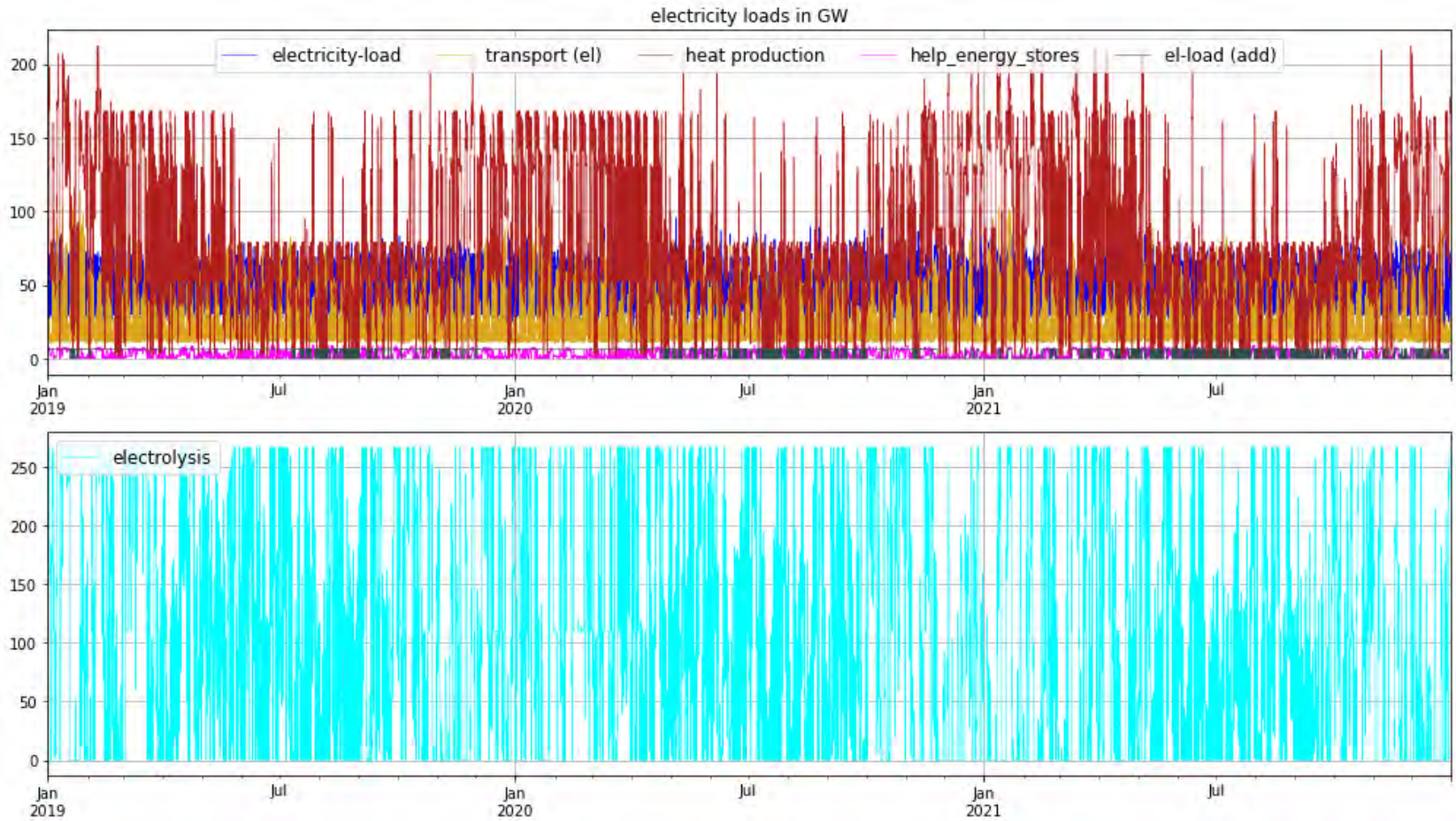
# Stromverbrauch nach Anwendungsgebiet

Szenario-2 (Base):



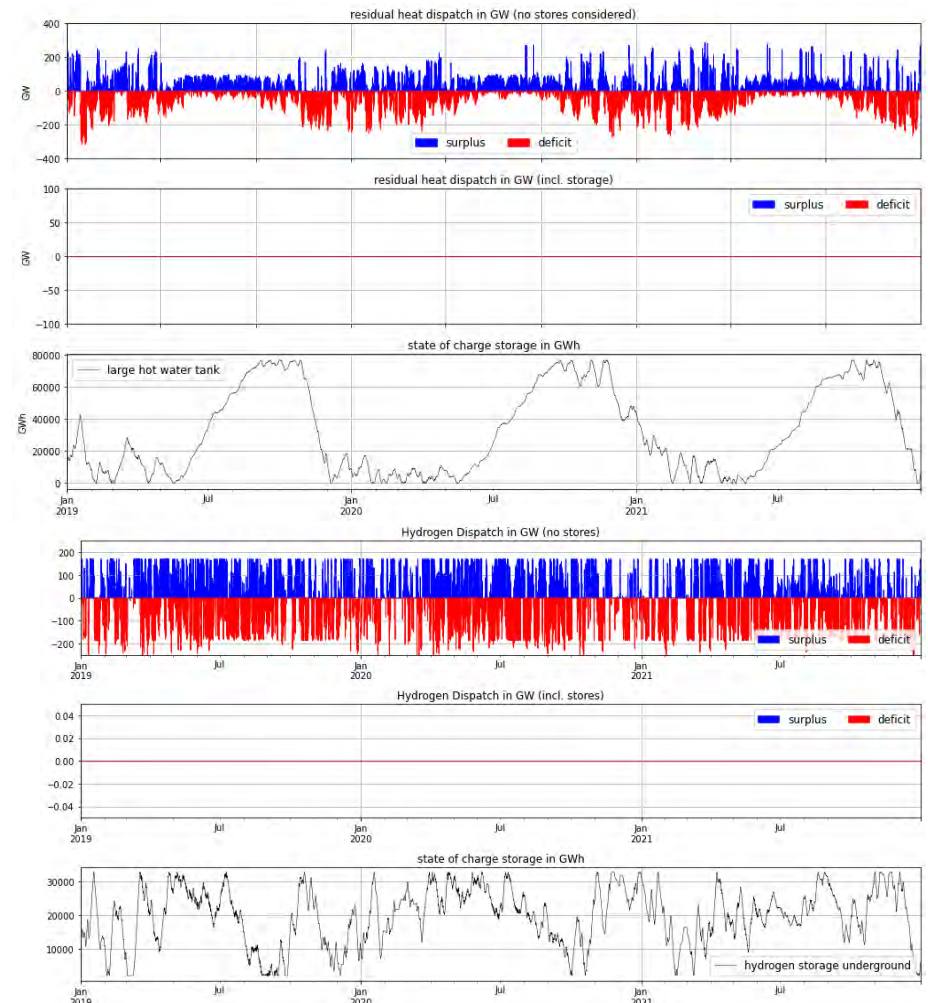
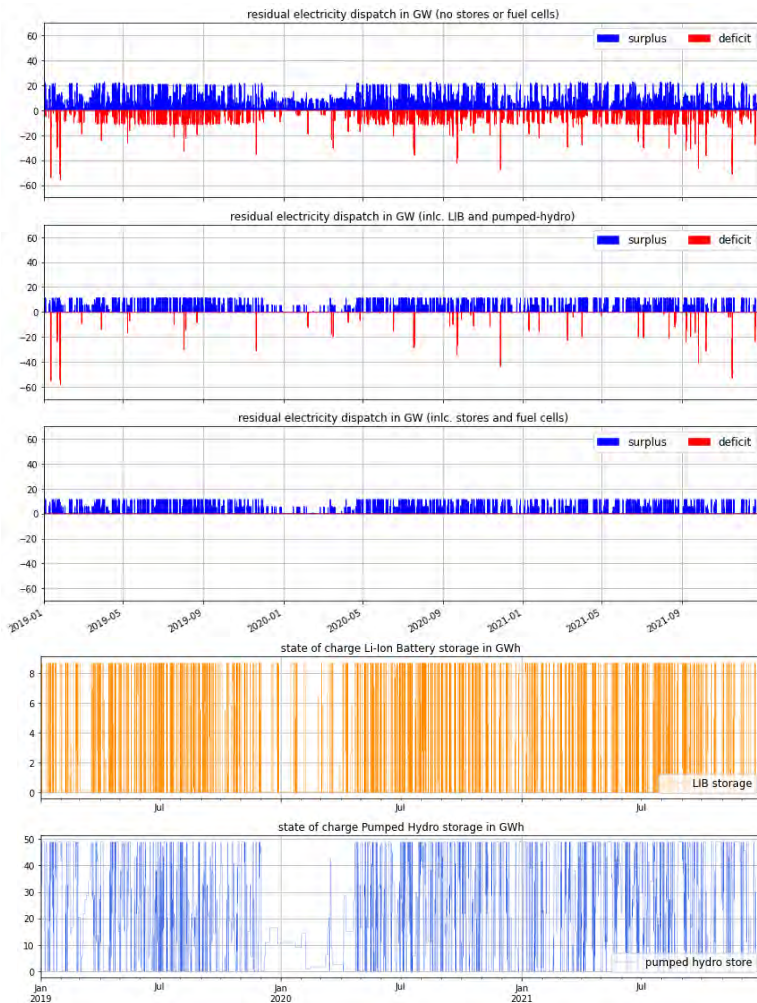
# Stromverbrauch nach Anwendungsgebiet

Szenario-3 (Base):

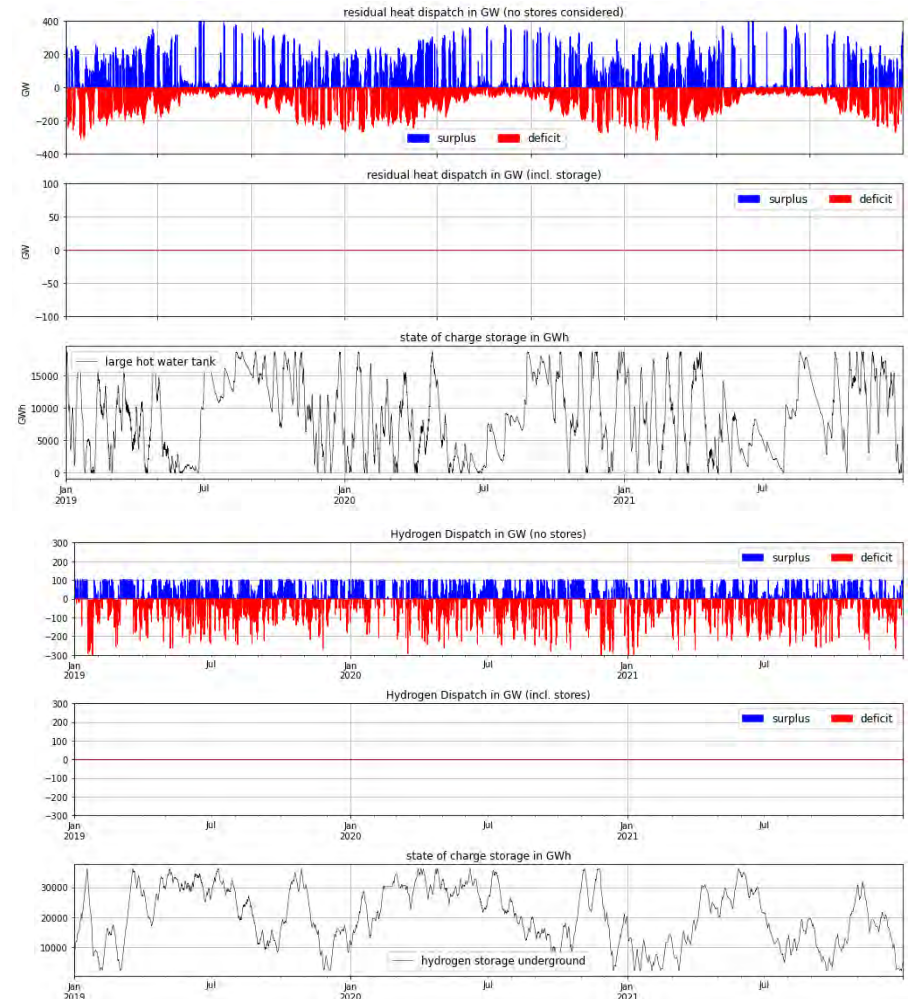
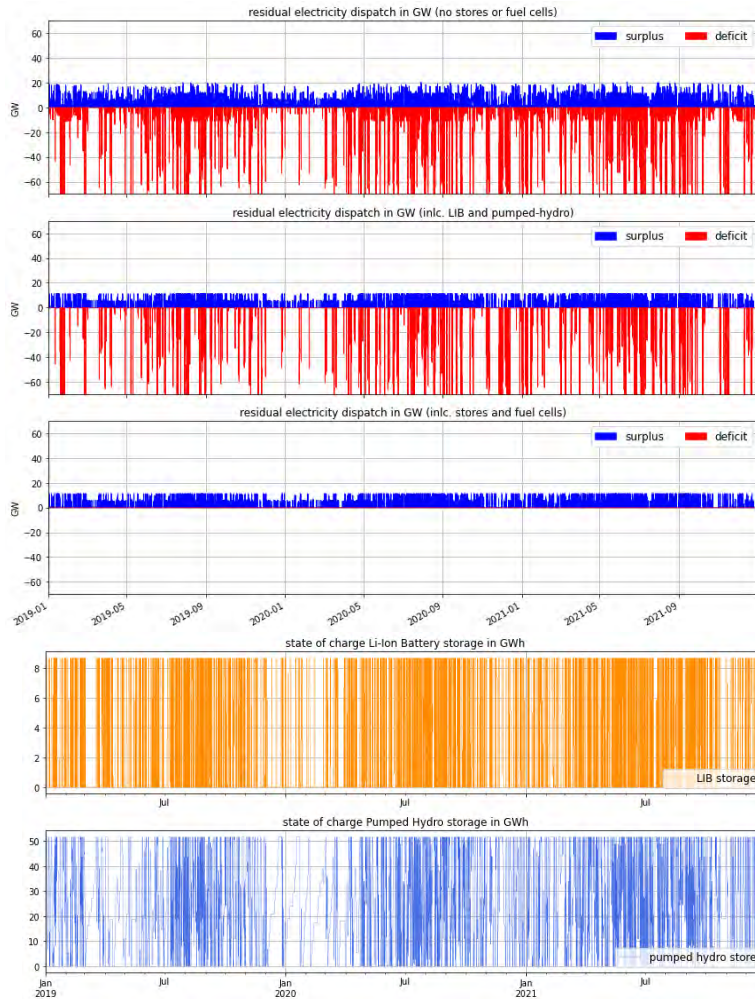




# Residualerzeugung (SZ1-base)



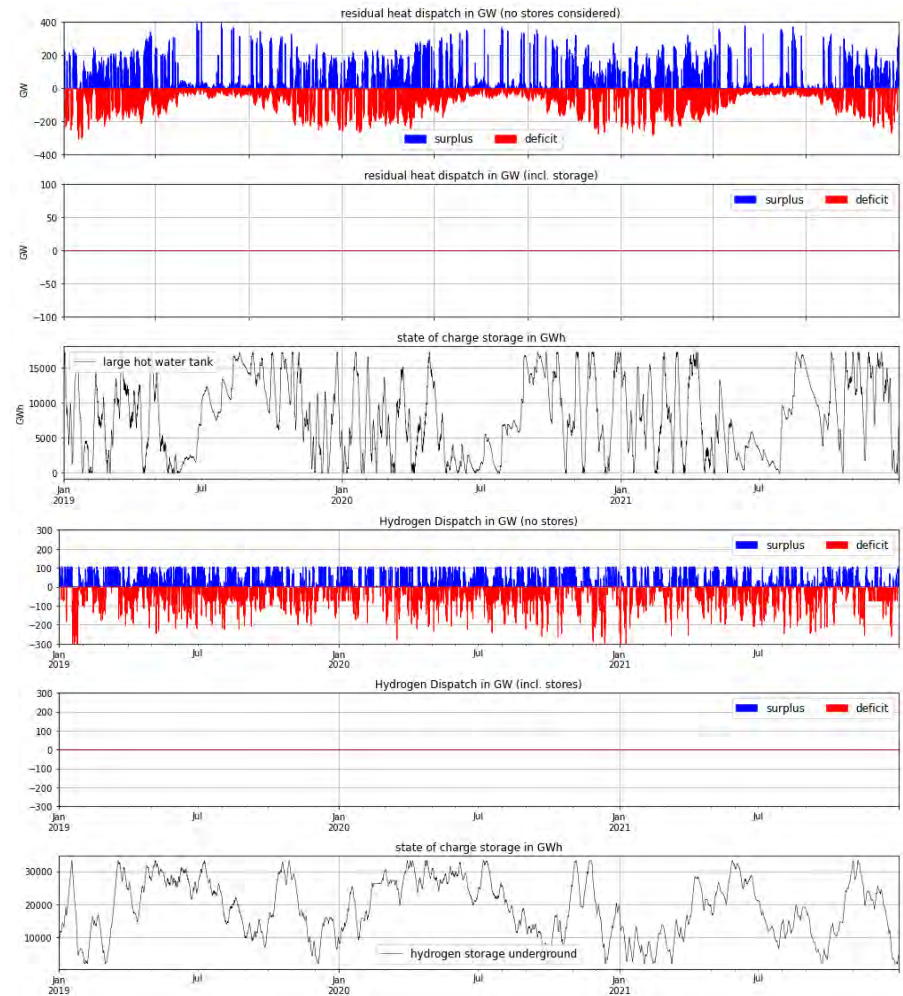
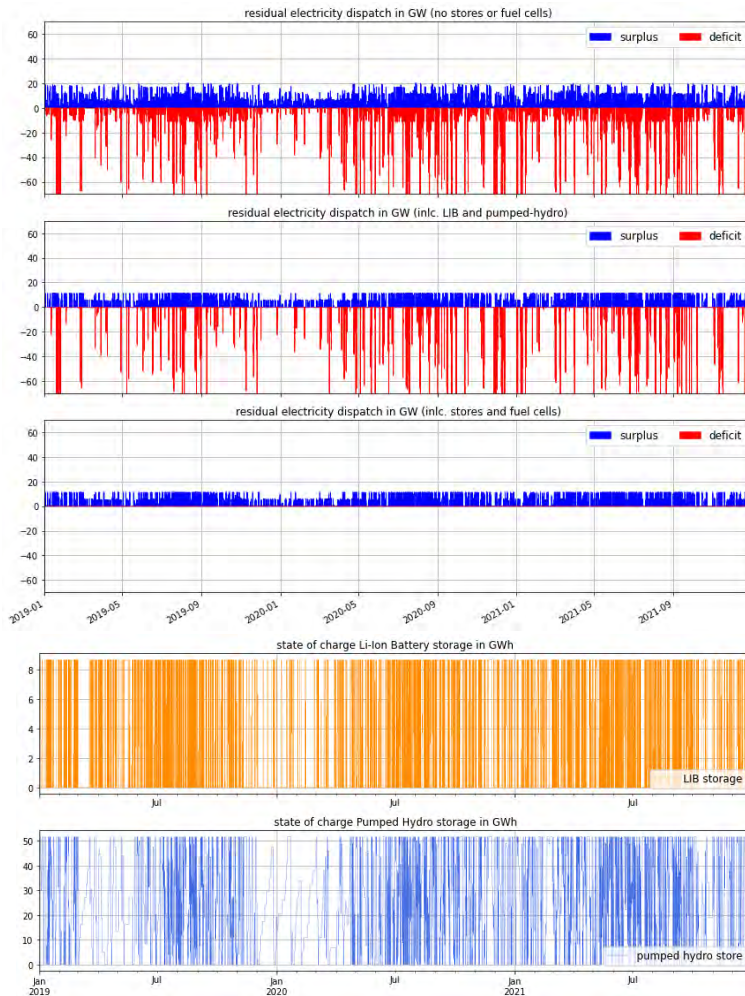
# Residualerzeugung (SZ2-base)



20.10.2023

Daniel Mertens

# Residualerzeugung (SZ3-base)

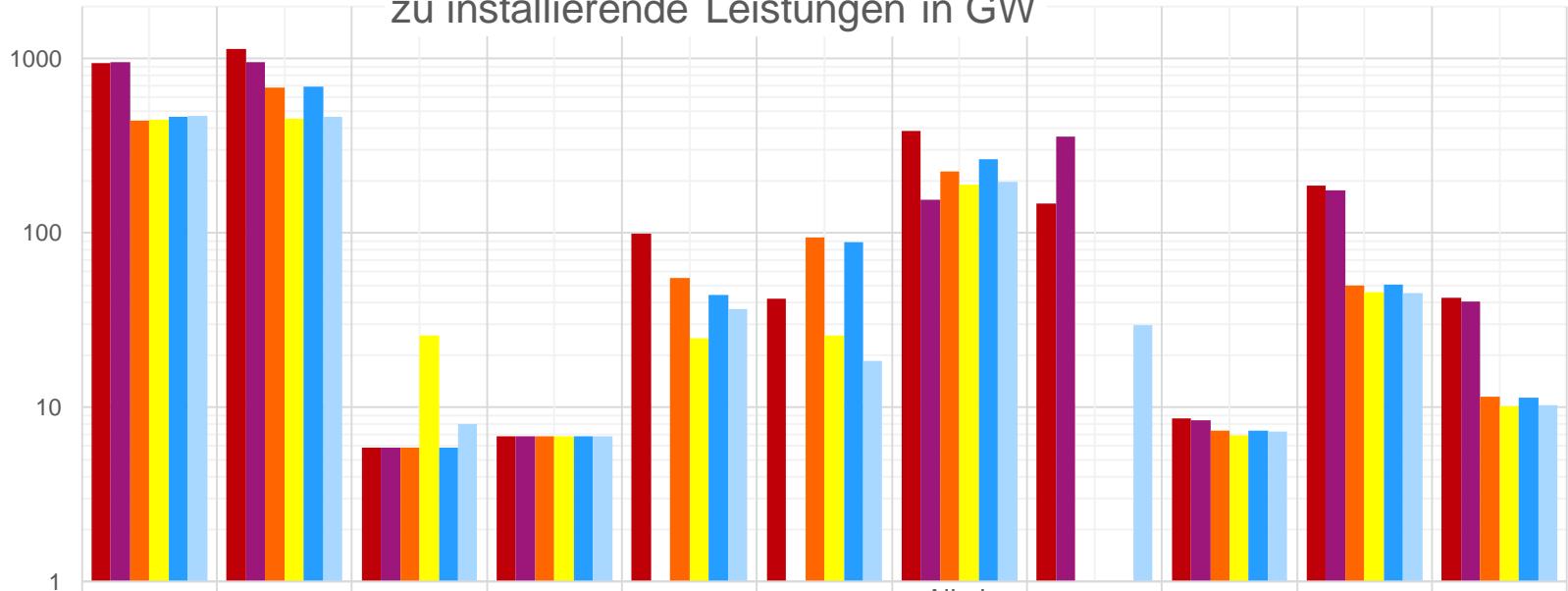


20.10.2023

Daniel Mertens

# Prognostizierte Leistungen nach Szenario

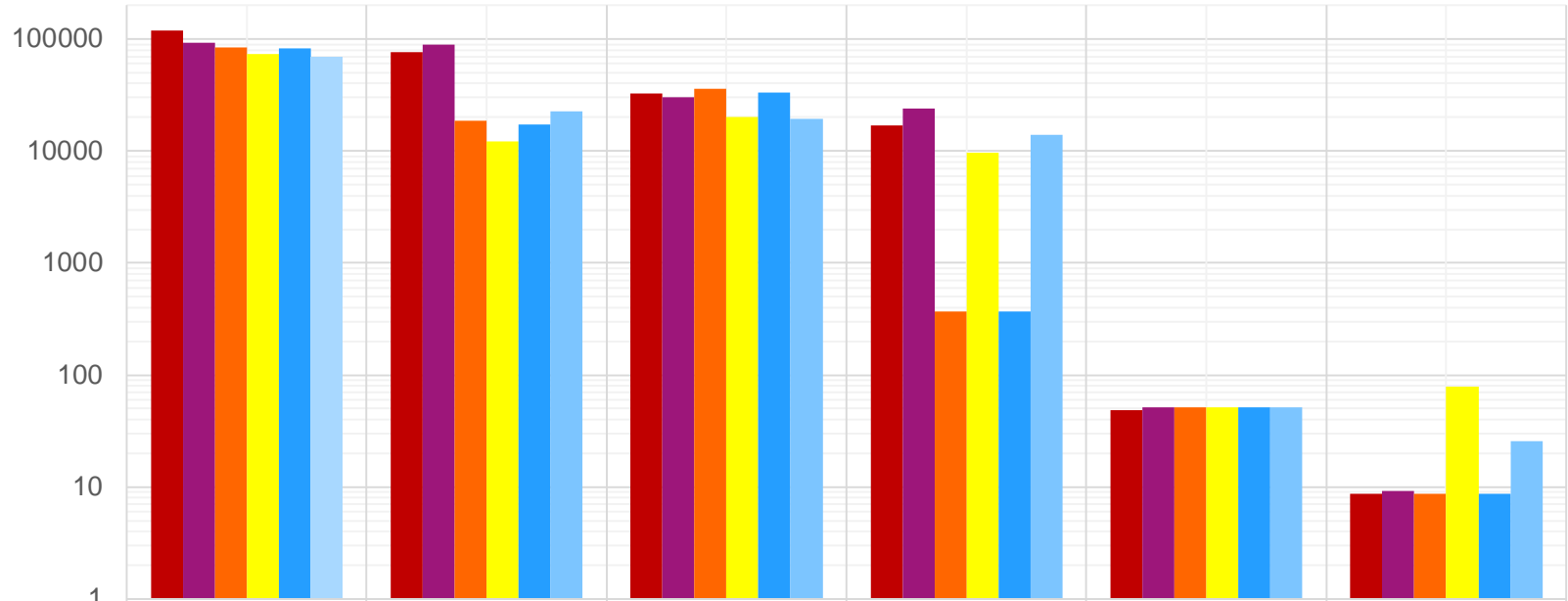
zu installierende Leistungen in GW



	Solar	Onwind	Li-Ion Battery	Pumped Hydro Discharger	Resitive Heater	Heat Pump (air)	Alkal. Electrolysis (reversible)	Alkal. Electrolysis (add)	Methanation (biomass)	Fischer-Tropsch (H2+CO2)	Direct Air Capture
■ SZ-1 Base	944	1 137	5.87	6.79	98.9	42	385.5	147.38	8.65	186.7	42.3
■ SZ-1 E-save	958	955	5.87	6.79	0	0	155.3	358.4	8.4	175.5	40.4
■ SZ- 2 Base	441	687	5.87	6.79	55.6	94.2	226.7	0	7.4	50.2	11.53
■ SZ- 2 E-save	448	452	25.82	6.79	24.8	25.8	189.6	0	6.9	46	10.23
■ SZ- 3 Base	464	694	5.87	6.79	44.1	89.2	266.2	0	7.4	50.6	11.34
■ SZ- 3 E-save	473	463	8.06	6.79	36.8	18.5	197.2	29.7	7.26	45.1	10.26

# Speicherkapazität nach Szenario

Zu installierende Speicherkapazität in GWh



	Fuel tanks	Hot-Water-Storage	H2-underground	Gas-underground	Pumped Hydro Store	Li-Ion Battery
■ SZ-1 Base	118800	77000	32700	16930	48.89	8.67
■ SZ-1 E-save	92100	89690	30500	23990	51.6	9.21
■ SZ-2 Base	84400	18600	36100	370	51.6	8.67
■ SZ-2 E-save	73200	12300	20200	9720	51.6	78.12
■ SZ-3 Base	83000	17200	33200	370	51.6	8.67
■ SZ-3 E-save	69200	22500	19400	14030	51.6	25.55