

# Balkonkraftwerke

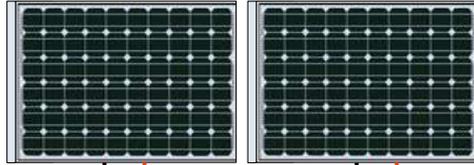
Nachhaltige Energiegewinnung selbst gemacht

22.10.2024 Dr. Andreas Volk

Nur für den privaten Gebrauch

# Balkonkraftwerk-Komponenten

2 Solarmodule  
400 - 450 W



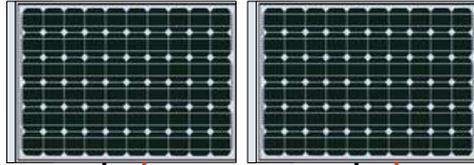
800 W Wechselrichter



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# Balkonkraftwerk-Komponenten

2 Solarmodule  
400 - 450 W

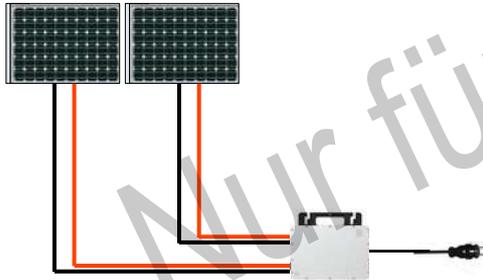
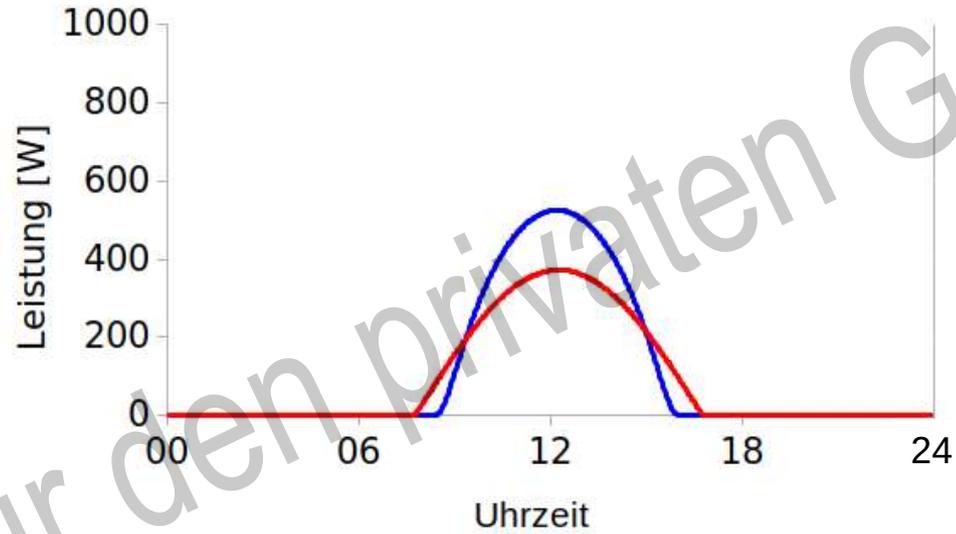


800 W Wechselrichter

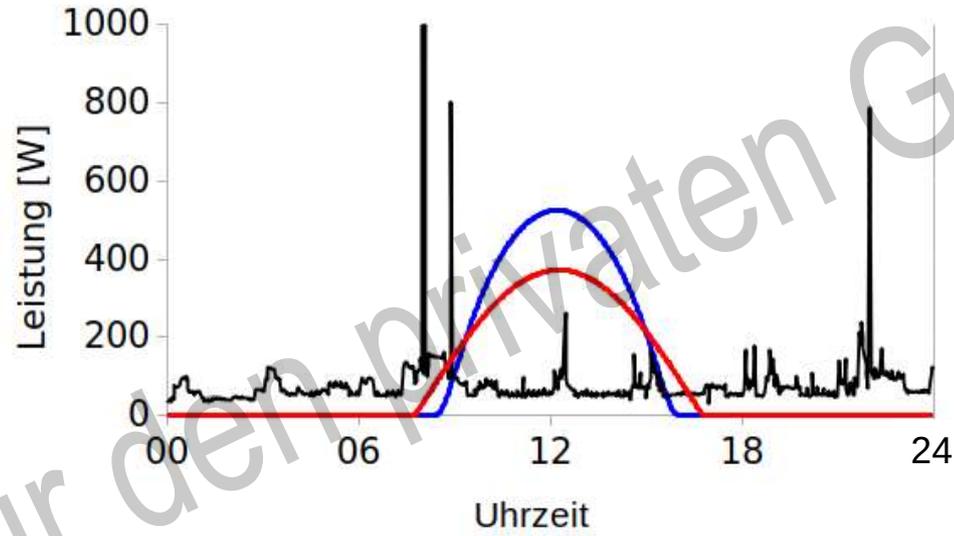
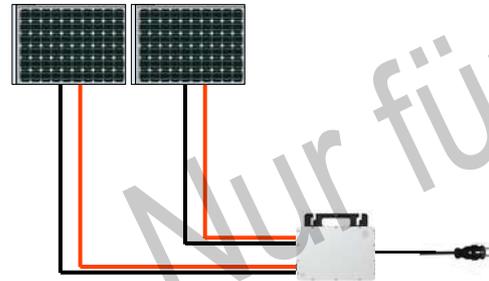


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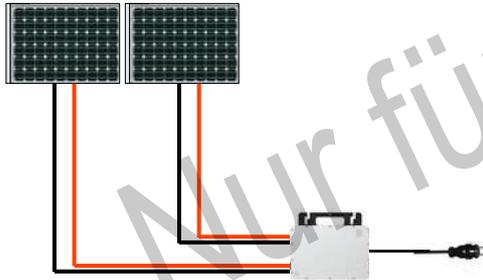
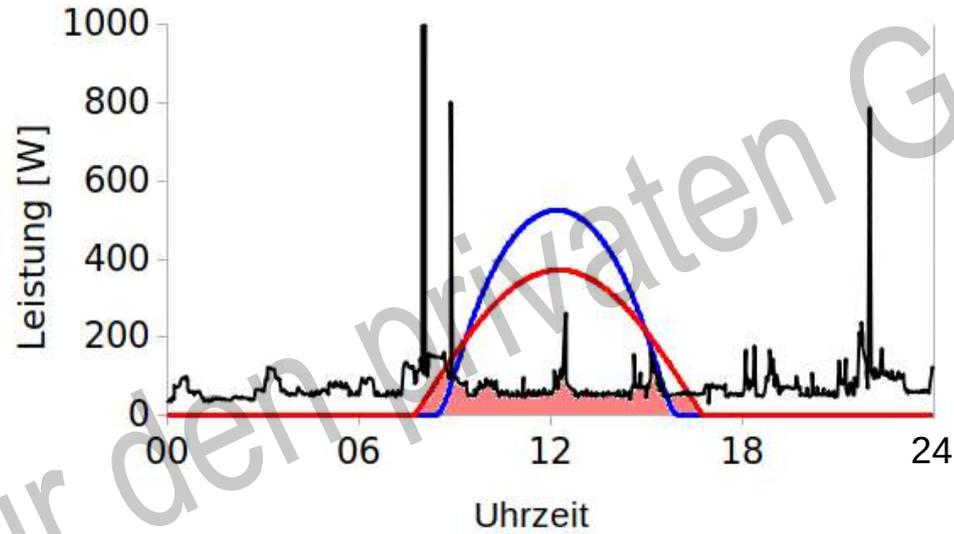
# Leistungskurven – Produktion Südbalkon



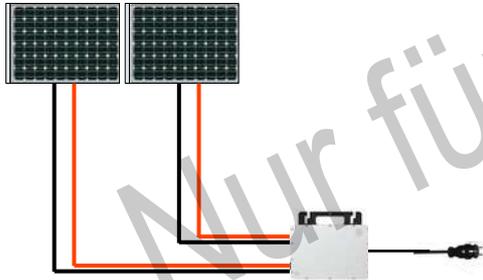
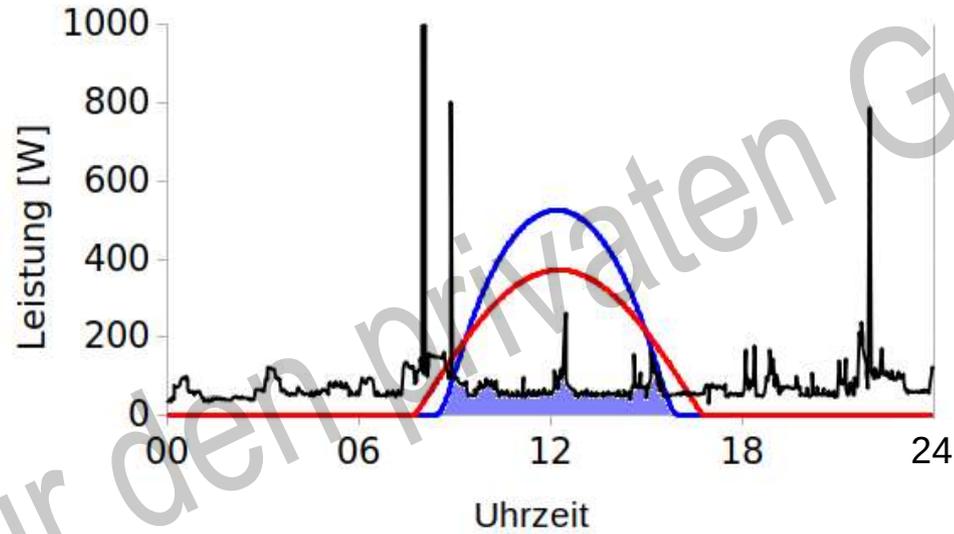
# Leistungskurven – Eigenbedarf



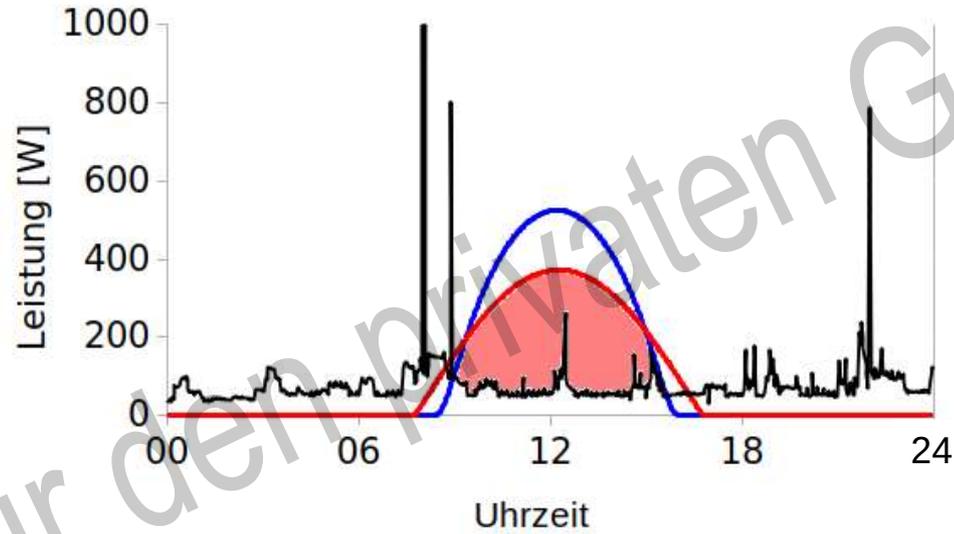
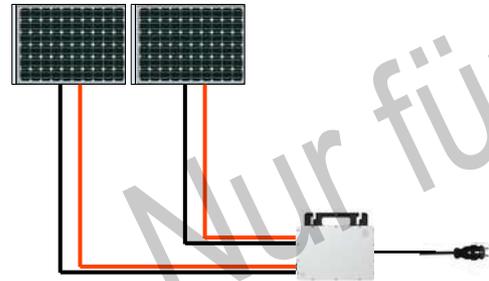
# Leistungskurven – Eigenbedarf Sommer



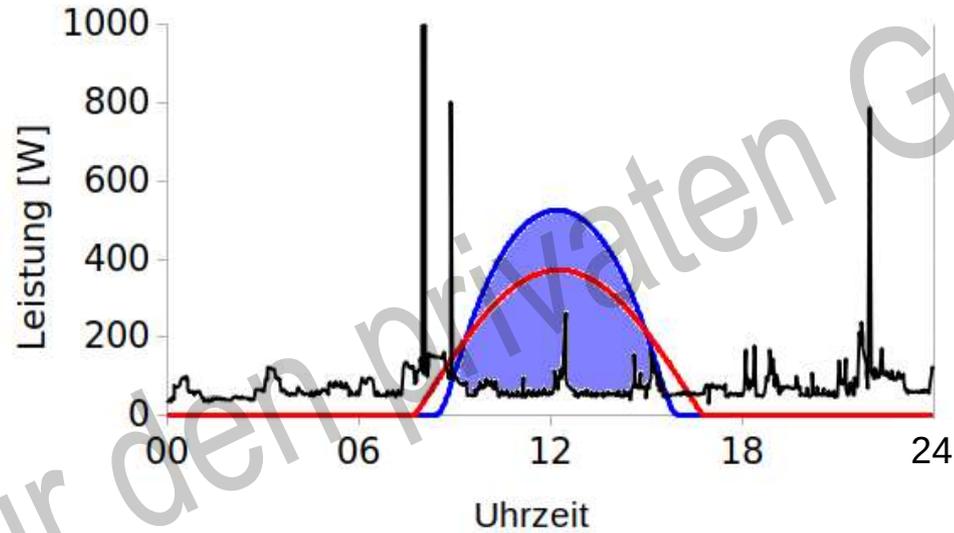
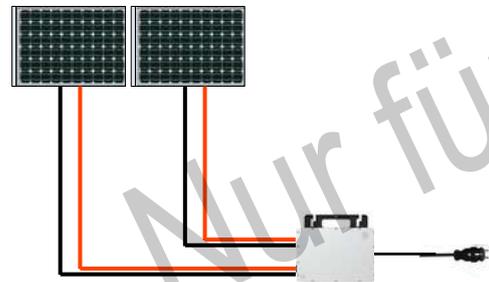
# Leistungskurven – Eigenbedarf Winter



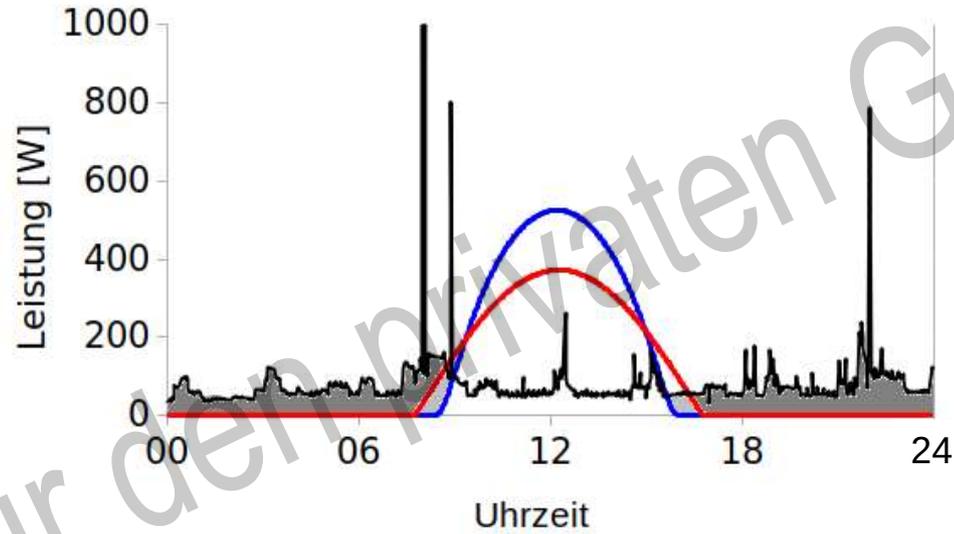
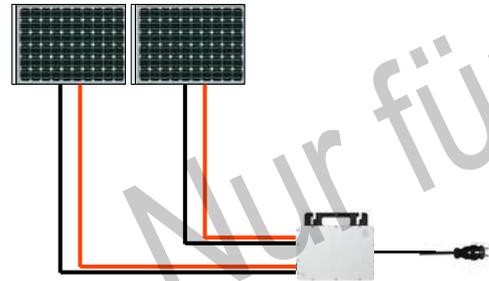
# Leistungskurven – Einspeisung Sommer



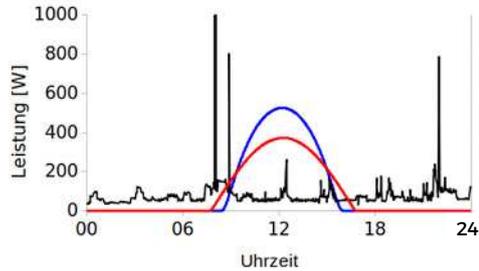
# Leistungskurven – Einspeisung Winter



# Leistungskurven - Bezug



# Bilanz - Balkonkraftwerk

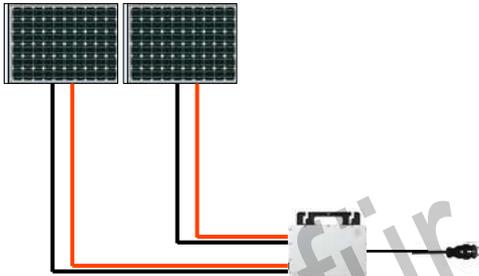


## Annahmen:

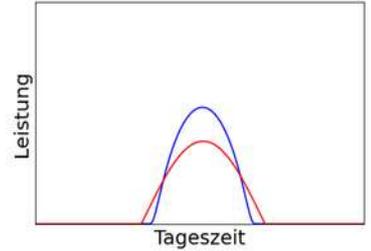
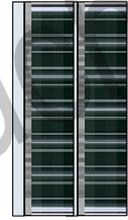
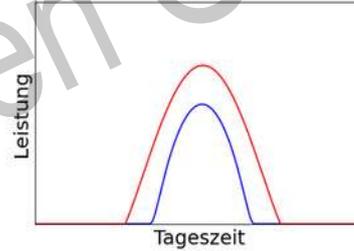
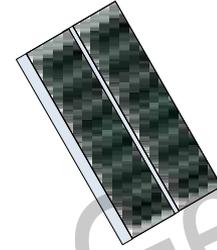
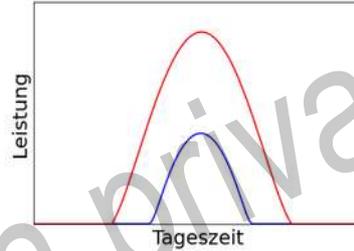
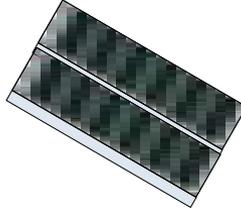
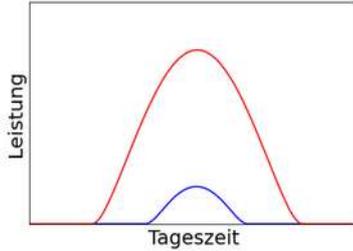
Stromverbrauch pro Jahr:	1000-2000 kWh
Netzbezugspreis pro kWh:	30 ct
Solarmodulleistung:	2 x 425 Wp
Systemkosten:	300 €

## Ergebnisse:

Stromerzeugung pro Jahr:	587 kWh
Vermiedener Strombezug pro Jahr:	200-300 kWh
Ersparnis pro Jahr:	60-90 €
Amortisationszeit:	4-5 Jahre
CO <sub>2</sub> -Einsparung pro Jahr:	50-70 kg



# Ausrichtung - Süd



## Ertrag

Sommer:  
Winter:  
Gesamt:

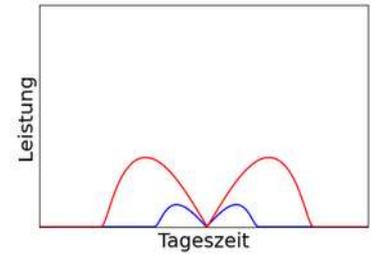
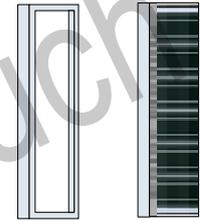
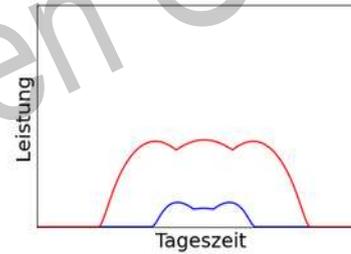
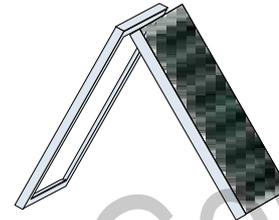
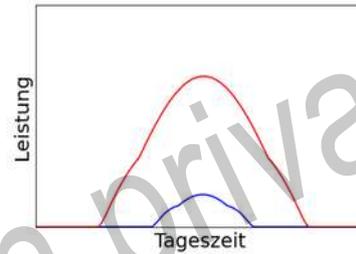
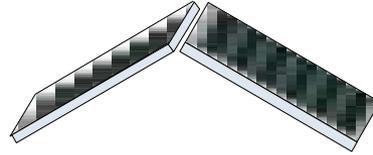
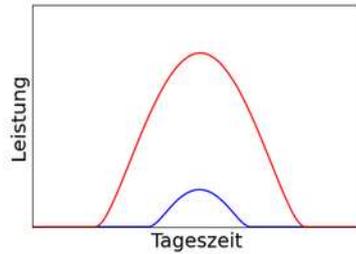
3,2 kWh/d  
0,3 kWh/d  
650 kWh/a

3,1 kWh/d  
0,7 kWh/d  
750 kWh/a

2,5 kWh/d  
0,9 kWh/d  
700 kWh/a

1,5 kWh/d  
0,9 kWh/d  
528 kWh/a

# Ausrichtung - Ost-West



## Ertrag

Sommer:  
Winter:  
Gesamt:

3,2 kWh/d  
0,3 kWh/d  
650 kWh/a

3,0 kWh/d  
0,3 kWh/d  
614 kWh/a

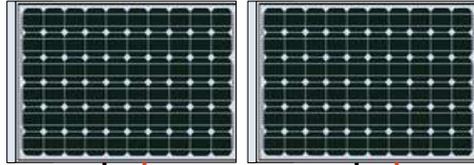
2,6 kWh/d  
0,3 kWh/d  
534 kWh/a

1,9 kWh/d  
0,3 kWh/d  
413 kWh/a

Nur für den privaten Gebrauch

# Balkonkraftwerk-Komponenten

2 Solarmodule  
400 - 450 W

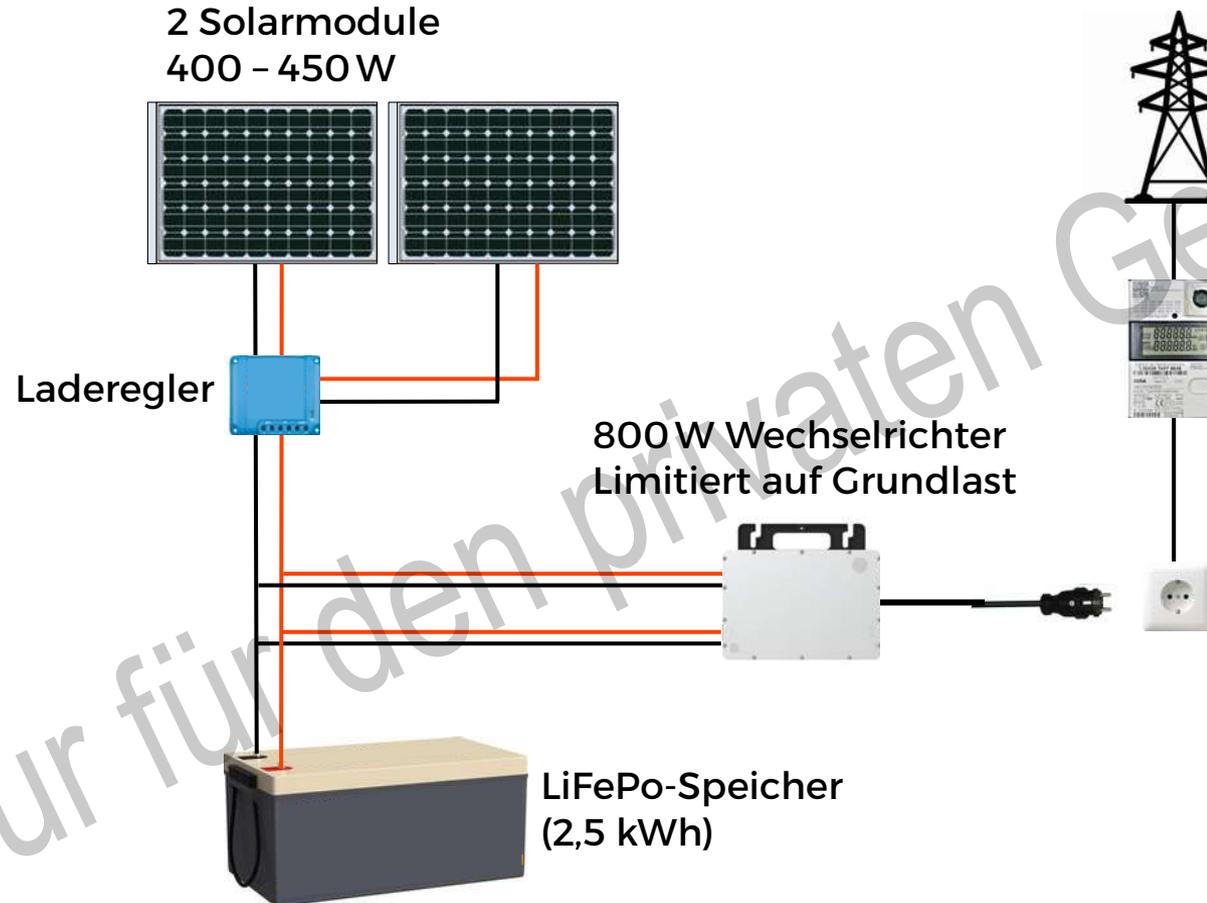


800 W Wechselrichter



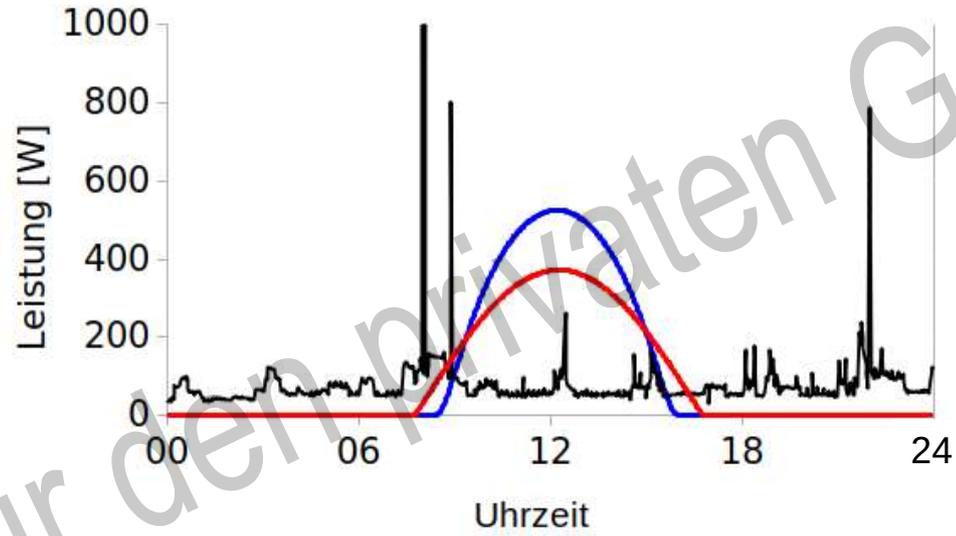
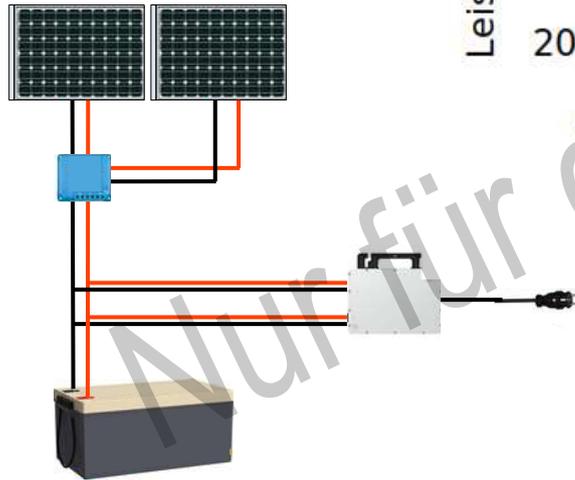
Nur für den privaten Gebrauch

# Balkonkraftwerk(Grundlast) Komponenten

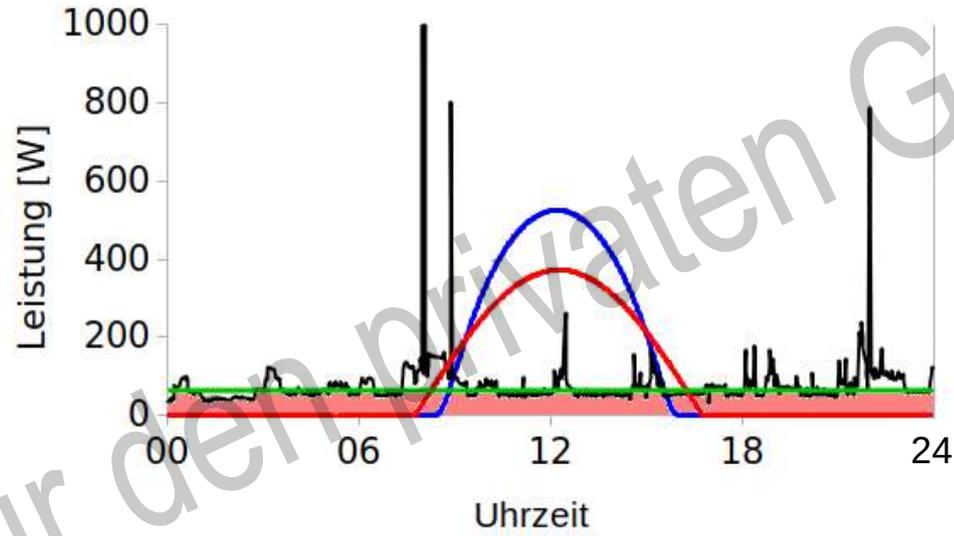
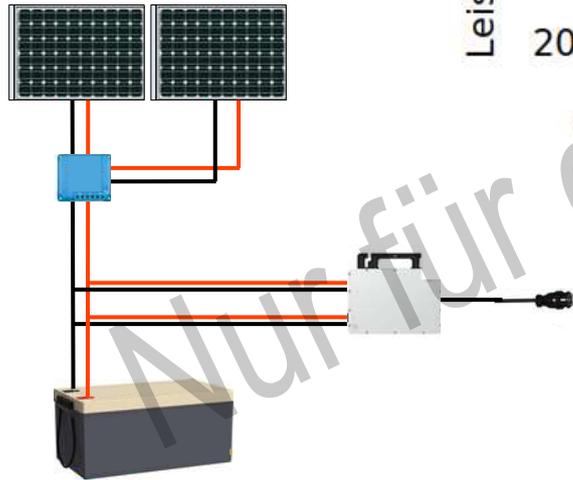


Nur für den privaten Gebrauch

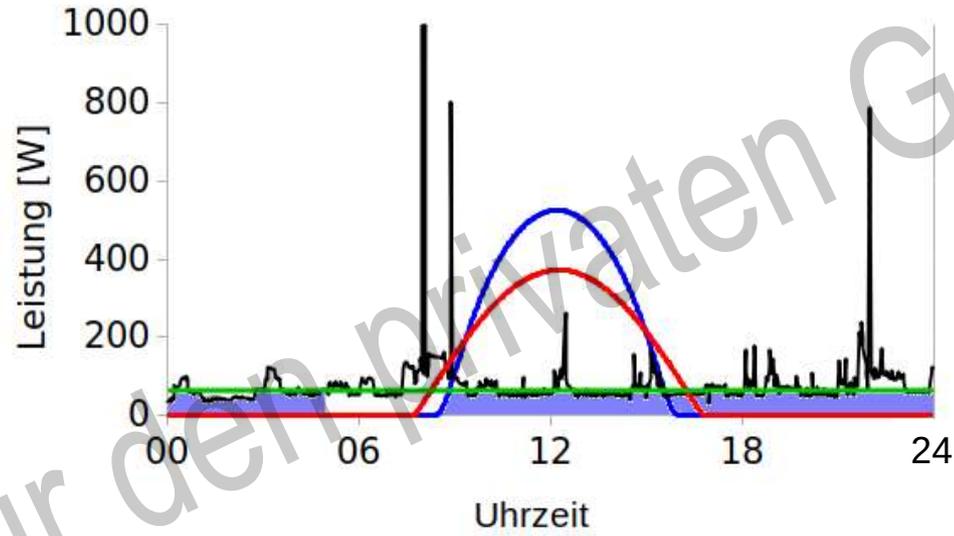
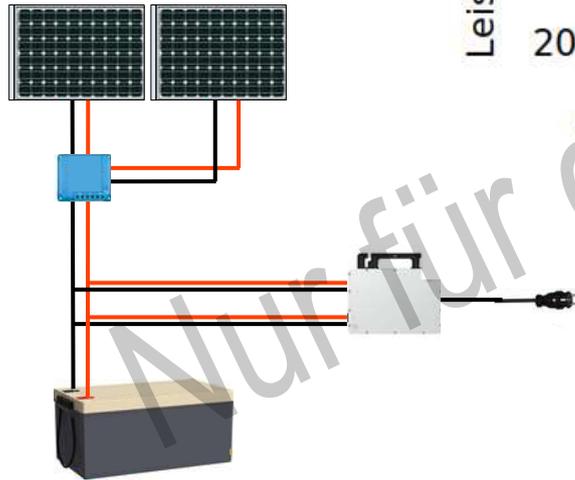
# Balkonkraftwerk(Grundlast)



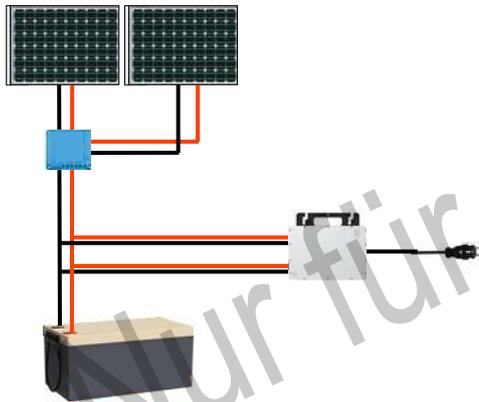
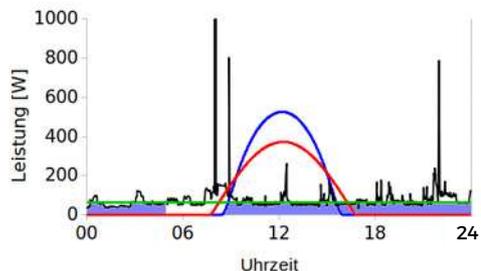
# Balkonkraftwerk(Grundlast) Sommer



# Balkonkraftwerk(Grundlast) Winter



# Bilanz - Grundlast-BKW



## Annahmen:

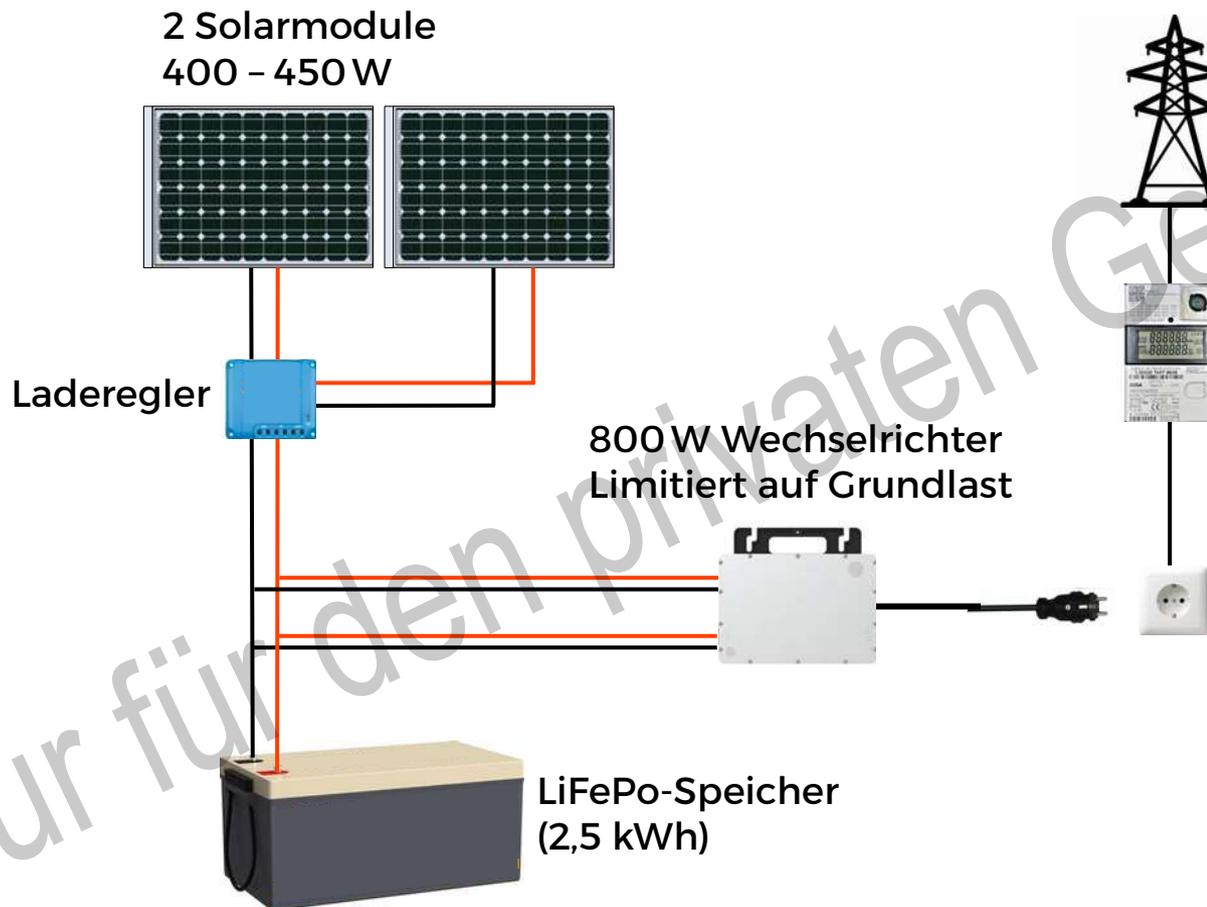
Stromverbrauch pro Jahr:	1000-2000 kWh
Netzbezugspreis pro kWh:	30 ct
Solarmodulleistung:	2 x 425 Wp
Batteriekapazität:	2,5 kWh
Systemkosten:	<del>300€</del> 950€

## Ergebnisse:

Stromerzeugung pro Jahr:	587 kWh
Vermiedener Strombezug pro Jahr:	<del>200-300 kWh</del> 400-500 kWh
Ersparnis pro Jahr:	<del>60-90€</del> 120-150€
Amortisationszeit:	<del>4-5 Jahre</del> 7-8 Jahre
CO <sub>2</sub> -Einsparung pro Jahr:	<del>50-70 kg</del> 110-120 kg

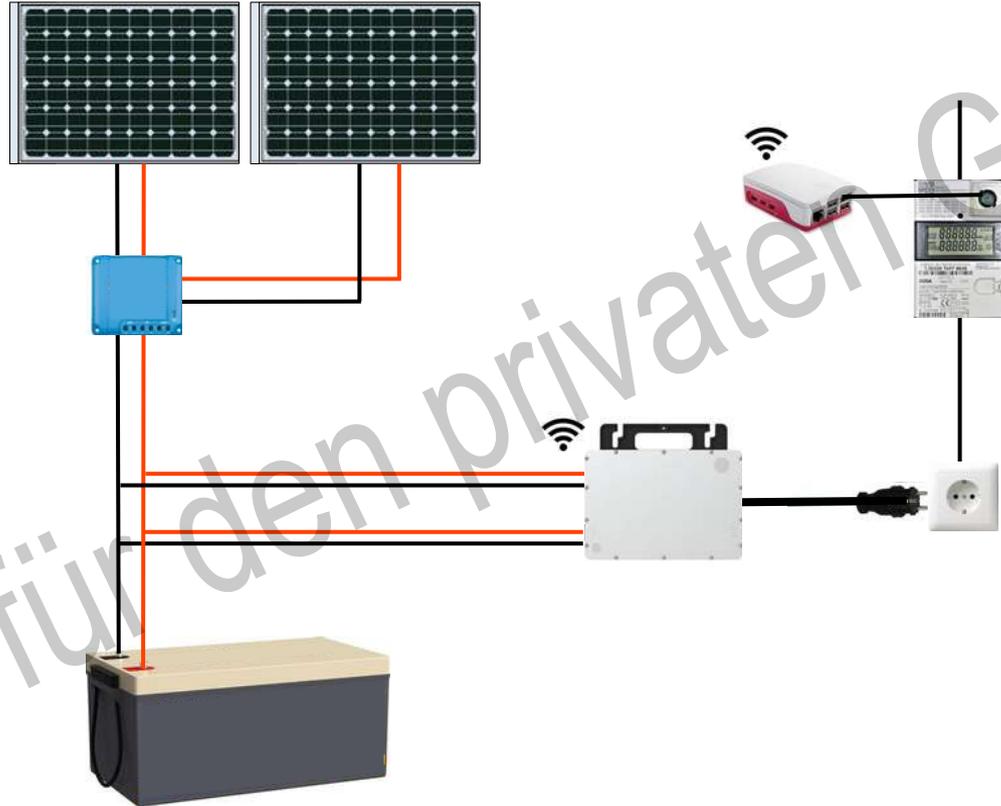
Quelle: <https://solar.htw-berlin.de/rechner/stecker-solar-simulator/>

# Balkonkraftwerk(Grundlast) Komponenten



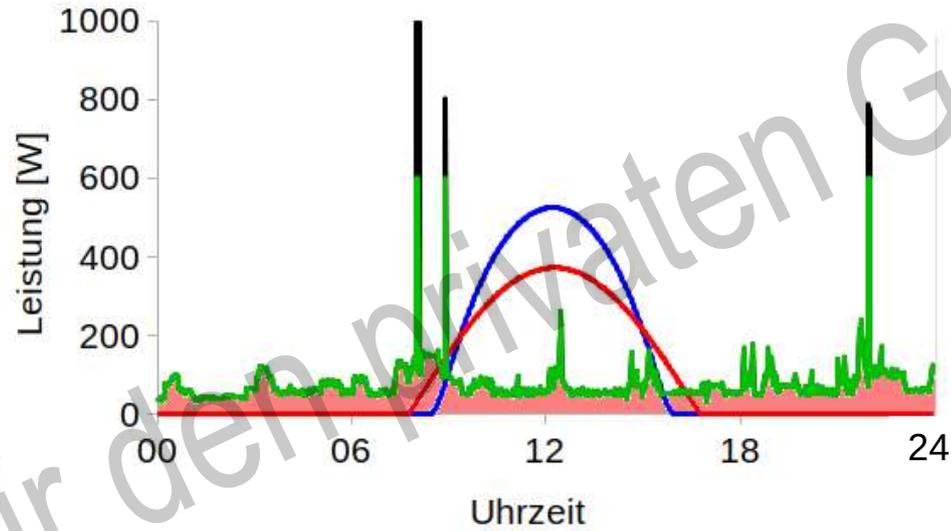
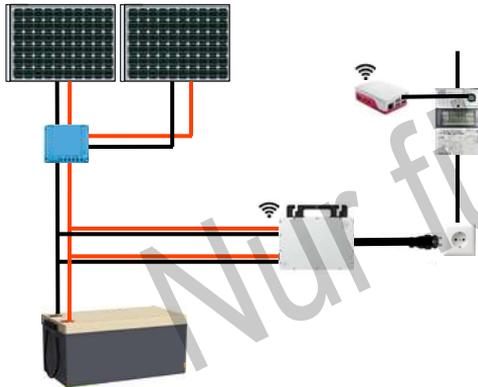
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# Balkonkraftwerk(Nulleinspeisung) Komponenten

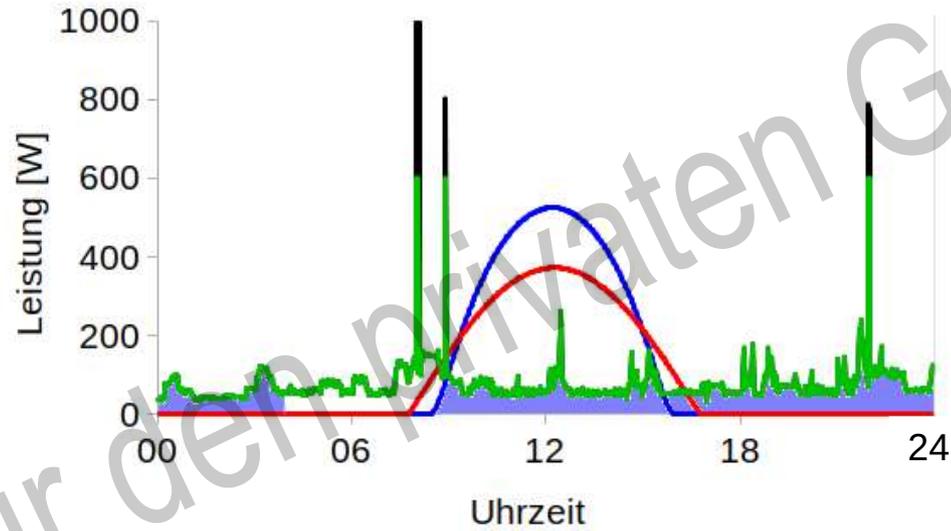
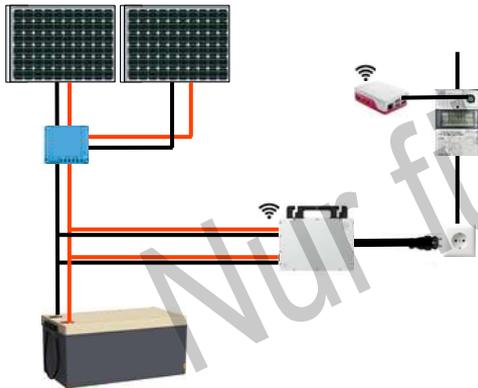


Nur für den privaten Gebrauch

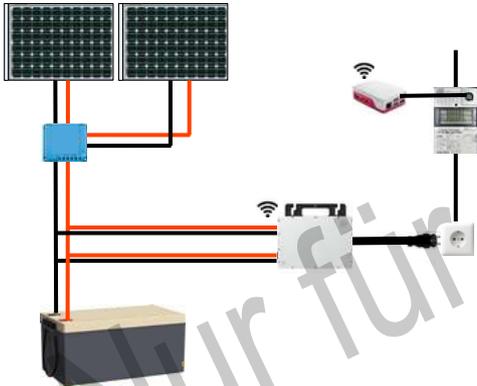
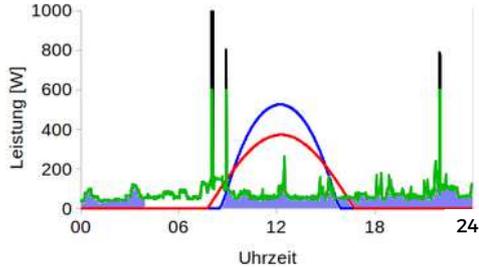
# Balkonkraftwerk(Nulleinspeisung) Sommer



# Balkonkraftwerk(Nulleinspeisung) Winter



# Bilanz – BKW mit Nulleinspeisung



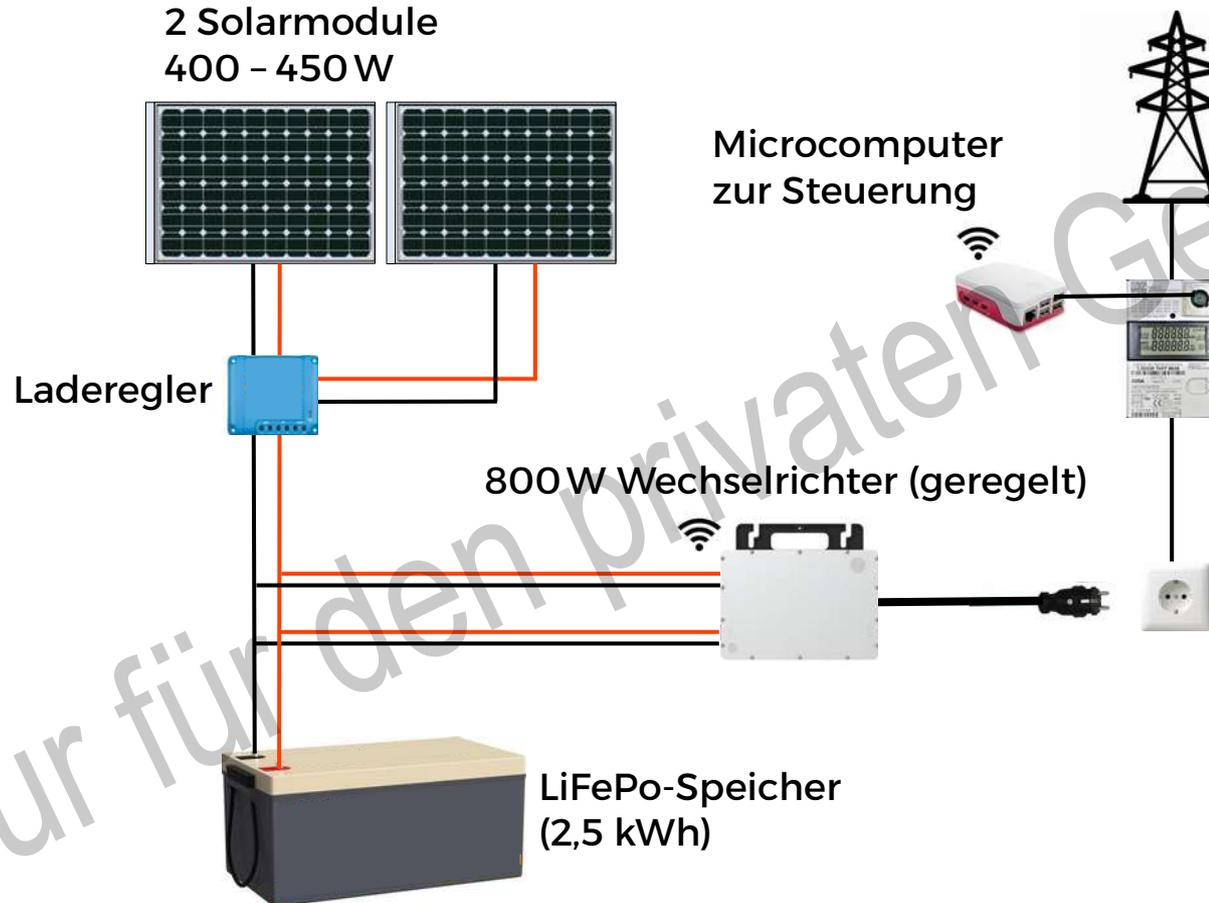
## Annahmen:

Stromverbrauch pro Jahr:	1000-2000 kWh
Netzbezugspreis pro kWh:	30 ct
Solarmodulleistung:	2 x 425 Wp
Batteriekapazität:	2,5 kWh
Systemkosten:	950€ <b>1000€</b>

## Ergebnisse:

Stromerzeugung pro Jahr:	587 kWh
Vermiedener Strombezug pro Jahr:	400-500 kWh <b>500-570 kWh</b>
Ersparnis pro Jahr:	120-150€ <b>150-170€</b>
Amortisationszeit:	7-8 Jahre <b>6-7 Jahre</b>
CO <sub>2</sub> -Einsparung pro Jahr:	110-120 kg <b>120-130 kg</b>

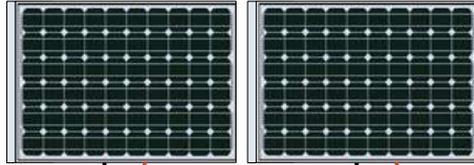
# Balkonkraftwerk(Nulleinspeisung) Komponenten



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# Balkonkraftwerk(Nulleinspeisung) Komponenten

2 Solarmodule  
400 - 450 W



LiFePo-Speicher  
Incl. Laderegler,  
Wechselrichter



Zusätzlicher  
smarter Zähler

Nur für den privaten Gebrauch

# Anbieter 800W-Balkonkraftwerke

Anbieter	Modulleistung	Speicher Eingangsleistung (max)	Speicher	Nulleinspeisung	Preis
Standard BKW	870 W	-	-	nein	~300 €
BKW mit Speicher	870 W	1500 W	2,5 kWh LiFePo	ja	~1000 €
Anker SOLIX Solarbank 2 E1600	870 W	2400 W	1,6 kWh LiFePo	ja (+99€) +Elektriker	1300 €
Zendure SolarFlow Hub 2000 BKW	840 W	2340 W	1,9 kWh LiFePo	ja (+80€)	1400 €
EcoFlow PowerStream	800 W	600 W	2 kWh LiFePo	(ja) smart plugs	2300 €

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